POST-CONSTRUCTION
ASH FILL, SOIL COVER AND GROUNDWATER EVALUATION REPORT

BATTLEFIELD GOLF CLUB ASH RE-USE SITE
CHESAPEAKE, VIRGINIA

Prepared For:

Dominion Generation
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Prepared By:

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December 17, 2009

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MACTEC

engineering and constructing a better tomorrow

December 17, 2009

Mr. Donald Hintz, P.G.
Dominion Generation
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Re: Post-Construction Ash Fill, Soil Cover and Groundwater Evaluation Report
Battlefield Golf Club Ash Re-use Site - Chesapeake, Virginia
MACTEC Project: 3552-09-1263

Dear Mr. Hintz:

MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to present the attached Post-Construction Ash Fill, Soil Cover and Groundwater Evaluation Report for the Battlefield Golf Club Ash Re-use Site in Chesapeake, Virginia. Field activities were performed in general accordance with the Sampling and Analysis Plans (SAPs) for the Site, dated November 7, 2008 and May 26, 2009. Services were performed in accordance with the existing Standard Terms and Conditions of the Dominion/MACTEC Master Agreement (Contract No. 46009534, dated 11/09/2004).

We appreciate the opportunity to provide our environmental and geotechnical services to Dominion Generation on this project. If you have any questions regarding this report, please do not hesitate to contact us at 703-729-1416.

Sincerely,
MACTEC ENGINEERING AND CONSULTING, INC.

Joseph Buchy
Project Manager

Brian D. Owens, P.E.
Principal Engineer

BY
WITH PERMISSION

Gregory B. Grose, P.G.
Principal Geologist

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ACRONYMS and ABBREVIATIONS

AOPC	Area of Potential Concern
bgs	below ground surface
btoc	below top of casing
CCB	Coal Combustion By-Products
DEQ	Virginia Department of Environmental Quality
DO	dissolved oxygen
DTB	depth to bottom
btoc	below top of casing
DTW	depth to water
EBS	Environmental Baseline Study
EPA	United States Environmental Protection Agency
ft	feet
IDW	Investigation Derived Waste
in	inch
HA	Hand Auger
HSA	Hollow Stem Auger
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram
msl	mean sea level
mS/cm	milliSiemens per centimeter
mV	millivolts
MW	monitoring well
NA	Not Available
NAD	North American Datum
NGVD	National Geodetic Vertical Datum
NTU	Nephelometric Turbidity units
ORP	oxidation-reduction potential
oz	Ounce
PCOC	Potential Contaminant of Concern
%	percent
pH	measurement of dissolved hydrogen ions (H^+)
PPE	Personal Protective Equipment
ppm	parts per million
PVC	polyvinyl chloride
QA	Quality Assurance
QC	Quality Control
RBC	Risk Based Concentration

RCRA	Resource Conservation and Recovery Act
SAP	Sampling Analysis Plan
SB	Soil Boring
SG	Staff Gauge
SOP	Standard Operating Procedure
SW	Surface Water
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
TOC	top of casing
TP	Test Pit
ug/kg	micrograms per kilogram
ug/L	micrograms per Liter
USCS	Unified Soil Classification System
WL	water level

EXECUTIVE SUMMARY

This executive summary is presented for convenience only. While the executive summary is an integral part of the report, it should not be used in lieu of reading the entire report, including the appendices.

The Battlefield Golf Club (the 'Site') is an 18-hole golf course located southeast of the intersection of Whittamore Road and Centerville Turnpike South in Chesapeake, Virginia. Approximately 1.5 million tons of fly ash (Type F Coal Combustion By-Products [CCB]) generated from coal-fired power generating units at the Chesapeake Energy Center (CEC) was provided for beneficial use in structural fill subsoil (amended ash) during construction of the golf course from approximately April 2002 through March 2007.

MACTEC Engineering and Consulting, Inc. (MACTEC) performed field activities for a Post-Construction Ash Fill, Soil Cover and Groundwater Evaluation at the Site in November and December 2008 and June 2009. In general, field activities included; installation of 19 groundwater monitoring wells, 33 hand auger borings, 3 test pits, 14 test borings, collection of surface water, groundwater, and soil samples, gauging, and surveying of streams and ponds at the Site.

The following conclusions were developed based on the results of post-construction assessment activities at the Site:

- Proper development of monitoring wells installed by Kimley-Horn (MW-KH-1, -2 and -3), followed by low-flow sampling to produce non-turbid samples resulted in substantially reduced metals concentrations for the wells compared to previous sampling performed by Kimley-Horne. Observations made by MACTEC personnel during sampling indicate that the screen interval for these wells may be too close to the surface (within 2 feet or less) to have allowed for installation of a proper sand pack above the top of the screen and installation of a proper bentonite well seal above the sand pack. Due to the location of these wells within the ash fill area of the Site, improper well construction may allow for ash to enter the well. MACTEC recommends that these wells be properly abandoned. If wells are considered necessary within this area of the Site, then replacement with properly constructed wells is recommended to prevent possible cross-contamination from ash intrusion.

- The Virginia Groundwater Standards indicates a pH range for groundwater in the Coastal Plain Physiographic Province of 6.5 to 9. Comparatively low pH (<6.5) was measured in groundwater samples collected from 19 of 23 monitoring wells at the Site, including groundwater samples collected from 2 of 3 wells sampled by URS during their pre-construction assessment. Potential Peroxide Acidity (PPA) results for soil samples collected from various depth intervals at the Site indicate that acid sulfate soils are present that have the potential to produce acid runoff when exposed to weathering (a naturally occurring condition documented for this region of Virginia). As potential acid-producing soils have been identified at the site, low pH measurements identified in groundwater samples collected prior to construction and during this investigation appear to be naturally occurring. The most notable low pH (<4) measurements were identified in shallow groundwater samples collected from monitoring well MW-BGC-8A (screened from 10 to 20 feet below grade) and in proximal surface water (Pond SG12 near the southwest quadrant of the Site and a stream that flows north into the southern boundary drainage ditch from the off-site residential development). A relatively low pH of 5.2 was measured in a groundwater sample collected from monitoring well MW-BGC-13, which is also in the southwest quadrant of the Site.

- Beryllium was detected in groundwater samples collected from two monitoring wells (MW-BGC-8A and MW-BGC-13) at concentrations exceeding the MCL. Arsenic was detected at concentrations exceeding the MCL in groundwater samples collected from monitoring well MW-BGC-12A during the Phase I sampling event in December 2008, but was less than the laboratory reporting limit during the Phase II sampling event in June 2009. Arsenic was detected at concentrations exceeding the MCL in the groundwater samples collected from monitoring well MW-BGC-15 during the Phase II sampling event in June 2009. Although fly ash is known to be a potential source for heavy metals such as arsenic and beryllium, elevated concentrations of these and other heavy metals were generally absent from groundwater samples collected from monitoring wells throughout the Site.

- The elevated arsenic and beryllium concentrations detected in groundwater samples collected from monitoring wells MW-BGC-8A and MW-BGC-13 are not suspected to indicate impact from ash fill at the Site, but may be related to acid producing soils resulting in relatively low pH groundwater conditions in the southwest quadrant of the Site. However, further groundwater sampling would be necessary to confirm the results for wells installed during Phase II and evaluate potential trends in groundwater conditions throughout the Site.

- Groundwater flow beneath the Site is generally to the east-southeast, toward or in the direction of the nearest drainage ditch. Based on slug test data, groundwater level data obtained during this investigation and soil types encountered within the water table aquifer, the groundwater velocity across the Site is estimated to range from approximately 16 to 23 feet per year (although fluctuations in the groundwater gradient due to natural and man-made influences may occur to alter these velocity estimates). Transport velocities of potential contaminants would be substantially slower than groundwater velocity due to the effects of dilution and retardation (sorption, dissolution, and precipitation). Supplementary water-level gauging would be necessary to further evaluate seasonal variations in the groundwater gradient and flow direction at the Site.

- In general, metal concentrations in road bed, soil stockpile and pond sediment samples were less than (up to one order of magnitude) the average corresponding metal concentrations in ash fill samples. These results indicate that road bed, soil stockpile and pond sediment samples do not consist of ash.

The following conclusions were developed based on our review of construction documents and our geotechnical investigation at the Site:

- The ash fill thickness was observed ranging 15.2 feet to 17.2 feet in the 3 test borings. Relative compaction results for ash fill at the three test pit locations ranged from 84 to 92%.

- Based on the tests MACTEC performed on the ash fill and our review of the construction documents, it can generally be confirmed that compactive energy was applied to the ash fill when placed. The degree of compaction at placement was not quantified from the results of this assessment due to potential post-placement expansion and changes in moisture content.

- Soil cover thicknesses of less than 18 inches were encountered in two general areas of the Site. MACTEC understands that cover in these areas will be restored to a minimum of 18 inches. Soil cover generally consisted of clayey silt and clayey, fine-grained sand.

- Ash fill analyses were reportedly inconclusive in determining the kiln dust (amending agent) content in the three ash fill samples collected from the Site. The laboratory results indicated evidence of higher calcium oxide concentrations by weight in the ash fill samples than in the ash standard, which may indicate the presence of a calcium amendment, although the percentage of kiln dust was not confirmed.

- In general, and subject to additional confirmatory sampling, our findings at the Site do not presently indicate adverse impact to groundwater from the placement of ash.

1.0 INTRODUCTION

The Battlefield Golf Club (the 'Site') is an 18-hole golf course located southeast of the intersection of Whittamore Road and Centerville Turnpike South in Chesapeake, Virginia (see Figures 1 and 2). Approximately 1.5 million tons of fly ash (Type F Coal Combustion By-Products [CCB]) generated from coal-fired power generating units at the Chesapeake Energy Center (CEC) was provided for beneficial use in structural fill subsoil (amended ash) during construction of the golf course from approximately April 2002 through March 2007. Fly ash amendments were specified to include approximately 2 percent of alkaline admixtures, including; Lime Kiln Dust or Portland Cement and Cement Kiln Dust. The amended ash was specified to be capped with a minimum 18 inches of soil cover. Several man-made ponds were excavated at the Site during construction of the golf course to produce soil used for cover of the amended ash.

MACTEC Engineering and Consulting, Inc. (MACTEC) performed field activities for a Post-Construction Ash Fill, Soil Cover and Groundwater Evaluation at the Site in November and December 2008 (Phase I) and June 2009 (Phase II). The following report presents the results from both phases of Post-Construction Evaluation performed by MACTEC.

2.0 BACKGROUND

URS Corporation (URS) performed a Hydrologic Investigation, dated September 21, 2001, prior to placement of ash at the Site. This Hydrologic Investigation included the advancement of seven soil borings and installation of five groundwater monitoring wells, along with geotechnical analysis of soil and chemical analysis (primarily metals) of soil and groundwater at the site. Twelve previous soil borings were reportedly advanced at the site to an approximate depth of 25.5 feet below grade by McCallum Testing Laboratories, Inc. to evaluate subsurface physical properties in March 2001. According to the URS Hydrologic Investigation, groundwater was encountered during drilling beneath a 'shallow clayey layer', at an approximate depth of 5 to 6 feet below grade at the time of drilling in July 2001. According to Table 2 of the URS Hydrologic Investigation, water levels in monitoring wells ranged from 1.93 to 4.63 feet below grade on August 1, 2001. Monitoring wells installed by URS were reportedly screened within greenish-gray medium to fine sand of the Columbia Group and finer-grained sandy silt with some clay of the upper Yorktown Formation was encountered in soil borings from approximately 43 to 50 feet below grade. One of the five monitoring wells installed by URS remains at the Site (identified within this report as MW-URS-2).

Well construction information for 17 supply wells in the vicinity of the site were summarized in Table 4 (Local Water Supply Summary) of the URS Hydrologic Investigation. The top of the screen depths for these wells reportedly range from 15 to 107 feet below grade and total depths range from 32 to 130 feet below grade. MACTEC has not performed a detailed evaluation of residential well data, but for the purpose of this report, there appear to be residential wells screened in both the Columbia Group and Yorktown Formations.

In May 2008, Kimley-Horn and Associates, Inc (Kimley-Horn) installed three shallow monitoring wells (referred to in this report as MW-KH-1, -2 and -3) within the golf course (in the vicinity of the 7th and 14th fairways). The approximate locations of four existing monitoring wells (one installed by URS and three installed by Kimley-Horn) are indicated on Figure 2. Kimley-Horn collected groundwater samples from the wells installed during their investigation on two occasions and the results of those sampling events reportedly indicated elevated total metals concentrations. However, total suspended solids (TSS) results for these samples exceeded 2,000 milligrams per liter (mg/L), suggesting that these samples were turbid

(may have contained sediment). As metals are naturally occurring in soil, groundwater samples that contain sediment or ash may produce metals results that are not representative of actual groundwater conditions.

The primary objective of the field activities discussed in this report is to provide an evaluation of flow characteristics and metals concentrations in surface water and groundwater near the perimeter (within a Dominion easement) and in the interior of the Site. A secondary objective is to evaluate geotechnical properties and amending reagent content of the ash fill, including approximate soil cover thickness.

2.1 MACTEC Post-Construction Evaluation

MACTEC prepared a Sampling and Analysis Plan (SAP) for Dominion, dated November 7, 2008, with the primary objective to provide an assessment of flow characteristics and metals concentrations in surface water and groundwater at the Site (within a Dominion easement) and in the interior of the site (using existing wells, if suitable, and surface water bodies within and along the perimeter of the active golf course). A secondary objective was to evaluate geotechnical properties and amending reagent content of the ash fill, including soil cover thickness (see Appendix C). The field activities associated with this scope of work (SOW) were completed by MACTEC from November 17 through December 10, 2008 (Phase I).

Based on the results of Phase I, MACTEC prepared a second SAP for Dominion, dated May 26, 2009, with the primary objective to further evaluate surface water and groundwater conditions within the southwest quadrant of the Site using existing wells, proposed monitoring wells, soil borings, and surface water bodies (see Appendix F). The field activities associated with this SOW were completed by MACTEC from May 27 through June 18, 2009 (Phase II).

3.0 PHYSICAL SETTING

3.1 Site Location

The Site is located approximately one mile west of the U.S. Naval Reservation - Fentress Landing Field in a generally rural area of Chesapeake, Virginia. The area is generally surrounded by agricultural fields with residential development on adjacent properties to the south and east and light commercial development to the west across Centerville Turnpike South. Figure 1 is a Topographic Map that indicates the general location of the Site (Terraserver-USGS, 1969).

3.2 Topography

The surrounding area is generally flat (see Figure 1), but the Site has been reworked with the addition of the ash fill to have a rolling topography with a general slope to the east-southeast. The Site has been extensively landscaped with various grass types to support golf course use (there are currently few if any trees on the Site). There are drainage ditches along the south and west boundaries of the Site (a drainage ditch also runs along the north side of Whittamore Road, which borders the Site to the north). Surface elevations at the Site range from approximately 7 feet above mean sea level (msl) along the boundary drainage ditch near the southeast corner of the Site to approximately 35 feet msl at the top of the highest hill near the northwest corner of the Site.

3.3 Surface Water Flow

Surface runoff follows topography by overland flow to ponds within the interior of the Site or ditches along the borders of the Site. The ditch along the western boundary of the Site receives surface water from three subsurface culvert pipes that drain from off-site areas west of Centerville Turnpike South (see Figure 3). The west boundary ditch flows south into the easterly flowing south boundary ditch (see Figure 3). The south boundary ditch also receives flow from four ditches that drain the residential area to the south of the Site. The south boundary ditch flows into a series of other drainage ditches that drain into the Pocaty Creek approximately three miles southeast of the Site.

3.4 Regional Geology/Hydrogeology

The Site is located in the Coastal Plain Physiographic Province of eastern Virginia (Calver, 1973). The Coastal Plain consists of an eastward thickening wedge of unconsolidated sediments of gravel, sand, silt, and clay from the Cretaceous to Quaternary periods. Two primary stratigraphic units have been identified as present at or beneath the Site; the Columbia Group and Yorktown Formation (URS, 2001). The Columbia Group generally consists of non-marine (fluvial-deltaic) oxidized clays, silts, sands and gravels that contrast with the underlying marine formations. The Yorktown Formation generally consists of light gray, gray and bluish-gray sands with shell fragments, interbedded silts, clays and bioclastic beds. South of the James River, in the Chesapeake area, glauconitic sands and clayey sands may be present.

Groundwater is generally present within the unconsolidated sediments, often in a subdued reflection of the surface topography. Groundwater flow patterns for the unconfined, uppermost-saturated layer (water table aquifer) typically follow surface-water drainage. However, local flow patterns can be affected by the heterogeneous nature of the unconsolidated fluvial-deltaic sediments. Groundwater may become perched on lenses within the unconsolidated sediments.

4.0 INVESTIGATION ACTIVITIES

MACTEC prepared two SAPs for the Site, dated November 7, 2008 (Phase I) and May 26, 2009 (Phase II) for post-construction field investigation activities. Fishburne Drilling, Inc., (Fishburne) located in Chesapeake, Virginia performed advancement of soil borings, installation of monitoring wells and excavation of test pits at the Site. Soil boring and monitoring well installation activities were performed under the direction of a MACTEC geologist. Test pit excavation oversight and compaction testing were performed by a qualified MACTEC engineer. In general, MACTEC also performed the following Site activities; monitoring well development, gauging and sampling, surface water gauging and sampling, and pond depth gauging and sediment sampling. TestAmerica Laboratories, Inc., located in Nashville, Tennessee (Test America) provided chemical analytical services for this project. EMSL Analytical, Inc., located in Westmont, New Jersey (EMSL) provided particle identification analyses of reference fly ash and kiln dust samples (provided by Dominion from Chesapeake Energy Center and Chemstone, respectively) and amended ash samples collected from the Site. Virginia Tech Soil Genesis and Mine Reclamation – Department of Crop and Soil Environmental Services provided Potential Peroxide Acidity testing of soil samples collected during this investigation. Site Improvement Associates, Inc., (SIA) located in Chesapeake, Virginia performed surveying services at the Site. Field sampling activities were performed in general accordance with the prepared SAPs.

In general, Phase I included the following field activities performed at the Site:

- Development and Sampling of 4 Existing Groundwater Monitoring Wells (MW-KH-1 through -3 and MW-URS-2)

- Installation and Development of 16 Groundwater Monitoring Wells (MW-BGC-5A and -5B through -12A and -12B)

- Installation of 19 Surface Water Staff Gauges (SG-1 through -19), Surveying of Staff Gauges and Monitoring Wells, Gauging, Slug Testing, Surface Water and Groundwater Sampling

- Advancement of 3 Soil Borings (SB-1 through -3), 3 Test Pits (TP-1 through -3) and 33 Hand Auger Borings (A4 through H13)

In general, Phase II included the following field activities performed within the southwest quadrant of the Site:

- Installation and Development of 3 Groundwater Monitoring Wells (MW-BGC-13 through -15)

- Surveying of new Monitoring Wells, Gauging, Slug Testing, Surface Water and Groundwater Sampling

- Advancement of 11 Soil Borings (SB-4 through -14), Road Bed and Stockpile Soil Sampling

- Pond Depth Gauging and Sediment Sampling

Field reports for both phases of the investigation at are included in Appendix A. Boring Logs and Well Completion Diagrams are included in Appendix D. Laboratory analytical reports are included in Appendix E. Table 1 summarizes the List of Target Analytes list for the Site. Figure 2 indicates the approximate locations of soil borings, test pits, hand auger borings, surface water staff gauges and groundwater monitoring wells at the Site.

4.1 Previously Existing Well Development and Groundwater Sampling

Proper well development is essential to promote the flow of representative groundwater into the well, remove sediment introduced into the borehole during the drilling process and improve the hydraulic connection between the monitoring well screen and the surrounding aquifer. Kimley-Horn reported total suspended solids (TSS) greater than 2,000 mg/L (as high as 4,800 mg/L) in groundwater samples collected from the three monitoring wells (MW-KH-1 through -3) installed during their assessment within the interior of the Site (within ash fill areas of the Site). Elevated TSS measurements suggest that the samples were turbid (may have contained sediment). As metals are naturally occurring in soil, groundwater samples that contain sediment or ash may produce metals results that are not representative of actual groundwater conditions.

During Phase I Site activities, MACTEC personnel gauged and re-developed the four previously installed monitoring wells at the site (the three installed by Kimley-Horn and one installed by URS). Development proceeded until development water from the wells appeared relatively clear (and turbidity readings using a water quality analyzer remained less than 250 nephelometric turbidity units [NTU]) or until 10 well volumes were removed. MACTEC personnel observed turbulence and apparent sediment entering the well screen at or near the surface of the water column in the Kimley-Horn wells during development. These observations suggest that the screen interval for these wells may be too close to the surface (within 2 feet) to have

allowed for installation of both a proper sand pack above the top of the screen and a proper bentonite well seal above the sand pack (see Appendix D for a Typical Type II Well Construction Diagram).

Following well development performed in general accordance with the MACTEC SAPs, each well was allowed to recharge for 48 hours prior to sampling. After 48 hours, each of the 4 wells produced water samples with turbidity readings of less than 10 NTU (considered suitable for sampling in accordance with the SAP) and well purging was performed using a peristaltic pump and a flow-through cell. Water quality parameters (temperature, pH, turbidity, oxidation-reduction potential, conductivity and dissolved oxygen) in the flow-through cell were measured using a Horiba U22 water quality analyzer and recorded prior to sample collection. Groundwater purging and sampling records for each well are included in Appendix A. Stabilized water quality results for each well are presented on Table 2. Once water quality parameters stabilized, the flow-through cell was removed and a 0.45 micron filter was placed in-line for collection of a sample to be preserved and analyzed for dissolved metals. The in-line filter was then removed and groundwater samples were collected from the polyethylene tubing connected to the peristaltic pump for total metals and the remaining List of Target Analytes (see Table 1).

Groundwater sampling was performed in general accordance with the EPA Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (Puls & Barcelona, 1996). Groundwater samples were containerized (with appropriate preservative, when applicable), placed on ice and shipped under Chain-of-Custody via Federal Express overnight delivery to TestAmerica for analysis. Laboratory analytical results for each of the existing wells installed by others are presented on Table 3.

4.2 Groundwater Monitoring Well Installation and Development

Sixteen (16) 2-inch inside-diameter (I.D.) Type II groundwater monitoring wells were installed around the perimeter of the Site in during Phase I Site activities and three (3) 2-inch I.D. Type II groundwater monitoring wells were installed within the southwest quadrant of the Site during Phase II Site activities. The borings were advanced using hollow-stem auger drilling techniques. Standard penetration tests and sampling was performed using the procedures described in ASTM D1586 continuously for the first 10 feet below grade and at 5-foot intervals thereafter. The field program was monitored by a Virginia Registered Professional Geologist. A MACTEC geologist provided oversight to log each boring and direct well installation. Borehole samples were classified according to their lithology and the depth of stratigraphic contacts was documented. Each soil sample was visually described and given an estimated classification in general accordance with the Unified Soils Classification System (USCS).

4.2.1 Monitoring Well Installation

During Phase I Site activities, eight 'shallow-depth' Type II wells were advanced to penetrate at least ten feet into the uppermost water-bearing zone (shallow well depths ranged from approximately 15 to 20 feet below grade). Eight 'intermediate-depth' Type II wells were advanced to the apparent base of the uppermost water-bearing zone (intermediate well depths ranged from approximately 35 to 44 feet below grade). Each well was constructed with pre-filter packed well screen, consisting of; a 10-foot section of 4-inch I.D. polyvinyl chloride (PVC) machine-slotted outer screen and a 10-foot section of 2-inch I.D. PVC machine-slotted inner screen with Morie #2 equivalent grade sand between the inner and outer screen sections. The remaining annular space around the well screen was filled with Morie #2 equivalent grade sand to stabilize the well, which was extended approximately two feet above the top of the slotted screen. A bentonite seal approximately two feet thick was placed above the sand pack and Portland cement/bentonite grout slurry was placed above the bentonite to seal the well at the ground surface and mitigate the potential for cross-contamination of the underlying aquifer.

The shallow- and intermediate-depth wells were installed in pairs at eight locations around the perimeter of the Site within an existing Dominion easement (see Figure 2). Three of the Type II well-pairs (MW-BGC-5, -6 and -7) were installed in areas inferred to be up-gradient of the ash fill and five Type II well-pairs (MW-BGC-8, -9, -10, -11 and -12) in areas inferred to be cross-gradient to down-gradient from the ash fill (wells were located outside of ash placement areas).

The Type II monitoring wells located along the south and east boundaries of the site (MW-BGC-8, -9, -10, -11 and -12) were completed with an approximate 3-foot standing riser cover with a hinged locking lid (due to the tall vegetation in this area) set into a 2-foot by 2-foot concrete pad. The Type II monitoring wells located along the north and west boundaries of the site (MW-BGC-5, -6 and -7) were completed with a locking well seal and an 8-inch diameter flush-mount manhole cover (due to the proximity of Centerville Turnpike and Whittamore Road and the landscaped nature of this area of the Site) set into a 2-foot by 2-foot concrete pad. Boring logs with well construction details are included in Appendix D, and Table 4 presents a summary of monitoring well construction data.

During Phase II Site activities, three additional 'shallow-depth' Type II wells were installed within the southwest quadrant of the Site (see Figure 2); two in the Dominion easement along the southern boundary of the Site (MW-BGC-13 and -14) and one within the golf course north of the tee box for hole #2 (MW-BGC-15). Each of the three additional new wells was installed consistent with the shallow-depth wells installed during Phase I, to depths ranging from 15 to 20 feet bgs, and completed with an approximate 3-foot standing riser cover with a hinged locking lid set into a 2-foot by 2-foot concrete pad. Boring logs with well construction details are included in Appendix D, and Table 4 presents a summary monitoring well construction data.

4.2.2 Well Development

MACTEC personnel gauged and developed each of the 19 new monitoring wells at the Site (MW-BGC-5A, -5B through -12A, -12B during Phase I and MW-BGC-13 through -15 during Phase II) in general accordance with the SAPs (see Appendix F). Well development was performed using a surge block and submersible pump to surge throughout the well screen and purge at least 10 well volumes from each well. Development was continued until ph and conductivity stabilized to within 10 percent and turbidity measurements were maintained below 50 NTUs (in general accordance with the U.S. EPA Standard Operating Procedure [SOP] for Monitor Well Installation, dated March, 18, 1996). No water from an outside source was introduced into the new wells during well development activities. Each properly

developed well was then allowed to stabilize for a minimum of 48 hours prior to collection of a groundwater sample. Well development and purge water removed from the wells was placed into 55-gallon drums and labeled for temporary staging on the Site at a location designated by golf course personnel. See section 4.7 for waste characterization and disposal.

4.3 Staff-Gauge Installation, Survey, Surface Water Sampling, Slug Testing and Groundwater Sampling

Surface water staff gauges were installed, surveyed and monitored to evaluate surface water flow characteristics and to relate these to near-surface groundwater flow at the Site. Slug tests were performed on selected new monitoring wells at the site to evaluate groundwater flow characteristics. Groundwater samples were collected from each of the new monitoring wells to evaluate the concentration of total metals and selected ions.

4.3.1 Surface Water Staff-Gauge Installation

Nineteen surface water staff gauges (SG-1 through -19) were installed in ponds and drainage ditches at the Site (see Figure 3) during Phase I Site activities. Staff gauges were set approximately one to two feet below the water line at the time of installation (each gauge is approximately 3.34 feet in length and permanently marked at 0.01-foot intervals for visual observation of water levels relative to the bottom of the gauge). Ponds in this report will be referred to by their corresponding staff gauge identifier, where applicable (i.e. the pond with staff gauge SG-17 will be referred to as Pond 17).

4.3.2 Survey & Gauging

The location of the 19 new wells, 19 surface water staff gauges, 4 existing wells, 14 test borings and 3 test pits were surveyed by a Virginia licensed professional surveyor. The well locations were recorded using the Virginia State Plane coordinate system. The height of a reference survey datum, top of each staff gauge, a marked point on top of the inner well casing (TOC) and the ground-surface elevation of each well was established within ±0.01 foot in relation to mean sea level, which is established by reference to a National Geodetic Vertical Datum (see Table 4 for TOC and ground surface elevations at each well; see Table 5 for surface water staff gauge elevations). The static groundwater level in each of the wells installed during this investigation and the four existing wells installed by others was gauged and recorded on four separate occasions using an electronic water-level indicator (see Table 6). The water level at each staff gauge was also recorded during each well gauging event (see Table 5). Horizontal control for the hand auger borings was established using a portable hand-held Global Positioning System (GPS) unit.

4.3.3 Surface Water Sampling & Analysis

MACTEC collected surface-water samples from 12 selected staff gauge locations (SG-3, SG-4, SG-6 through -12, SG-16, SG-18, and SG-19) and 6 other selected surface-water locations (SW-20 through -25) throughout the site during Phase I Site activities (see Figure 3).

During Phase II Site activities, MACTEC collected surface-water samples from a total of six locations located within the southwest quadrant of the site, five previously sampled locations (SG-9 through -12 and SW-22) and one new location adjacent to well MW-BGC-8A (SG-13).

Surface-water sample locations are indicated on Figure 3 and are summarized as follows:

- SW-20 and SW-21 were collected from culvert drain pipes that enter the perimeter drainage ditch along the western Site boundary from the off-site commercial properties west of Centerville Turnpike

- SW-22, SW-23, SW-24 and SW-25 were collected from drainage ditches that enter the southern boundary ditch from the off-site residential properties south of the Site

- SG-4 was collected from the southern boundary ditch near the southeast corner of the Site where the ditch exits the Site

- SG-3, SG-6, SG-7, SG-8, SG-9, SG-10, SG-11, SG-12, SG-16, and SG-19 were collected from 10 of the 13 ponds on the Site (ponds with staff gauges SG-1, SG-2 and SG-17 were not sampled during this investigation)

- SG-18 was collected from the drainage ditch that exits the Site near the eastern Site boundary

- SG-13 was collected from the southern boundary drainage ditch adjacent to well MW-BGC-8A, within the southwest quadrant of the Site

Surface-water flow directions observed in the drainage ditches during sampling events and throughout this investigation are also indicated on Figure 3. See Table 1 for a List of Target Analytes and Table 7 for surface-water analytical results.

4.3.4 Slug Testing

During Phase I field activities, MACTEC performed an aquifer test (slug test) on monitoring well pairs MW-BGC-5, -6, -8, and -11 (four shallow and four intermediate-depth wells). During Phase II field activities, MACTEC performed slug testing on monitoring wells MW-BGC-13 through -15 and retesting of well MW-BGC-8A (four shallow depth wells). The retest of monitoring well MW-BGC-8A was performed due to insufficient data obtained during the initial test to evaluate aquifer characteristics from this well.

Following monitoring well installation and development, slug tests were performed in general accordance with ASTM Standard D 4044-91. Each slug test was performed by producing a near instantaneous change in head pressure in the monitoring well and measuring the subsequent water level response within the well. Head changes were induced by adding/removing a mechanical PVC “slug” from the water column inside the well. After the slug was added or removed from the well, the water level in the well was monitored using a pressure transducer with an internal datalogger, which recorded water level readings at regular, timed intervals. Water level readings were recorded beginning at least one to two minutes prior to introducing the PVC “slug” into the well to establish a baseline during the slug-in portion of the test. Readings continued as the water infiltrated into the aquifer until the water level had recovered to within 98% of the initial static groundwater level. A subsequent slug-out test was begun by quickly removing the PVC “slug” and monitoring recharge from the aquifer until the water level had recovered to within 98% of the initial static groundwater level. Data was evaluated using Aqtesolv for Windows, Version 3.50 Professional (HdyroSOLVE, 2003) and the Bouwer and Rice Method (Bouwer and Rice, 1976) to produce hydraulic conductivity estimates for each well (see Table 8 for a summary of slug test results). Due to rapid recharge from the generally sandy soils within the screened interval of the wells, slug tests produced a limited amount

of quality data for analysis (see Appendix B). In addition to slug tests performed during this investigation, literature references to typical ranges of hydraulic conductivity for the soil types encountered within the screened interval of wells installed at the Site were also considered in the hydrogeologic evaluation.

4.3.5 Groundwater Sampling & Analysis (New Wells)

MACTEC personnel completed two groundwater sampling events (December 2008 and June 2009) from wells installed during this investigation. During Phase I Site activities groundwater samples were collected from the 16 new monitoring wells (MW-BGC-5A, -5B through -12A, -12B) and the four existing wells. During Phase II Site activities, groundwater samples were collected from the same 16 monitoring wells (MW-BGC-5A, -5B through -12A, -12B) and the 3 additional shallow wells (MW-BGC-13 through -15). Groundwater samples from the wells were collected no sooner than 48 hours after final development. After 48 hours, each of the wells produced water samples with turbidity readings of less than 10 NTU (considered suitable for sampling in accordance with the SAP) and well purging was performed using a peristaltic pump and a flow-through cell. Water quality parameters (temperature, pH, turbidity, oxidation-reduction potential, conductivity and dissolved oxygen) in the flow-through cell were measured using a Horiba U22 water quality analyzer and recorded prior to sample collection. Groundwater purging and sampling records for each well are included in Appendix A. Stabilized water quality results for each well are presented on Table 2. Once water quality parameters stabilized, the flow-through cell was removed and groundwater samples were collected from the polyethylene tubing connected to the peristaltic pump. Groundwater sampling was performed in general accordance with the EPA Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (Puls & Barcelona, 1996). Groundwater samples were appropriately containerized (with appropriate preservative, when applicable), placed on ice and shipped under Chain-of-Custody via Federal Express overnight delivery to TestAmerica in Nashville, TN for analysis. Table 1 presents the List of Target Analytes for each groundwater sample collected at the Site during this investigation. Laboratory analytical results for the shallow and intermediate-depth wells installed during this investigation are presented on Tables 9 and 10, respectively.

4.4 Soil Cover and Ash Fill Assessment

Test borings, hand auger borings and test pits were advanced to evaluate the soil cover and ash fill. A MACTEC engineer and geologist were on-site to direct the field exploration program and prepare field logs of borings and test pits.

4.4.1 Ash Fill Test Borings

During Phase I Site activities, ash fill and subsurface conditions were explored with three widely spaced soil test borings. Actual soil test borings were located by MACTEC personnel at locations of anticipated maximum fill depth, primarily on the top of highest topographic mounds, located in separate areas of the golf course. The boring locations (SB-1, SB-2 and SB-3) are shown on Figure 2.

Test borings SB-1, SB-2 and SB-3 encountered top cover soils, ash fill, and residuals soil. Subsurface conditions encountered at the boring locations are shown on the Test Boring Records in Appendix D. These Test Boring Records represent our interpretation of the subsurface conditions based on the field logs and visual examination of the field samples by MACTEC personnel. The lines designating the interfaces between various strata on the Test Boring Records represent the approximate interface locations.

The Phase I test borings were advanced using mud-rotary drilling techniques through the ash fill to the residual soils below, each to an approximate depth of 22 feet below existing grade. Standard penetration tests and sampling was conducted using the procedures described in ASTM D1586 at 2-foot intervals on a continuous basis. Undisturbed tube samples of the ash fill were collected in general accordance with the procedures described in ASTM D1587. Each undisturbed tube sample was submitted for vertical permeability (falling head) analysis (see Appendix C for physical testing results). Upon termination of each boring, bentonite grout was placed using standard tremi-pipe techniques.

During Phase II Site activities, ash fill and subsurface conditions within the southwest quadrant of the Site were explored further with 11 additional test borings (SB-4 through SB-14). The primary objective for these borings was to confirm the limits of ash fill in the southwest quadrant of the Site (northeast of monitoring well MW-BGC-8A). These borings (SB-4 through SB-14) were completed to a maximum depth of 8 feet bgs using a Geoprobe® rig. MACTEC Test Boring Records are included in Appendix D.

4.4.2 Test Pits

During Phase I Site activities, soil cover and ash fill was evaluated by advancing three widely spaced test pits (TP-1, TP-2 and TP-3). Actual test pits were located by MACTEC personnel near the toe of the slope of each of the three highest topographic mounds, located in separate areas of the golf course. The three test pits were excavated into the ash fill at each location using a rubber-tire backhoe to depths ranging from 2.8 to 3.8 feet below existing grade. As the test pits were excavated, in-place density tests were performed. Bulk samples were obtained for physical testing in the laboratory. The test pit locations (TP-1, TP-2 and TP-3) are shown on Figure 2.

Nuclear gauge density tests were performed in accordance with ASTM D2922 on the materials encountered in the test pit excavations at various depths within the ash fill. Bulk ash fill samples were collected from each test pit and submitted to MACTEC's geotechnical laboratory in Abingdon, Virginia for standard Proctor compaction tests and moisture content tests. Results of the nuclear gauge density tests and standard Proctor compaction test were compared for relative in-place compaction. The results are contained as Compaction Test Results in Appendix C and discussed in Section 5.5.2.

One ash fill sample from each test pit, near the base of the ash fill (for a total of three ash samples) was submitted to TestAmerica for pH and Toxicity Characteristic Leaching Procedure (TCLP) metals analyses (see Table 11). In addition, the following analytical instruments were utilized to evaluate the contents of three ash fill samples (one from each test pit), an ash sample provided by Dominion from Chesapeake Energy Center (utilized as an un-amended fly ash reference sample) and a kiln dust sample from Chemstone Corporation (utilized as amending agent reference sample):

- Stereomicroscopy
- Polarized Light Microscopy (PLM)
- Scanning Electron Microscopy (SEM)
- Energy Dispersive X-Ray (EDX)
- X-Ray Diffraction (XRD)
- X-Ray Fluorescence (XRF)

See Table 12 for a summary of results from the ash content analyses. Following completion of the test pits, material excavated from the test pits was used as backfill and compacted using a hand-operated gasoline vibratory compactor and jute matting was placed over the disturbed area to mitigate erosion.

4.4.3 Soil Cover Assessment

During Phase I Site activities, 33 hand-auger borings were advanced at the Site in areas of ash fill to evaluate the thickness and physical properties of the soil cover above the ash fill. Hand auger locations were generally spaced in an approximately 300-feet by 300-feet grid layout, except where a grid was comprised of ponds, golf fairways or greens (see Figure 6 for hand auger boring locations and observed cover thicknesses). The hand auger borings, test borings and test pits were located in the field by MACTEC personnel by referencing site features shown on plans and aerial photographs and utilizing a conventional GPS instrument. Each hand auger boring was advanced until apparent ash fill was encountered (depths ranging from 4 to 66 inches below grade). See Table 13 for a summary of soil cover physical properties and thicknesses.

Three representative locations were selected for collection of undisturbed tube samples of the soil cover using the procedures described in ASTM D1587. Each undisturbed tube sample was submitted for vertical permeability (falling head) analysis (see Appendix C for physical testing results). Upon completion of sampling, the borings were backfilled with the hand auger cuttings.

4.5 Pond Depth Gauging and Sediment Sampling

During Phase II Site activities, 4 surface water ponds in the southwest quadrant of the Site (Ponds SG-9 through SG-12) were gauged at approximately 10-foot intervals along the approximate center length of each pond to measure the depth to the bottom below the water surface (see Figure 2). In addition, a total of eight sediment samples were collected from the ponds (two per pond) utilizing a stainless steel soil trap and submitted for laboratory analysis to evaluate the pond sediment for potential constituents of ash.

4.6 Soil, Road Bed, and Stockpile Sampling

During Phase II Site activities, MACTEC utilized a hand auger to collect six soil samples from the stream/pond banks in the vicinity of staff gauges SG-9, SG-10, SG-11, SG-12, SW-13, and SW-22 to evaluate potential acid sulfate soils in the southwest quadrant of the Site. The stream/pond-bank samples, collected approximately 6 to 24 inches bgs proximal to surface water at each location, were submitted for laboratory analysis.

MACTEC utilized a hand auger to collect four shallow road-bed samples (RB-1 through -4) from the access road located along the southwest perimeter of the Site. Shallow road-bed samples were collected from grade to approximately six inches bgs. MACTEC also utilized a hand auger to collect four composite soil samples from soil stockpiles located near the southern boundary of the Site, between monitoring wells MW-BGC-8A and MW-BGC-13. The four shallow road-bed samples and the four composite stockpile samples were submitted for laboratory analysis to evaluate the samples for potential constituents of ash.

4.7 Construction Documents Review

MACTEC reviewed available construction documents for the Battlefield Golf Club, formally Etheridge Greens Golf Course, located in Chesapeake, Virginia. The following documents related to ash amendment and construction were provided by Dominion or downloaded from;

http://www.cityofchesapeake.net/services/citizen_info/battlefieldgolfclub/:

- Construction Quality Assurance Plan dated March 7, 2002, by Combustion Products Management, Inc. of Chesapeake, Virginia.
- Submission Information Regulations Governing Management of Coal Combustion By-Products 9 VAC 20-85 for Etheridge Greens Golf Course, Chesapeake, Virginia, dated March 7, 2002, by Combustion Products Management, Inc of Chesapeake, Virginia.
- Density Reports dated from May 17, 2002 to February 5, 2007 completed by McCallum Testing Laboratories, Inc. of 1808 Hayward Avenue, Chesapeake, Virginia.
- Amended Ash Quality Control Program for Etheridge Greens Gold Course, Chesapeake, Virginia, dated February 2002, by VFL Technology, Inc., West Chester, Pennsylvania.
- MJM_Golf_Documents.pdf, http://www.cityofchesapeake.net/services/citizen_info/battlefieldgolfclub/index.shtml#SiteTestReports
- Tidewater_DEQ.pdf, http://www.cityofchesapeake.net/services/citizen_info/battlefieldgolfclub/index.shtml#SiteTestReports

MACTEC reviewed the quality assurance requirements that were listed in the document titled "Construction Quality Assurance Plan" dated March 7, 2002. MACTEC also reviewed the available test reports from McCallum Testing Laboratories.

4.8 Equipment Cleaning

Equipment cleaning procedures outlined in the SAPs were followed during sampling to prevent false detections that can occur when outside contaminants are introduced to the media being sampled. Wherever possible, sufficient clean equipment (i.e. sample tubing) was transported from the office to the Site to minimize equipment re-use and cleaning. Equipment rinse blanks were collected to assess the equipment being used and to confirm the effectiveness of the cleaning procedures.

4.9 Waste Characterization and Disposal

As a result of field activities conducted during the investigation, non-hazardous waste materials were generated. These wastes included drill cuttings from soil borings, personal protective equipment, and water generated during the development, purging, and sampling of monitoring wells and rinse water generated during cleaning events. Waste material was placed into 55-gallon drums and labeled for temporary staging on the Site at a location designated by golf course personnel. Waste material was transported for off-site disposal by Clean Harbors Environmental Services, Inc. (Clean Harbors) and disposal manifests are included in Appendix G.

4.10 Quality Assurance

During Phase I Site activities, three quality assurance (QA) duplicate samples (MW-DUP-1, MW-DUP-2 and MW-Dup-3) were collected with the groundwater samples and two (SW-DUP-1 and SW-DUP-2) were collected with the surface water samples for the same analyses as the primary samples. Sample results from the duplicate samples were compared to the primary sample results to evaluate repeatability of the data. Two rinse blank samples were collected for the same analyses to evaluate the quality of cleaning procedures; one (identified as SW-BGC-Rinse1) utilizing the surface water sampling apparatus

after cleaning and a second (identified as RINSE BLANK) utilizing the groundwater sampling apparatus after cleaning. One field blank sample was also submitted to the laboratory for analysis as QA of the laboratory supplied de-ionized water and analytical procedures.

During Phase II Site activities, two QA duplicate samples (MW-BGC-DUP03 and MW-BGC-DUP04) were collected with the groundwater samples and one (SW-BGC-DUP052709) was collected with the surface water samples for the same analyses as the primary samples. These sample results were utilized to evaluate repeatability of the data. Three rinse blank samples were collected for the same analyses to evaluate the quality of cleaning procedures; two (MW-BGC-RB03 and MW-BGC-RB04) utilizing the groundwater sampling apparatus after cleaning and one (SW-RinseBlank 052709) utilizing the surface water sampling apparatus after cleaning was also submitted to the laboratory for analysis as QA of the laboratory supplied de-ionized water and analytical procedures.

During Phase II Site activities, six QA duplicate samples were also collected with the following media for the same analyses as the primary samples:

- pond sediment: PS-BGC-Dup-01
- Geoprobe ash: SB-BGC-DUP 01
- stream-bank soil: HA-BGC-DUP01
- road-bed soil: HA-BGC-RB-DUP
- stockpile soil: SP-BGC-DUP01
- monitoring well soil: MW-BGC-DUP01

These duplicate sample results were compared to the primary sample results to evaluate repeatability of the data.

MACTEC reviewed the laboratory data reports provided by TestAmerica for samples collected during both phases of this investigation. Based on the data quality review, the data appears acceptable with respect to accuracy, precision, representativeness, completeness and, therefore, has been determined to be appropriate for its intended use. Quality control samples including equipment rinse blanks, field duplicate samples and the field blank sample further indicated that the analysis of these samples were within the appropriate quality control criteria. Sampling and analysis work was performed in general accordance with the SAPs.

5.0 INVESTIGATION FINDINGS

The following sections detail the results and findings of MACTEC's two phases of field investigations.

5.1 Geologic Findings

Two basic natural stratigraphic units were encountered at the site beneath and outside of the ash fill areas. Our observations regarding these natural stratigraphic units were generally consistent with the geologic findings reported by URS for the Site. A description of the ash fill and soil cover (where applicable) and the two basic natural strata are briefly described in the following paragraphs. Cross sections for the Site are included as Figures 4 and 5, which conceptually illustrate the raised topography of the golf course where ash fill has been placed, surface water features and subsurface stratigraphy interpreted from the boring logs. A topographic survey was not performed for this investigation and the cross sections were prepared based upon visual observations and surveyed data for test borings, test pits, hand auger borings and monitoring wells installed by MACTEC during this investigation. The boring logs and cross sections represent the interpretation of the subsurface conditions based on visual examination of field samples. The lines

designating the interfaces between various strata on the boring records and cross sections represent the approximate interface; however, the actual transitions between strata may be gradual.

Soil Cover (earthen fill material): In interior areas of the Site where ash fill was encountered, ranging in thickness from 4 to 66 inches, soil cover was generally described as fine-grained material, composed of clayey silt, silty fine-grained sand with varying clay content and silty clay. See Figure 6 for a map of soil cover thicknesses above the ash fill. See Table 13 for a summary of soil cover material encountered in each hand auger boring. Based on the results of vertical permeability (falling head) analyses performed on three soil cover tube samples, coefficients of permeability for soil cover ranged from 4.2×10^{-07} to 8.4×10^{-06} centimeters per second (cm/sec), see Appendix C. These results indicate that the soil cover has a relatively low permeability.

Ash Fill: Encountered beneath the Soil Cover in each of the following Phase I samples locations: 33 hand auger borings, 3 interior test borings and 3 test pits. The ash fill was not fully penetrated in the hand auger borings or test pits, but ranged in thickness from approximately 15.5 to 17 feet (to depths of up to approximately 19 feet bgs) in the 3 interior test borings advanced in the highest topographic points at the Site. Ash fill was described as dark gray to black, silty, very fine-grained sand or very fine-grained sandy silt. The consistency of ash fill encountered in the hand augers was described as firm to semi-consolidated. Based on the results of vertical permeability (falling head) analyses performed on three ash fill tube samples, coefficients of permeability for ash fill ranged from 6.9×10^{-07} to 9.5×10^{-06} cm/sec, see Appendix C. These results indicate that the ash fill has a relatively low permeability.

STRATUM A (interpreted as Columbia Group): Dark brown to gray or black, organic clayey silt and clay with sand was encountered directly beneath the ash fill (in each of the 3 test borings) to depths of up to approximately 21 feet bgs and in areas outside the ash fill (in each of the 19 monitoring wells) from the ground surface to depths of approximately 7.5 feet bgs. Beneath this dark, generally organic fined-grained sediment in the upper portion of Stratum A, a gray or light gray, clayey fine-grained sand was encountered in each of the monitoring wells, grading to become more coarse-grained with depth with some interlayered clay and trace shell fragments.

STRATUM B (interpreted as upper Yorktown Formation): Encountered in each of the 8 intermediate depth monitoring wells at depths ranging from 33 to 42.5 feet below grade. Consists of light to dark greenish-gray medium-grained sand and sandy clay. Stratum B was only partially penetrated (less than 5 feet of the upper portion) during this investigation.

5.2 Hydrogeologic Findings

Groundwater was encountered at depths ranging from approximately 2.3 to 10.0 feet below ground surface at the Site on July 15, 2009 (see Table 4). Groundwater elevation data for the Site is presented in Table 6. The water levels and monitoring well elevations were used to develop groundwater contour maps for the December 10, 2008 and June 16, 2009 gauging events (Figures 7 through 10). Figures 7 and 8 were developed utilizing water level data from the shallow monitoring wells and surface-water staff gauges. Figures 9 and 10 were developed utilizing water level data from the intermediate-depth wells only. Based on water level data from the shallow monitoring wells and surface water staff gauges, groundwater flow is interpreted to be in a generally southeast direction, toward or in the direction of the nearest surface water drainage features. A more southerly flow direction is apparent in the uppermost shallow water table along the southwest and southern border of the site, where the drainage ditch appears gaining with groundwater flow toward the ditch (see Figures 7 and 8). This localized southerly flow direction is muted or not apparent in the lower portions of the water table aquifer based on water level data from the intermediate depth wells (see Figures 9 and 10).

A comparison of groundwater elevations between the shallow and intermediate-depth wells at most paired well locations at the Site indicates a slight upward vertical gradient during the June 16, 2009 gauging event (an average pressure head difference of approximately 0.08 foot) and a slight downward vertical gradient during the July 15, 2009 gauging event (an average pressure head difference of approximately -0.10 foot). Based on the groundwater contour maps from the two gauging events performed, horizontal gradients across the Site during this investigation generally ranged from approximately 0.002 (northern portion of the site) to 0.008 (southwestern portion of the Site, near the drainage ditches). Slug test data performed on the wells during this investigation (MW-8A, MW-13 and MW-15) indicated hydraulic conductivities ranging from approximately 4.6 to 9.5 ft/day (1.6×10^{-3} to 3.3×10^{-3} cm/sec) for a site average of approximately 3.6 ft/day (1.3×10^{-3} cm/sec). Based on the percentage (2.9 to 19.7 percent) of fines (passing a #200 sieve) encountered in the soil samples collected from the screened interval of wells installed at the Site (see Table 8), the effective porosity is anticipated to range from approximately 20 to 45 percent (Johnson, 1967). Published literature values of hydraulic conductivity for the soil types encountered at the Site range from 0.1 ft/day (4×10^{-5} cm/sec) for clayey fine-grained sand to 10 ft/day (4×10^{-3} cm/sec) for clean fine-grained sand (USBR, 1977), for a Site average of approximately 3 ft/day (1.1×10^{-3} cm/sec). Based on this range of hydrologic properties for the Site, groundwater flow velocities are anticipated to range from approximately 16 to 23 feet per year (see Table 8). Seasonal water table fluctuations, possible tidal fluctuations and variations in daily demand on local groundwater withdrawal were not evaluated during this investigation and may influence the actual groundwater gradient, flow direction and groundwater velocity at the Site.

5.3 Environmental Laboratory Results

Analytical results for groundwater samples collected at the Site during this investigation are presented on Table 3 (existing well results), Table 9 (shallow well results) and Table 10 (intermediate-depth well results). Analytical results for surface-water samples collected at the Site during this investigation are presented on Table 7. Analytical results for ash fill samples submitted for metals analysis by the Toxicity Characteristic Leaching Procedure (TCLP) are presented on Table 11. TCLP metals results for ash fill samples are discussed in Section 5.3.1 below. A comparison of the detected analytes in surface water and groundwater to risk screening criteria is discussed in Sections 5.3.2 and 5.3.3 below. Analytical results for the pond sediment and soil stockpile and red bed samples are presented on Appendix E Tables 2 and 3 and are discussed in Sections 5.3.5 and 5.3.6 below.

5.3.1 Potential Constituents of Concern (COCs) in Groundwater

U.S. EPA Region III has established maximum contaminant levels (MCLs) for drinking water for a variety of analytes. Detected analytes in groundwater samples collected during this investigation were compared to the MCLs and Virginia Water Quality Standards (see Tables 9 and 10). A summary of analyte concentrations detected, compared to applicable standards and previous samples collected at the Site prior to construction is presented below.

<u>pH</u>

The Virginia Groundwater Standards indicates a pH range for groundwater in the Coastal Plain Physiographic Province of 6.5 to 9. Comparatively low pH (<6.5) was measured in groundwater samples collected from 19 of 23 monitoring wells at the Site, including groundwater samples collected from 2 of 3 wells sampled by URS during their pre-construction assessment. The most notable low pH (<4) measurements were identified in shallow groundwater samples collected from monitoring well MW-

BGC-8A. A thorough assessment of the geochemistry of soil and its interaction with groundwater at the Site is beyond the scope of this investigation, however, low pH groundwater conditions generally increase metals concentrations in groundwater as naturally occurring metals are more readily leached from the soil where low pH conditions occur. The relatively low pH conditions identified in groundwater at the site may be attributed to naturally occurring sulfate-bearing soils (potential peroxide acidity [PPA] testing of soil was performed to confirm the presence of potential acid producing soils at the Site).

Antimony

During the Phase I sampling event in November/December 2008, antimony concentrations were less than the MCL of 0.006 mg/L in groundwater samples collected from all but 4 of the 20 monitoring wells (MW-BGC-7A, -7B, -8A, and -11A). However, antimony was also detected in the laboratory method blank for the analytical run that produced results exceeding the MCL and the results are reported as biased high (may not be representative of actual antimony concentrations in groundwater). During the subsequent Phase II sampling event in May/June 2009, antimony results were less than the laboratory reporting limit of 0.01 mg/L.

Arsenic

During the Phase I sampling event in November/December 2008, arsenic concentrations were less than the MCL of 0.01 mg/L in groundwater samples collected from all but 1 of the 20 monitoring wells (MW-BGC-12A and the corresponding duplicate MW-Dup-3 at concentrations of 0.0205 and 0.0195 mg/L, respectively). However, the arsenic result for the groundwater sampled collected from this well during the Phase II sampling event in June 2009 was less than the laboratory reporting limit of 0.01 mg/L. During the Phase II sampling event in June 2009, arsenic concentrations in groundwater samples were less than the MCL of 0.01 mg/L in groundwater samples collected from all but 1 of the 19 monitoring wells (MW-BGC-15 and the corresponding duplicate MW-BGC-DUP04 at concentrations of 0.0336 and 0.0332 mg/L, respectively). Arsenic and other heavy metals are common agricultural contaminants in soil and may be present in groundwater as possible pesticide by-products. The Site was formerly cultivated for agricultural use and surrounding properties north of the Site remain active agricultural fields. Arsenic was not detected in the one remaining URS well (MW-URS-2) sampled during this investigation or during the pre-construction sampling event performed at the Site by URS.

Beryllium

During the Phase I sampling event in November/December 2008, beryllium concentrations were less than the MCL of 0.004 mg/L in groundwater samples collected from all but 1 of the 20 monitoring wells (MW-BGC-8A at a concentration of 0.0149 mg/L. During the subsequent Phase II sampling event in May/June 2009, beryllium concentrations were less than the MCL in groundwater samples collected from all but 2 of the 19 monitoring wells (MW-BGC-8A, the corresponding duplicate from this well and MW-BGC-13 at concentrations of 0.0078 mg/L and 0.0145 mg/L, respectively). Monitoring wells MW-BGC-8A and -13 produced groundwater samples with relatively low pH measurements (3.98 and 5.20, respectively). Beryllium is a naturally occurring element and is readily leached from soil under low pH conditions.

Zinc

The EPA has not established an MCL for zinc, however, the Virginia Groundwater Standard (VGS) for zinc is 0.05 mg/L. Zinc concentrations were less than the MCL in groundwater samples collected during both phases of the investigation from all but nine monitoring wells (MW-KH-1, KH-2, KH-3, BGC-5A, -8A, -10A, -12B, -13 and -15). Zinc concentrations detected in groundwater samples ranged from 0.0523

mg/L (KH-3) to 1.29 mg/L (KH-2). Monitoring wells that produced samples exceeding the VGS also produced samples with relatively low pH (<6.5) measurements. Zinc is a naturally occurring element and is readily leached from soil under low pH conditions.

5.3.2 Potential Constituents of Concern (COCs) in Surface Water

Surface-water analytical results were compared to corresponding Virginia In-Stream Standards for both public water supplies and for other surface water bodies not utilized as a public supply (see Table 7). The following analytes were detected at concentrations exceeding the corresponding standards.

pH

Relatively low (<4) pH results were measured in surface water samples collected from a pond near the southwest corner of the Site (staff-gauge location SW-BGC-SG12) and in a tributary drainage ditch (SW-22) that flows north from the residential community south of the Site into the drainage ditch along the southern boundary of the Site (see Figure 3 for surface water sample locations).

Mercury

Mercury was not detected in on-Site ponds or drainage ditches leaving the Site. However, mercury was detected in two surface water samples (SW-21 and SW-23) collected from tributary ditches that flow north from the residential development south of the Site into the drainage ditch along the southern boundary of the Site (see Figure 3 for surface water sample locations). Mercury concentrations detected in samples from SW-21 and SW-23 (0.000197 and 0.000188 mg/L, respectively) exceeded the corresponding Virginia Surface Water Standard for surface water bodies not utilized as a public water supply (0.000051 mg/L). However, both mercury results were indicated by the laboratory as estimated values due to detection above the method detection (0.00015 mg/L), but less than the laboratory detection limit.

5.3.3 TCLP Metals Results for Ash Fill

Toxicity Characteristic Leaching Procedure (TCLP) a laboratory method that simulates the leaching potential of constituents from a sample media. Three ash fill grab samples were analyzed for TCLP metals, see Table 11 Arsenic, silver and mercury TCLP results were less than the laboratory reporting limit for each of the ash fill samples collected, which were less than the regulatory limits for hazard classification as a characteristic hazardous waste for each of the ash fill samples. Table 15 summarizes other results of the ash fill samples.

5.3.4 Potential Peroxide Acidity (PPA) Results in Soil

PPA is a laboratory method that rapidly oxidizes a sample with hydrogen peroxide and then quantifies the amount of acidity produced. PPA results are expressed in tons of calcium carbonate ($CaCO_3$) required to neutralize 1,000 tons of material, which is an important measurement for agricultural purposes. PPA results for 12 of 16 soil samples collected from various depth intervals at the Site indicate that acid sulfate soils (defined as, requiring >5 tons of $CaCO_3$ per 1,000 tons of soil to neutralize) are present that have the potential to produce acid runoff when exposed to weathering (a naturally occurring condition documented for this region of Virginia). PPA results for soil samples collected from the Site ranged from neutral pH to

approximately 22.6 tons of $CaCO_3$ per 1,000 tons of soil (see Table 16). As potential acid-producing soils have been identified at the site, relatively low pH measurements identified in groundwater and surface-water samples collected prior to construction and during this investigation appear to be naturally occurring.

5.3.5 Road Bed and Soil Stockpile Results

In general, metal concentrations in road bed and soil stockpile samples were less than (up to one order of magnitude) the average corresponding metal concentrations in ash fill samples (see Table 17). These results indicate that road bed and soil stockpile samples do not consist of ash.

5.3.6 Pond Sediment Sample Results

In general, metal concentrations in pond sediment samples were less than (up to one order of magnitude) the average corresponding metal concentrations in ash fill samples (see Table 18). These results indicate that pond sediment samples do not consist of ash.

5.4 Construction Documents Review Findings

A review of construction documents provided or available to us at the time of this report are listed below in Section 7.0. Our review of these documents generally leads us to conclude that efforts were made to place fill materials within parameters set forth in construction documents. The construction documents outlined testing procedures and documentation procedures that verify the integrity of the materials placed. Within the documents reviewed there is evidence that effort was set forth by the contractor to place the fill within the specified parameters. A total of 412 nuclear gauge density tests were documented and provided to us for review. Relative compaction ranged from 90.8 percent to 143.3 percent with an average of 102.4 percent. Relative compaction results that are above 100 percent generally indicate that there was a change of material as related to the standard Proctor test. Although some of the density tests recorded were less than the specified 95 percent compaction, it is possible that retests were taken to correct these areas.

Documents were provided from Chesapeake Energy Center - Dominion Generation, project number C-1653, for percent cement, used for amending agent in ash fill. Continuous monthly documentation was provided from April 2002 to March 2007.

5.5 Geotechnical Assessment Findings

5.5.1 Soil Cover

The top cover material encountered above the ash fill consisted of brown to dark brown and gray, stiff to firm, clay and silt soils. Organic material encountered was typically rooting mass from grass at the ground surface. Cover thickness and physical descriptions are indicated on Table 13 and are presented on Figures 4, 5, and 6. Soil cover was observed overlying the ash fill at an average thickness of 22-inches where ash fill was encountered in the hand auger borings. Soil cover was observed in the test borings and test pits at thicknesses ranging from 19.2 to 30.0 inches. Soil cover thickness exceeded 18 inches above the ash in 24 of the 33 hand-auger borings. Nine hand auger borings (C5, C7, D3, E4, F2, G6, G7, H7, and H13)

encountered soil cover at thicknesses less than 18 inches, ranging from 4 to 17 inches (see Figure 6 for the estimated areas with cover less than 18 inches).

5.5.2 Ash Fill

Ash fill encountered in the test pits was described as gray to black, very loose to dense silt and very-fine grained sand. Results from the particle identification evaluation were generally inconclusive in determining the percentage content of kiln dust as an amending agent in the ash fill encountered at the Site (see Table 12). According to documents provided by Dominion the amending agent was added based upon a 2% target with a 1.5% minimum. Trace minerals present in the ash fill could not be conclusively identified to confirm the kiln dust content (the limit of detection [LOD] by the various methods utilized was reportedly about 1%). The exposure of ash fill to weathering since placement of the ash in 2001 to 2004 may have reduced the presence of lime and other calcium minerals. The laboratory reported that calcium was determined to be a substantial component of both the ash standard (approximately 2.37% as calcium oxide [CaO] by weight, primarily in the form of calcite) and the kiln dust standard (approximately 90.1% as CaO by weight, primarily as lime and other calcium minerals). Based on the XRF results, CaO concentrations by weight for the ash fill samples ranged from 3.45 to 5.75% (or at percentages of approximately 1.1 to 3.4 higher than in the ash standard). Ignoring morphologic differences between the samples, the higher CaO concentrations in the ash fill samples than in the ash standard suggest the presence of a calcium amendment, although the percentage of kiln dust was not confirmed.

Based on the tests MACTEC performed on the ash fill and our review of the construction documents, it can generally be confirmed that compactive energy was applied to the ash fill when placed. Relative compaction values of approximately 84, 87 and 92 percent as compared to standard Proctor for the in-place ash fill were estimated for the three test pit locations (see Appendix C). The moisture content of ash fill tested when compared to standard Proctor optimum moisture content were approximately 120 percent, 126 percent, and 130 percent. The ash fill that was tested for in-place density and moisture content was wet of the optimum moisture content as compared to the standard Proctor, but the in-place density of soils can vary based on the moisture content and it is likely that the affects of water infiltration has changed the moisture content of the ash fill from its original moisture content when placed. The specific degree of compaction at placement was not quantified from the results of this assessment due to potential post-placement expansion and changes in moisture content.

The ash fill thickness was observed being 15.2-feet 15.5-feet, and 17.2-feet in the 3 test borings. The Standard Penetration Test N-values obtained in the ash fill material ranged from weight of hammer (WOH) to 38 blows per foot. Lower consistency material was typically encountered near the interface with residual soils at the base of the ash fill. Samples subjected to laboratory moisture testing indicated that moisture generally increased with depth of ash fill.

A layer of apparent clayey fill material (tan to gray, very soft to firm clay with lenses of ash and fine to medium sand) was encountered beneath the ash fill at depths of 19-feet, 18-feet, and 17.3-feet below ground surface and typically ranged from 6 to 34 inches in thickness. Residual soils encountered beneath the clayey fill consisted of gray to brown, very soft, very loose to firm, sandy soils. Sandy soils encountered were typically fine to coarse, poorly graded to well-graded, and wet. These soils were encountered at 19.5-feet, 18.6-feet, and 21.0-feet bgs.

6.0 SUMMARY AND CONCLUSIONS

- Proper development of monitoring wells installed by Kimley-Horn (MW-KH-1, -2 and -3), followed by low-flow sampling to produce non-turbid samples resulted in substantially reduced metals concentrations for the wells compared to previous sampling performed by Kimley-Horne. Observations made by MACTEC personnel during sampling indicate that the screen interval for these wells may be too close to the surface (within 2 feet or less) to have allowed for installation of a proper sand pack above the top of the screen and installation of a proper bentonite well seal above the sand pack. Due to the location of these wells within the ash fill area of the Site, improper well construction may allow for ash to enter the well. MACTEC recommends that these wells be properly abandoned. If wells are considered necessary within this area of the Site, then replacement with properly constructed wells is recommended to prevent possible cross-contamination from ash intrusion.

- The Virginia Groundwater Standards indicates a pH range for groundwater in the Coastal Plain Physiographic Province of 6.5 to 9. Comparatively low pH (<6.5) was measured in groundwater samples collected from 19 of 23 monitoring wells at the Site, including groundwater samples collected from 2 of 3 wells sampled by URS during their pre-construction assessment. PPA results for soil samples collected from various depth intervals at the Site indicate that acid sulfate soils are present that have the potential to produce acid runoff when exposed to weathering (a naturally occurring condition documented for this region of Virginia). As potential acid-producing soils have been identified at the site, low pH measurements identified in groundwater samples collected prior to construction and during this investigation appear to be naturally occurring. The most notable low pH (<4) measurements were identified in shallow groundwater samples collected from monitoring well MW-BGC-8A (screened from 10 to 20 feet below grade) and in proximal surface water (Pond SG12 near the southwest quadrant of the Site and a stream that flows north into the southern boundary drainage ditch from the off-site residential development). A relatively low pH of 5.2 was measured in a groundwater sample collected from monitoring well MW-BGC-13, which is also in the southwest quadrant of the Site.

- Beryllium was detected in groundwater samples collected from two monitoring wells (MW-BGC-8A and MW-BGC-13) at concentrations exceeding the MCL. Arsenic was detected at concentrations exceeding the MCL in groundwater samples collected from monitoring well MW-BGC-12A during the Phase I sampling event in December 2008, but was less than the laboratory reporting limit during the Phase II sampling event in June 2009. Arsenic was detected at concentrations exceeding the MCL in the groundwater samples collected from monitoring well MW-BGC-15 during the Phase II sampling event in June 2009. Although fly ash is known to be a potential source for heavy metals such as arsenic and beryllium, elevated concentrations of these and other heavy metals were generally absent from groundwater samples collected from monitoring wells throughout the Site.

- The elevated arsenic and beryllium concentrations detected in groundwater samples collected from monitoring wells MW-BGC-8A and MW-BGC-13 are not suspected to indicate impact from ash fill at the Site, but may be related to acid producing soils and relatively low pH groundwater conditions in the southwest quadrant of the Site. However, further groundwater sampling would be necessary to confirm the results for wells installed during Phase II and evaluate potential trends in groundwater conditions throughout the Site.

- Groundwater flow beneath the Site is generally to the east-southeast, toward or in the direction of the nearest drainage ditch. Based on slug test data, groundwater level data obtained during this investigation and soil types encountered within the water table aquifer, the groundwater velocity across the Site is estimated to range from approximately 16 to 23 feet per year (although fluctuations in the groundwater gradient due to natural and man-made influences may occur to alter these velocity estimates). Transport velocities of potential contaminants would be substantially slower than groundwater velocity due to the effects of dilution and retardation (sorption, dissolution, and precipitation). Supplementary water-level gauging would be necessary to further evaluate seasonal variations in the groundwater gradient and flow direction at the Site.

- In general, metal concentrations in road bed, soil stockpile and pond sediment samples were less than (up to one order of magnitude) the average corresponding metal concentrations in ash fill samples. These results indicate that road bed, soil stockpile and pond sediment samples do not consist of ash.

The following conclusions were developed based on our review of construction documents and our geotechnical investigation at the Site:

- The ash fill thickness was observed ranging 15.2 feet to 17.2 feet in the 3 test borings. Relative compaction results for ash fill at the three test pit locations ranged from 84 to 92%.

- Based on the tests MACTEC performed on the ash fill and our review of the construction documents, it can generally be confirmed that compactive energy was applied to the ash fill when placed. The degree of compaction at placement was not quantified from the results of this assessment due to potential post-placement expansion and changes in moisture content.

- Soil cover thicknesses of less than 18 inches were encountered in two general areas of the Site. MACTEC understands that cover in these areas will be restored to a minimum of 18 inches. Soil cover generally consisted of clayey silt and clayey, fine-grained sand.

- Ash fill analyses were reportedly inconclusive in determining the kiln dust (amending agent) content in the three ash fill samples collected from the Site. The laboratory results indicated evidence of higher calcium oxide concentrations by weight in the ash fill samples than in the ash standard, which may indicate the presence of a calcium amendment, although the percentage of kiln dust was not confirmed.

- In general, and subject to additional confirmatory sampling, our findings at the Site do not presently indicate adverse impact to groundwater from the placement of ash.

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TABLES

Table 1 - List of Target Analytes

Ash Fill Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn Toxicity Characteristic Leaching Procedure (TCLP)	Metals by Method 6010 TCLP Metals by Method 6000	3 Ash Fill Grab Samples (SB-BGC-10 through -12) 3 Test Pit Ash Fill Grab Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
Total Phosphorus	E365.3	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Subsurface Soil Sample Analyses		
Acid Producing Potential	Potential Peroxide Acidity (PPA)	3 Grab Soil Samples from Well Locations at Various Depth Intervals (MW-BGC-13 though -15)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Stream/Pond Bank Soil Sample Analyses		
Analyte	**Method**	**Locations**
Acid Producing Potential	Potential Peroxide Acidity (PPA)	6 Soil Samples Within the Vicinity of Surface Water Locations (SG-9, SG-10, SG-11, SG-12, SW-13, and SW-22)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Road Bed and Stockpile Soil Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	Metals by Method 6010	4 Surface Soil Grab Samples and 4 Stockpile Soil Composite Samples (southwest quadrant of the Site)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
Total Phosphorus	E365.3	
TCLP Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, Tl, V, Zn	TCLP Metals by Method 6000	4 Stockpile Composite Samples (Southwest Quadrant of the Site)
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Pond Sediment Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	Metals by Method 6010	4 Selected Ponds (Ponds SG9 through SG12)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
Total Phosphorus	E365.3	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Groundwater Samples Collected from Previously Existing Monitoring Wells		
Analyte	**Method**	**Locations**
Metals: Ag, Al, As, B, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Hg, K, Mn, Mg, Mo, Na, Ni, Pb, Sb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered) & Dissolved (field filtered)	4 Previously Existing Wells Installed by Kimley-Horn (MW-1, MW-2 & MW-3) and URS (URS-2)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300	
Total Organic Halides (TOX)	9020	
Total Phosphorus	E365.3	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: equipment rinse blanks, trip blanks & duplicate samples for all constituents, where applicable.		

Groundwater Samples Collected from New Monitoring Wells		
Analyte	**Method**	**Locations**
Metals: Ag, Al, As, B, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Hg, K, Mn, Mg, Mo, Na, Ni, Pb, Sb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered)	19 New Wells Installed by MACTEC (BGC-MW-5A, 5B, 6A, 6B, 7A, 7B, 8A, 8B, 9A, 9B, 10A, 10B, 11A, 11B, 12A, 12B, 13, 14, and 15)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300	
Total Phosphorus	E365.3	
Total Organic Halides (TOX)	9020	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Surface-Water Samples		
Analyte	**Method**	**Locations**
Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn Mg, Mo, Ni, Pb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered)	12 Staff-Gauge Locations (SG-3, SG-4, SG-6, SG-7, SG-8, SG-9, SG-10, SG-11, SG-12, SG-13, SG-16, SG-18 and SG-19) and 6 Other Surface-Water Locations (SW-20, SW-21, SW-22, SW-23, SW-24 and SW-25)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300	
Total Phosphorus	E365.3	
Total Suspended Solids (TSS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: equipment rinse blanks and duplicate samples for all constituents, where applicable.		

Prepared By/Date: JMB 9/28/09
Checked By/Date: GBG 9/28/09

Table 2 - Groundwater Field Parameters

Monitoring Well I.D.	Date Sampled	Time	Approximate Volume Purged (Gal.)	Water Level (Ft. BTOC)	Turbidity (NTU)[1]	Temperature (Degrees C)[1]	pH[1]	Conductivity (ms/cm)[1]	Oxidation Reduction Potential (mV)[1]	Dissolved Oxygen (mg/L)[1]
MW-BGC-5A	12/2/2008	9:20	1.0	1.11	8.2	15.68	6.17	0.552	42	2.39
	6/16/2009	11:10	3.0	1.30	8.5	19.25	7.87	2.470	-119	3.03
MW-BGC-5B	12/4/2008	13:15	4.5	1.18	2.1	17.30	7.01	0.380	-86	BDL
	6/16/2009	10:35	2.0	1.16	5.3	20.74	6.59	0.388	-134	0.28
MW-BGC-6A	11/20/2008	13:30	3.5	1.92	BDL	17.60	6.13	0.352	228	5.39
	6/16/2009	15:00	2.5	2.45	BDL	19.88	7.45	1.700	-101	3.39
MW-BGC-6B	11/24/2008	8:55	4.0	1.99	5.9	16.38	5.10	0.293	149	0.40
	6/16/2009	15:05	0.8	2.21	BDL	21.92	4.58	0.302	147	0.48
MW-BGC-7A	12/2/2008	13:10	0.8	2.60	BDL	15.87	5.02	0.173	165	6.51
	6/17/2009	9:25	2.5	2.97	8.3	18.61	8.56	1.420	-102	2.84
MW-BGC-7B	12/2/2008	12:20	0.8	1.52	8.0	15.11	5.78	0.147	67	1.37
	6/17/2009	9:25	0.8	2.25	BDL	19.38	5.89	0.170	-34	0.54
MW-BGC-8A	12/4/2008	11:05	1.2	9.55	7.9	16.00	3.98	1.630	260	BDL
	6/16/2009	13:15	2.0	9.45	BDL	19.26	6.43	2.500	-45	3.37
MW-BGC-8B	12/8/2008	15:05	2.5	9.05	BDL	15.72	6.65	0.293	-69	BDL
	6/16/2009	13:05	0.6	9.06	BDL	19.02	6.09	0.329	-105	0.25
MW-BGC-9A	12/4/2008	13:25	1.5	7.97	1.8	16.50	6.44	0.455	-56	BDL
	6/17/2009	11:30	3.0	8.09	5.4	18.13	9.12	4.510	-135	2.78
MW-BGC-9B	12/4/2008	12:30	1.5	7.53	BDL	16.30	6.84	0.444	-22	BDL
	6/17/2009	11:05	1.6	7.67	7.6	17.61	7.44	0.479	-153	0.73
MW-BGC-10A	12/4/2008	14:50	2.0	8.71	BDL	16.60	6.40	0.615	-81	BDL
	6/17/2009	12:55	3.5	8.91	6.4	17.01	9.58	3.650	-167	2.86
MW-BGC-10B	12/4/2008	14:05	1.3	8.20	BDL	16.20	7.18	0.592	-81	2.87
	6/17/2009	13:00	2.2	8.48	2.3	18.50	7.31	0.656	-135	0.57
MW-BGC-11A	12/4/2008	11:15	1.3	8.56	BDL	15.83	5.98	0.684	47	0.31
	6/17/2009	14:55	3.5	8.86	5.9	16.99	9.23	1.520	-141	3.03
MW-BGC-11B	12/4/2008	10:15	1.5	8.36	BDL	15.48	6.63	0.674	-39	1.26
	6/17/2009	14:25	1.5	8.69	BDL	17.44	6.40	0.910	-74	0.42
MW-BGC-12A	12/5/2008	10:45	2.0	7.75	6.2	15.22	5.63	0.366	17	BDL
	6/18/2009	13:35	2.5	8.41	1.2	18.42	8.11	1.050	-55	3.15
MW-BGC-12B	12/5/2008	9:45	1.5	8.00	7.8	15.40	6.14	0.514	4	BDL
	6/18/2009	13:40	1.5	8.75	BDL	19.09	6.02	0.455	-33	0.61
MW-BGC-13	6/18/2009	14:55	1.5	8.17	4.4	18.86	5.20	1.060	91	0.40
MW-BGC-14	6/18/2009	16:30	1.6	9.25	BDL	18.90	6.13	0.288	-14	0.20
MW-BGC-15	6/18/2009	15:20	3.5	5.31	6.6	19.89	8.03	5.100	-57	3.07
MW-URS2	11/19/2008	10:10	1.5	6.61	BDL	14.10	5.92	0.405	12	BDL
MW-KH1	11/20/2008	10:25	3.0	4.19	BDL	17.40	5.43	0.731	191	BDL
MW-KH2	11/19/2008	15:50	3.0	2.97	BDL	17.30	6.40	0.687	70	BDL
MW-KH3	11/19/2008	13:00	2.0	1.60	BDL	17.30	5.70	0.725	1	BDL

Prepared/Date: JMB 7/17/09
Checked/Date: DSD 7/17/09

Notes:

Ft. BTOC	Feet Below Top of Casing
BDL	Below Detection Limit of Horiba U22 Water Quality Analyzer
NTU	Nephalometric Turbidity Units
Degrees C	Degrees Celsius
ms/cm	Millisiemens per Centimeter
mV	Millivolts
mg/L	Milligrams per Liter
1	Water quality parameters collected using a Horiba model U-22 Water Quality Analyzer with flow-through cell

Table 3 - Groundwater Laboratory Analytical Results - Previously Existing Wells

Well I.D.:	MW-KH-1		MW-KH-2		MW-KH-3		MW-URS-2				FIELD BLANK		RINSE BLANK		U.S. EPA Maximum Contaminant Levels (MCLs)[d]	VA DEQ Groundwater Quality Standards[e]	VA DEQ Groundwater Quality Criteria[f]
Sample I.D.:							MW-URS-2		MW-DUP-1								
Sample Date:	11/20/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		12/5/2008		11/19/2008				
General Chemistry Parameters (mg/L)																	
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)	(mg/L)	(mg/L)
Alkalinity, Total (CaCO3)	**10.6**		**94.9**		**51.4**		**56.7**		**65.6**		<5.00	U	<5.00	U	---	---	30-500
Bicarbonate Alkalinity as CaCO3	**13.6**		**95.3**		**52.3**		**70.7**		**71.1**		<5.00	U	<5.00	U	---	---	---
Bromide	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	---	---	---
Chloride	**10.9**		**75.9**		**50.0**		**45.2**		**50.7**		<0.500	U	<0.500	U	---	---	50
Fluoride	**0.277**	**B**	**0.410**		**0.855**		**0.294**		**0.218**		**0.0580**	**J**	<0.0500	U	---	1.4	---
Nitrate as N	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	10	5	---
Phosphorus	**0.086**	**J**	<0.0450	U	**0.329**		**0.130**		**0.190**		<0.0450	U	<0.0450	U	---	---	---
Sulfate	**51.4**		**172**		**153**		**99.5**		**104**		<0.500	U	<0.500	U	---	---	50
Total Dissolved Solids	**234**		**457**		**244**		**294**		**296**		<6.67	U	<5.00	U	---	---	1,000
Total Organic Carbon	**3.19**		**6.75**		**3.88**		**4.15**		**3.67**		**1.72**		**0.960**	**J**	---	---	10
Total Organic Halides	<0.0270	U	**0.0488**		<0.0270	U	<0.0270	U	**0.0542**		<0.0270	U	<0.0270	U	---	---	---
Total Metals by USEPA Method 6010B (mg/L)																	
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)	(mg/L)	(mg/L)
Aluminum	**0.587**	**B1**	**0.230**		**0.688**		**0.158**		**0.147**		**0.0438**	**J**	**0.0541**	**J**	---	---	---
Antimony	<0.0038	U	<0.0038	U	<0.0038	U	**0.00430**	**J**	<0.00380	U	<0.00380	U	<0.00380	U	0.006	---	---
Arsenic	<0.0045	U	**0.00560**	**J**	<0.0045	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	0.01	0.05	---
Barium	**0.0373**		**0.0560**		**0.0268**		**0.0182**		**0.0185**		<0.00150	U	<0.00150	U	2	1	---
Beryllium	<0.00100	U	**0.00100**	**J**	**0.00120**	**J**	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	0.004	---	---
Boron	**0.0132**	**J**	**0.118**		**0.0271**	**J**	**0.0498**	**J**	**0.0532**		<0.00200	U	<0.00200	U	---	---	---
Cadmium	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.0005000	U	<0.0005000	U	0.005	0.0004	---
Calcium	**18.5**		**65.4**		**43.9**		**32.2**		**32.1**		<0.100	U	**0.102**	**J**	---	---	---
Chromium[a]	**0.00170**	**J**	<0.00150	U	**0.0016**	**J**	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	U	---	0.05	---
Cobalt	**0.0139**	**J**	**0.00520**	**J**	**0.00970**	**J**	<0.00200	U	<0.00200	U	<0.00200	U	<0.00200	U	---	---	---
Copper	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	1.3	1	---
Iron	**3.30**		**2.36**		**6.99**		**5.37**		**5.21**		<0.0280	U	<0.0280	U	---	---	0.3
Lead	<0.00280	U	<0.00280	U	<0.00280	U	<0.00280	U	<0.00280	U	<0.00280	U	<0.00280	U	0.015	0.05	---
Magnesium	**15.8**		**21.0**		**20.6**		**17.9**		**17.9**		<0.100	U	<0.100	U	---	---	---
Manganese	**0.135**		**0.27**		**0.195**		**0.235**		**0.228**		<0.00100	U	<0.00100	U	---	---	0.05
Molybdenum	<0.00900	U	**0.00960**	**J**	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	---	---	---
Nickel[b]	**0.0257**		**0.0135**		**0.0203**		<0.00240	U	<0.00240	U	<0.00240	U	<0.00240	U	---	---	---
Potassium	**1.20**		**6.48**		**2.58**		**6.35**		**6.69**		<0.200	U	<0.200	U	---	---	---
Selenium	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	0.05	0.01	---
Silver	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	---	---	---
Sodium	**9.90**		**36.2**		**22.8**		**37.6**		**38.8**		<0.500	U	<0.500	U	---	---	100
Thallium[c]	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	0.002	---	---
Vanadium	**0.00190**	**J**	**0.00160**	**J**	**0.0022**	**J**	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	U	---	---	---
Zinc	**0.0926**		**1.33**		**0.0585**		<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	---	0.05	---
Dissolved Metals by USEPA Method 6010B (mg/L)																	
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)	(mg/L)	(mg/L)
Aluminum	**0.0902**	**J,B**	**0.0589**	**J, B**	**0.0866**	**J, B**	**0.0661**	**B, J**	**0.0511**	**B, J**	**0.0255**	P7, B, J	**0.0282**	J, B	---	---	---
Antimony	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	P7	<0.00380	P7	0.006	---	---
Arsenic	<0.00450	U	**0.00600**	**J**	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	P7	<0.00450	P7	0.01	0.05	---
Barium	**0.0334**		**0.0565**		**0.0249**		**0.0180**		**0.0181**		<0.00150	P7	<0.00150	P7	2	1	---
Beryllium	**0.00100**	**J**	<0.00100	U	<0.00100	U	**0.00100**	**J**	<0.00100	U	<0.00100	P7	<0.00100	P7	0.004	---	---
Boron	**0.0116**	**J**	**0.120**		**0.0263**	**J**	**0.0503**		**0.0535**		<0.00200	P7	<0.00200	P7	---	---	---
Cadmium	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.0005000	P7	<0.0005000	P7	0.005	0.0004	---
Calcium	**20.4**		**63.4**		**42.4**		**30.9**		**30.5**		<0.100	P7	**0.204**	**J**	---	---	---
Chromium[a]	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	P7	<0.00150	P7	---	0.05	---
Cobalt	**0.0143**		**0.00440**	**J**	**0.00850**	**J**	<0.00200	U	<0.00200	U	<0.00200	P7	<0.00200	P7	---	---	---
Copper	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	P7	<0.00350	P7	1.3	1	---
Iron	**2.72**		**1.71**		**5.71**		**4.60**		**4.18**		<0.0280	P7	<0.0280	P7	---	---	0.3
Lead	<0.00280	U	<0.00280	U	**0.00300**	**J**	**0.00360**	**J**	<0.00280	U	<0.00280	P7	<0.00280	P7	0.015	0.05	---
Magnesium	**16.2**		**20.8**		**20.2**		**17.7**		**17.6**		<0.100	P7	<0.100	P7	---	---	---
Manganese	**0.13**		**0.258**		**0.182**		**0.222**		**0.219**		<0.00100	P7	<0.00100	P7	---	---	0.05
Molybdenum	<0.00900	U	**0.00940**	**J**	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	P7	<0.00900	P7	---	---	---
Nickel[b]	**0.28**		**0.0131**		**0.0185**		<0.00240	U	<0.00240	U	<0.00240	P7	<0.00240	P7	---	---	---
Potassium	**1.03**		**6.66**		**2.54**		**6.48**		**6.48**		<0.200	P7	<0.200	P7	---	---	---
Selenium	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	**0.00590**	**J**	<0.00430	P7	<0.00430	P7	0.05	0.01	---
Silver	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	P7	<0.00160	P7	---	---	---
Sodium	**10.10**		**36.0**		**22.4**		**37.0**		**36.8**		<0.500	P7	<0.500	P7	---	---	100
Thallium[c]	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	M2, U	<0.00750	U	<0.00750	P7	<0.00750	P7	0.002	---	---
Vanadium	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	U	<0.00150	P7	<0.00150	P7	---	---	---
Zinc	**0.0982**		**1.29**		**0.0523**		<0.0100	U	<0.0100	U	<0.0100	P7	<0.0100	P7	---	0.05	---
Mercury by USEPA Method 7470/7471A (mg/L)																	
Mercury	<0.000150	U	<0.000150	U	**0.000200**		<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	0.002	0.00005	---
Dissolved Mercury by USEPA Method 7470/7471A (mg/L)																	
Mercury	<0.000150	U	<0.000150	U	**0.000156**	**J**	<0.000150	U	<0.000150	U	<0.000150	P7	<0.000150	U	0.002	0.00005	---

Prepared By/Date: DSD 7/14/09
Checked By/Date: JES 7/17/09

Notes:

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.

B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.

B: Analyte was detected in the associated Method Blank.

M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits due to sample matrix interference. See Appendix E for laboratory data packages and laboratory control sample (LCS).

P7: Sample filtered in lab.

U: Undetected

---: Not Applicable / Not Available

Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable

Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable

[a] Chromium VI (particulates)

[b] Nickel (soluble salts)

[c] Thallium (soluble salts)

[d] U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in mg/L per liter (mg/L), April 2009

[e] Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004

[f] Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.

Table 4 - Monitoring Well Construction Data

Monitoring Well I.D.	Latitude	Longitude	Ground Surface Elevation	TOC Elevation	Well Casing Inside Diameter	Approximate Depth of Well	Approximate Screen Interval	Approximate Depth to Water (ft, bgs)			Description of Screened Strata
			(feet)	(feet)	(inches)	(ft, bgs)	(ft-ft, bgs)	12/3/2008	12/10/2008	7/15/2009	
MW-BGC-5A	36.69324	76.17765	10.41	10.14	2	15	5-15	1.18	1.07	3.01	Gray, dense, fine SAND(SP)
MW-BGC-5B	36.69302	76.17618	10.30	10.06	2	35	25-35	1.07	1.08	2.97	Gray, fine SAND (SP), course SAND (SP) w/trace gravel & sandy CLAY (CL)
MW-BGC-6A	36.68916	76.17454	15.77	15.55	2	15	5-15	1.68	1.89	3.32	White and yellow to light gray, fine SAND (SP)
MW-BGC-6B	36.68715	76.17200	15.66	15.48	2	42	32-42	1.60	1.89	3.43	Light gray to gray, dense, fine to coarse SAND (SW)
MW-BGC-7A	36.68622	76.17406	14.61	14.36	2	15	5-15	2.65	2.76	3.48	Light brown to gray, loose, fine to medium SAND (SP)
MW-BGC-7B	36.68694	76.17537	14.47	13.90	2	42	32-42	1.64	1.97	3.00	Gray to greenish gray, loose to dense, fine to medium SAND (SP), trace clay
MW-BGC-8A	36.68725	76.17690	13.83	16.49	2	20	10-20	9.46	9.64	9.62	Gray, firm, fine to medium SAND (SP)
MW-BGC-8B	36.68945	76.17740	13.77	16.22	2	44	34-44	8.72	9.03	9.49	Gray to greenish gray, fine to medium SAND (SP) with interbedded clay
MW-BGC-9A	36.68945	76.17740	10.95	14.06	2	20	10-20	7.91	8.08	8.53	Gray, very firm, fine SAND (SP)
MW-BGC-9B	36.68963	76.18231	11.12	13.92	2	40	30-40	7.46	7.65	8.35	Gray to dark greenish gray, loose to dense, fine to medium SAND (SP)
MW-BGC-10A	36.68894	76.18432	10.86	13.71	2	20	10-20	8.63	8.86	9.34	Gray to dark Gray, loose, fine SAND (SP)
MW-BGC-10B	36.68801	76.18269	10.54	13.59	2	35	25-35	8.11	8.40	9.12	Light gray to dark gray, SAND (SP)
MW-BGC-11A	36.68779	76.18379	9.91	12.87	2	20	10-20	8.50	8.85	9.55	Gray, loose fine SAND (SP)
MW-BGC-11B	36.68819	76.18575	9.83	12.59	2	35	25-35	8.28	8.57	9.38	Gray, loose to firm, fine to coarse SAND (SP), trace gravel
MW-BGC-12A	36.68819	76.18575	9.62	12.47	2	20	10-20	7.45	7.98	9.34	Gray, loose, fine SAND (SP)
MW-BGC-12B	36.69233	76.18282	9.62	12.70	2	40	30-40	7.71	8.27	10.02	Gray, dense fine to medium SAND (SP) to CLAY(CH)
MW-BGC-13	36.69381	76.18166	11.37	14.91	2	20	10-20	---	---	8.46	Greenish gray, medium dense, fine to medium SAND (SP)
MW-BGC-14	36.68877	76.17162	14.43	17.26	2	19	9-19	---	---	9.38	Greenish gray, medium dense, fine to medium SAND (SM) with silt
MW-BGC-15	36.69257	76.17789	9.68	12.30	2	14	4-14	---	---	5.53	Gray, medium dense, fine to medium SAND (SM), with silt and clay
KH-MW1	36.68848	76.17391	10.24	9.89	2	23	3-23	4.12	4.37	5.24	N/A
KH-MW2	36.68873	76.17511	9.59	9.22	2	22	2-22	2.96	3.08	3.75	N/A
KH-MW3	36.68924	76.17501	8.12	7.81	2	22	2-22	1.57	1.63	2.33	N/A
URS-MW2	36.69124	76.17388	10.36	13.39	2	25	15-25	6.47	6.86	7.95	Gray, fine SAND (SP)

Prepared By/Date: JMB 7/17/09
Checked By/Date: JES 7/17/09

Notes:

TOC	Top of PVC Casing
ft, bgs	Feet Below Ground Surface
TOC Elevation	Approximate Elevation of Top of PVC Casing in U.S. Survey Feet relative to NAVD 1988. Approximate Northing and Easting Coordinates are relative to the Virginia State Plane Coordinate System. Horizontal and Vertical Control as surveyed by Site Improvement, Inc., December 2008.
N/A	Not Available - Existing well installed by others (boring logs not provided)
---	Data not collected on this date

Table 5 - Surface Water Staff Gauge Data

Surface Water Staff Gauge I.D.	Latitude	Longitude	Top of Gauge El. (feet)	Bottom of Gauge El. (feet)	12/3/2008		12/10/2008		6/16/2009		7/15/2009	
					Water Level (ft, abog)	Surface Water El. (feet)	Water Level (ft, abog)	Surface Water El. (feet)	Water Level (ft, abog)	Surface Water El. (feet)	Water Level (ft, abog)	Surface Water El. (feet)
SG-BGC-1	36.69324	76.17765	11.17	7.83	1.44	9.27	1.28	9.11	1.56	9.39	1.60	9.43
SG-BGC-2	36.69302	76.17618	10.87	7.53	1.72	9.25	1.46	8.99	--	NA	1.10	NA
SG-BGC-3	36.68916	76.17454	7.53	4.19	1.68	5.87	1.54	5.73	1.56	5.75	1.19	5.38
SG-BGC-4	36.68715	76.17200	4.73	1.39	1.56	2.95	1.42	2.81	1.39	2.78	1.08	2.47
SG-BGC-5	36.68622	76.17406	5.45	2.11	1.31	3.42	1.20	3.31	1.40	3.51	1.13	3.24
SG-BGC-6	36.68694	76.17537	9.48	6.14	1.20	7.34	0.94	7.08	1.96	8.10	0.55	6.69
SG-BGC-7	36.68725	76.17690	10.28	6.94	1.30	8.24	1.33	8.27	1.07	8.01	0.34	7.28
SG-BGC-8	36.68945	76.17740	10.00	6.66	1.61	8.27	1.52	8.18	2.11	8.77	1.40	8.06
SG-BGC-9	36.68945	76.17740	10.93	7.59	1.20	8.79	1.11	8.70	1.83	9.42	0.20	7.79
SG-BGC-10	36.68963	76.18231	10.55	7.21	1.60	8.81	1.50	8.71	2.22	9.43	0.60	7.81
SG-BGC-11	36.68894	76.18432	7.96	4.62	2.06	6.68	2.05	6.67	2.06	6.68	1.90	6.52
SG-BGC-12	36.68801	76.18269	7.85	4.51	2.16	6.67	2.12	6.63	2.14	6.65	2.01	6.52
SG-BGC-13	36.68779	76.18379	8.22	4.88	1.40	6.28	1.30	6.18	1.71	6.59	1.54	6.42
SG-BGC-14	36.68819	76.18575	12.76	9.42	0.76	10.18	0.63	10.05	---	NA	---	NA
SG-BGC-15	36.68819	76.18575	13.36	10.02	1.46	11.48	1.44	11.46	1.20	11.22	DRY	DRY
SB-BGC-16	36.69233	76.18282	13.33	9.99	1.84	11.83	1.78	11.77	1.65	11.64	1.02	11.01
SG-BGC-17	36.69381	76.18166	13.74	10.40	1.78	12.18	1.70	12.10	1.87	12.27	1.22	11.62
SG-BGC-18	36.68877	76.17162	5.97	2.63	1.65	4.28	1.50	4.13	1.49	4.12	1.10	3.73
SG-BGC-19	36.69257	76.17789	13.29	9.95	1.38	11.33	1.19	11.14	1.36	11.31	0.60	10.55

Prepared By/Date: JMB 7/17/09
Checked By/Date: DSD 7/17/09

Notes:

ft, abog	Feet Above Bottom of Staff Gauge
El.	Approximate Elevation in U.S. Survey Feet relative to NAVD 1988. Approximate Elevation and Spatial Coordinates (Latitude and Longitude) as surveyed
NA	Not Applicable
---	Data could not be collected. Staff Gauge damaged or missing.

Table 6 - Monitoring Well Gauging Data

Monitoring Well I.D.	TOC Elevation (feet)	12/3/2008		12/10/2008		6/16/2009		7/15/2009	
		Depth to Water (ft, btoc)	Groundwater Elevation (feet)	Depth to Water (ft, btoc)	Groundwater Elevation (feet)	Depth to Water (ft, btoc)	Groundwater Elevation (feet)	Depth to Water (ft, btoc)	Groundwater Elevation (feet)
MW-BGC-5A	10.14	1.18	8.96	1.07	9.07	1.30	8.84	3.01	7.13
MW-BGC-5B	10.06	1.07	8.99	1.08	8.98	1.15	8.91	2.97	7.09
MW-BGC-6A	15.55	1.68	13.87	1.89	13.66	2.28	13.27	3.32	12.23
MW-BGC-6B	15.48	1.60	13.88	1.89	13.59	2.22	13.26	3.43	12.05
MW-BGC-7A	14.36	2.65	11.71	2.76	11.60	2.90	11.46	3.48	10.88
MW-BGC-7B	13.90	1.64	12.26	1.97	11.93	2.22	11.68	3.00	10.90
MW-BGC-8A	16.49	9.46	7.03	9.64	6.85	9.44	7.05	9.62	6.87
MW-BGC-8B	16.22	8.72	7.50	9.03	7.19	9.06	7.16	9.49	6.73
MW-BGC-9A	14.06	7.91	6.15	8.08	5.98	8.04	6.02	8.53	5.53
MW-BGC-9B	13.92	7.46	6.46	7.65	6.27	7.65	6.27	8.35	5.57
MW-BGC-10A	13.71	8.63	5.08	8.86	4.85	8.80	4.91	9.34	4.37
MW-BGC-10B	13.59	8.11	5.48	8.40	5.19	8.40	5.19	9.12	4.47
MW-BGC-11A	12.87	8.50	4.37	8.85	4.02	8.70	4.17	9.55	3.32
MW-BGC-11B	12.59	8.28	4.31	8.57	4.02	8.60	3.99	9.38	3.21
MW-BGC-12A	12.47	7.45	5.02	7.98	4.49	8.38	4.09	9.34	3.13
MW-BGC-12B	12.70	7.71	4.99	8.27	4.43	8.70	4.00	10.02	2.68
MW-BGC-13	14.91	---	---	---	---	8.14	6.77	8.46	6.45
MW-BGC-14	17.26	---	---	---	---	9.17	8.09	9.38	7.88
MW-BGC-15	12.30	---	---	---	---	5.30	7.00	5.53	6.77
KH-MW1	9.89	4.12	5.77	4.37	5.52	---	NA	5.24	4.65
KH-MW2	9.22	2.96	6.26	3.08	6.14	---	NA	3.75	5.47
KH-MW3	7.81	1.57	6.24	1.63	6.18	---	NA	2.33	5.48
URS-MW2	13.39	6.47	6.92	6.86	6.53	---	NA	7.95	5.44

Prepared By/Date: JMB 6/30/09
Checked By/Date: DSD 7/17/09

Notes:

ft - feet

ft, btoc	Feet Below Top of PVC Casing
TOC Elevation	Approximate Elevation of Top of PVC Casing in U.S. Survey Feet relative to NAVD 1988. Approximate Northing and Easting Coordinates are relative to the Virginia State Plane Coordinate System. Horizontal and Vertical Control as surveyed by Site Improvement, Inc., December 2008.
---	Data not collected on this date
NA	Not Applicable

Table 7 - Surface Water Laboratory Analytical Results

Sample Location:	SW-BGC-SG3		SW-BGC-SG4				SW-BGC-SG6		SW-BGC-SG7		SW-BGC-SG8		SW-BGC-SG9				SW-BGC-SG10				**Virginia All Other Surface Waters Standard[d]**
Sample I.D.:			SW-BGC-SG4		SW-BGC-Dup1																
Sample Date:	11/19/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		5/27/2009		11/19/2008		5/27/2009		
General Chemistry Parameters (mg/L)																					
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Alkalinity, Total ($CaCO_3$)	**24.9**		<5.00	U	<5.00	U	**13.6**		**32.5**		**8.90**	**J**	**32.4**		**24.8**		**34.2**		**119**		---
Bicarbonate Alkalinity as $CaCO_3$	**27.4**		**9.40**	**J**	**7.52**	**J**	**14.3**		**33.6**		**9.68**	**J**	**33.6**		**24.7**		**32.8**		**21.1**		---
Bromide	<0.500	U,M7	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<1.00	U	<1.00	U	<0.500	U	<1.00	U	---
Chloride	**16.7**	**M8**	**30.0**		**30.0**		**10.2**		**20.9**		**11.9**		**26.3**		**29.2**		**48.4**		**37.9**		---
Fluoride	**0.412**	**M7**	**0.319**		**0.315**		**0.293**		**0.330**		**0.165**		**0.364**		**0.225**		**0.391**		**0.227**		---
Nitrate as N	**0.172**		**0.450**		**0.471**		**0.0570**	**J**	<0.0500	U	<0.0500	U	**0.150**		<0.100	U	<0.0500	U	<0.100	U	---
Phosphorus	**0.0710**	**J**	<0.0450	U	<0.0450	U	**0.207**		**0.0510**	**J**	**0.165**		<0.0450	U	**0.126**		<0.0450	U	**0.340**		---
Sulfate	**18.3**		**88.2**		**88.2**		**10.5**		**57.2**		**5.88**		**31.8**		**35.6**		**35.6**		**34.6**		---
Sulfide[e]	--	--	--	--	--	--	--	--	--	--	---	---	---	---	<0.100	U	---	---	<0.100	U	---
Total Organic Carbon	**5.54**		**3.15**		**9.20**		**6.21**		**6.13**		**6.85**		**5.50**		**6.82**		**1.52**		**6.98**		---
Total Suspended Solids	**13.4**		**8.20**		**7.80**		**26.0**		**4.67**		**39.3**		**28.9**		**12.1**		**8.33**		**3.89**		---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Aluminum	**3.28**		**0.578**		**0.574**		**6.95**		**0.637**		**5.58**		**1.55**		**0.372**		**0.464**		**0.140**		---
Antimony	**0.00490**	**J**	**0.00510**	**J**	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.0100	U	<0.00380	U	<0.0100	U	4.3
Arsenic	<0.00450	U	<0.0450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	---
Barium	**0.0462**		**0.0397**		**0.0377**		**0.0546**		**0.0410**		**0.0471**		**0.0515**		**0.0369**		**0.0514**		**0.0325**		---
Beryllium	**0.00120**	**J**	**0.00100**	**J**	**0.00110**	**J**	<0.00100	U	<0.00100	U	**0.00100**	**J**	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	---
Boron	**0.0363**	**J**	**0.0364**	**J**	**0.0320**	**J**	**0.0373**	**J**	**0.0314**	**J**	**0.0303**	**J**	**0.0410**	**J**	<0.0500	U	**0.0446**	**J**	<0.0500	U	---
Cadmium	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	---
Calcium	**11.8**		**22.9**		**22.3**		**6.99**		**24.0**		**5.38**		**19.1**		**18.4**		**25**		**19.4**		---
Chromium[a]	**0.00470**	**J**	<0.00150	U	<0.00150	U	**0.00990**		<0.00150	U	**0.00790**		**0.00220**	**J**	<0.00500	U	<0.00150	U	<0.00500	U	---
Cobalt	<0.00200	U	**0.00620**	**J**	**0.00620**	**J**	<0.00200	U	<0.00200	U	<0.00200	U	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	---
Copper	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	---
Iron	**2.26**		**2.15**		**2.07**		**4.19**		**0.440**		**3.28**		**1.23**		**0.290**		**0.458**		**0.324**		---
Lead	<0.00280	U	<0.00280	U	<0.00280	U	**0.00390**	**J**	<0.00280	U	**0.00420**	**J**	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	---
Magnesium	**3.86**		**8.31**		**8.03**		**2.43**		**8.43**		**1.7**		**4.95**		**4.47**		**6.06**		**4.62**		---
Manganese	**0.0180**		**0.266**		**0.258**		**0.0134**	**J**	**0.00560**	**J**	**0.0171**		**0.0246**		<0.0150	U	**0.0135**	**J**	<0.0150	U	---
Molybdenum	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	---
Nickel[b]	<0.00240	U	**0.0134**		**0.0130**		**0.00440**	**J**	<0.00240	U	<0.00240	U	<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	4.6
Potassium	**4.44**		**4.05**		**3.90**		**4.16**		**4.53**		**3.70**		**4.30**		**4.27**		**5.95**		**4.77**		---
Selenium	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	**0.00460**	**J**	<0.00430	U	**0.00550**	**J**	<0.0100	U	<0.00430	U	<0.0100	U	11
Silver	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	---
Sodium	**7.00**		**17.6**		**17.1**		**3.44**		**9.26**		**4.15**		**10.0**		**10.3**		**20.9**		**13.6**		---
Thallium[c]	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	0.0063
Vanadium	**0.00590**	**J**	<0.00150	U	<0.00150	U	**0.0101**	**J**	<0.00150	U	**0.00910**	**J**	**0.00270**	**J**	<0.0200	U	<0.00150	U	<0.0200	U	---
Zinc	<0.0100	U	**0.0353**	**J**	**0.0244**	**J**	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0500	U	<0.0100	U	<0.0500	U	69
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Mercury	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000200	U	<0.000150	U	<0.000200		0.000051

Notes:

---: Not Applicable / Not Available

U: Undetected

M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits (see Lab Data Package)

M8: The MS and/or MSD were below the acceptance limits (see Lab Data Package)

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

Virginia Surface Water Standard for non-public supplies

[a] Chromium VI (particulates)

[b] Nickel (soluble salts)

[c] Thallium (soluble salts)

[d] Values based on Virginia DEQ Water Quality Standards 9 VAC 25-260, September 2007 with amendments effective as of October 2008

[e] Sulfide analysis was run on 6/18/2009

Table 7 - Surface Water Laboratory Analytical Results

Sample Location:	SW-BGC-SG11				SW-BGC-SG12						SW-BGC-SG13		SW-BGC-SG16		SW-BGC-SG18		SW-BGC-SG19		**Virginia All Other Surface Waters Standard[d]**
Sample I.D.:					SW-BGC-SG12		SW-BGC-SG12		SW-BGC-DUP052709										
Sample Date:	11/19/2008		5/27/2009		11/19/2008		5/27/2009		5/27/2009		5/27/2009		11/19/2008		11/21/2008		11/19/2008		
General Chemistry Parameters (mg/L)																			
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Alkalinity, Total ($CaCO_3$)	<5.00	U	<10.0	U	<5.00	U	<10.0	U	<10.0	U	<10.0	U	**25.9**		**23.4**		**14.4**		---
Bicarbonate Alkalinity as $CaCO_3$	<5.00	U	<10.0	U	**32.6**		<10.0	U	<10.0	U	<10.0	U	**24.3**		**25.2**		**15.9**		---
Bromide	**1.03**		**1.54**		**1.22**		**2.34**		**2.25**		<1.00	U	<0.500	U	<0.500	U	<0.500	U	---
Chloride	**178**		**167**		**241**		**216**		**244**		**22.7**		**59.6**		**6.62**		**20.8**		---
Fluoride	**0.190**		**0.121**		**0.290**		**0.151**		**0.166**		**0.176**		**0.183**		**0.331**		**0.302**		---
Nitrate as N	**0.0730**	**J**	<0.100	U	<0.0500	U	<0.100	U	<0.100	U	**0.137**		<0.0500	U	**0.172**		**0.0650**	**J**	---
Phosphorus	<0.0450	U	**0.132**		<0.0450	U	**0.116**		**0.113**		**0.114**		**0.0570**	**J**	**0.366**		**0.0650**	J	---
Sulfate	**70.0**		**90.0**		**163**		**142**		**144**		**80.5**		**24.4**		**17.9**		**12.6**		---
Sulfide[e]	---	---	<0.100	U	---	---	<0.100	U	<0.100	U	<0.100	U	---	---	---	---	---	---	---
Total Organic Carbon	**4.67**		**5.90**		**2.45**		**1.44**		**1.74**		**1.22**		**1.38**		**5.27**		**5.31**		---
Total Suspended Solids	**8.86**		**15.8**		**2.53**		<1.11	U	**3.00**		**2.89**		**17.0**		**16.4**		**28.2**		---
Total Metals by USEPA Method 6010B (mg/L)																			
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Aluminum	**0.653**		**0.205**		**5.00**		**2.00**		**1.94**		**0.495**		**0.666**		**2.52**		**3.21**		---
Antimony	<0.00380	U	<0.0100	U	<0.00380	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.00380	U	<0.00380	U	<0.00380	U	4.3
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.00450	U	<0.00450	U	<0.00450	U	---
Barium	**0.0575**		**0.0797**		**0.0839**		**0.0776**		**0.0756**		**0.0305**		**0.0566**		**0.0402**		**0.0508**		---
Beryllium	**0.00150**	**J**	<0.00400	U	**0.00270**	**J**	<0.00400	U	<0.00400	U	<0.00400	U	<0.00100	U	**0.00110**	**J**	<0.00100	U	---
Boron	**0.0449**	**J**	**0.0612**		**0.0403**	**J**	<0.0500	U	<0.0500	U	<0.0500	U	**0.0459**	**J**	**0.0348**	**J**	**0.0458**	**J**	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.000500	U	---
Calcium	**28.4**		**33.7**		**41.0**		**44.6**		**44.0**		**17.3**		**20.1**		**11.0**		**9.67**		---
Chromium[a]	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00150	U	**0.00420**	**J**	**0.00410**	**J**	---
Cobalt	**0.00500**	**J**	<0.0200	U	**0.0377**		<0.0200	U	<0.0200	U	<0.0200	U	<0.00200	U	<0.00200	U	<0.00200	U	---
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.00350	U	<0.00350	U	<0.00350	U	---
Iron	**1.80**		**0.717**		**4.03**		**2.02**		**1.98**		**0.521**		**0.654**		**1.84**		**2.10**		---
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00280	U	<0.00280	U	**0.00390**	**J**	---
Magnesium	**6.08**		**6.96**		**8.98**		**9.60**		**9.38**		**6.29**		**3.80**		**3.75**		**2.24**		---
Manganese	**0.166**		**0.179**		**0.337**		**0.304**		**0.299**		**0.289**		**0.0191**		**0.0175**		**0.00970**	**J**	---
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.00900	U	---
Nickel[b]	**0.00520**	**J**	<0.0100	U	**0.0383**		**0.0210**		**0.0200**		**0.0134**		<0.00240	U	<0.00240	U	<0.00240	U	4.6
Potassium	**20.7**		**24.4**		**24.0**		**24.2**		**23.5**		**2.26**		**7.70**		**4.46**		**4.80**		---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.0100	U	<0.0100	U	**0.0049**	**J**	<0.00430	U	<0.00430	U	11
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00160	U	---
Sodium	**81.6**		**70.6**		**103**		**86.2**		**87.2**		**13.1**		**23.7**		**6.65**		**7.93**		---
Thallium[c]	<0.00750	U	<0.0100	U	<0.00750	U, M2	<0.0100	U	<0.0100	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.00750	U	0.0063
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	<0.0200	U	<0.0200	U	**0.00150**	**J**	**0.00450**	**J**	**0.00600**	**J**	---
Zinc	**0.0223**	**J**	<0.0500	U	**0.0806**		<0.0500	U	<0.0500	U	<0.0500	U	<0.0100	U	<0.0100	U	**0.0135**	**J**	69
Mercury by USEPA Method 7470/7471A (mg/L)																			
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Mercury	<0.000150	U	<0.000200	U	<0.000150	U	<0.00200	U	<0.00200	U	<0.000200	U	<0.000150	U	<0.000150	U	<0.000150	U	0.000051

Notes:

---: Not Applicable / Not Available

U: Undetected

M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits due to sample matrix interference (see Lab Data Package)

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

Virginia Surface Water Standard for non-public supplies

[a] Chromium VI (particulates)

[b] Nickel (soluble salts)

[c] Thallium (soluble salts)

[d] Values based on Virginia DEQ Water Quality Standards 9 VAC 25-260, September 2007 with amendments effective as of October 2008

[e] Sulfide analysis was run on 6/18/2009

Table 7 - Surface Water Laboratory Analytical Results

Sample Location:	SW-BGC-SW20				SW-BCG-SW21		SW-BCG-SW22				SW-BCG-SW23		SW-BCG-SW24		SW-BCG-SW25		SW-BGC-Rinse 1		SW-RinseBlank 052709		**Virginia All Other Surface Waters Standard[d]**
Sample I.D.:	SW-BGC-SW20		SW-BGC-Dup2																		
Sample Date:	11/21/2008		11/21/2008		11/21/2008		11/21/2008		5/27/2009		11/21/2008		11/21/2008		11/21/2008		11/20/2008		5/27/2009		
General Chemistry Parameters (mg/L)																					
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Alkalinity, Total ($CaCO_3$)	<5.00	U	<5.00	U	**53.5**		<5.00	M8	<10.0	U	**33.6**		**31.2**		**35.7**		**34.7**		<10.0	U	---
Bicarbonate Alkalinity as $CaCO_3$	<5.00	U	<5.00	U	**53.0**		<5.00	U	<10.0	U	**35.8**		**33.2**		**36.4**		<5.00	U	<10.0	U	---
Bromide	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<1.0	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<1.00	U	---
Chloride	**22.7**		**22.1**		**7.80**		**21.2**		**26.8**		**21.9**		**32.5**		**87.9**		<0.500	U	<1.00	U	---
Fluoride	**0.232**		**0.270**		**0.0820**	**J**	**0.662**		**0.235**		**0.325**		**0.290**		**0.255**		<0.0500	U	<0.100	U	---
Nitrate as N	**0.123**		<0.0500	U	**0.223**		**0.519**		**0.109**		**1.51**		**1.22**		**2.17**		<0.0500	U	<0.100	U	---
Phosphorus	**0.274**		<0.0450	U	<0.0450	U	**0.0780**	**J**	**0.180**		**0.651**		**0.367**		**0.408**		<0.0450	U	**0.169**		---
Sulfate	**78.5**		**79.6**		**24.0**		**438**		**154**		**64.1**		**78.9**		**132**		<0.500	U	<1.00	U	---
Sulfide	---	---	---	---	---	---	---	---	<0.100	U	---	---	---	---	---	---	---	---	---	---	---
Total Organic Carbon	**1.27**		**1.27**		**5.30**		**13.8**		**4.47**		**32.1**		**9.36**		**7.89**		**0.614**	**J**	<1.00	U	---
Total Suspended Solids	**1.87**		**1.87**		**5.33**		**7.60**		**27.1**		**10.8**		**6.40**		**18.4**		<1.00	U	<1.11	U	---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Aluminum	**0.356**		**0.354**		**0.481**		**15.6**		**12.4**		**0.416**		**1.19**		**0.250**		**0.0352**	**J, B**	<0.100	U	---
Antimony	**0.00430**	**J**	<0.00380	U	<0.00380	U	<0.00380	U	<0.0100	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.0100	U	4.3
Arsenic	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.0100	U	---
Barium	**0.0308**		**0.0307**		**0.0226**		**0.0492**		**0.0400**		**0.0278**		**0.0713**		**0.0787**		<0.00150	U	<0.0100	U	---
Beryllium	**0.00160**	**J**	**0.00160**	**J**	**0.00110**	**J**	**0.0119**		**0.00450**		<0.00100	U	**0.0012**	**J**	<0.00100	U	<0.00100	U	<0.00400	U	---
Boron	**0.0340**	**J**	**0.0336**	**J**	**0.0226**	**J**	**0.0285**	J	<0.0500	U	**0.0267**	**J**	**0.0152**	**J**	**0.0227**	**J**	<0.00200	U	<0.0500	U	---
Cadmium	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.00100	U	---
Calcium	**17.0**		**16.7**		**21.4**		**46.6**		**38.0**		**18.8**		**25.8**		**43.7**		<0.100	U	<1.00	U	---
Chromium[a]	<0.00150	U	<0.00150	U	<0.00150	U	**0.00160**	**J**	<0.00500	**U**	<0.00150	U	**0.00200**	**J**	<0.00150	U	<0.00150	U	<0.00500	U	---
Cobalt	**0.00360**	**J**	**0.00390**	**J**	<0.00200	U	**0.0836**		**0.0752**		<0.00200	U	**0.00220**	**J**	**0.00520**	**J**	<0.00200	U	<0.0200	U	---
Copper	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.0100	U	---
Iron	**1.05**		**1.04**		**0.740**		**12.0**		**18.1**		**2.82**		**0.850**		**3.44**		<0.0280	U	<0.0500	U	---
Lead	<0.00280	U	<0.00280	U	<0.00280	U	**0.00950**		**0.00550**		**0.00330**	**J**	<0.00280	U	<0.00280	U	<0.00280	U	<0.00500	U	---
Magnesium	**0.642**		**6.43**		**1.94**		**16.3**		**11.2**		**8.24**		**12.2**		**18.5**		<0.100	U	<1.00	U	---
Manganese	**0.264**		**0.266**		**0.0611**		**0.621**		**0.654**		**0.111**		**0.112**		**0.182**		<0.00100	U	<0.0150	U	---
Molybdenum	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.0500	U	---
Nickel[b]	**0.00900**	**J**	**0.00930**	**J**	<0.00240	U	**0.0934**		**0.0862**		<0.00240	U	**0.00780**	**J**	**0.00810**	**J**	<0.00240	U	<0.0100	U	4.6
Potassium	**2.58**		**2.55**		**3.72**		**6.71**		**3.15**		**4.67**		**7.24**		**10.4**		<0.200	U	<1.00	U	---
Selenium	<0.00430	U	**0.00520**	**J**	<0.00430	U	<0.00430	U	<0.0100	U	<0.00430	U	**0.00590**	**J**	<0.00430	U	<0.00430	U	<0.0100	U	11
Silver	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00500	U	---
Sodium	**13.9**		**13.9**		**5.58**		**14.1**		**14.5**		**19.2**		**14.0**		**41.0**		<0.500	U	<1.00	U	---
Thallium[c]	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.0100	U	0.0063
Vanadium	<0.00150	U	<0.00150	U	<0.00150	U	**0.00180**		<0.0200	U	**0.00150**	**J**	**0.00190**	**J**	<0.00150	U	<0.00150	U	<0.0200	U	---
Zinc	**0.0190**		**0.0293**	**J**	<0.0100	U	**0.235**		**0.114**		**0.0217**	**J**	**0.0305**	**J**	**0.0238**	**J**	<0.0100	U	<0.0500	U	69
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	(mg/L)
Mercury	<0.000150	U	<0.000150	U	**0.000197**	**J**	<0.000150	U	<0.000200	U	**0.000188**	**J**	<0.000150	U	<0.000150	U	<0.000150	U	<0.000200	U	0.000051

Prepared By/Date: DSD 7/2/09
Prepared By/Date: JES 7/16/09

Notes:

---: Not Applicable / Not Available

U: Undetected

M8: The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

B: Analyte was detected in the associated Method Blank.

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

[a] Chromium VI (particulates)

[b] Nickel (soluble salts)

[c] Thallium (soluble salts)

[d] Values based on Virginia DEQ Water Quality Standards 9 VAC 25-260, September 2007 with amendments effective as of October 2008

[e] Sulfide analysis was run on 6/18/2009

Table 8 -Summary of Monitoring Well Slug Test Results

Monitoring Well I.D.	Screened Interval (ft below ground)	Lithology of screened interval			Estimated Effective Porosity[4] (%)	Date of Test	Measurement Method	Falling Head or Rising Head	Estimated Horizontal Hydraulic Conductivity - K_h			
									Slug Test Estimates[2]		Literature Estimates for Soil Type[6]	
		Field Description	Sand Content[1] (%)	Fines Content[1] (%)					(ft/day)	(cm/sec)	(ft/day)	(cm/sec)
MW-5A	5-15	Gray, dense, fine SAND(SP)	94.1	5.9	40%	12/3/2008	Solinst Levellogger	F	1.0	4E-04	1	4E-04
								R	0.4	2E-04		
MW-5B	25-35	Gray, fine SAND (SP) to course SAND (SP) with trace gravel to sandy CLAY (CL)	85.6	13.8	25%		Solinst Levellogger	F	1.2	4E-04	0.5	2E-04
								R	NA	NA		
MW-6A	5-15	White and yellow to light gray, fine SAND (SP)	97.1	2.9	45%		Solinst Levellogger	F	0.7	2E-04	1	4E-04
								R	0.5	2E-04		
MW-6B	32-42	Light gray to gray, dense, fine to coarse SAND (SW)	94.2	5.1	40%		Solinst Levellogger	F	NA	NA	5	2E-03
								R	NA	NA		
MW-8A	10-20	Gray, firm, fine to medium SAND (SP)	97	3.0	45%		Solinst Levellogger	F	NA	NA	10	4E-03
								R	NA	NA		
MW-8B	34-44	Gray to greenish gray, fine to medium SAND (SP) with interbedded clay	80	19.7	20%		Solinst Levellogger	F	1.1	4E-04	0.1	4E-05
								R	1.0	4E-04		
MW-11A	10-20	Gray, loose fine SAND (SP)	92.9	7.1	35%		Solinst Levellogger	F	0.9	3E-04	5	2E-03
								R	NA	NA		
MW-11B	25-35	Gray, loose to firm, fine to coarse SAND (SP), trace gravel	89.1	9.6	30%		Solinst Levellogger	F	NA	NA	1	4E-04
								R	NA	NA		
MW-8A	10-20	Gray, firm, fine to medium SAND (SP)	97	3.0	45%	7/15/2009	Solinst Levellogger	F	4.6	2E-03	10	4E-03
								R	9.5	3E-03		
MW-13	10-20	Greenish gray, medium dense, fine to medium SAND (SP)	NA	NA	45%		Solinst Levellogger	F	5.7	2E-03	10	4E-03
								R	9.1	3E-03		
MW-14	9-19	Greenish gray, medium dense, fine to medium SAND (SM) with silt	NA	NA	30%		Solinst Levellogger	F	NA	NA	1	4E-04
								R	NA	NA		
MW-15	4-14	Gray, medium dense, fine to medium SAND (SM), with silt and clay	NA	NA	25%		Solinst Levellogger	F	7.3	3E-03	0.5	2E-04
								R	7.3	3E-03		
Average Range of Hydraulic Conductivity Estimates:									3.6	1E-03	4	1.3E-03
Estimated Range in Hydraulic Gradient[3] based on gauging results (feet/feet):									0.002	to	0.008	
Estimated Range in Effective Porosity[4] (%):									20%	to	45%	
Estimated Range in Groundwater Velocity[5] (feet/year):									16	to	23	

Prepared By/Date: LLC 9-28-09
Checked By/Date: GBG 9-28-09

Notes:

NA Hydraulic conductivity estimate Not Available from this test as the data deemed unreliable (possibly due to insufficient head displacement, inadequate well development or other undetermined cause).

[1] Fines based on percent passing a #200 sieve, Sand based on percent passing a #4 sieve

[2] Bouwer and Rice Method, 1976 (for water-table conditions) using Aqtesolv Software for analysis of slug test data obtained during this investigation.

[3] Hydraulic gradient (change in hydraulic head/distance) estimates based on distance between contour lines across the Site produced from gauging events performed on December 3, 2008 and June 16, 2009.

[4] Effective Porosity (or specific yield) as projected on a soil classification triangle (Johnson, A.I., U.S. Geological Survey Water-Supply Paper 1662-D, 1967) using particle percentages as indicated above.

[5] Groundwater Velocity (feet/year) calculated as Hydraulic Conductivity (feet/day) x 365 (days/year) x Hydraulic Gradient (feet/feet)/Effective Porosity (%).

[6] Hydraulic conductivity estimates for a range of soil types as encountered within the screened interval of wells at the Site (USBR, Ground Water Manual, U.S. Department of the Interior, Bureau of Reclamation, Washington, D.C., 1977) .

Table 9 - Groundwater Laboratory Analytical Results - Shallow Wells

Well I.D.:	MW-BGC-5A				MW-BGC-6A				MW-BGC-7A				MW-BGC-8A						MW-BGC-9A				MW-BGC-10A				U.S. EPA Maximum Contaminant Levels (MCLs)[d]	VA DEQ Groundwater Quality Standards[e]	VA DEQ Groundwater Quality Criteria[f]
Sample ID:													MW-BGC-8A		MW-BGC-8A		MW-BGC-DUP03												
Sample Date:	12/2/2008		6/16/2009		11/20/2008		6/16/2009		12/2/2008		6/17/2009		12/4/2008		6/16/2009		6/16/2009		12/4/2008		6/17/2009		12/4/2008		6/17/2009				
General Chemistry Parameters (mg/L)																													
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Alkalinity, Total (CaCO3)	**102**		**63.5**		**157**		**176**		**27.7**		**13.4**		<5.00	U	<10.0	U	<10.0	U	**102**		**113**		**104**		**84.5**		---	---	30-500
Bicarbonate Alkalinity as CaCO3	**105**		**63.5**		**157**		**176**		**30.3**		**13.4**		<5.00	U	<10.0	U	<10.0	U	**102**		**113**		**110**		**84.5**		---	---	---
Bromide	**0.738**	**J**	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	---	---	---
Chloride	**65.6**		**66.5**		**11.0**		**7.66**		**14.4**		**11.7**		**13.7**		**12.5**		**13.1**		**28.3**		**24.1**		**25.2**		**29.9**		---	---	50
Fluoride	**0.329**		**0.337**		**0.072**	**J**	<0.100	U	**0.183**		<0.100	U	**0.171**		**1.32**		**1.07**		**0.233**		**0.248**		**0.434**		**0.505**		---	1.4	---
Nitrate as N	**0.062**	**H2, J**	<0.100	U	**1.74**		**1.51**		**0.109**	**H2**	**0.115**		<0.0500	U	<0.100	U	<0.100	U	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	10	5	---
Phosphorus	<0.0450	U	<0.100	U	<0.0450	U	<0.100	U	<0.0450	U	<0.100	M8 U	<0.0450	U	**0.101**		<0.100	U	**0.156**		**0.110**		**0.587**		**0.210**		---	---	---
Sulfate	**65.6**		**113**		**51.5**		**61.7**		**12.7**		**41.1**		**1,050**		**885**		**809**		**76.7**		**60.3**		**169**		**147**		---	---	50
Sulfide	---	---	<1.00	U	---	---	<1.00	U	---	---	<1.00	U	---	---	<1.00	U	<1.00	U	--	--	<1.00	U	---	---	<1.00	U	---	---	---
Total Dissolved Solids	**300**		**316**		**240**		**284**		**70.0**		**105**		**1,620**		**1,080**		**1,100**		**296**		**276**		**409**		**372**		---	---	1,000
Total Organic Carbon	**3.98**		**3.17**		**6.90**		**9.43**		**2.91**		**1.85**		**11.9**		**6.39**		**6.66**		**5.11**		**1.04**		**5.22**		**1.96**		---	---	10
Total Organic Halides	**0.0325**		---	---	**0.207**		---	---	<0.0270	U	---	---	<0.0270	U	---	---	---	---	<0.0270	U	---	---	<0.0270	U	---	---	---	---	---
Total Metals by USEPA Method 6010B (mg/L)																													
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Aluminum	**0.225**		<0.100	U	**0.269**	**B1**	<0.100	U	**0.747**		**0.126**		**109**		**42.5**		**42.0**		**0.0652**	**J**	<0.100	U	**0.145**		<0.100	U	---	---	---
Antimony	**0.00570**	**B, J**	<0.0100	U	<0.00380	U	<0.0100	U	**0.00630**	**B,J**	<0.0100	U	**0.0096**	**J, B**	<0.0100	U	<0.0100	U	**0.00630**	**B, J**	<0.0100	U	**0.00430**	**J**	<0.0100	U	0.006	---	---
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	<0.00450	U	**0.0239**		**0.0251**		<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	0.01	0.05	---
Barium	**0.0664**		**0.0287**		**0.663**		**0.0396**		**0.0252**		**0.0798**		**0.0289**		**0.0156**		**0.0165**		**0.0497**		**0.0337**		**0.0191**		<0.0100	U	2	1	---
Beryllium	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	**0.0149**		**0.00780**		**0.00780**		<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	0.004	---	---
Boron	**0.0724**	**B1**	**0.0803**		**0.0239**	**J**	<0.0500	U	**0.0218**	**B,J**	<0.0500	U	**0.0573**	**B1**	<0.0500	U	<0.0500	U	**0.0646**	**B1**	**0.0648**		**0.0357**	**J**	<0.0500	U	---	---	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	0.001	U	**0.00180**		**0.00110**		**0.00120**		<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	0.005	0.0004	---
Calcium	**53.3**		**46.7**		**59.0**		**65.6**		**8.76**		**11.9**		**56.6**		**65.4**		**63.6**		**43.9**		**37.7**		**74.8**		**62.8**		---	---	---
Chromium[a]	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	**0.00180**	**J**	<0.00500	U	**0.00830**		<0.00500	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	---	0.05	---
Cobalt	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	**0.79**		**0.256**		**0.262**		<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	---	---	---
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	1.3	1	---
Iron	**4.43**		**8.39**		**0.0628**		<0.0500	U	**3.69**		**3.31**		**169**		**64.5**		**67.6**		**4.74**		**3.41**		**6.14**		**7.69**		---	---	0.3
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	**0.00310**	**J**	**0.00780**		**0.00760**		<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	0.015	0.05	---
Magnesium	**19.2**		**17.5**		**7.52**		**7.72**		**3.05**		**2.82**		**15.8**		**16.2**		**16.1**		**15.0**		**13.8**		**15.1**		**14.0**		---	---	---
Manganese	**0.285**		**0.303**		**0.00934**		**0.130**		**0.156**		**0.0241**		**2.26**		**1.51**		**1.47**		**0.217**		**0.177**		**0.230**		**0.188**		---	---	0.05
Molybdenum	**0.00910**	**J**	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	**0.00930**	**J**	<0.0500	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	---	---	---
Nickel[b]	**0.00300**	**J**	**0.0111**		<0.00240	U	<0.0100	U	**0.00290**	**J**	<0.0100	U	**0.825**		**0.383**		**0.383**		<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	---	---	---
Potassium	**4.59**		**4.36**		**2.20**		**2.08**		**1.2**		**3.00**		**9.43**		**5.08**		**5.14**		**8.44**		**7.63**		**5.18**		**3.95**		---	---	---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	**0.00690**	**J**	<0.0100	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	0.05	0.01	---
Silver	**0.00190**	**J**	<0.00500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00500	U	<0.00160	U	<0.0500	U	<0.00160	U	<0.00500	U	---	---	---
Sodium	**27.7**		**26.5**		**15.0**		**19.4**		**12.1**		**7.00**		**16.6**		**9.82**		**9.98**		**16.0**		**14.6**		**22.3**		**14.2**		---	---	100
Thallium[c]	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	0.002	---	---
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	**0.0018**	**J**	<0.0200	U	**0.0323**		<0.0200	U	<0.0200	U	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	---	---	---
Zinc	**0.0207**		**0.0691**		<0.0100	U	<0.0500	U	**0.0163**	**J**	<0.0500	U	**1.03**		**0.211**		**0.248**		<0.0100	U	<0.0500	U	**0.0121**	**J**	**0.0693**		---	0.05	---
Mercury by USEPA Method 7470/7471A (mg/L)																													
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Mercury[g]	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	---	---	<0.000150	U	<0.000200	H	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	0.002	0.00005	---

Notes:
Q: Data Qualifier
J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
B: Analyte was detected in the associated Method Blank.
H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.
M8: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits. See Appendix E for laboratory data packages.
U: Undetected
H: Sample analysis performed past method-specified holding time.
---: Not Applicable / Not Available
Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable
Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable

[a] Chromium VI (particulates)
[b] Nickel (soluble salts)
[c] Thallium (soluble salts)
[d] U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)
[e] Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004
[f] Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.
[g] Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 9 - Groundwater Laboratory Analytical Results - Shallow Wells

Well I.D.:	MW-BGC-11A				MW-BGC-12A						MW-BGC-13		MW-BGC-14		MW-BGC-15				MW-BGC RB 04		U.S. EPA Maximum Contaminant Levels (MCLs)[d]	VA DEQ Groundwater Quality Standards[e]	VA DEQ Groundwater Quality Criteria[f]
Sample ID:					MW-BGC-12A		MW-Dup-3		MW-BGC-12A						MW-BGC-15		MW-BGC-DUP04						
Sample Date:	12/4/2008		6/17/2009		12/5/2008		12/5/2009		6/18/2009		6/18/2009		6/18/2009		6/18/2009		6/18/2009		6/18/2009				
General Chemistry Parameters (mg/L)																							
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Alkalinity, Total (CaCO3)	**115**		**125**		**42.4**		**41.7**		**27.6**		<10.0	U	**59.1**		<10.0	U	<10.0	U	<10.0	U	---	---	30-500
Bicarbonate Alkalinity as CaCO3	**120**		**125**		**50.3**		**47.9**		**27.6**		---	---	**59.1**		<10.0	U	<10.0	U	<10.0	U	---	---	---
Bromide	<0.500	U	<1.00	U	<0.500	U	<0.500	U	<1.00	U	<1.00	U	<1.00	U	**7.67**		**7.59**		<1.00	U	---	---	---
Chloride	**82.6**		**60.1**		**32.1**		**31.7**		**39.1**		**30.1**		**16.4**		**1,140**		**1,050**		<1.00	U	---	---	50
Fluoride	**0.356**		**0.319**		**0.310**		**0.328**		**0.173**		**0.817**		<0.100	U	**0.206**		**0.187**		<0.100	U	---	1.4	---
Nitrate as N	<0.0500	U	<0.100	U	<0.0500	U	<0.0500	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	10	5	---
Phosphorus	**0.0730**	**J**	**0.198**		**0.0520**	**J**	**0.120**		**0.113**		<0.100	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	---	---	---
Sulfate	**90.7**		**62.2**		**76.9**		**77.4**		**155**		**550**		**53.8**		**408**		**383**		<1.00	U	---	---	50
Sulfide	---	---	<1.00	U	---	---	---	---	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	---	---	---
Total Dissolved Solids	**387**		**336**		**263**		**271**		**311**		**828**		**66.0**		**2,190**	**H2**	**3,600**	**H2**	<10.0	U	---	---	1,000
Total Organic Carbon	**2.81**		<1.00	U	**2.60**		**2.86**		**1.53**		**2.23**		**1.97**		**4.98**		**4.70**		<1.00	U	---	---	10
Total Organic Halides	<0.0270	U	---	---	<0.0270	U	<0.0270	U	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Metals by USEPA Method 6010B (mg/L)																							
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Aluminum	**0.0643**	**J**	<0.100	U	**0.324**		**0.321**		<0.100	U	**1.52**		**0.242**		**6.92**		**6.74**		<0.100	U	---	---	---
Antimony	**0.00790**	**B, J**	<0.0100	U	<0.00380	U	<0.00380	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	0.006	---	---
Arsenic	<0.00450	U	<0.0100	U	**0.0205**		**0.0195**		<0.0100	U	<0.0100	U	<0.0100	U	**0.0336**		**0.0332**		<0.0100	U	0.01	0.05	---
Barium	**0.0360**		<0.0100	U	**0.0520**		**0.0518**		**0.0297**		**0.0436**		**0.0531**		**0.0694**		**0.0695**		<0.0100	U	2	1	---
Beryllium	<0.00100	U	<0.00400	U	<0.00100	U	<0.00100	U	<0.00400	U	**0.0145**		<0.00400	U	<0.00400	U	<0.00400	U	<0.00400	U	0.004	---	---
Boron	**0.0527**	**B1**	<0.0500	U	**0.0185**	**J**	**0.0196**	**J**	<0.0500	U	<0.0500	U	<0.0500	U	**0.162**		**0.157**		<0.0500	U	---	---	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	0.005	0.0004	---
Calcium	**64.0**		**47.3**		**27.6**		**27.9**		**37.4**		**110**		**29.1**		**196**		**196**		<1.00	U	---	---	---
Chromium[a]	<0.00150	U	<0.00500	U	**0.00150**	**J**	<0.0150	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	---	0.05	---
Cobalt	<0.00200	U	<0.0200	U	<0.00200	U	<0.00200	U	<0.0200	U	**0.0454**		<0.0200	U	<0.0200	U	<0.0200	U	<0.0200	U	---	---	---
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.00350	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	1.3	1	---
Iron	**3.87**		**3.57**		**6.95**		**6.96**		**6.26**		**58.2**		**7.99**		**91.9**		**90.7**		**0.0563**		---	---	0.3
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00280	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	0.015	0.05	---
Magnesium	**24.7**		**20.4**		**14.0**		**14.0**		**22.5**		**27.7**		**4.78**		**34.6**		**34.3**		<1.00	U	---	---	---
Manganese	**0.117**		**0.0633**		**0.172**		**0.174**		**0.132**		**0.565**		**0.2146**		**0.385**		**0.383**		<0.0150	U	---	---	0.05
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	---	---	---
Nickel[b]	<0.00240	U	<0.0100	U	**0.00430**	**J**	**0.00510**	**J**	**0.0117**		**0.0883**		<0.0100	U	**0.0236**		**0.02340**		<0.0100	U	---	---	---
Potassium	**4.18**		**2.58**		**2.24**		**2.28**		**1.33**		**9.47**		**2.82**		**63.6**		**63.4**		<1.00	U	---	---	---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.00430	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	0.05	0.01	---
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	---	---	---
Sodium	**28.6**		**21.0**		**14.1**		**14.2**		**15.3**		**10.6**		**10.9**		**384**		**382**		<1.00	U	---	---	100
Thallium[c]	<0.00750	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	0.002	---	---
Vanadium	<0.00150	U	<0.0200	U	**0.00170**	**J**	**0.00170**	**J**	<0.0200	U	<0.0200	U	<0.0200	U	**0.0363**		**0.0382**		<0.0200	U	---	---	---
Zinc	**0.0137**	**J**	<0.0500	U	**0.0281**	**J**	**0.0213**	**J**	<0.0500	U	**0.224**		<0.0500	U	**0.107**		**0.112**		<0.0500	U	---	0.05	---
Mercury by USEPA Method 7470/7471A (mg/L)																							
	Result	**Q**	**Result**	**Q**	**Q**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Mercury[g]	<0.000150	U	<0.000200	H	<0.000150	U	<0.000150	U	<0.000200	H	<0.000200	H	<0.000200	H	<0.000200	H	<0.000200	H	<0.000200	H	0.002	0.00005	---

Prepared By/Date: DSD 7/14/09
Checked By/Date: JES 7/17/09

Notes:

Q: Data Qualifier
J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
B: Analyte was detected in the associated Method Blank.
H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.
U: Undetected
H: Sample analysis performed past method-specified holding time.
---: Not Applicable / Not Available
Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable
Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable

[a] Chromium VI (particulates)
[b] Nickel (soluble salts)
[c] Thallium (soluble salts)
[d] U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)
[e] Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004
[f] Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.
[g] Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 10 - Groundwater Laboratory Analytical Results - Intermediate-Depth Wells

Well I.D.:	MW-BGC-5B				MW-BGC-6B						MW-BGC-7B				MW-BGC-8B				U.S. EPA Maximum Contaminant Levels (MCLs)[d]	VA DEQ Groundwater Quality Standards[e]	VA DEQ Groundwater Quality Criteria[f]
Sample I.D.:					MW-BGC-6B		MW-DUP-2		MW-BGC-6B												
Sample Date:	12/4/2008		6/16/2009		11/24/2008		11/24/2008		6/16/2009		12/2/2008		6/17/2009		12/8/2008		6/16/2009				
General Chemistry Parameters (mg/L)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Alkalinity, Total ($CaCO_3$)	**86.3**		**88.3**		<5.00	U	<5.00	U	<10.0	U	<5.00	U	**36.0**		**111**		**117**		---	---	30-500
Bicarbonate Alkalinity as $CaCO_3$	**88.7**		**88.3**		**7.91**	**J, HTI**	**5.17**	**HTI, J**	<10.0	U	**9.40**	**J**	**36.0**		**116**		**117**		---	---	---
Bromide	<0.500	U	<1.00	U	<0.500	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	M7	<1.00	U	---	---	---
Chloride	**29.6**		**31.3**		**31.6**		**31.8**		**28.1**		**14.0**		**15.7**		**12.0**	**M8**	**13.0**		---	---	50
Fluoride	**0.424**		**0.245**		**0.153**		0.154		<0.100	U	**0.087**	**J**	**0.102**		**0.277**		**0.180**		---	1.4	---
Nitrate as N	<0.0500	U	<0.100	U	<0.0500	U	<0.0500	U	<0.100	U	<0.0500	H2	<0.100	U	<0.0500	U	<0.100	U	10	5	---
Phosphorus	**0.137**		**0.151**		**0.331**		**0.313**		<0.100	U	**0.0550**	**J**	**0.147**		**0.073**	**J**	<0.100	U	---	---	---
Sulfate	**120**		**56.8**		**79.9**		**81.6**		**79.7**		**41.8**		**11.2**		**16.0**		**19.0**		---	---	50
Sulfide	---	---	<1.00	U	---	---	---	---	<1.00	U	---	---	<1.00	U	---	---	<1.00	U	---	---	---
Total Dissolved Solids	**217**		**227**		**218**	**B1,L1,B**	**211**	**B1,L1,B**	**169**		**58.0**		**108**		**168**		**178**		---	---	1,000
Total Organic Carbon	**2.19**		<1.00	U	**0.954**	**J**	**1.22**		<1.00	U	**3.13**		<1.00	U	**2.44**		**1.27**		---	---	10
Total Organic Halides	<0.0270	U	---	---	<0.0270	U	<0.0270	U	---	---	<0.0270	U	---	---	<0.0270	U	---	---	---	---	---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Aluminum	**0.127**		<0.100	U	**0.526**	**B1**	**0.652**	**B1**	**0.300**		**0.318**		**0.227**		**0.233**		<0.100	U	---	---	---
Antimony	**0.00490**	**J, B**	<0.0100	U	<0.00380	U	<0.00380	U	<0.0100	U	**0.00700**	**B, J**	<0.0100	U	<0.00380	U	<0.0100	U	0.006	---	---
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.00450	U	<0.0100	U	**0.00560**	**J**	<0.0100	U	<0.00450	U	<0.0100	U	0.01	0.05	---
Barium	**0.0224**		**0.0130**		**0.128**		**0.129**		**0.0845**		**0.0836**		**0.0146**		**0.0257**		**0.0159**		2	1	---
Beryllium	<0.00100	U	<0.00400	U	**0.00200**	**J**	**0.00190**	**J**	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	0.004	---	---
Boron	**0.0939**	**B1**	**0.0835**		**0.0149**	**J**	**0.0146**	**J**	<0.0500	U	**0.0233**	**B, J**	<0.0500		**0.0557**		**0.0520**		---	---	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100		0.005	0.0004	---
Calcium	**28.6**		**31.7**		**23.7**		**23.7**		**22.8**		**11.4**		**6.72**		**26.8**		**27.5**		---	---	---
Chromium[a]	<0.00150	U	<0.00500	U	<0.00150	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	---	0.05	---
Cobalt	<0.00200	U	<0.0200	U	**0.00390**	**J**	**0.00380**	**J**	<0.0200	U	**0.00330**		<0.0200	U	<0.00200	U	<0.0200	U	---	---	---
Copper	<0.00350	U	**0.0122**		<0.00350	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	1.3	1	---
Iron	**0.580**		**0.647**		**4.65**		**4.85**		**4.49**		**4.51**		**6.17**		**5.62**		**6.84**		---	---	0.3
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	0.015	0.05	---
Magnesium	**10.1**		**10.6**		**3.98**		**3.99**		**3.95**		**2.75**		**2.79**		**9.53**		**9.82**		---	---	---
Manganese	**0.0549**		**0.0490**		**0.142**		**0.144**		**0.133**		**0.0282**		**0.153**		**0.238**		**0.234**		---	---	0.05
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	---	---	---
Nickel[b]	<0.00240	U	<0.0100	U	**0.00780**	**J**	**0.00850**	**J**	**0.0127**		**0.00460**	**J**	<0.0100	U	<0.00240	U	<0.0100	U	---	---	---
Potassium	**7.35**		**6.47**		**3.22**		**3.25**		**2.88**		**3.31**		<1.00	U	**4.82**		**4.56**		---	---	---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	0.05	0.01	---
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	---	---	---
Sodium	**26.2**		**23.7**	**MHA**	**14.5**		**14.7**		**13.1**		**7.73**		**10.1**		**14.4**		**13.2**		---	---	100
Thallium[c]	<0.00750	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	0.002	---	---
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	**0.00170**	**J**	<0.0200	U	**0.00170**	**J**	<0.0200	U	<0.00150	U	<0.0200	U	---	---	---
Zinc	**0.0119**	**J**	<0.0500	U	**0.0296**	**J**	**0.0365**	**J**	<0.0500	U	**0.0184**	**J**	<0.0500	U	**0.013**	**J**	<0.0500	U	---	0.05	---
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Mercury[g]	<0.000150	U	<0.000200	H	<0.000150	U	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	0.002	0.00005	---

Notes
Q: Data Qualifier
J:Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated
B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
HTI: The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
B: Analyte was detected in the associated Method Blank.
H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.
L1: Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits due to sample matrix interference. See Appendix E for laboratory data packages and laboratory control sample (LCS).
M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits. See Appendix E for laboratory data packages.
M8: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits. See Appendix E for laboratory data packages.
H: Sample analysis performed past method-specified holding time.
MHA: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Appendix E for laboratory data packages.
Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable
Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable
U: Undetected
---: Not Applicable / Not Available
[a] Chromium VI (particulates)
[b] Nickel (soluble salts)
[c] Thallium (soluble salts)
[d] U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)
[e] Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004
[f] Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.
[g] Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 10 - Groundwater Laboratory Analytical Results - Intermediate-Depth Wells

Well I.D.:	MW-BGC-9B				MW-BGC-10B				MW-BGC-11B				MW-BGC-12B				MW-BGC-RB03		U.S. EPA Maximum Contaminant Levels (MCLs)[d]	VA DEQ Groundwater Quality Standards[e]	VA DEQ Groundwater Quality Criteria[f]
Sample I.D.:																					
Sample Date:	12/4/2008		6/17/2009		12/4/2008		6/17/2009		12/4/2008		6/17/2009		12/5/2008		6/18/2009		6/16/2009				
General Chemistry Parameters (mg/L)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Alkalinity, Total ($CaCO_3$)	**148**	**M8**	**159**		**176**		**175**		**176**		**143**		**76.2**		**55.2**		<10.0	U	---	---	30-500
Bicarbonate Alkalinity as $CaCO_3$	**161**		**159**		**179**		**175**		**175**		**143**		**81.4**		**55.2**		<10.0	U	---	---	---
Bromide	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<1.00	U	---	---	---
Chloride	**36.9**		**36.2**		**57.5**		**56.1**		**66.8**		**130**		**43.4**		**34.8**		<1.00	U	---	---	50
Fluoride	**0.320**		**0.310**		**0.334**		**0.281**		**0.384**		**0.238**		**0.439**		**0.460**		<0.100	U	---	1.4	---
Nitrate as N	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	<0.100	U	10	5	---
Phosphorus	**0.123**		**0.222**		**0.176**		**0.195**		**0.101**		**0.212**		**0.138**		**0.319**		<0.100	U	---	---	---
Sulfate	**11.9**		**12.1**		**38.6**		**55.1**		**50.0**		**96.2**		**117**		**113**		<1.00	U	---	---	50
Sulfide	---	---	<1.00	U	---	---	<1.00		---	---	<1.00	U	---	---	<1.00	U	<1.00	U	---	---	---
Total Dissolved Solids	**227**		**243**		**312**		**348**	U	**372**		**522**		**382**		**285**		<10.0	U	---	---	1,000
Total Organic Carbon	**2.87**		<1.00	U	**4.56**		**1.32**		**2.61**		**1.13**		**3.02**		**1.71**		<1.00	U	---	---	10
Total Organic Halides	**0.0286**	**J**	---	---	<0.0270	U	---	---	**0.0925**		---	---	<0.0270	U	---	---	---	---	---	---	---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Aluminum	**0.0660**	**J**	**0.163**		**0.0382**	**J**	<0.100	U	**0.698**		**0.138**		**1.14**		<0.100	U	<0.100	U	---	---	---
Antimony	**0.00550**	**B, J**	<0.0100	U	<0.00380	U	<0.0100	U	**0.00400**	**J, B**	<0.0100		<0.00380	U	<0.0100	U	<0.0100	U	0.006	---	---
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100		**0.00540**	**J**	<0.0100	U	<0.0100	U	0.01	0.05	---
Barium	**0.0198**		**0.0151**		**0.00930**	**J**	<0.0100	U	**0.0385**		**0.0301**		**0.0357**		**0.0150**		<0.0100	U	2	1	---
Beryllium	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00400	U	0.004	---	---
Boron	**0.0115**	**B1**	**0.109**		**0.138**		**0.135**		**0.120**	**B1**	**0.0691**		**0.0867**		<0.0500	U	<0.0500	U	---	---	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.0100	U	<0.00100	U	0.005	0.0004	---
Calcium	**30.6**		**28.9**		**40.2**		**42.2**		**37.2**		**61.0**		**48.0**		**39.5**		<1.00	U	---	---	---
Chromium[a]	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	**0.00230**	**J**	<0.00500	U	<0.00500	U	---	0.05	---
Cobalt	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	<0.0200	U	<0.0200	U	<0.0200	U	---	---	---
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.0100	U	1.3	1	---
Iron	**0.272**		**0.467**		**0.380**		**0.375**		**1.79**		**4.30**		**4.69**		**7.27**		<0.0500	U	---	---	0.3
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00500	U	0.015	0.05	---
Magnesium	**13.6**		**12.9**		**18.5**		**19.3**		**19.6**		**22.3**		**17.4**		**17.9**		<1.00	U	---	---	---
Manganese	**0.102**		**0.0722**		**0.0708**		**0.0729**		**0.141**		**0.270**		**0.201**		**0.160**		<0.0150	U	---	---	0.05
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.0500	U	---	---	---
Nickel[b]	<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	<0.00240	U	<0.100	U	<0.00240	U	<0.0100	U	<0.0100	U	---	---	---
Potassium	**11.6**		**10.8**		**15.9**		**15.5**		**16.0**		**13.4**		**7.26**		**2.14**		<1.00	U	---	---	---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.0100	U	0.05	0.01	---
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.0500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00500	U	---	---	---
Sodium	**28.0**		**27.4**		**45.2**		**40.0**		**56.8**		**64.8**		**44.5**		**16.4**		<1.00	U	---	---	100
Thallium[c]	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.0100	U	0.002	---	---
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	**0.00200**	**J**	<0.0200	U	<0.0200	U	---	---	---
Zinc	<0.0100	U	<0.0500	U	<0.0100	U	<0.0500	U	**0.0143**	**J**	<0.0500	U	**0.0172**	**J**	**0.0839**		<0.0500	U	---	0.05	---
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	(mg/L)	(mg/L)	(mg/L)
Mercury[g]	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000200	H	0.002	0.00005	---

Prepared By/Date: DD 7/14/09
Checked By/Date: JES 7/16/09

Notes
Q: Data Qualifier
J:Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated
B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
HTI: The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
B: Analyte was detected in the associated Method Blank.
H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.
L1: Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits due to sample matrix interference. See Appendix E for laboratory data packages and laboratory control sample (LCS).
M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits. See Appendix E for laboratory data packages.
M8: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits. See Appendix E for laboratory data packages.
H: Sample analysis performed past method-specified holding time.
Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable
Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable
U: Undetected
---: Not Applicable / Not Available
[a] Chromium VI (particulates)
[b] Nickel (soluble salts)
[c] Thallium (soluble salts)
[d] U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)
[e] Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004
[f] Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.
[g] Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 11 - Ash Fill TCLP Analytical Results

Field Sample ID:	ASH-BCG-TP1		ASH-BCG-TP2		ASH-BCG-TP3		TCLP Regulatory Limits (mg/L) and Hazard Classification[1]
Sample Location:	TP1		TP2		TP3		
Sample Date:	12/10/2008		12/10/2008		12/10/2008		
Matrix	Ash		Ash		Ash		
Waste Characterization Parameters							
pH	10.7		8.3		9.4		NA
TCLP Metals by US EPA Method 6000/7000 series (mg/L)							
Analyte	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	
Arsenic	<0.050		<0.050	U	<0.050		5.0
Barium	**0.243**		**0.342**		**0.825**		100
Cadmium	<0.005		**0.006**	**J**	<0.005		1.0
Chromium	**0.071**		**0.023**	**J**	**0.043**	**J**	5.0
Lead	<0.028		<0.028	U	**0.032**	**J**	5.0
Selenium	**0.106**		**0.158**		**0.140**		1.0
Silver	<0.016		<0.016	U	<0.016		5.0
Mercury	<0.0015		<0.0015	U	<0.0015		0.2

Prepared By/Date: DSD 1/29/09
Checked By/Date: JES 2/2/09

Notes:

[1] EPA Toxicity Characteristic Leachate Procedure (TCLP) regulatory limits, and EPA hazardous waste classification. Values, unless otherwise noted, are in mg/L

J: Analyte detected at a level less than the Reporting Limit (RL) and greater then or equal to the Method Detection Limit (MDL). Concentrations with in this range are estimated.

mg/L: milligrams per Liter

Table - 12 Summary of Particle Identification Analyses for Ash and Kiln Dust Samples

Analytical Method	Ash Sample I.D.			Explanation
	ASH-BGC-TP-1	**ASH-BGC-TP-2**	**ASH-BGC-TP-3**	
Stereomicroscopy	I	I	A	Polarized light microscopy shows more minerals (i.e. calcite) in TP-1 than in the ash standard, fewer in TP-2 and an absence of similar crystals in TP-3).
Polarized Light Microscopy (PLM)				
Scanning Electron Microscope (SEM)	A	I	I	TP-2 and TP-3 were observed to have elevated calcium levels in the SEM/EDX analysis, relative to the ash standard. Calcium content in TP-1 appeared consistent with the ash standard (no apparent addition of calcium from kiln dust).
Energy Dispersive X-Ray (EDX)				
X-Ray Diffraction (XRD)	I	I	I	The XRD analysis detected calcite in each of the amended ash samples, as well as the ash standard and kiln dust standard. Relative amounts of calcite are not able to be determined.
X-Ray Fluorescence (XRF)	P	I	I	Copper Oxide (CuO) was selected by the laboratory as a fingerprint for determining the presence of kiln dust in the amended ash samples, as it was present in the kiln dust but notably absent from the ash standard. Utilizing CuO as an indicator for the presence of kiln dust, it's absence from TP-2 and TP-3 suggests the absence of kiln dust from these ash fills samples. However, XRF identified Calcium Oxide (CaO) as the primary component of the kiln dust standard and, although CaO is also present in the ash standard, it appears at elevated levels in ash fill samples TP-2 and TP-3. This data appears to be contradictory and the absence of kiln dust from ash fill samples TP-2 and TP-3 based solely on the absence of CuO is considered inconclusive.

Prepared By/Date: DD 2/4/09
Checked By/Date: GBG 2/26/09

Notes:
P: Evidence of Kiln Dust present in sample
A: Evidence of Kiln dust absent from sample
I: Inconclusive

Conclusions:

Calcium was determined to be a substantial component of the ash standard (approximately 2.37% as CaO by weight, primarily in the form of calcite). Calcium was determined to be a major component in the kiln dust standard (approximately 90.1% as CaO by weight, primarily as lime and other calcium minerals). The addition of kiln dust to fly ash at a ratio of 1:49 (or approximately 2%) would be expected to increase the proportion of CaO by weight in an amended ash sample by approximately 1.8% (or from 2.37% as CaO by weight to approximately 4.2% as CaO by weight). This subtle increase in calcium content was reportedly difficult to perceive or quantify due to the substantial calcium content present in the fly ash standard. The laboratory expected to find lime or other calcium minerals present in the amended ash, in addition to an increase in the overall calcium content (therefore, CuO was utilized as indicated above). However, the exposure of ash fill to weathering since placement of the ash from 2001 to 2004 may have reduced the presence of lime and other calcium minerals (that were generally absent, but were expected to be present if amending agent similar to the kiln dust standard were added at the prescribed ratio).

The results from this analysis are generally inconclusive, although ash fill sample ASH-BGC-TP-1 showed stronger evidence of kiln dust content than ash fill samples TP-2 and TP-3. Comparison of a freshly prepared amended ash sample may be useful to further calibrate these results.

Table 13 - Soil Cover Thickness and Hand Auger Data Summary

Hand Auger I.D.	Estimated Hand Auger Location		Approximate Depth to Ash (in, bgs)	Cover Description
	Lat	Long		
A4	36.69378	76.18233	20	Red-brown, clayey SILT with fine sand, mottled light gray and orange after 6"
B3	36.69292	76.18247	22	Brown, fine sandy SILT
B5	36.69328	76.18064	20	Gray and orange, mottled, silty CLAY, trace gravel to very fine clayey SAND with gravel, no gravel below 12"
B6	36.69333	76.17964	20	Gray-brown to orange, mottled, clayey SILT with sand to very fine silty SAND
B7	36.69322	76.17886	26	Red-brown clayey SILT, to red-gray silty CLAY and fine SAND with clay
C2	36.69203	76.18378	24	Red to brown and red to gray, very fine clayey SAND, trace gravel
C5	36.69200	76.18047	7	Gray, fine silty SAND, trace clay
C7	36.69247	76.17864	17	Red-brown fine sandy SILT, trace clay and wood fragments to light gray very fine silty SAND
D10	36.68797	76.17517	28	Gray and orange, mottled silty CLAY with fine sand to clayey SILT with fine sand
D2	36.69139	76.18397	23	Brown to dark gray, fine silty SAND, trace gavel
D3	36.69156	76.18297	4	Red-brown, fine sandy SILT
D5	36.69111	76.18056	20	Red-brown, clayey SILT with very fine sand, contains wood fragments
D8	36.69161	76.17786	23	Gray, silty fine SAND, trace clay and gravel, no clay below 6"
E2	36.69042	76.18436	24	Red-brown very fine silty SAND, trace clay
E3	36.69078	76.18311	20	Red-brown, very fine silty SAND to silty CLAY with fine sand
E4	36.69100	76.18183	17	Yellow, red-brown, and orange, very fine silty SANDs and CLAYs
E5	36.69028	76.18081	30	Gray and orange, mottled, clayey SILT to silty CLAY, trace gravel
E8	36.69103	76.17792	23	Red-brown to gray and orange mottled, clayey SILT with fine sand
F1	36.69019	76.18475	29	Medium to dark gray SILT, and very fine SAND
F2	36.69008	76.18344	16	Red-brown, clayey silty SAND, with pea gravel to silty sandy CLAY
F4	36.69003	76.18214	24	Red-brown to brown, fine silty SAND to clayey SAND, trace gravel
G1	36.68931	76.18417	24	Red-brown to light gray, very fine SAND, trace gravel and wood fragments
G3	36.68900	76.18275	23	Brown, clayey SILT with fine sand
G6	36.68894	76.18003	11	Gray to orange, mottled, clayey SILT with fine sand
G7	36.68894	76.17842	16	Red-brown to gray and orange modddled, clayey SILT
H2	36.68864	76.18433	66	Brown to orangish brown, fine clayey and silty SANDs
H4	36.68844	76.18156	33	Brown, clayey SILT, trace brick
H6	36.68789	76.17989	20	Brown, clayey SILT with fine sand, trace wood fragments
H7	36.68789	76.18053	13	Red-brown to gray and orange mottled, clayey SILT with fine sand
H9	36.68803	76.17608	22	Red-brown to gray and orange mottled, very fine clayey SAND with silt to clayey SILT with fine sand
H13	36.68797	76.17344	14	Red-brown to gray and orange mottled, clayey SILT with fine sand, to SILT
I11	36.68767	76.17494	21	Red-brown to gray and orange mottled, very fine clayey SAND with silt
I12	36.68711	76.17381	35	Red-brown to gray and orange mottled, fine clayey SAND

Average Thickness (inches) 22
Minimum Thickness (inches): 4
Maximum Thickness (inches): 66

Prepared By/Date: DD 1/6/09
Checked By/Date: JES 2/2/09

Notes:

in inches
bgs below ground surface

Table 14 - Surface Water pH Measurements

Surface Water Location I.D.	3/11/2009	5/27/2009	6/18/2009	7/15/2009	Average pH Measurement
SG-BGC-9	6.3	8.8	7.6	8.2	7.7
SG-BGC-10	6.8	8.9	7.1	8.1	7.7
SG-BGC-11	5.5	5.1	5.0	4.2	4.9
SG-BGC-12	4.5	3.4	3.4	3.2	3.6
SG-BGC-13	5.6	3.3	5.1	--	4.7
SW-22	4.1	4.3	3.8	--	4.1

Prepared By/Date: JMB 11/2/09

Checked By/Date: GBG 11/2/09

Notes:

pH measurements were collected in the field using a Hobiba pH pen or HANNA pH meter.

-- Data not collected on this date.

Table 15 - Ash Fill Laboratory Analytical Results

Sample I.D.:	SB-BGC-10 (1.8-5)		SB-BGC-11 (1.9-4)		SB-BGC-12 (1.75-2.75)				**Average Ash Fill Result**
Sample Location:					SB-BGC-12 (1.75-2.75		SB-BGC-DUP 01		
Sample Interval:	1.8-5'		1.9-4'		1.75-2.75'		1.75-2.75'		
Sample Date:	6/8/2009		6/8/2009		6/8/2009		6/8/2009		
General Chemistry Parameters (mg/kg)									
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Chloride	<10.0	U	**348**		<10.0	U	<10.0	U	**91**
Fluoride	**5.11**		**9.46**		**5.01**		**5.15**		**6.18**
Phosphorus	**105**	**M7, M8**	**112**		**93.0**		**388**		**175**
Sulfate	**652**		**718**		**775**		**975**		**780**
Sulfide	<100	U	<100	U	**425**		<100	U	**144**
Bromide	<10.0	U	<10.0	U	<10.0	U	<10.0	U	**<10.0**
Nitrate as N	**1.54**		**5.81**		<1.00	U	**2.46**		**3.27**
pH (pH units)	**6.80**		**8.50**		**8.60**		**7.90**		**7.95**
Temperature of pH determination (Deg C)	**22.7**		**22.7**		**22.7**		**22.7**		**NA**
Total Metals by USEPA Method 6010B (mg/kg)									
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Aluminum	**6,790**		**10,900**	**MHA**	**12,300**		**12,300**		**10,573**
Antimony (metallic)	<9.94	U	<10.1	U	<9.63	U	<9.60	U	**<10**
Arsenic	**13.6**		**74.6**	**M1**	**51.9**		**30.7**		**42.7**
Barium	**67.8**		**441**	**M1**	**378**		**248**		**284**
Beryllium	<0.994	U	**3.05**		**2.62**		**2.19**		**2.62**
Boron	<9.94	U	**11.5**		**11.2**		**12.7**		**11.8**
Cadmium (water)	<0.994	U	<1.01	U	<0.963	U	<0.960	U	**<0.9**
Calcium	**1,930**		**9,290**	**MHA**	**6,370**		**4,500**		**5,523**
Chromium (total)	**16.2**		**23.0**		**21.7**		**25.3**		**21.6**
Cobalt	**1.35**		**9.56**		**8.29**		**8.06**		**6.82**
Copper	**7.53**		**35.9**	**M1**	**29.2**		**23.5**		**24.0**
Iron	**3,770**		**13,200**	**MHA**	**12,300**		**9,530**		**9,700**
Lead	**16.0**		**17.2**		**13.4**		**16.4**		**15.8**
Magnesium	**445**		**1,050**	**M1**	**1,050**		**969**		**879**
Manganese (water)	**26.7**		**56.6**		**50.1**		**50.2**		**45.9**
Molybdenum	<2.98	U	**6.26**		<2.89	U	<2.88	U	**6.26**
Nickel (soluble salts)	**3.50**		**17.2**		**15.8**		**15.1**		**12.9**
Potassium	**515**		**1,640**	**M1**	**1,370**		**1,520**		**1,261**
Selenium	<1.99	U	**8.86**		**8.28**		**6.37**		**7.84**
Silver	<0.994	U	<1.01	U	<0.963	U	<0.960	U	**<0.9**
Sodium	<199	U	**621**	**M1**	**361**		**287**		**423**
Thallium (soluble salts)	<1.99	U	<2.02	M2, U	<1.93	U	<1.92	U	**<1.9**
Vanadium (metallic)	**13.8**		**48.2**		**39.7**		**36.8**		**34.6**
Zinc (metallic)	**14.3**		**24.1**		**20.3**		**22.9**		**20.4**
Mercury by USEPA Method 7470/7471A (mg/kg)									
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Mercury	**0.221**		**0.218**		**0.188**		**0.164**		**0.198**

Prepared By/Date: DSD 7/2/2009
Checked By/Date: JES 7/15/09

Notes:
Q: Data Qualifier
B: Analyte was detected in the associated Method Blank.
M1: The Matrix Spike (MS) and/or MS Duplicate (MSD) were above the acceptance limits due to sample matrix interference (see Lab Data Package)
M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits (see Lab Data Package)
M8: The MS and/or MSD were below the acceptance limits (see Lab Data Package)
MHA: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information (see Lab Data package) laboratory data packages
U: Undetected
--: Data not available
mg/kg: milligrams per kilograms

Table 16 - Soil Laboratory Analytical Results - Potential Peroxide Acidity (PPA)

Sample Location/Sample I.D.		Sample Interval:	Sample Date:	Potential Peroxide Acidity (Tons $CaCO_3$/1000 Tons Material)
HA-BGC-SG9		8-14 inches bgs	6/11/2009	2.04
HA-BGC-SG10		6-12 inches bgs	6/11/2009	**14.70**
HA-BGC-SG11		10-16 inches bgs	6/11/2009	**11.16**
HA-BGC-SG12		16-22 inches bgs	6/11/2009	**18.52**
HA-BGC-SG13		10-16 inches bgs	6/11/2009	**7.66**
HA-BGC-SW22	HA-BGC-SW22	12-18 inches bgs	6/11/2009	**11.14**
	HA-BGC-DUP-01	12-18 inches bgs	6/11/2009	**7.94**
SB-BGC-4 (0-4)	SB-BGC-4 (0-4)	0-4 ft bgs	6/19/2009	Neutral pH
	SB-BGC-Dup02	0-4 ft bgs	6/19/2009	Neutral pH
SB-BGC-5 (2-4)		2-4 ft bgs	6/19/2009	**9.02**
SB-BGC-6 (0-3)		0-3 ft bgs	6/19/2009	**9.11**
SB-BGC-6 (4-8)		4-8 ft bgs	6/19/2009	**18.14**
MW-BGC-13 (0-2)		0-2 ft bgs	6/19/2009	1.64
MW-BGC-13 (10-12)		10-12 ft bgs	6/19/2009	**16.55**
MW-BGC-14 (0-2)		0-2 ft bgs	6/19/2009	4.19
MW-BGC-14 (13-15)		13-15 ft bgs	6/19/2009	**10.99**
MW-BGC-15 (0-2)	MW-BGC-15 (0-2)	0-2 ft bgs	6/19/2009	**20.20**
	MW-BGC-DUP01	0-2 ft bgs	6/19/2009	**22.60**
MW-BGC-15 (8-10)		8-10 ft bgs	6/19/2009	**14.64**

Prepared By/Date: JES 7/16/09
Checked By/Date: JMB 7/17/09

Note:
Potential Peroxide Acidity (PPA) results are expressed in tons of $CaCO_3$ per 1,000 tons of material.
PPA results for soil greater than 5 tons $CaCO_3$/1,000 tons material are considered acid sulfate material (soil that may produce acidic runoff when exposed to weathering) . (Virginia Tech Lab, 7/8/2009)
ft: feet
bgs: below ground surface

Table 17 - Soil Stockpile and Road Bed Laboratory Analytical Results

Sample Location:	SP-BGC-01		SP-BGC-02		SP-BGC-03				SP-BGC-04		HA-BGC-RB-1		HA-BGC-RB-2		HA-BGC-RB-3				HA-BGC-RB-4		Average Ash Fill Result
Sample I.D.:					SP-BGC-03		SP-BGC-DUP01								HA-BGC-RB-3		HA-BGC-RB-DUP				
Sample Interval:	--		--		--		--		--		0-6 inches		0-6 inches		0-6 inches		0-6 inches		0-6 inches		
Sample Date:	5/28/2009		5/28/2009		5/28/2009		5/28/2009		5/28/2009		5/28/2009		5/28/2009		5/28/2009		5/28/2009		5/28/2009		
General Chemistry Parameters (mg/kg)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Chloride	<10.0	U	14.8		10.1		<10.0	U	<10.0	U	<10.0	U	14.3		<10.0	U	12.2		<10.0	U	91
Fluoride	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	1.20		<1.00	U	<1.00	U	<1.00		<1.00	U	6.18
Phosphorus	26.5	B	157	B, B1	82.5	B	90.5	B	68.5	B	385	B1, B	304	B1, B	149	B1, B	149	B1, B	60.7	B	175
Sulfate	134		87.3		79.0		84.7		62.1		75.9		50.7		73.5		171		104		780
Sulfide	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	144
Bromide	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0
Nitrate as N	3.80		5.60		5.70		3.60		<1.00	U	4.00		4.40		1.60		1.50		3.20		3.27
pH (pH units)	4.50	HTI	5.00	HTI	4.80	HTI	5.30	HTI	5.40	HTI	5.30	HTI	5.20	HTI	5.30	HTI	5.40	HTI	5.40	HTI	7.95
Temperature of pH determination (Deg C)	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	NA
Total Metals by USEPA Method 6010B (mg/kg)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Aluminum	25,900	MHA	16,800		17,200		14,200		9,070		12,800		121,100		21,900		25,400		10,200		10,573
Antimony (metallic)	<9.65	U	<10.0	U	<9.94	U	<10.0	U	<9.96	U	<10.0	U	<9.92	U	<9.94	U	<9.90	U	<9.98	U	<10
Arsenic	3.30		<1.00	U	<0.994	U	<1.00	U	<0.996	U	7.37		4.07		6.12		6.24		1.46		42.7
Barium	58.1		62.8		45.7		37.9		47.8		48.2		39.0		78.5		78.4		38.0		284
Beryllium	<0.965	U	<1.00	U	<0.994	U	<1.00	U	<0.996	U	<1.00	U	<0.992	U	<0.994	U	<0.990	U	<0.998	U	2.62
Boron	<9.65	U	<10.0	U	<9.94	U	<10.0	U	<9.96	U	<10.0	U	<9.92	U	<9.94	U	<9.90	U	<9.98	U	11.8
Cadmium (water)	<0.965	U	<1.00	U	<0.994	U	<1.00	U	<0.996	U	<1.00	U	<0.992	U	<0.994	U	<0.990	U	<0.998	U	<0.9
Calcium	236		923		207		338		588		549		555		442		478		644		5,523
Chromium (total)	24.1		19.4		16.8		13.8		9.58		17.4		15.0		24.3		26.9		11.7		21.6
Cobalt	1.66		2.31		1.41		<0.100	U	0.996		2.11		1.49		1.51		2.20		<0.998	U	6.82
Copper	<1.93	U	3.15		<1.99	U	<0.200	U	8.57		4.68		3.06		3.44		3.70		<2.00	U	24.0
Iron	11,900	MHA	6,340		4,030		3,260		5,630		4,640		5,050		35,800		26,700		6,710		9,700
Lead	12.7		14.3		8.82		8.53		48.0		12.2		9.27		15.3		12.6		8.92		15.8
Magnesium	907	M1	882		712		568		483		666		696		1,110		1,200		520		879
Manganese (water)	22.5		32.1		23.0		18.4		39.5		24.2		41.2		23.5		25.7		19.6		45.9
Molybdenum	<2.90	U	<3.01	U	<2.98	U	<3.00	U	<2.99	U	<3.01	U	<2.98	U	<2.98	U	<2.97	U	<2.99	U	6.26
Nickel (soluble salts)	4.25		6.00		5.13		4.28		3.19		5.58		4.37		6.54		7.60		2.28		12.9
Potassium	703	M1	634		638		344		287		603		641		483		661		306		1,261
Selenium	<1.93	U	<2.01	U	<1.99	U	<2.00	U	2.05		<2.01	U	<1.98	U	3.79		3.15		<2.00	U	7.84
Silver	<0.965	U	<1.00	U	<0.994	U	<1.00	U	<0.996	U	<1.00	U	<0.992	U	<0.994	U	<0.990	U	<0.998	U	<0.9
Sodium	361		346		300		215		<199	U	<201	U	<198	U	291		330		<200	U	423
Thallium (soluble salts)	<1.93	U	<2.01	U	<1.99	U	<2.00	U	<1.99	U	<2.01	U	<1.98	U	<1.99	U	<1.98	U	<2.00	U	<1.9
Vanadium (metallic)	42.6		23.9		23.5		17.0		13.2		18.1		16.8		47.3		50.1		17.2		34.6
Zinc (metallic)	<9.65	U	22.5		<9.94	U	<10.0	U	63.5		12.7		15.1		<9.94	U	<9.90	U	<9.98	U	20.4
Mercury by USEPA Method 7470/7471A (mg/kg)																					
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	Result	**Q**	**Result**	**Q**	**mg/kg**
Mercury (elemental)	<0.0982	U	<0.0993	U	<0.0998	U	<0.0990	U	<0.0992	U	<0.0998	U	<0.0980	U	<0.0968	U	<0.101	U	<0.0966	U	0.198

Prepared By/Date: JMB 12/15/09
Checked By/Date: DSD 12/15/09

Notes:
mg/kg: milligrams per kilograms
Q: Data Qualifier
B: Analyte was detected in the associated Method Blank.
B1: Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank (see Lab Data Package)
HTI: Holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes
M1: The Matrix Spike (MS) and/or MS Duplicate (MSD) were above the acceptance limits due to sample matrix interference (see Lab Data Package)
MHA: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information (see Lab Data package)
U: Undetected
NA: Not Applicable
Constituent result is less than the average corresponding ash fill result

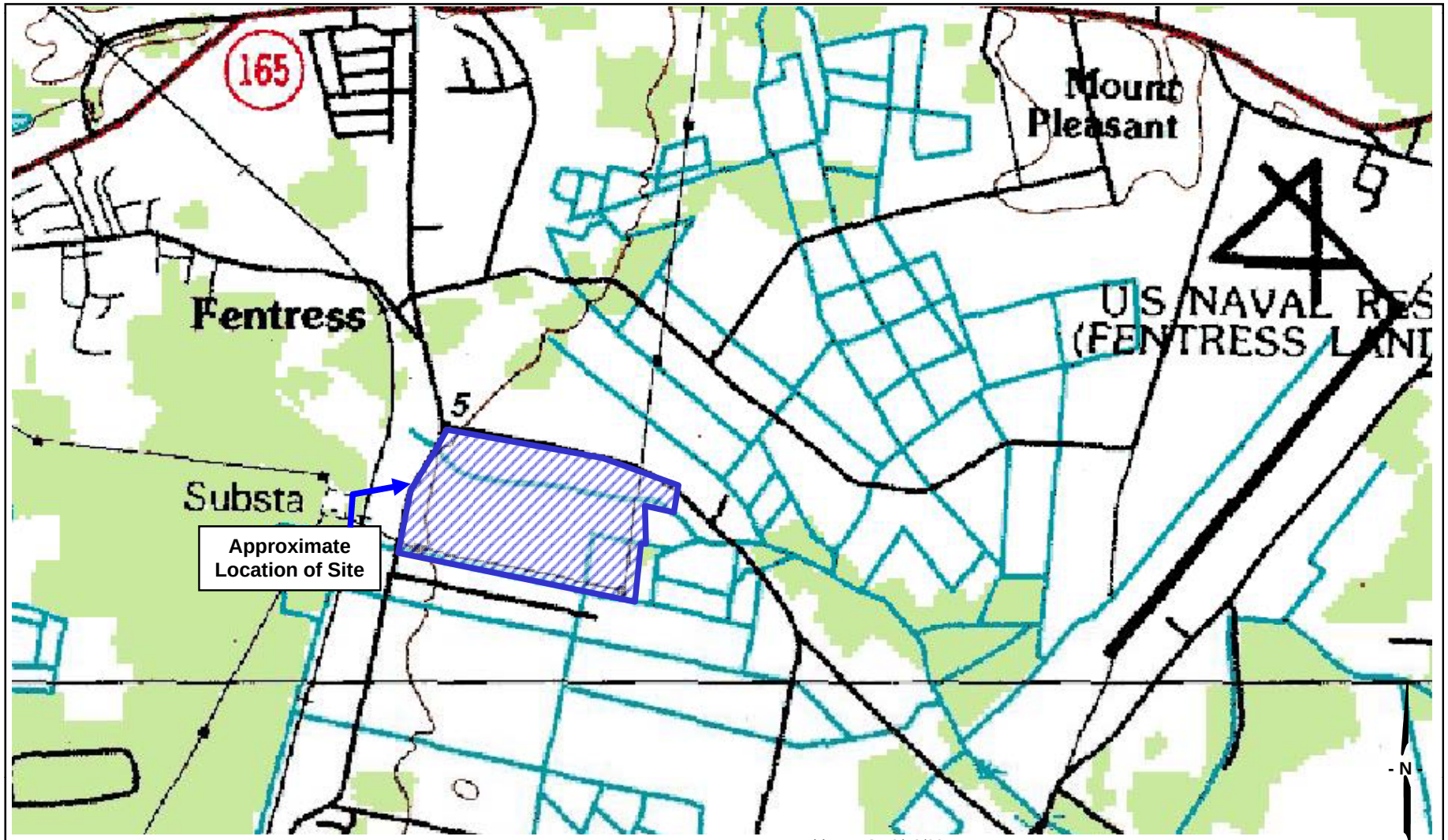
Table 18 - Pond Sediment Laboratory Analytical Results

Sample Location:	PS-BGC-SG9-1		PS-BGC-SG9-2		PS-BGC-SG10-1		PS-BGC-SG10-2		PS-BGC-SG11-1		PS-BGC-SG11-2		PS-BGC-SG12-1		PS-BGC-SG12-2				**Average Ash Fill Result[1]**
Sample I.D.:															PS-BGC-SG12-2		PS-BGC-DUP-01		
Sample Depth Below Pond Surface:	15'		8'		15'		10'		5'		7'		7'		10'		10'		
Sample Date:	6/3/2009		6/3/2009		6/3/2009		6/3/2009		6/3/2009		6/3/2009		6/3/2009		6/3/2009		6/3/2009		
General Chemistry Parameters (mg/kg)																			
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Chloride	**17.4**		**12.1**		**161**		**23.6**		**120**		**325**		**143**		**154**		**144**		**91**
Fluoride	**4.78**		**1.57**		**1.40**		**1.43**		**1.80**		**2.70**		<1.00	U, M8	**2.60**		**2.50**		**6.18**
Phosphorus	**145**		**130**		**161**		**84.4**		**201**		**300**		**122**		**136**		**141**		**175**
Sulfate	**93.8**		<10.0	U	**78.4**		**33.7**		<10.0	U	<10.0	U	**1,020**		**12.2**		**91.8**	**R3**	**780**
Sulfide	<100	U	<100	U	**190**		<100	U	**130**		**565**		<100	U	<100	U	**130**		**144**
Bromide	<10.0	U	<10.0	U	<10.0	U	<10.1	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	**<10.0**
Nitrate as N	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.0	U	<1.00	U	**3.27**
pH (pH units)	**6.70**	**HTI**	**6.60**	**HTI**	**6.80**	**HTI**	**6.90**	**HTI**	**6.80**	**HTI**	**6.60**	**HTI**	**6.30**	**HTI**	**6.60**	**HTI**	**6.70**	**HTI**	**7.95**
Temperature of pH determination (Deg C)	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**23.4**	**HTI**	**NA**
Total Metals by USEPA Method 6010B (mg/kg)																			
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Aluminum	**7,920**		**5,680**		**8,030**		**5,440**		**8,800**		**10,700**		**10,300**		**11,600**		**16,500**		**10,573**
Antimony (metallic)	<9.71	U	<10.1	U	<10.1	U	<9.90	U	<9.78	U	<9.82	U	<9.63	U	<9.54	U	<9.80	U	**<10**
Arsenic	**2.87**		**2.24**		**3.56**		**1.52**		**6.91**		**9.63**		**7.28**		**6.15**		**8.25**		**42.7**
Barium	**42.6**		**27.7**		**42.2**		**37.7**		**29.1**		**44.0**		**33.2**		**34.2**		**47.6**		**284**
Beryllium	<0.971	U	<1.01	U	<1.01	U	<0.990	U	<0.978	U	<0.982	U	<0.963	U	<0.954	U	<0.980	U	**2.62**
Boron	<9.71	U	<10.1	U	<10.1	U	<9.90	U	<9.78	U	<9.82	U	<9.63	U	<9.54	U	<9.80	U	**11.8**
Cadmium (water)	<0.971	U	<1.01	U	<1.01	U	<0.990	U	<0.978	U	<0.982	U	<0.963	U	<0.954	U	<0.980	U	**<0.9**
Calcium	**752**		**568**		**806**		**689**		**531**		**641**		**371**		**424**		**513**		**5,523**
Chromium (total)	**13.1**		**8.59**		**11.5**		**9.27**		**11.0**		**13.0**		**13.3**		**13.6**		**18.3**		**21.6**
Cobalt	**1.32**		<1.01	U	**1.45**		<0.990	U	**1.96**		**2.36**		**1.39**		**2.19**		**2.86**		**6.82**
Copper	**2.47**		<2.02	U	**3.78**		<1.98	U	**4.54**		**4.68**		**2.70**		**3.05**		**3.69**		**24.0**
Iron	**6,810**		**6,630**		**7,260**		**5,370**		**13,300**		**17,200**		**28,500**		**16,500**		**18,600**		**9,700**
Lead	**10.5**		**16.5**		**7.27**		**9.85**		**11.0**		**8.58**		**7.53**		**8.22**		**15.5**		**15.8**
Magnesium	**670**		**431**		**554**		**510**		**477**		**588**		**613**		**568**		**826**		**879**
Manganese (water)	**37.5**		**27.7**		**19.4**		**30.8**		**17.0**		**22.2**		**19.3**		**18.3**		**25.5**		**45.9**
Molybdenum	<2.91	U	<3.02	U	<3.03	U	<2.97	U	<2.94	U	<2.95	U	<2.89	U	<2.86	U	<2.94	U	**6.26**
Nickel (soluble salts)	**5.22**		**2.90**		**4.42**		**3.50**		**4.36**		**5.30**		**4.22**		**5.38**		**6.80**		**12.9**
Potassium	**383**		**239**		**403**		**258**		**379**		**479**		**481**		**457**		**903**		**1,261**
Selenium	<1.94	U	<2.02	U	<2.02	U	<1.98	U	<1.96	U	<1.96	U	**2.92**		<1.91	U	<1.96	U	**7.84**
Silver	<0.971	U	<1.01	U	<1.01	U	<0.990	U	<0.978	U	<0.982	U	<0.963	U	<0.954	U	<0.980	U	**<0.9**
Sodium	<194	U	<202	U	**426**		<198	U	**353**		**432**		**425**		**313**		**307**		**423**
Thallium (soluble salts)	<1.94	U	<2.02	U	<2.02	U	<1.98	U	<1.96	U	<1.96	U	<1.93	U	<1.91	U	<1.96	U	**<1.9**
Vanadium (metallic)	**14.6**		**10.3**		**14.4**		**10.1**		**13.8**		**16.4**		**17.8**		**18.0**		**24.6**		**34.6**
Zinc (metallic)	**12.8**		**10.1**		**15.6**		**12.6**		**19.2**		**18.2**		**13.2**		**18.7**		**21.8**		**20.4**
Mercury by USEPA Method 7470/7471A (mg/kg)																			
	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	Result	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**mg/kg**
Mercury (elemental)	<0.100	U	<0.0960	U	<0.0979	U	<0.0960	U	<0.0960	U	<0.0979	U	<0.0995	U	<0.0985	U	<0.0982	U	**0.198**

Prepared By/Date: JMB 12/15/09
Checked By/Date: DSD 12/15/09

Notes:
mg/kg: milligrams per kilograms
Q: Data Qualifier
HTI: Holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes
M8: The MS and/or MSD were below the acceptance limits (see Lab Data Package)
U: Undetected
R3: The relative percent difference (RPD) exceeded the acceptance limit due to sample matrix effects (see Lab Data Package)
--: Data not available
[1] The Average Ash Fill Results and Highest Ash Fill Results are from Appendix E Table 1
NA: Not Applicable
Constituent result is less than the average corresponding ash fill result

FIGURES

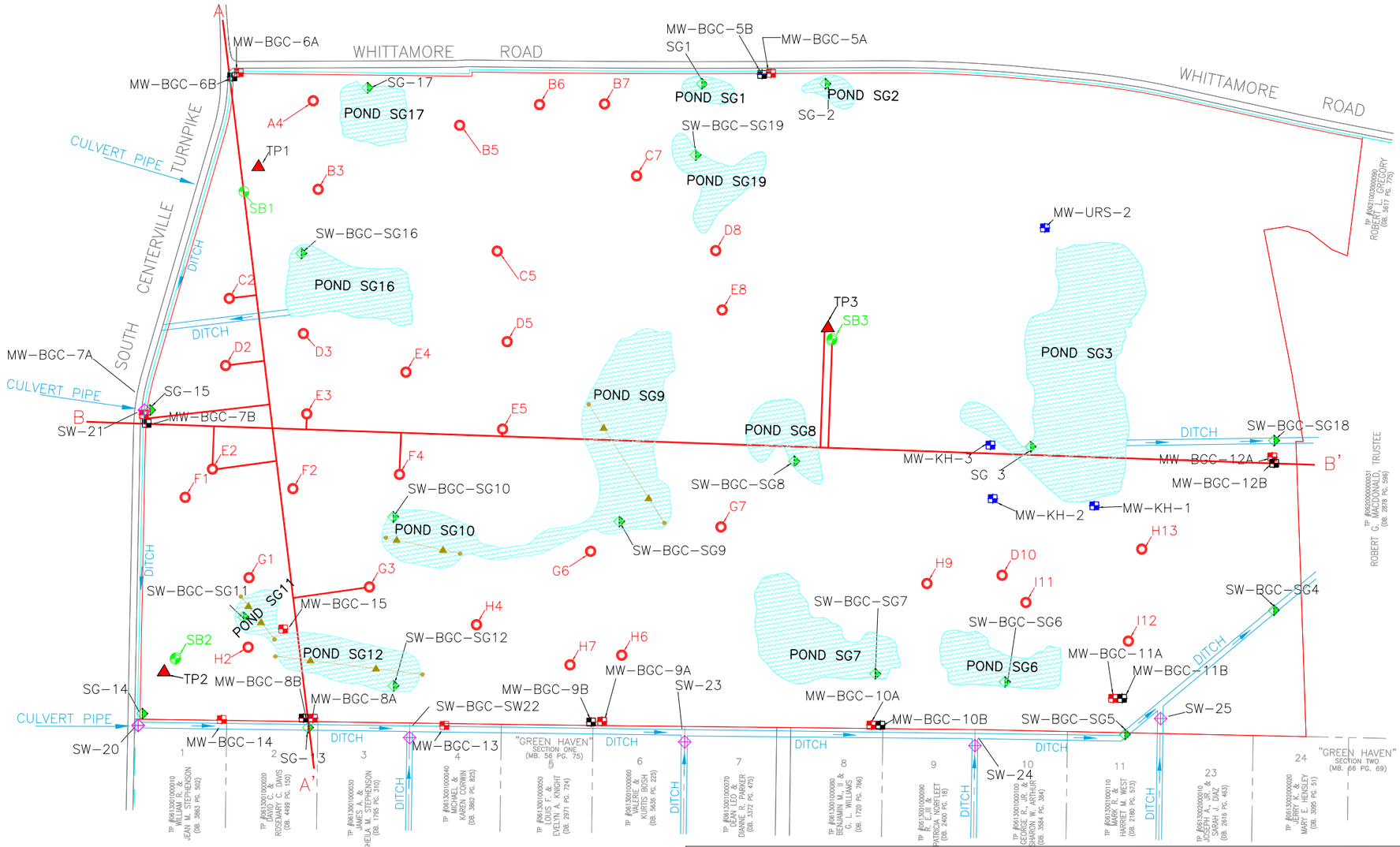


Source: USGS Topographic Map, Available online at <*http://terraserver-usa.com/image.aspx*>. July 1, 1969. Accessed October 13, 2008.

Prepared by: JES 10/13/08
Checked by: GBG 10/13/08

Battlefield Golf Club 1001 South Centerville Turnpike Chesapeake, Virginia	MACTEC 21740 Beaumeade Circle, Suite 150 Ashburn, Virginia 20147	Topographic Map Project Number 3552-09-1263 Figure 1

50350



NOTE: PONDS ARE IDENTIFIED BY THEIR CORRESPONDING STAFF GAUGE (SG) NUMBER (I.E. POND WITH STAFF GAUGE SG-17 WILL BE REFERRED TO AS POND SG17).

APPROXIMATE TEST PIT LOCATION
APPROXIMATE SOIL BORING LOCATION
ARROW INDICATES SURFACE WATER FLOW DIRECTION IN DRAINAGE DITCHES
STAFF GAUGE
SURFACE WATER (SW)
APPROXIMATE LINES OF SECTION
APPROXIMATE LINES OF POND GAUGING
APPROXIMATE LOCATION OF POND SEDIMENT SAMPLING
PRE-EXISTING MONITORING WELL LOCATION
SHALLOW MONITORING WELL LOCATION
INTERMEDIATE MONITORING WELL LOCATION
APPROXIMATE HAND AUGER LOCATION

FIGURE 2
SITE PLAN

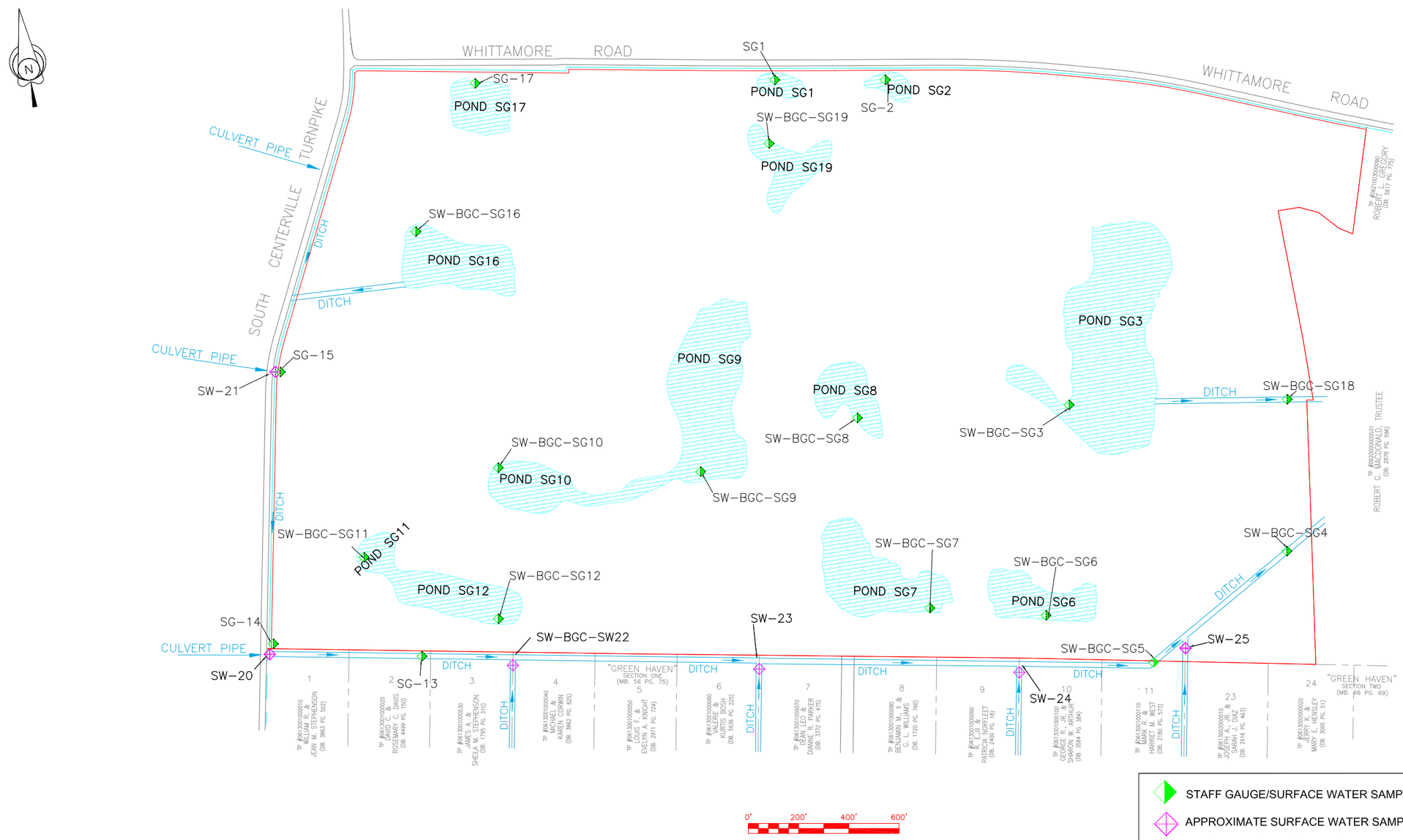
MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'

50351



STAFF GAUGE/SURFACE WATER SAMPLE LOCATION (SG)

APPROXIMATE SURFACE WATER SAMPLE LOCATION (SW)

ARROW INDICATES SURFACE WATER FLOW DIRECTION IN DRAINAGE DITCHES IN DECEMBER 2008

FIGURE 3
SURFACE-WATER SAMPLE LOCATIONS

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

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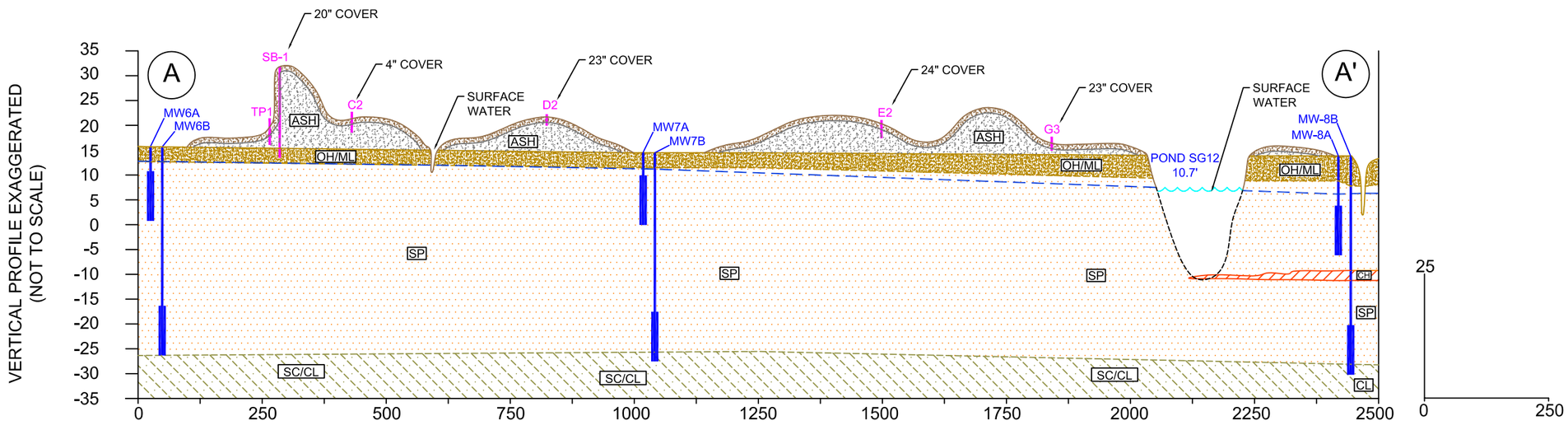
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'



APPROXIMATE HORIZONTAL SCALE (FROM A TO A')
SURFACE FEATURES WERE PROJECTED FROM ACTUAL
LOCATIONS TO THE LINE OF SECTION A-A' INDICATED ON
FIGURE 3 AND ARE NOT TO SCALE

NOTE: Approximate locations projected along line of section A-A' of soil boring (SB-1), test pit (TP1), hand auger borings (C2, D2, E2 & G3) and monitoring wells (MW6A, MW6B, MW7A, MW7B, MW8A & MW8B) as indicated on Figure 2 are included for reference.

*** This cross-section is a conceptual interpretation of general stratigraphic features at the site. A topographic survey was not performed. Surface features were extrapolated between known ground surface elevations at monitoring wells and staff gauge bottom elevations. Pond depths were gauged at approximately 10 foot intervals (depth indicated is the deepest measurement below the pond surface).**

LEGEND:

FILL

- **SOIL COVER (FILL MATERIAL), DESCRIBED AS:** gray-brown sandy silty clay and clayey silt. contains organic material, generally stiff.
- **ASH FILL, DESCRIBED AS:** gray-black silty very fine-grain sand or sandy silt, generally firm to semi-consolidated.

STRATUM A

- **POSSIBLE COLUMBIA GROUP (OH/ML), DESCRIBED AS:** dark brown to grayish brown or black clayey silt with sand (OH/ML), organic rich, generally firm.
- **POSSIBLE COLUMBIA GROUP (SP), DESCRIBED AS:** gray to light gray and yellow fine to coarse sand (SP) with interlayered soft gray clay (CH), loose to dense.

STRATUM B

- **POSSIBLE YORKTOWN FORMATION (SC/CL), DESCRIBED AS:** light to dark greenish gray fine sand (SC) and clay with trace silt (CL), generally loose.

FIGURE 4
CONCEPTUAL CROSS SECTION A-A'

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

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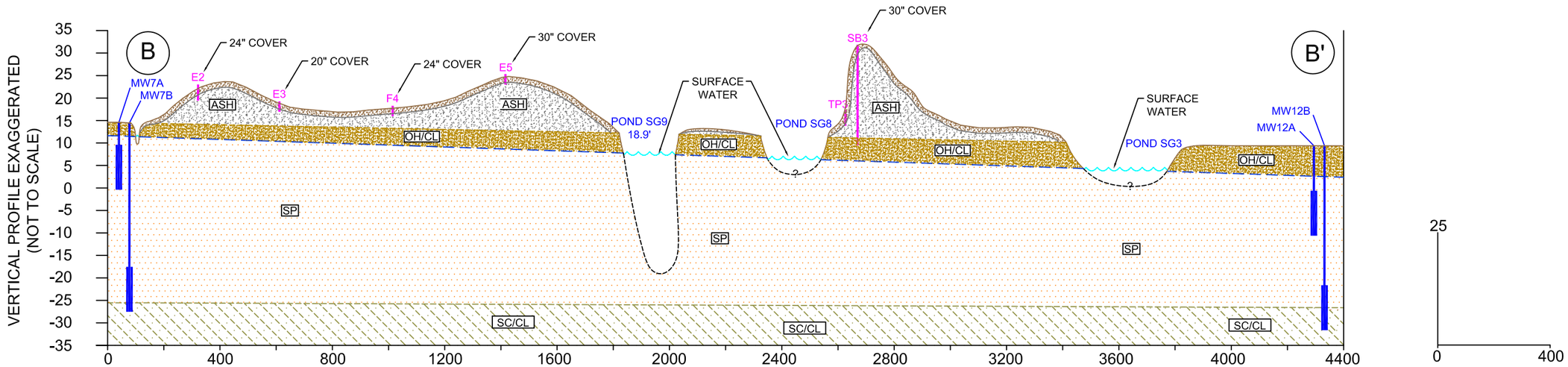
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Scale: As shown

50353



APPROXIMATE HORIZONTAL SCALE (FROM B TO B')
SURFACE FEATURES WERE PROJECTED FROM ACTUAL
LOCATIONS TO THE LINE OF SECTION B-B' INDICATED ON
FIGURE 3 AND ARE NOT TO SCALE

NOTE: Approximate locations projected along line of section B-B' of soil boring (SB3), test pit (TP3), hand auger borings (E2, E3, F4 and E5) and monitoring wells (MW7A, MW7B, MW12A & MW12B) as indicated on Figure 2 are included for reference.

*** This cross-section is a conceptual interpretation of general stratigraphic features at the site. A topographic survey was not performed. Surface features were extrapolated between known ground surface elevations at monitoring wells and staff gauge bottom elevations. Pond depths were gauged at approximately 10 foot intervals (depth indicated is the deepest measurement below the pond surface).**

LEGEND:

FILL

SOIL COVER (FILL MATERIAL), DESCRIBED AS:
gray-brown sandy silty clay and clayey silt.
contains organic material, generally stiff.

ASH FILL, DESCRIBED AS:
gray-black silty very fine-grain sand or sandy silt, generally firm to semi-consolidated.

STRATUM A

POSSIBLE COLUMBIA GROUP (OH/ML), DESCRIBED AS:
dark brown to grayish brown or black clayey silt with sand (OH/ML), organic rich, generally firm.

POSSIBLE COLUMBIA GROUP (SP), DESCRIBED AS:
gray to light gray and yellow fine to coarse sand (SP) with interlayered soft gray clay (CH), loose to dense.

STRATUM B

POSSIBLE YORKTOWN FORMATION (SC/CL), DESCRIBED AS:
light to dark greenish gray fine sand (SC) and clay with trace silt (CL), generally loose.

FIGURE 5
CONCEPTUAL CROSS SECTION B-B'

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

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BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Scale: As shown

50354

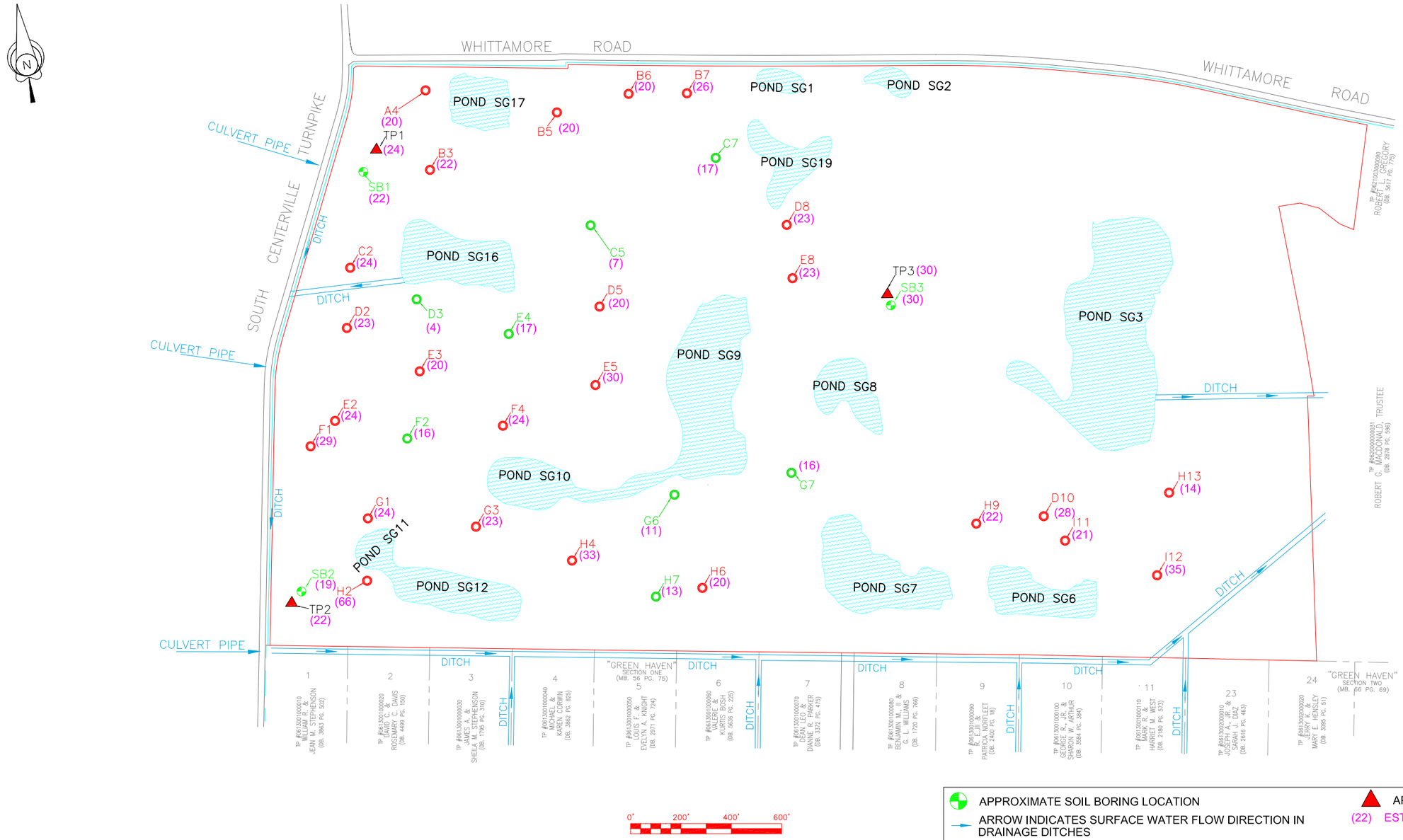

FIGURE 6
SOIL COVER THICKNESS MAP

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
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Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'

50355

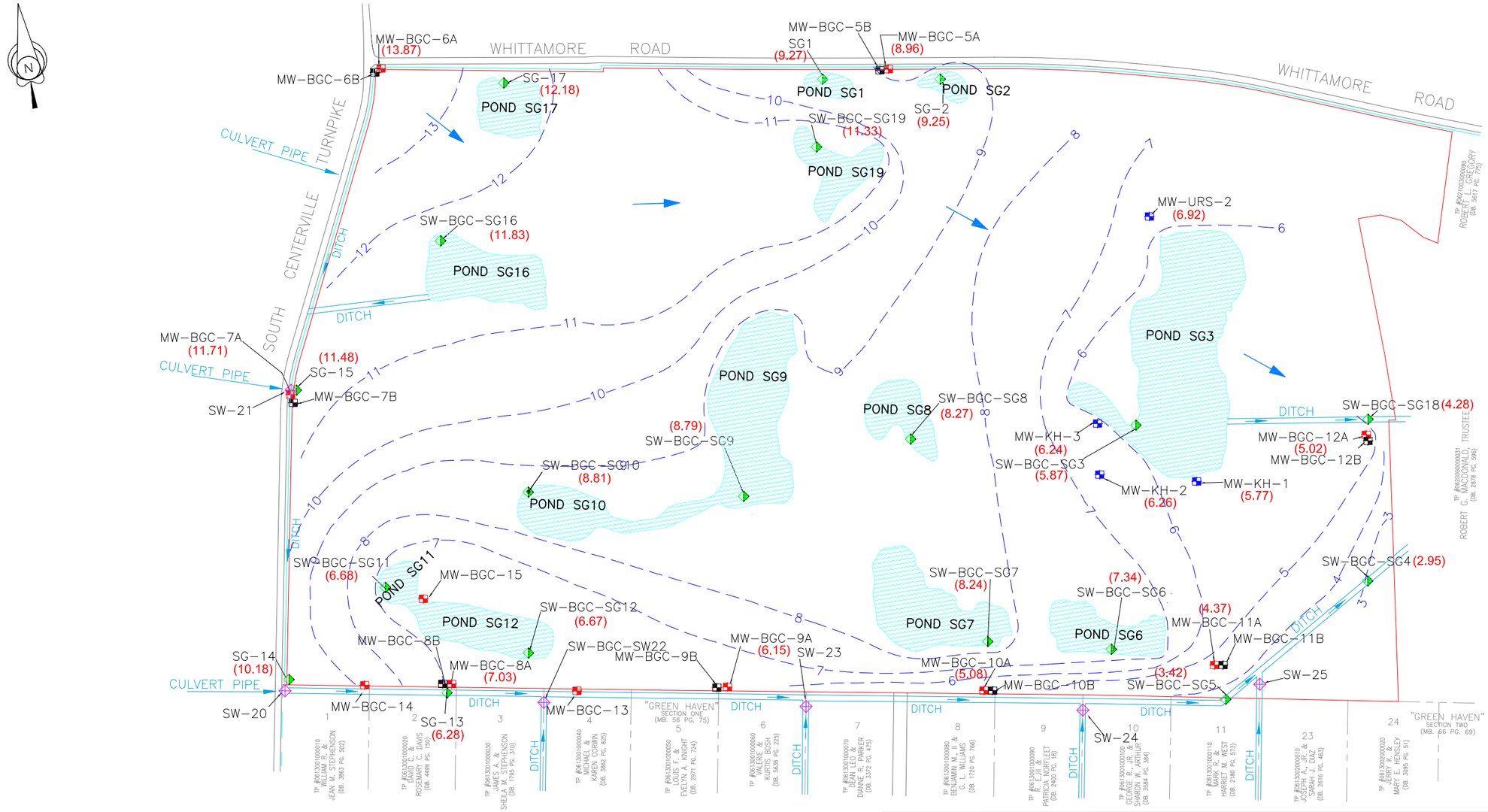

FIGURE 7
GROUNDWATER CONTOUR MAP FOR SHALLOW-DEPTH WELLS
(DECEMBER 3, 2008)

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
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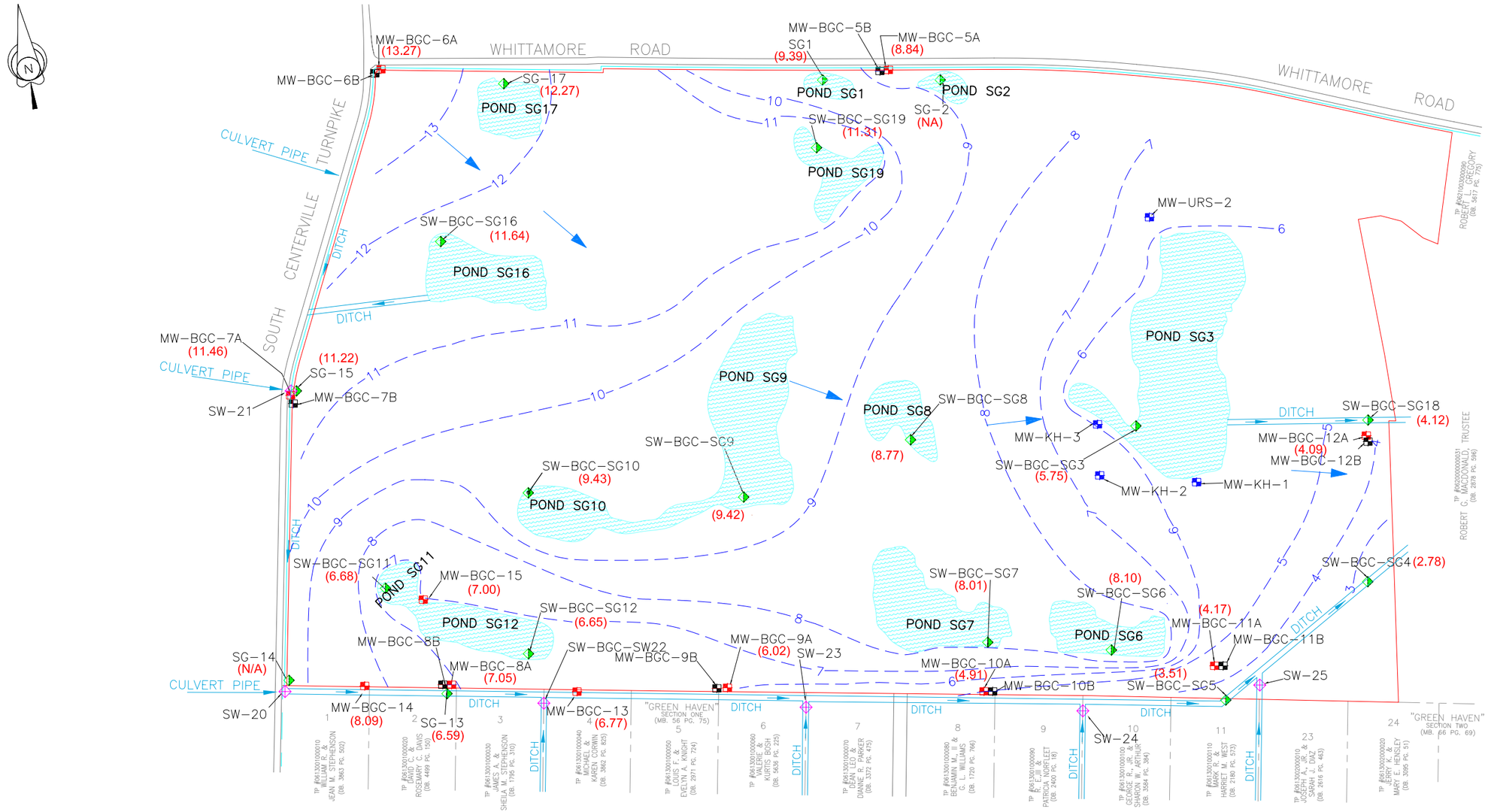
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'

50356



ARROW INDICATES SURFACE WATER FLOW DIRECTION IN DRAINAGE DITCHES

INFERRED GROUNDWATER FLOW DIRECTION

8 ESTIMATED GROUNDWATER CONTOUR

STAFF GAUGE/SURFACE WATER SAMPLE LOCATION (SG)

SURFACE WATER (SW)

(NA) NOT AVAILABLE

PRE-EXISTING MONITORING WELL LOCATION

SHALLOW MONITORING WELL LOCATION

INTERMEDIATE MONITORING WELL LOCATION

(9.35) APPROXIMATE GROUNDWATER OR SURFACE WATEAR ELEVATION (feet, msl)

FIGURE 8
GROUNDWATER CONTOUR MAP FOR SHALLOW-DEPTH WELLS
(JUNE 16, 2009)

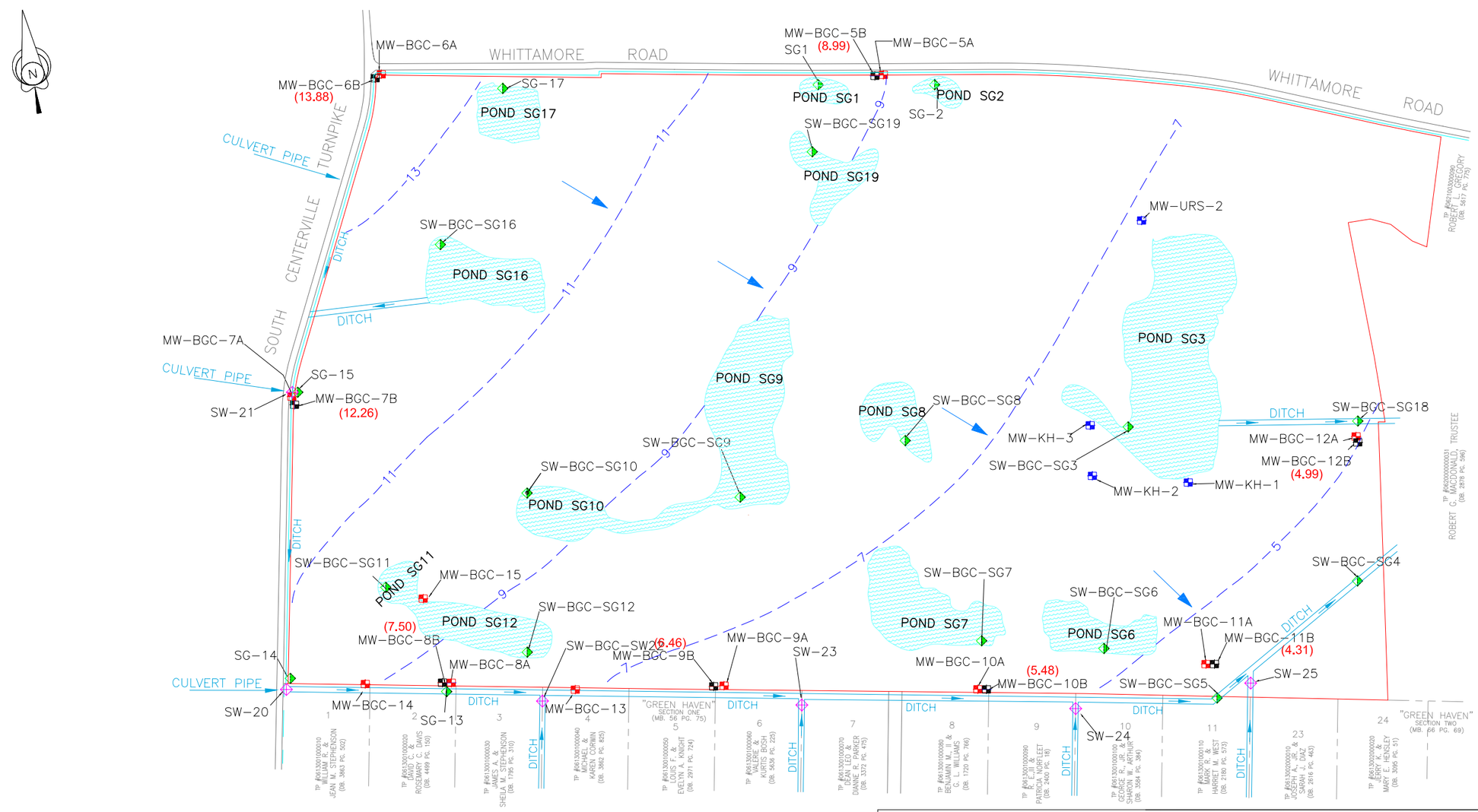
MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'

50357



NOTE: As intermediate-depth wells are not available in the interior of the site, contours and inferred flow directions are conceptual only. For purposes of this map, its assumed Surface-Water features of the site do not influence intermediate-depth Groundwater.

ARROW INDICATES SURFACE WATER FLOW DIRECTION IN DRAINAGE DITCHES

INFERRED GROUNDWATER FLOW DIRECTION

9 ESTIMATED GROUNDWATER CONTOUR

STAFF GAUGE/SURFACE WATER SAMPLE LOCATION (SG)

SURFACE WATER (SW)

PRE-EXISTING MONITORING WELL LOCATION

SHALLOW MONITORING WELL LOCATION

INTERMEDIATE MONITORING WELL LOCATION

(5.48) APPROXIMATE GROUNDWATER ELEVATION (feet, msl)

FIGURE 9
GROUNDWATER CONTOUR MAP FOR INTERMEDIATE-DEPTH WELLS
(DECEMBER 3, 2008)

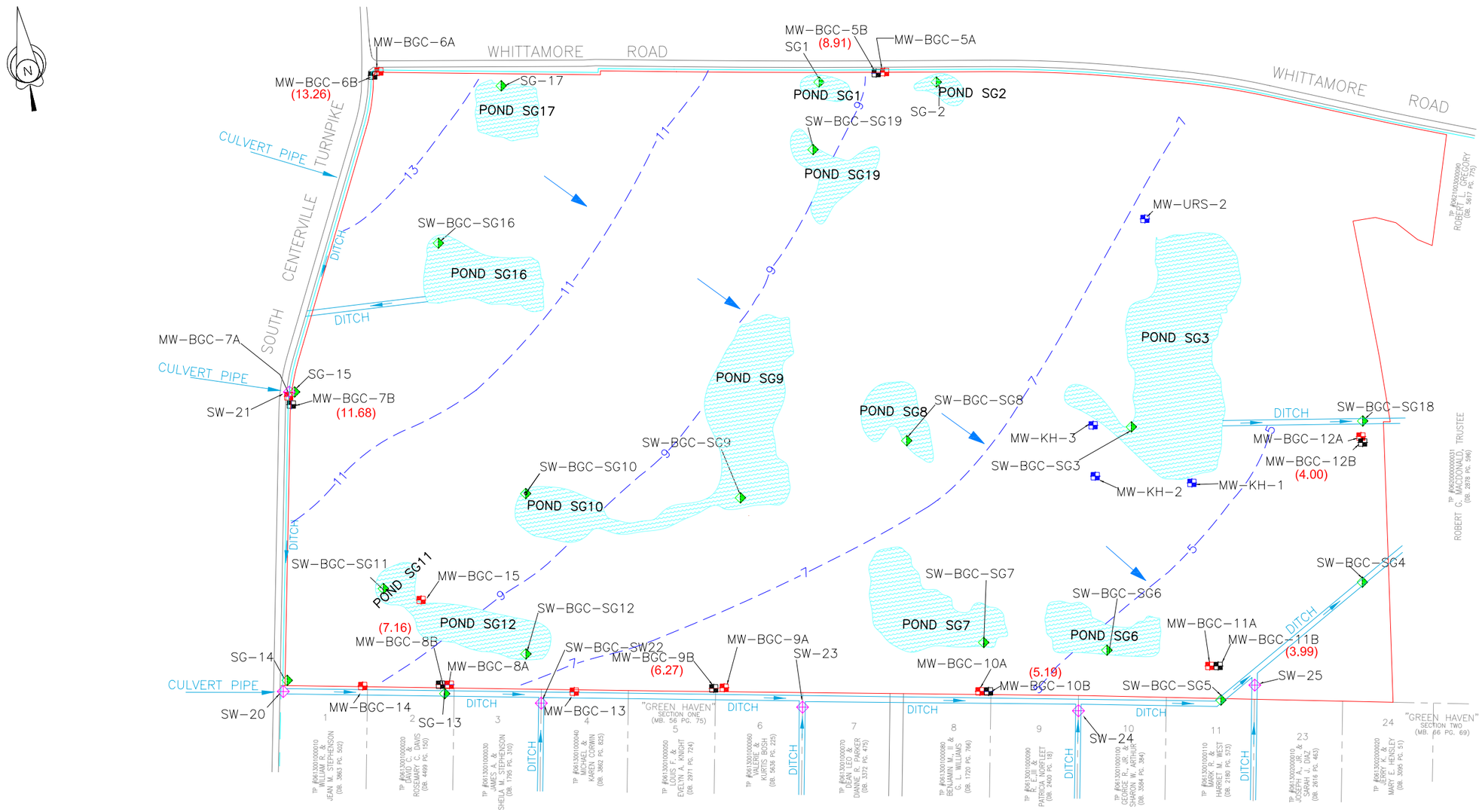
MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'

50358



NOTE: As intermediate-depth wells are not available in the interior of the site, contours and inferred flow directions are conceptual only. For purposes of this map, its assumed Surface-Water features of the site do not influence intermediate-depth Groundwater.

ARROW INDICATES SURFACE WATER FLOW DIRECTION IN DRAINAGE DITCHES

INFERRED GROUNDWATER FLOW DIRECTION

9 ESTIMATED GROUNDWATER CONTOUR

STAFF GAUGE/SURFACE WATER SAMPLE LOCATION (SG)

SURFACE WATER (SW)

PRE-EXISTING MONITORING WELL LOCATION

SHALLOW MONITORING WELL LOCATION

INTERMEDIATE MONITORING WELL LOCATION

(5.48) APPROXIMATE GROUNDWATER ELEVATION (feet, msl)

FIGURE 10
GROUNDWATER CONTOUR MAP FOR INTERMEDIATE-DEPTH WELLS
(JUNE 16, 2009)

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

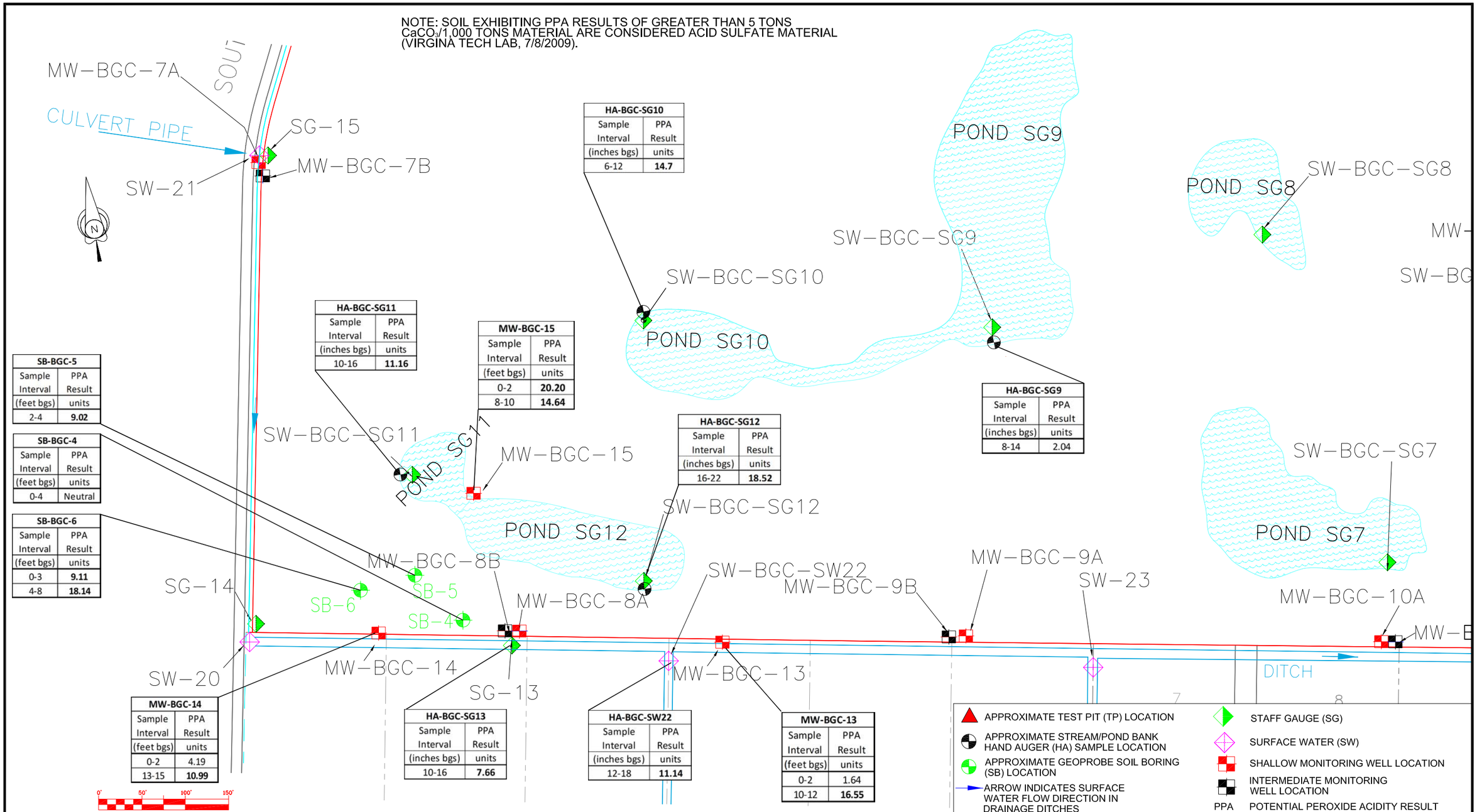
Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263	DECEMBER 2009	Approx. Scale: 1" = 400'

50359

NOTE: SOIL EXHIBITING PPA RESULTS OF GREATER THAN 5 TONS $CaCO_3$/1,000 TONS MATERIAL ARE CONSIDERED ACID SULFATE MATERIAL (VIRGINA TECH LAB, 7/8/2009).



HA-BGC-SG10

Sample Interval (inches bgs)	PPA Result units
6-12	**14.7**

HA-BGC-SG11

Sample Interval (inches bgs)	PPA Result units
10-16	**11.16**

MW-BGC-15

Sample Interval (feet bgs)	PPA Result units
0-2	**20.20**
8-10	**14.64**

HA-BGC-SG12

Sample Interval (inches bgs)	PPA Result units
16-22	**18.52**

HA-BGC-SG9

Sample Interval (inches bgs)	PPA Result units
8-14	2.04

SB-BGC-5

Sample Interval (feet bgs)	PPA Result units
2-4	**9.02**

SB-BGC-4

Sample Interval (feet bgs)	PPA Result units
0-4	Neutral

SB-BGC-6

Sample Interval (feet bgs)	PPA Result units
0-3	**9.11**
4-8	**18.14**

MW-BGC-14

Sample Interval (feet bgs)	PPA Result units
0-2	4.19
13-15	**10.99**

HA-BGC-SG13

Sample Interval (inches bgs)	PPA Result units
10-16	**7.66**

HA-BGC-SW22

Sample Interval (inches bgs)	PPA Result units
12-18	**11.14**

MW-BGC-13

Sample Interval (feet bgs)	PPA Result units
0-2	1.64
10-12	**16.55**

FIGURE 11
POTENTIAL PEROXIDE ACIDITY (PPA) RESULTS IN SOIL

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-09-1263 | DECEMBER 2009 | Approx. Scale: 1" = 100'

50360

APPENDIX A
FIELD SAMPLING FORMS

MW-URS-2

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210

Well Number: URS Well

Sheet 1 of 1

Sampler Name: Ben Grosser

Date: 11/13/08

Well Location Description:

Weather Conditions: Rainy, cool

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type: Horiba U-22

Analyzer ID No.: M015-08

Pump Type: Sub. Cent. Perist. Other: NA

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

NA

Total Well Depth (FT) : 27.98

Depth to Water (FT) - 6.83

Water Column (FT) = 21.15

Gal/Ft of Casing x 0.1631

Casing Volume (Gal) = 3.45

No.of Volumes ~~min. (3)~~ 10 x ~~3~~ 10

Purge Volume (Gal) = 34.5

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On: NA

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer: Poly

Bailer Vol. (gal): —

Required Pulls: —

Vol. Purged(gal): —

Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
800	41	6.83	5.92	16.7	5.08	0.522	213	10.22	—	
	1	—	324	17.8	6.35	0.377	69	9.87		
	5	—	589	17.7	6.72	0.380	30	9.85		
	10	—	668	17.4	6.75	0.383	9	9.96		
	15	—	672	17.4	6.67	0.381	3	9.95		
	20	—	259	17.5	6.38	0.385	0	10.15		
	25	—	468	17.9	6.60	0.384	-10	9.85		
	30	—	363	17.8	6.55	0.383	-15	9.92		
	35	—	313	17.8	6.54	0.381	-15	9.94		

Notes:

Checked by: BA Date:

50362

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-KA-1
Sheet 1 of 1

Sampler Name: JMB
Date: 11/17/08
Well Location Description: S/W T-14 Tel Box
Weather Conditions: Overcast, 40's

Sample Tubing Type: Teflon, Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: NA
Bailer Type: Teflon SS Other:

Laboratory Parameters: NA

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	22.00	1 in	0.0408
Depth to Water (FT) -	4.04	2 in	0.1631
Water Column (FT) =	17.96	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	2.93	8 in	2.6097
No.of Volumes min.(3) x	10	10 in	4.0776
Purge Volume (Gal) =	29.29	12 in	5.8718

Pump:
Time On: NA
Flow Rate (gpm): -
Pump Time (min): -
Vol. Purged (gals): -

Bailer: Poly
Bailer Vol. (gal):
Required Pulls: -
Vol. Purged(gal): -
Other: -

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1325	-	4.04	-5.01	16.4	5.21	0.223	155	2.34	-	Surged well
	5	-	"	17.2	5.47	0.255	127	0.90	-	
	10	-	"	17.2	5.48	0.240	122	0.60	-	
	15	-	"	17.0	5.51	0.244	119	0.81	-	Surged well
	20	-	"	16.8	5.56	0.246	111	0.90	-	
	25	-	"	16.8	5.66	0.254	100	0.95	-	
	30	-	"	16.9	5.67	0.256	101	0.91	-	
	Purge	water	was	dark	brown.	Sediment	did			
	not	clear	after	10	purged	well	settle			

11/17/08

Notes:

Checked by: Date:

50363

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-KH-2
Sheet 1 of 1

Sampler Name: JMB
Date: 11/17/08
Well Location Description: B/W #14 & 15 HGS
Weather Conditions: Overcast, 50's

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: NA
Bailer Type: Teflon SS Other:

Laboratory Parameters: NA

Total Well Depth (FT): 22.04
Depth to Water (FT) - 2.79
Water Column (FT) = 19.25
Gal/Ft of Casing x ~~3.1~~ 0.1631
Casing Volume (Gal) = 3.14
No.of Volumes min.(3) x 10
Purge Volume (Gal) = 31

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: NA
Flow Rate (gpm): -
Pump Time (min): -
Vol. Purged (gals): -

Bailer: poly
Bailer Vol. (gal): 31
Required Pulls: -
Vol. Purged(gal): -
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1330	—	2.79	199.0	15.9	5.67	0.673	198	4.42	—	Surged Well
	5	—	~50'	16.2	5.85	0.561	102	3.55	—	
	10	—	"	16.7	5.81	0.610	91	0.17	—	
	15	—	"	16.0	5.88	0.548	83	1.76	—	Surged Well
	20	—	"	16.6	5.93	0.555	82	0.73	—	
	25	—	"	16.7	5.97	0.549	79	1.25	—	
	~31	—	"		5.99	0.552	78	1.17	—	

Purge water gray w/ sediment - Turbidity did not clear up w/ 10 purged well volumes.

JMB 11/17/08

Notes:

Checked by: Date:

50364

MW-KH-3

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210

Well Number: MW-3 MW-KH-3

Sheet 1 of 1

Sampler Name: Ben Grosser

Date: 11/13/08

Well Location Description:

Weather Conditions: Rainy, cool

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type: Horriba U-22

Analyzer ID No.: M015-08

Pump Type: Sub. Cent. Perist. Other: NA

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters: NA

Total Well Depth (FT) : 21.75

Depth to Water (FT) - 1.71

Water Column (FT) = 20.04

Gal/Ft of Casing x 0.1631

Casing Volume (Gal) = 3.27

No.of Volumes min. ~~(3)~~ x 10

Purge Volume (Gal) = 32.7

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On: NA

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer: Poly

Bailer Vol. (gal): —

Required Pulls: —

Vol. Purged(gal): —

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
945	0	1.71	28.2	16.5	6.41	0.363	-14	10.83	—	Clear
	1		999+	17.3	6.60	0.402	-11	10.40		gray
	5		999+	18.0	6.41	0.417	9	10.20		"
	10		999+	17.5	6.28	0.410	28	10.64		"
	15		560+	17.5	6.26	0.404	40	10.59		"
	20		999+	18.0	6.25	0.402	37	10.65		"

Notes: out of drum space, water not clearing.

Checked by: Date:

50365

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-5A

Sheet 1 of 1

Sampler Name: BG & JB

Date: 11-22-09

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 14.50

Depth to Water (FT) - 1.54

Water Column (FT) = ~~0.1631~~ 12.96

Gal/Ft of Casing x 0.1631

Casing Volume (Gal) = 2.11

No.of Volumes min. ~~(3)~~ x 10

Purge Volume (Gal) = ~ 21.14

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1015	~1	–	70.3	12.5	5.97	0.500	97	7.58	–	Surged well
	5	–	14.45	~5.0	6.71	0.451	-21	7.66	–	light grey water
	10	–	743.1	14.0	6.51	0.468	-17	6.01	–	
	15	–	208.6	14.8	6.55	0.458	-19	6.51	–	Surged well
	~20	–	~5.0	14.9	6.45	0.455	-16	3.39	–	
	25	–	"	14.6	6.48	0.462	-20	←	5.50	
1045	30	–	978.0	14.8	6.48	0.455	-19	6.77		

Notes:
- Pumped extra 10 gal from well
- turbidity looked better towards end

Checked by:

Date:

50366

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-513

Sheet 1 of 1

Sampler Name: BG + JB

Date: 11-22-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	35.50.	1 in	0.0408
Depth to Water (FT) -	1.80	2 in	~~0.1631~~
Water Column (FT) =	33.70	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	5.5	8 in	2.6097
No.of Volumes min. ~~(3)~~ x	10	10 in	4.0776
Purge Volume (Gal) =	~55	12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
900	1	–	+999	13.4	6.66	0.408	63	3.93	–	Surged Well
	5	–	470	15.0	6.94	0.380	45	3.53	–	
	10	–	50	12.4	7.03	0.336	-30	0.00	–	-Dark Grey Water
	15	–	"	14.5	7.05	0.298	-8	4.90	–	
	20	–	"	15.4	7.06	0.302	-40	5.31	–	
	25	–	"	15.6	7.13	0.307	-47	0.02	–	
	30	–	"	15.4	7.12	0.298	-53	2.39	–	
	35	–	"	13.1	7.21	0.321	-49	0.52	–	Surged Well
	40	–	"	13.2	7.11	0.286	-28	6.70	–	
	45	–	"	13.5	7.17	0.294	-45	5.68	–	
	50	–	"	14.7	7.09	0.314	-56	1.33	–	
	55	–	"	14.2	7.15	0.315	-54	2.80	–	
	60	–	"	14.5	7.13	0.331	-67	1.17	–	
	65	–	"	14.4	7.09	0.307	-59	3.44	–	
1000	70									

Notes:
- Pumped extra 15 gal from well
- Well got better towards end

Checked by: Dat

50367

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210
Well Number: MW-86-SB
Sheet ___ of ___

Sampler Name: Ken Grosser
Date: 12/2/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U22
Analyzer ID No.:
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.:
Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 34.56	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) - 1.29	1 in	0.0408
Water Column (FT) =	2 in	0.1631
Gal/Ft of Casing x	4 in	0.6524
Casing Volume (Gal) =	6 in	1.4680
No.of Volumes min.(3) x	8 in	2.6097
Purge Volume (Gal) =	10 in	4.0776
	12 in	5.8718

Pump:
Time On: 1025
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1025	0	1.29	—	—	—	—	—	—	—	
1030	1/4	1.05	27.1	10.69	6.87	0.407	-10	4.33	50	Clear
1035	1/2	1.05	32.2	13.33	6.94	0.394	-20	7.87	50	"
1040	1/2	1.05	30.9	14.13	6.86	0.400	-25	0.57	50	cloudy
1045	3/4	1.05	30.7	14.14	6.86	0.408	-28	0.31	50	"
1050	3/4	1.05	34.9	14.22	6.89	0.401	-28	1.06	50	"
1055	1	1.05	29.9	13.73	6.89	0.401	-28	1.01	50	clear
*Turbidity is not dropping. We'll try redeveloping										
Redevelopment 12/12/08										
1400	5	—	5.0	15.36	6.13	0.374	63	9.27		dark brown
	10	—	"	16.22	6.67	0.374	-14	5.12		"
	15	—	"	16.50	6.84	0.378	-32	6.26		cloudy
	20	—	"	16.23	7.00	0.378	-49	6.12		"
	25	—	686	16.25	7.00	0.372	-57	4.23		"
	30	—	357	16.31	6.98	0.377	-47	10.98		"
	35	—	124	16.38	6.93	0.379	-57	6.06		clear
	40	—	45	16.56	7.00	0.368	-64	5.74		cloudy
	45	—	186	16.86	7.01	0.378	-54	9.32		clear

Notes:

Checked by: Date:

50368

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210
Well Number: MW-BGC-6A
Sheet 1 of 1

Sampler Name: Ben Grosser
Date: 11/18/08
Well Location Description:
Weather Conditions: sunny, cold

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horriba U22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. Perist. Other: NA
Pump ID No.:
Bailer Type: Teflon SS Other:

Laboratory Parameters: NA

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	15.09	1 in	0.0408
Depth to Water (FT) -	1.71	2 in	0.1631
Water Column (FT) =	13.38	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	2.18	8 in	2.6097
No.of Volumes min.~~(3)~~ x	10	10 in	4.0776
Purge Volume (Gal) =	21.8	12 in	5.8718

Pump: Whale pump
Time On: NA
Flow Rate (gpm): .3
Pump Time (min):
Vol. Purged (gals):

Bailer: ~~Poly~~ BDG
Bailer Vol. (gal): —
Required Pulls: —
Vol. Purged(gal): —
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1500	5	1.71	+999	15.4	5.53	0.336	223	10.96	—	cloudy
	10		+999	15.8	5.44	0.272	186	11.03		"
	15		324	16.4	5.48	0.280	173	8.67		"
	20		330	16.3	5.54	0.296	152	8.58		"
	25		364	15.8	5.57	0.307	148	8.96		"
	30		300	15.7	5.61	0.331	141	9.93		"
	35		270	16.4	5.54	0.307	144	9.96		"
	40		280	17.0	5.62	0.321	144	10.01		clear
	45		183	16.4	5.60	0.345	144	11.43		clear

Notes: Purged extra to account for water added during drilling.

Checked by: Date:

50369

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-6B

Sheet 1 of 1

Sampler Name:

Date: 11-22-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 41.90

Depth to Water (FT) - 1.93

Water Column (FT) = 39.97

Gal/Ft of Casing x 0.1631

Casing Volume (Gal) = 6.52

No.of Volumes min. ~~(3)~~ x 10

Purge Volume (Gal) = 65.19

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1200	~5	–	~5.0'	15.5	6.47	0.259	31	8.88	–	light grey water
	10	–	"	16.0	5.72	0.239	89	6.94	–	Surged well
	15	–	"	12.7	5.66	0.337	97	8.00	–	
	20	–	"	14.7	5.69	0.235	99	7.74	–	
	25	–	"	14.4	5.61	0.233	105	7.32	–	Surged well
	30	–	"	13.6	5.46	0.231	113	6.62	–	
	35	–	"	15.7	5.47	0.236	116	4.37	–	
	40	–	914.0	16.1	5.47	0.241	115	3.16	–	
	45	–	218.7	16.2	5.50	0.235	112	5.40	–	Turbidity looks
	50	–	153.0	15.9	5.53	0.236	112	5.09	–	good
	55	–	104.0	15.6	5.49	0.227	117	10.16	–	
	60	–	122.6	14.6	5.54	0.236	120	10.27	–	
1300	65	Turbidity looks good.								

Notes:

- Well cleared up nicely.

Checked by: Date:

50370

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: | Well Number: MW-BLC-7A | Sheet 1 of 1

Sampler Name:
Date: 11-2008

Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type:
Analyzer ID No.:
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.:
Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	14.47		
Depth to Water (FT) -	3.02	1 in	0.0408
Water Column (FT) =	11.45	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	1.87	6 in	1.4680
No.of Volumes min. ~~(3)~~ x	10	8 in	2.6097
Purge Volume (Gal) =	18.67	10 in	4.0776
		12 in	5.8718

Pump:
Time On:
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1425	~5	3.02	~5.0'	15.5	5.43	0.133	110	2.79	–	Surged well
	10	–	"	16.4	5.29	0.129	118	3.52	–	light brown
	15	–	709.0	17.3	5.47	0.129	109	4.00	–	
	20	–	5.0'	17.2	5.37	0.133	118	3.18	–	surged well
	25	–	"	17.3	5.38	0.132	117	3.44	–	
1440	30	–	466.0	18.2	5.42	0.131	109	3.59	–	

Notes: - pumped extra ~15 gal. - replace well pad?
- well cleaned up

Checked by: Date:

50371

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BLC-7B

Sheet 1 of 1

Sampler Name:

Date: 11-22-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	42.00	1 in	0.0408
Depth to Water (FT) -	1.89	2 in	0.1631
Water Column (FT) =	40.11	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	6.54	8 in	2.6097
No.of Volumes min.(~~3~~) x	10	10 in	4.0776
Purge Volume (Gal) =	65.42	12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1320	5	1.89	<5.0	15.5	6.28	0.134	57	9.46	-	Dark Brown
	10	-	"	15.9	6.19	0.143	34	2.58	-	water
	15	-	"	10.4	6.12	0.135	38	1.89	-	
	20	-	"	14.4	6.15	0.137	35	2.59	-	surged well
	25	-	"	15.0	6.08	0.131	44	2.00	-	
	30	-	"	14.8	6.08	0.130	40	3.65	-	
	35	-	"	14.2	5.91	0.129	44	2.82	-	surged well
	40	-	"	14.5	5.97	0.128	39	2.18	-	
	45	-	"	15.0	5.95	0.126	39	3.38	-	
	50	-	"	14.7	5.95	0.126	41	3.34	-	
	55	-	"	15.0	5.92	0.124	41	2.32	-	Starting to
	60	-	"	15.1	5.96	0.124	37	1.36	-	clear up
	65	-	"	15.3	5.96	0.123	34	2.15	-	surged well
	70	-	"	15.9	5.97	0.119	34	2.02	-	
	75	-	"	15.0	6.04	0.122	33	2.43	-	
1415	80	-	"	14.4	6.06	0.120	33	3.44		

Notes: - pumped extra 15 gal to help clear up turbidity

Checked by: Date:

50372

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-B6C-8A

Sheet 1 of 1

Sampler Name:

Date: 11-22-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	22.22		
Depth to Water (FT) -	9.49	1 in	0.0408
Water Column (FT) =	12.73	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	2.08	6 in	1.4680
No.of Volumes min.~~(3)~~ x	10	8 in	2.6097
Purge Volume (Gal) =	20.76	10 in	4.0776
		12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1355	5	9.49	~5.0'	12.9	4.03	1.54	230	2.26	-	surged well
	10	-	"	14.7	3.95	1.63	240	3.75	-	
	15	-	"	14.7	3.94	1.67	242	4.29	-	
	20	-	"	15.8	3.92	1.69	242	5.15	-	surged well
	25	-	"	15.8	3.92	1.70	241	5.17	-	
1625	30	-	"	16.0	3.93	1.71	237	5.41	-	

Notes:

- well cleared up - purged extra 10 gal

Checked by: Date:

50373

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-DGC-8B

Sheet 1 of 1

Sampler Name:

Date: 11-22-09

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	45.60	1 in	0.0408
Depth to Water (FT) -	8.98	2 in	0.1631
Water Column (FT) =	36.62	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	5.97	8 in	2.6097
No.of Volumes min. ~~(3)~~ x	10	10 in	4.0776
Purge Volume (Gal) =	59.73	12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1505	~5	8.98	5.01	14.5	6.31	0.410	54	8.68	–	Surged well
	10	–	"	13.7	6.25	0.396	25	5.81	–	Dark stream
	15	–	"	14.6	6.30	0.366	12	5.35	–	
	20	–	"	13.7	6.40	0.345	-4	2.29	–	
	25	–	"	14.5	6.44	0.319	-6	3.15	–	surged well
	30	–	"	13.3	6.34	0.311	-1	4.00	–	
	35	–	"	14.0	6.39	0.300	-3	4.71	–	
	40	–	"	13.8	6.45	0.290	-12	5.40	–	
	45	–	"	14.1	6.45	0.288	-17	6.17	–	Starting to
	50	–	"	14.6	6.48	0.286	-21	6.00	–	clear up
	55	–	"	14.8	6.48	0.281	-23	5.91	–	
	60	–	"	14.8	6.49	0.279	-25	5.05	–	
	65	–	"	14.9	6.51	0.276	-25	5.63	–	
1550	70	–	"	14.6	6.50	0.277	-28	5.93	–	

Notes: - Needs lock and compression cap
- purged 10 extra gal

Checked by: Date:

50374

12-5-08

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BLC-8B

Sheet ___ of ___

Sampler Name:

Date:

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

NA

Total Well Depth (FT) :

Depth to Water (FT) -

Water Column (FT) =

Gal/Ft of Casing x

Casing Volume (Gal) =

No.of Volumes min.(3) x

Purge Volume (Gal) =

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1145	-	8.88								
1150	5	-	-5.01	13.41	5.73	0.354	17	6.87	-	Surged well
	15	-	n	13.86	6.30	0.360	-34	2.49	-	Light grey
	25	-	242.0	14.38	6.33	0.306	-36	4.25	-	water
	35	-	222.0	14.01	6.37	0.306	-43	1.25	-	Surged Well
	45	-	310.0	14.94	6.31	0.309	-38	5.42	-	
	55	-	68.0	14.10	6.35	0.308	-42	0.98	-	

Notes:

* Re-Develop well

Checked by: Date:

50375

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BCC-9A

Sheet 1 of 1

Sampler Name:

Date: 11-23-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 23.00

Depth to Water (FT) - 8.05

Water Column (FT) = 14.95

Gal/Ft of Casing x 0.1631

Casing Volume (Gal) = 2.44

No.of Volumes min.(3) x 10

Purge Volume (Gal) = 24.38

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1045	5	8.05	5.0	14.89	6.67	0.667	-64	3.75	–	surged well
~~1055~~	10	–	"	16.24	6.56	0.722	-74	4.55	–	light grey
	15	–	203.0	16.50	6.57	0.715	-76	4.53	–	
	20	–	"	16.94	6.57	0.726	-82	4.67	–	Well clearing
	25	–	470.0	16.87	6.58	0.699	-77	5.35	–	up
	30	–	82.5	16.63	6.57	0.704	-78	6.02	–	surged well
1105	35	–	40.0	15.64	6.57	0.720	-80	3.06	–	

Notes:

- purged extra 10 gal
- cleared up nicely

Checked by: Date:

50376

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW - BGC - 9B

Sheet 1 of 1

Sampler Name:

Date: 11-23-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.: M015-03

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 42.25

Depth to Water (FT) - 7.63

Water Column (FT) = 34.62

Gal/Ft of Casing x 0.1631

Casing Volume (Gal) = 5.65

No.of Volumes min.(3) x 10

Purge Volume (Gal) = 56.57

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
915	5	7.63	424.0	16.02	6.37	0.486	41	7.33	-	Surged well
	10	-	-5.01	14.60	6.75	0.469	-11	6.44	-	Dark grey water
	15	-	"	14.73	7.11	0.455	-30	4.60	-	
	20	-	"	15.23	7.17	0.455	-18	2.74	-	
	25	-	"	14.42	7.16	0.457	-29	6.53	-	
	30	-	"	13.81	7.21	0.456	-28	6.37	-	surged well
	35	-	"	13.93	7.02	0.447	-28	4.49	-	
	40	-	"	14.78	7.02	0.441	-44	4.50	-	
	45	-	"	13.62	7.00	0.447	-20	5.03	-	Starting to clear up
	50	-	"	14.48	7.04	0.443	-36	5.11	-	
	55	-	"	14.70	7.09	0.447	-31	5.64	-	
	60	-	"	13.66	7.11	0.444	-34	5.17	-	
1035	65	-	"	14.89	7.05	0.440	-49	5.21	-	

Notes: - purged 10 extra gal.

Checked by: Date:

50377

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-10A

Sheet 1 of 1

Sampler Name:

Date: 4-23-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) :	23.02	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	8.82	1 in	0.0408
Water Column (FT) =	14.20	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	2.32	6 in	1.4680
No.of Volumes min.(3) x	10	8 in	2.6097
Purge Volume (Gal) =	23.26	10 in	4.0776
		12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1220	5	8.82	-50'	16.98	0.85	0.587	-50	5.37	–	Surged well
	10	–	"	17.10	0.54	0.615	-47	3.31	–	Light gray
	15	–	"	16.54	0.54	0.622	-45	4.01	–	
	20	–	"	16.47	0.52	0.629	-46	3.90	–	Surged well
	25	–	147.0	16.04	0.50	0.629	-52	2.95	–	
	30	–	141.0	17.90	0.51	0.629	-51	3.00	–	
1255	35	–	45.0	14.89	0.47	0.53	-58	2.68	–	

Notes:
- pissed extra 10 gal
- well looks good

Checked by: Date:

50378

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-10B

Sheet 1 of 1

Sampler Name:

Date: 11-23-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	37.55	1 in	0.0408
Depth to Water (FT) -	8.36	2 in	0.1631
Water Column (FT) =	29.19	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	4.76	8 in	2.6097
No.of Volumes min.(~~3~~) x	10	10 in	4.0776
Purge Volume (Gal) =	47.61	12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1115	5	8.36	'5.0'	13.51	6.99	0.584	11	8.13	-	Surged Well
	10	-	"	14.46	7.12	0.583	-80	5.03	-	light gray water
	15	-	"	14.56	7.17	0.591	-17	5.38	-	
	20	-	"	15.12	7.13	0.583	-36	4.29	-	Clearing up
	25	-	567.0	15.09	7.15	0.580	-45	4.14	-	surged well
	30	-	'5.0'	15.04	7.16	0.585	-41	3.54	-	
	35	-	"	14.99	7.17	0.592	-35	3.95	-	
	40	-	"	15.90	7.20	0.584	-42	3.64	-	Clearing up
	45	-	964.0	15.85	7.20	0.588	-51	3.68	-	Surged well
	50	-	"	16.24	7.19	0.583	-61	3.91	-	
	55	-	"	15.79	7.21	0.587	-53	3.51	-	
1215	60		485.0	16.18	7.18	0.583	-55	3.97	-	looks good.

Notes: purged extra 43 gal

Checked by: Date:

50379

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-11A

Sheet 1 of 1

Sampler Name:

Date: 11-23-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	22.80	1 in	0.0408
Depth to Water (FT) -	8.81	2 in	0.1631
Water Column (FT) =	13.99	4 in	0.6524
Gal/Ft of Casing x	0.1631	6 in	1.4680
Casing Volume (Gal) =	2.28	8 in	2.6097
No.of Volumes min.(3) x	10	10 in	4.0776
Purge Volume (Gal) =	22.82	12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1445	5	8.81	~50'	16.16	6.78	0.667	-5	5.95	-	Surged Well
	10	-	"	16.36	6.31	0.677	1	3.37	-	Lightly pump
	15	-	728.0	16.31	6.26	0.674	0	4.64	-	Water
	20	-	50'	16.52	6.22	0.651	-3	3.05	-	Surged Well
	25	-	"	16.74	6.24	0.649	-1	2.39	-	clearing up
	30	-	124.0	16.13	6.17	0.674	-4	1.88	-	

Notes:

~ purged extra 10 gal

- well looks good

Checked by: Date:

50380

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-11B

Sheet 1 of 1

Sampler Name:

Date: 11-23-08

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	35.63		
Depth to Water (FT) -	8.63	1 in	0.0408
Water Column (FT) =	27.00	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	4.404	6 in	1.4680
No.of Volumes min. ~~(3)~~ x	10	8 in	2.6097
Purge Volume (Gal) =	44.04	10 in	4.0776
		12 in	5.8718

Pump:

Time On:

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1305	5	8.63	5.01	17.10	7.05	0.578	-1	4.20	-	Dark Org
	10	-	"	15.86	7.19	0.593	-47	5.07	-	Surged Well
	15	-	"	16.07	7.12	0.594	-54	6.51	-	
	20	-	"	15.97	7.08	0.598	-57	5.11	-	
	25	-	"	16.22	7.04	0.594	-55	4.01	-	Surged Well
	30	-	"	16.70	7.06	0.593	-47	4.24	-	
	35	-	"	16.96	7.20	0.606	-52	4.33	-	
	40	-	"	16.55	7.06	0.607	-44	3.31	-	-still not
	45	-	"	16.16	7.01	0.611	-49	4.11	-	clearing
	50	-	"	15.23	6.97	0.672	-50	1.99	-	
	55	-	"	16.69	6.99	0.605	-51	5.88	-	Surged Well
	60	-	782.0	15.72	6.97	0.606	-53	4.51	-	
1440	65	-	"	15.77	6.94	0.607	-51	4.47	-	

Notes:
- purged extra 20 gal
- started to clear up around ~55 gal

Checked by: Date:

50381

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3532081210
Well Number: MW-RGC-12A
Sheet ___ of ___

Sampler Name: Ron Grosser
Date: 12/11/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.:
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Whale pump
Bailer Type: Teflon SS Other:

~~Laboratory Parameters:~~

Well Development

Total Well Depth (FT) :	22.65	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	7.07	1 in	0.0408
Water Column (FT) =	15.58	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	2.54	6 in	1.4680
No.of Volumes min (3) x	~~25.4~~ 10	8 in	2.6097
Purge Volume (Gal) =	~~25.4~~	10 in	4.0776
		12 in	5.8718

Pump:
Time On: 1500
Flow Rate (gpm): —
Pump Time (min): ~~1460~~
Vol. Purged (gals): 45

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( ) mS/cm	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1500	5	7.07	-5.0	16.51	6.09	0.378	17	2.88		dark brown
	10		"	15.05	5.84	0.378	35	3.54		
	15		"	16.76	5.73	0.365	45	3.22		
	20		"	16.56	5.70	0.368	45	3.57		
	25		"	16.71	5.76	0.368	45	4.21		light brown
	30		"	16.14	5.68	0.365	45	3.73		cloudy
	35		"	16.04	5.73	0.354	39	3.38		
	40		"	15.83	5.73	0.365	41	3.87		clear
	45		290	16.65	5.65	0.357	40	3.40		clear

Notes:

Checked by: Date:

50382

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3550081210
Well Number: MW-RGC-12B
Sheet ___ of ___

Sampler Name: Ben Grosser
Date: 12/1/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U22
Analyzer ID No.:
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Whale pump
Bailer Type: Teflon SS Other:

Laboratory Parameters: Well development

Total Well Depth (FT) :	41.10	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	7.33	1 in	0.0408
Water Column (FT) =	33.77	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	5.5	6 in	1.4680
No.of Volumes min (3) x	10	8 in	2.6097
Purge Volume (Gal) =	55	10 in	4.0776
		12 in	5.8718

Pump:
Time On: 1400
Flow Rate (gpm): —
Pump Time (min): 60
Vol. Purged (gals): 70

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( ) mS/cm	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1400	5	7.33	805	16.34	5.97	0.621	71	9.38		brown
	10		-5.0	16.13	5.96	0.636	27	6.51		"
	15		"	16.06	6.23	0.639	24	5.52		"
	20		"	15.08	6.37	0.646	-1	5.76		"
	25		"	15.06	6.38	0.637	-4	3.69		light brown
	30		"	15.58	6.50	0.646	-6	3.47		"
	35		"	15.66	6.44	0.643	-1	3.69		"
	40		"	15.61	6.45	0.650	-4	3.42		cloudy
	45		"	15.75	6.49	0.649	-6	4.43		"
	50		"	15.49	6.45	0.657	-4	5.05		"
	55		522	15.55	6.44	0.653	-9	6.89		"
	60		679	14.76	6.53	0.640	-23	6.07		"
	65		450	15.16	6.49	0.658	-16	5.09		"
	70		258	15.03	6.63	0.653	-31	4.19		"

Notes:

Checked by: Date:

50383

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-VRS-02
Sheet 1 of 1

Sampler Name: 11/19/08
Date: 0m8
Well Location Description:
Weather Conditions: Sunny, 40's

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump !D No.: GeoPump S008-39
Bailer Type: Teflon SS Other: NA

Laboratory Parameters:
See chain of custody

Total Well Depth (FT): 27.98
Depth to Water (FT) - 0.53
Water Column (FT) = 21.45
Gal/Ft of Casing x
Casing Volume (Gal) = NA
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low Flow

Intake: 14.00'

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump: see above
Time On: 925
Flow Rate (gpm): 100 mL/min
Pump Time (min): ~~35~~ 55
Vol. Purged (gals): ~1.5

Bailer:
Bailer Vol. (gal):
Required Pulls: NA
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
925	–	6.53	START	Pump						
930	–	6.58	4.0	9.3	5.76	0.438	234	6.96	–	Flow cell 2/3 Full
935	~0.05	6.59	3.3	11.1	5.73	0.418	222	1.29	150	Clear water
940	~0.15	6.59	0.0	11.8	5.75	0.419	212	1.04	100	
945	~0.25	6.59	0.0	12.5	5.82	0.418	162	0.93	"	
950	~0.35	6.60	0.0	13.0	5.98	0.413	39	0.87	"	
955	~0.45	6.60	0.0	13.8	5.94	0.407	18	0.41	"	
1000	~1.0	6.61	0.0	13.7	5.92	0.406	12	0.00	"	
1005	~1.25	6.61	0.0	14.3	5.91	0.405	11	0.00	"	
1010	~1.5	6.61	0.0	14.1	5.92	0.405	12	0.00	"	
1015	Well stable: Disconnect Horiba									
1020	Sample well									
1100	Sampled well	on	a	Dup		MW-Dup-1				

11/19/08

Notes:
No turbidity issues, Low DO.

Checked by: Date:

50384

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-KH-1
Sheet 1 of 1

Sampler Name: JMB
Date: 11-20-09
Well Location Description: Tue Box #7
Weather Conditions: Sunny

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U-22
Analyzer ID No.: N015-08
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Geo Pump 5008-39
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT): 22.00
Depth to Water (FT) - 4.15
Water Column (FT) = 17.85
Gal/Ft of Casing x
Casing Volume (Gal) = N/A
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low Flow

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	~~0.1631~~
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Intake: 11.00'

Pump:
Time On: 955
Flow Rate (gpm): 225 ml/min
Pump Time (min): 40
Vol. Purged (gals): ~3

Bailer:
Bailer Vol. (gal):
Required Pulls: N/A
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
955	-	4.15	START PUMP							
1000	~0.10	4.19	9.4	16.7	5.33	0.336	213	0.00	225	Clear Water
1005	~0.75	4.19	0.0	17.3	5.40	0.831	204	0.00	"	
1010	~1.25	4.19	0.0	17.3	5.40	0.794	199	0.00	"	
1015	~1.75	4.19	0.0	17.3	5.42	0.730	193	0.00	"	
1020	~2.50	4.19	0.0	17.4	5.43	0.730	191	0.00	"	
1025	~3.00	4.19	0.0	17.4	5.43	0.731	191	0.00	"	
1030	Well Stable; Disconnect Horiba									
1035	Sample Well									

11/20/09

Notes:
No turbidity issues. No DO?

Checked by: Date:

50385

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-KH-2
Sheet 1 of 1

Sampler Name: JMB
Date: 11-19-08
Well Location Description:
Weather Conditions: Sunny; 40's

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: GeoPump S008-39
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT): 22.04
Depth to Water (FT) - 2.96
Water Column (FT) =
Gal/Ft of Casing x
Casing Volume (Gal) = NA
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low Flow

Intake: 16.02'

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: 1515
Flow Rate (gpm): 2.00
Pump Time (min): 45
Vol. Purged (gals): 3

Bailer:
Bailer Vol. (gal):
Required Pulls: NA
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1515	–	2.96	START PUMP							
1520	"	2.97	0.0	15.5	5.51	0.485	157	5.88	–	Clear Water
1525	~0.2	2.97	12.6	16.9	6.05	0.473	135	0.00	200	
1530	~0.75	2.97	0.0	16.9	6.24	0.505	102	0.00	"	
1535	~1.50	2.97	0.0	17.1	6.26	0.562	100	0.00	"	
1540	~2.00	2.97	0.0	17.1	6.39	0.684	70	0.00	"	
1545	~2.50	2.97	0.0	17.3	6.39	0.686	71	0.00	"	
1550	~3.00	2.97	0.0	17.3	6.40	0.687	70	0.00	"	
1555	Well stable; Disconnect Horiba									
1600	Sample Well									

11/19/08

Notes:
- No turbidity issues, Low DO.

Checked by: Date:

50386

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-KH-3
Sheet 1 of 1

Sampler Name: JmB
Date: 11/19/08
Well Location Description: L/U 14'7
Weather Conditions: Sunny; 40's

Sample Tubing Type: Teflon Teflon Lined ~~Other:~~ poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Geo Pump S2008-39
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT): 21.75
Depth to Water (FT) - 1.58
Water Column (FT) = 20.17
Gal/Ft of Casing x
Casing Volume (Gal) = N/A
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low Flow

Intake: 11.00'

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: 1215
Flow Rate (gpm): 150 mL/min
Pump Time (min): 55
Vol. Purged (gals): ~2

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal): N/A
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1215	-	1.58	START PUMP							
1220	-	1.59	41.8	14.8	5.21	0.388	102	7.41	-	Flow Cell 1/2 Full
1225	~0.25	1.60	25.9	16.4	5.48	0.590	78	0.00	150	Clear water
1230	~0.35	1.60	5.7	16.7	5.55	0.436	62	0.00	"	
1235	~0.65	1.60	0.0	16.8	5.67	0.552	39	0.00	"	
1240	~0.85	1.60	0.0	17.1	5.65	0.660	28	0.00	"	
1245	~1.05	1.60	0.0	17.2	5.68	0.719	17	0.00	"	
1250	~1.25	1.60	0.0	17.1	5.71	0.726	6	0.00	"	
1255	~1.75	1.60	0.0	17.3	5.71	0.725	3	0.00	"	
1300	~2.0	1.60	0.0	17.3	5.70	0.725	1	0.00	"	
1305	Well Stable; Disconnect Horiba									
1310	Sample Well									

11/19/08

Notes: - No turbidity issues. Low DO.

Checked by: Date:

50387

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3557081210
Well Number: MW-BGC-5A
Sheet ___ of ___

Sampler Name: Ben Crosser
Date: 12/2/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U22
Analyzer ID No.:
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.:
Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 14.45	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) - 1.09	1 in	0.0408
Water Column (FT) =	2 in	0.1631
Gal/Ft of Casing x	4 in	0.6524
Casing Volume (Gal) =	6 in	1.4680
No.of Volumes min.(3) x	8 in	2.6097
Purge Volume (Gal) =	10 in	4.0776
	12 in	5.8718

Pump:
Time On: 850
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( ) mS/cm	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
850	<1/4	1.16	35.1	16.41	6.12	0.564	83	2.21	100	Clear
855	1/4	1.14	25.6	15.48	6.14	0.561	57	6.16	150	"
900	1/2	1.12	14.8	16.35	6.18	0.548	52	6.49	150	"
905	<3/4	1.11	12.6	15.74	6.19	0.558	43	6.32	50	"
910	<3/4	1.11	7.9	15.64	6.17	0.554	44	2.59	50	"
915	<3/4	1.11	7.8	15.72	6.18	0.553	42	2.33	50	"
920	<1	1.11	8.2	15.68	6.17	0.552	42	2.39	50	"

Notes: Sampled at 920

Checked by: Date:

50388

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210
Well Number: MW-BGC-5B
Sheet ___ of ___

Sampler Name: Ben Grosser
Date: 12/14/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: MOIS-03
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: 5008-39
Bailer Type: Teflon SS Other:

Laboratory Parameters:

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	34.45	1 in	0.0408
Depth to Water (FT) -	1.12	2 in	0.1631
Water Column (FT) =		4 in	0.6524
Gal/Ft of Casing x		6 in	1.4680
Casing Volume (Gal) =		8 in	2.6097
No.of Volumes min.(3) x		10 in	4.0776
Purge Volume (Gal) =		12 in	5.8718

Pump:
Time On: 1155
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1155	0	1.12	–	–	–	–	–	–	–	Pump On
1200	1/4	1.14	64.6	15.61	6.87	0.411	-9	4.43	100	
1205	1/2	1.14	71.1	15.15	6.72	0.388	-20	7.16	50	
1210	3/4	1.14	48.3	16.50	6.44	0.412	-2	2.45	100	
1215	<1	1.14	21.0	16.79	6.66	0.400	-18	1.40	100	
1220	1	1.14	54.4	15.63	6.86	0.388	-42	11.86	50	
1225	~~2~~ 1.5	1.22	14.1	17.12	6.86	0.382	-53	1.02	~~50~~ 300	
1230	2	1.19	27.4	16.71	6.98	0.387	-68	1.15	50	
1235	2 1/4	1.16	19.1	16.66	6.98	0.384	-71	0.58	50	
1240	2 1/2	1.16	15.0	16.81	6.98	0.382	-72	0.66	50	
1245	2 3/4	1.16	9.8	16.89	6.97	0.382	-73	0.59	100	
1250	3 1/4	1.16	6.4	17.06	6.98	0.381	-77	0.31	100	
1255	3	1.18	6.2	17.22	6.98	0.380	-81	0.06	150	
1300	3 1/2	1.18	6.0	17.25	6.98	0.380	-81	0.08	150	
1305	3 3/4	1.18	2.6	17.32	7.00	0.379	-83	0.01	150	
1310	4 1/4	1.18	2.4	17.32	7.00	0.380	-86	0.00	150	
1315	4 1/2	1.18	2.1	17.30	7.01	0.380	-86	0.00	150	

Notes: Turbidity is all over the place from 4.6 to over 100. Turned pump up → turbidity dropped to teens. Water has been consistently clear

Checked by: Date:

Sampled at 1315

50389

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-BGC-6A
Sheet 1 of 1

Sampler Name: Jim
Date: 11-20-08
Well Location Description: N/W Corner of Site
Weather Conditions: Sunny, 50's

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Geo Pump 5008-39
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See CoC

Total Well Depth (FT): 15.08
Depth to Water (FT) - 1.78
Water Column (FT) = 13.30
Gal/Ft of Casing x N/A
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low Flow

Intake: 10.08'

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	~~0.1631~~
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: 1250
Flow Rate (gpm): 200 mL/min
Pump Time (min): 50
Vol. Purged (gals): ~3.5

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal): N/A
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1250	–	1.78	START Pump							
1255	–	1.84	0.0	17.5	6.21	0.386	222	6.94	200	Clear Water
1300	~0.25	1.88	'0.0'	17.7	6.19	0.401	221	6.47	"	
1305	~0.75	1.90	'0.0'	17.8	6.16	0.375	223	6.38	"	
1310	~1.50	1.91	'0.0'	17.5	6.16	0.364	223	6.31	"	
1315	~2.00	1.92	'0.0'	17.6	6.15	0.354	225	5.74	"	
1320	~2.50	1.92	'0.0'	17.5	6.14	0.353	225	5.39	"	
1325	~3.00	1.92	'0.0'	17.5	6.14	0.353	227	5.40	"	
1330	~3.50	1.92	'0.0'	17.0	6.13	0.352	228	5.39	"	
1335	Well Stable; Disconnect Horiba									
1340	Sample Well									

11/20/08

Notes: No DO issues on this perimeter well (as compared to 4 existing interior)

Checked by: Date:

50390

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-B6C-6B
Sheet ___ of ___

Sampler Name: JMB
Date: 11-24-08
Well Location Description: NW corner
Weather Conditions: Sunny 40's

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M075-03
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Geo Pump 5008-54
Bailer Type: Teflon SS Other:

Laboratory Parameters:
See COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	42.35		
Depth to Water (FT) -	~~1.77~~ 1.97	1 in	0.0408
Water Column (FT) =	40.38	2 in	0.1631
Gal/Ft of Casing x	0.1631	4 in	0.6524
Casing Volume (Gal) =	6.59	6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =	NA	10 in	4.0776
		12 in	5.8718

Intake! 37.35

Pump:
Time On: 815
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

NA

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
815	-	1.97	START PUMP							
820	~0.10	1.98	15.9	14.88	5.43	0.322	114	3.33	225	Clear water
825	~0.25	1.98	25.1	15.30	5.43	0.310	112	1.55	"	Drained flow cell
830	~1.0	1.99	6.5	15.61	5.35	0.300	124	2.81	"	
835	~1.50	1.99	9.1	15.37	5.30	0.300	128	1.03	"	
840	2.00	1.99	8.7	15.37	5.20	0.299	136	0.78	"	
845	2.50	1.99	7.8	15.38	5.11	0.294	147	0.47	"	
850	~3.00	1.99	6.9	15.98	5.11	0.293	148	0.40	"	
855	~4	1.99	5.9	5.10	16.38	0.293	149	0.40	"	
900	Well Stable; Disconnect Horiba									
905	Sample Well									
Sampled well as a DUP			930							

11/24/08

Notes:

Checked by: Date:

50391

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210
Well Number: MW-BGC-7A
Sheet ___ of ___

Sampler Name: Ben Grossel
Date: 12/2/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined ~~Other~~
Analyzer Type: Horiba U22
Analyzer ID No.:
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.:
Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 14.37	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) - 2.60	1 in	0.0408
Water Column (FT) =	2 in	0.1631
Gal/Ft of Casing x	4 in	0.6524
Casing Volume (Gal) =	6 in	1.4680
No.of Volumes min.(3) x	8 in	2.6097
Purge Volume (Gal) =	10 in	4.0776
	12 in	5.8718

Pump:
Time On: 1240
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( ) mS/cm	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1240	0	2.60	—	—	—	—	—	—	—	
1245	<1/4	2.60	13.2	13.70	5.11	0.168	152	11.94	50	
1250	1/4	2.60	5.2	14.53	5.07	0.172	157	6.62	50	
1255	<1/2	2.60	5.6	15.04	5.05	0.173	161	6.33	50	
1300	1/2	2.60	0.0	15.47	5.04	0.173	162	6.41	50	
1305	<3/4	2.60	0.0	15.59	5.03	0.173	164	6.51	50	
1310	3/4	2.60	0.0	15.91	5.02	0.173	165	6.51	50	

Notes: Sampled at 1310

Checked by: Date:

50392

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552081210
Well Number: MW-BGG-7B
Sheet ___ of ___

Sampler Name:
Date: 12/2/08
Well Location Description:
Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U22
Analyzer ID No.:
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.:
Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 42.45
Depth to Water (FT) - 1.50
Water Column (FT) =
Gal/Ft of Casing x
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: 1150
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( ) mS/cm	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1150	0	1.50	—	—	—	—	—	—	—	
1155	<1/4	1.53	36.5	16.87	5.85	0.145	125	3.01	50	
1200	1/4	1.52	12.2	17.67	5.74	0.146	85	1.43	50	
1205	<1/4	1.52	11.1	17.19	5.78	0.147	63	1.32	50	
1210	1/4	1.52	7.3	17.07	5.80	0.146	60	1.36	50	
1215	<3/4	1.52	7.9	16.34	5.78	0.143	68	1.39	50	
1220	3/4	1.52	8.0	15.11	5.73	0.147	67	1.37	50	

Notes: Sampled at 1220

Checked by: Date:

50393

12-4-08

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-BGC-8A
Sheet 1 of 1

Sampler Name: JMS
Date: 12-4-08
Well Location Description: S border
Weather Conditions: Sunny 50's

Sample Tubing Type: Teflon Teflon Lined Other: poly
Analyzer Type: Horiba U-22
Analyzer ID No.: m015-09
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Pne # 12214
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT): 22.22
Depth to Water (FT) - 9.53
Water Column (FT) = 12.69
Gal/Ft of Casing x
Casing Volume (Gal) = N/A
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low flow

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

pump intake @ 17'

Pump:
Time On: 1035
Flow Rate (gpm): 125 mL/min
Pump Time (min): 40
Vol. Purged (gals): ~1.5

Bailer:
Bailer Vol. (gal):
Required Pulls: N/A
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1035	-	9.53	START PUMP							
1040	~0.1	9.55	14.0	15.3	3.70	0.966	245	8.03	125	Clear water
1045	~0.2	9.55	12.5	15.7	3.77	2.55	264	0.00	"	
1050	~0.5	9.55	7.7	15.7	3.85	1.73	263	0.00	"	
1055	~0.7	9.55	6.3	15.8	3.97	1.64	262	0.00	"	
1100	~1.0	9.55	8.4	15.9	3.98	1.63	260	0.00	"	
1105	~1.2	9.55	7.9	16.0	3.98	1.63	260	0.00	"	
1110	well	stable; Discontinue Horiba								
1115	Sample	well								

12/4/08

Notes: - Low DO throughout purging.

Checked by: Date:

50394

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-BGC-8B
Sheet ___ of ___

Sampler Name: JMB
Date: 12-4-08
Well Location Description: SW perimeter
Weather Conditions: Sunny 40's

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Pump #
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT) : 45.60
Depth to Water (FT) - 8.82
Water Column (FT) = 36.78
Gal/Ft of Casing x N/A
Casing Volume (Gal) = N/A
No.of Volumes min.(3) x N/A
Purge Volume (Gal) = N/A

Low Flow

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

pump intake @ 40'

Pump:
Time On: 945
Flow Rate (gpm): 150 mL/min
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
945	–	8.82	START	PUMP						
950	~0.1	8.91	85.8	13.9	6.17	0.236	69	0.00	150	
955	~0.2	8.91	76.1	14.5	6.33	0.727	15	0.00	"	
1000	~0.3	8.91	75.8	14.4	6.39	0.670	-1	0.00	"	
1005	~0.5	8.91	52.0	15.0	6.44	0.561	-25	0.00	"	
1010	~0.7	8.91	50.9	15.2	6.43	0.411	-45	0.00	"	
1015	~0.9	8.91	53.4	15.2	6.44	0.410	-45	0.00	"	
Turbidity is not dropping well needs to be re-developed.										

Notes:
* no sample collected on 12/4/08 JMB 12/4/08

Checked by: Date:

757-487-0000 Mike Hurst

50395

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Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-B6C-8B

Sheet ___ of ___

Sampler Name:

Date: 12-8-09

Well Location Description:

Weather Conditions:

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type:

Analyzer ID No.:

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.:

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 9.00	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) - 9.03	1 in	0.0408
Water Column (FT) =	2 in	0.1631
Gal/Ft of Casing x	4 in	0.6524
Casing Volume (Gal) =	6 in	1.4680
No.of Volumes min.(3) x	8 in	2.6097
Purge Volume (Gal) =	10 in	4.0776
	12 in	5.8718

Pump:

Time On: 1420

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time 1420 Pump	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1420	–	9.03	START PUMP							
1425	~0.1	9.05	49.9	13.14	6.26	0.304	185	2.47	200	
1430	~0.25	9.05	45.5	14.43	6.45	0.296	37	0.57	"	
1435	~0.5	9.05	26.2	15.01	6.60	0.296	-23	0.29	"	
1440	~0.75	9.05	9.4	15.21	6.67	0.297	-49	0.25	"	
1445	~1.0	9.05	8.0	15.40	6.67	0.297	-56	0.19	"	
1450	~1.25	9.05	0.3	15.46	6.66	0.296	-61	0.18	"	
1455	~1.5	9.05	0.0	15.36	6.65	0.295	-66	0.00	"	
1500 ~~1600~~	~2.0	9.05	0.0	15.52	6.65	0.294	-68	0.00	"	
1505	~2.5	9.05	0.0	15.72	6.65	0.293	-69	0.00	"	
1510	Well Stable; Disconnect Pump									
1515	Sample Well									

Notes:

Checked by: Date:

50396

12-4-08

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1710
Well Number: MW-66C-9A
Sheet ___ of ___

Sampler Name: [illegible]
Date: 12-04-08
Well Location Description: S borders
Weather Conditions: Sunny 50's

Sample Tubing Type: Teflon Teflon Lined Other: poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: Pike # 12214
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT): 23.00
Depth to Water (FT) - 7.95
Water Column (FT) = 15.05
Gal/Ft of Casing x N/A
Casing Volume (Gal) = N/A
No.of Volumes min.(3) x N/A
Purge Volume (Gal) = N/A

Low Flow

Pump Intake @ 18'

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On:
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal): N/A
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1250	–	7.95	START PUMP							
1255	~0.1	7.96	21.3	16.4	6.54	0.342	-43	0.00	200	Clear water
1300	~0.25	7.97	15.6	16.4	6.49	2.13	-48	0.00	"	
1305	~0.5	7.97	9.5	16.1	6.47	0.735	-50	0.00	"	
1310	~0.75	7.97	6.5	16.2	6.46	0.495	-53	0.00	"	
1315	~1.0	7.97	0.8	16.2	6.45	0.456	-53	0.00	"	
1320	~1.25	7.97	2.7	16.3	6.45	0.455	-56	0.00	"	
1325	~1.5	7.97	1.8	16.5	6.44	0.455	-56	0.00	"	
1330	Well Stable, disconnect Horiba									
1335	Sample Well									

Notes:

Checked by: Date:

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12-4-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-BGC-9B
Sheet 1 of 1

Sampler Name: MJS
Date: 12-4-08
Well Location Description: S. Border
Weather Conditions: Sunny 50's

Sample Tubing Type: Teflon Teflon Lined ~~Other:~~ poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: Pine # 12214
Bailer Type: Teflon SS Other:

Laboratory Parameters: see COC

Total Well Depth (FT): 42.25
Depth to Water (FT) - 7.51
Water Column (FT) = 34.74
Gal/Ft of Casing x
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

Low Flow

Pump intake: @ 37.25'

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	~~0.1631~~
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On:
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	± Turbidity (NTU)	± Temp (C)	± pH	± Cond. ( )	± ORP (mV)	± DO (mg/L)	± Flow Rate (mL/m)	Remarks
1155	-	7.51	START PUMP							
1200	~0.1	7.53	3.9	16.0	6.62	0.312	36	0.52	200	clear water
1205	~0.25	7.53	2.4	16.2	6.76	0.378	4	0.00	"	
1210	~0.5	7.53	2.3	16.2	6.83	0.472	-11	0.00	"	
1215	~0.75	7.53	1.9	16.2	6.84	0.455	-19	0.00	"	
1220	~1.0	7.53	0.0	16.2	6.84	0.445	-21	0.00	"	
1225	~1.25	7.53	0.0	16.2	6.84	0.445	-21	0.00	"	
1230	~1.5	7.53	0.0	16.3	6.84	0.444	-22	0.00	"	
1235	Well stable; disconnect Horiba									
1240	Sample well									

Notes: - no DO measured

12/4/08

Checked by: Date:

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Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-36C-10A
Sheet 1 of 1

Sampler Name: JMB
Date: 12-4-08
Well Location Description: SE
Weather Conditions: Sunny 50's

Sample Tubing Type: Teflon Teflon Lined ~~Other:~~ poly
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-08
Pump Type: Sub. Cent. ~~Peristal.~~ Other:
Pump ID No.: Pine # 12214
Bailer Type: Teflon SS Other:

Laboratory Parameters:
See COC

Total Well Depth (FT): 23.02
Depth to Water (FT) - 8.68
Water Column (FT) = 14.34
Gal/Ft of Casing x
Casing Volume (Gal) = N/A
No.of Volumes min.(3) x
Purge Volume (Gal) =

low flow

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

pump intake

Pump:
Time On:
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

N/A

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1410	-	8.68	START PUMP							
1415	~0.1	8.71	13.8	16.5	6.45	0.456	-60	0.00	200	clear water
1420	~0.25	8.71	12.7	16.4	6.43	0.826	-75	0.00	"	
1425	~0.5	8.71	5.0	16.4	6.42	0.804	-79	0.00	"	
1430	~0.75	8.71	2.7	16.6	6.41	0.753	-78	0.00	"	
1435	~1.0	8.71	6.4	16.6	6.40	0.690	-80	0.00	"	
1440	~1.5	8.71	2.3	16.5	6.41	0.615	-81	0.00	"	
1445	~1.75	8.71	0.0	16.6	6.41	0.614	-83	0.00	"	
1450	~2.0	8.71	0.0	16.6	6.40	0.615	-81	0.00	"	
1455	Well stable; Disconnect Horiba									
1500	Sample well									

12/4/08

Notes: - no DO measured.

Checked by: Date:

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Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-BGC-10B

Sheet ___ of ___

Sampler Name: Ben Grosser

Date: 12/4/08

Well Location Description:

Weather Conditions: Sunny, Warm

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type: Horiba U-22

Analyzer ID No.: M015-03

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.: 5008-39

Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 35

Depth to Water (FT) - 8.15

Water Column (FT) =

Gal/Ft of Casing x

Casing Volume (Gal) =

No.of Volumes min.(3) x

Purge Volume (Gal) =

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:

Time On: 1340

Flow Rate (gpm):

Pump Time (min):

Vol. Purged (gals):

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1340	0	8.15	–	–	–	–	–	–	–	On
1345	<1/4	8.19	0.0	16.26	7.21	0.589	-34	3.52	50	
1350	<1/2	8.20	0.0	16.30	7.14	0.591	-71	2.99	100	
1355	<3/4	8.20	0.0	16.14	7.16	0.591	-77	2.94	100	
1400	<1	8.20	0.0	16.25	7.17	0.591	-79	2.87	100	
1405	<1/4	8.20	0.0	16.20	7.18	0.592	-81	2.87	100	

Notes:

Sampled at 1405

Checked by: Date:

50400

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 355208120
Well Number: MW-BGC-11A
Sheet ___ of ___

Sampler Name: Ben Grosser
Date: 12/4/08
Well Location Description:
Weather Conditions: Sunny 40s

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: M015-03
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: 5008-39
Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT) : 22.87
Depth to Water (FT) - 8.55
Water Column (FT) =
Gal/Ft of Casing x
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: 1030
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1030	0	8.55	–	–	–	–	–	–	–	Pump On
1035	< 1/4	8.56	19.9	14.96	6.04	0.676	63	3.99	75	clear
1040	1/4	8.57	13.8	16.05	6.01	0.672	60	3.41	75	"
1045	< 1/2	8.57	8.8	15.38	6.00	0.684	57	0.86	50	"
1050	1/2	8.56	7.2	15.24	5.99	0.683	55	0.67	50	"
1055	< 3/4	8.56	7.4	15.33	5.99	0.681	52	0.52	50	"
1100	3/4	8.56	7.4	15.54	5.99	0.680	51	0.44	50	"
1105	< 1	8.56	0.5	15.69	5.98	0.681	49	0.28	50	"
1110	1	8.56	0.0	15.68	5.98	0.684	48	0.29	50	"
1115	1 1/4	8.56	0.0	15.83	5.98	0.684	47	0.31	50	"

Notes:
Sampled at 1115

Checked by: Date:

50401

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 5552081210
Well Number: MW-BGC-11B
Sheet ___ of ___

Sampler Name: Ben Grosser
Date: 12/4/08
Well Location Description:
Weather Conditions: Sunny, cool

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba
Analyzer ID No.: M015-03
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: 5008-39
Bailer Type: Teflon SS Other:

Laboratory Parameters:

Total Well Depth (FT): 35.94
Depth to Water (FT) - 8.30
Water Column (FT) =
Gal/Ft of Casing x
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump:
Time On: 930
Flow Rate (gpm):
Pump Time (min):
Vol. Purged (gals):

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	± Turbidity (NTU)	± Temp (C)	± pH	± Cond. ( ) mS/cm	± ORP (mV)	± DO (mg/L)	± Flow Rate (mL/m)	Remarks
930	0	8.30	–	–	–	–	–	–	–	Pump on
935	<1/4	8.36	0.0	12.72	6.12	0.703	63	6.54	100	clear
940	1/4	8.36	0.0	14.16	6.39	0.688	30	2.56	100	"
945	<1/2	8.36	2.0	15.27	6.43	0.682	-6	1.26	75	"
950	1/2	8.36	2.0	15.53	6.48	0.683	-20	1.16	75	"
955	3/4	8.36	5.9	15.69	6.46	0.680	-24	1.35	75	"
1000	<1	8.36	2.1	15.97	6.53	0.672	-26	3.80	75	
1005	1	8.36	2.0	15.46	6.60	0.678	-33	1.36	75	
1010	1 1/4	8.36	0.0	15.50	6.63	0.675	-36	1.21	75	
1015	<1 1/2	8.36	0.0	15.48	6.63	0.674	-39	1.26	75	

Notes:
Sampled at 1015

Checked by: Date:

50402

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-B6C-12A
Sheet 1 of 1

Sampler Name: [illegible]
Date: 12-5-08
Well Location Description: B border
Weather Conditions: cloudy; 40's

Sample Tubing Type: Teflon Teflon Lined Other: poly
Analyzer Type: Horiba U22
Analyzer ID No.: M015-03
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: Pine # 10214
Bailer Type: Teflon SS Other:

Laboratory Parameters: See COC

Total Well Depth (FT) :
Depth to Water (FT) - 7.73
Water Column (FT) =
Gal/Ft of Casing x
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

N/A Low Flow

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump intake

Pump:
Time On: 1010
Flow Rate (gpm): 200 ml/min
Pump Time (min): 45
Vol. Purged (gals): ~2

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:
N/A

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	± Turbidity (NTU)	± Temp (C)	± pH	± Cond. ( )	± ORP (mV)	± DO (mg/L)	± Flow Rate (mL/m)	Remarks
1010	—	7.73	START PUMP							
1015	~0.1	7.75	35.2	15.00	5.64	0.368	43	0.72	200	
1020	~0.5	7.75	24.3	15.25	5.60	0.369	32	0.00	"	
1025	~0.75	7.75	15.9	15.62	5.60	0.368	27	0.00	"	Clear water
1030	~1.0	7.75	10.9	15.31	5.61	0.369	24	0.00	"	
1035	~1.5	7.75	8.2	15.22	5.62	0.366	20	0.00	"	
1040	~1.75	7.75	7.6	15.50	5.63	0.363	19	0.00	"	
1045	~2.0	7.75	6.2	15.22	5.63	0.366	17	0.00	"	
1050	Well stable; Disconnect Horiba									
1055	Sample Well									
1115	Sampled well as a Dup									

Notes:

Checked by: Date:

50403

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-08-1210
Well Number: MW-B6c-12B
Sheet 1 of 1

Sampler Name: JMB
Date: 12-5-08
Well Location Description: B border
Weather Conditions: Cloudy; 40's

Sample Tubing Type: Teflon Teflon Lined Other: Poly
Analyzer Type: Horiba U22
Analyzer ID No.: M015-03
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: Pine # 12214
Bailer Type: Teflon SS Other: NA

Laboratory Parameters:
See COC

Total Well Depth (FT) :
Depth to Water (FT) - 7.98
Water Column (FT) =
Gal/Ft of Casing x
Casing Volume (Gal) =
No.of Volumes min.(3) x
Purge Volume (Gal) =

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
2 in	0.1631
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

Pump intake @ 10' Flow

Pump:
Time On: 910
Flow Rate (gpm): 200 ml/min
Pump Time (min): 45
Vol. Purged (gals): ~1.5

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
910	–	7.98	START Pump							
915	~0.1	8.00	33.1	14.76	6.15	0.514	39	1.56	200	fairly clear –
920	~0.25	8.00	31.1	15.36	6.18	0.513	12	0.16	"	will watch
925	~0.5	8.00	18.8	15.23	6.26	0.515	25	0.00	"	
930	~0.75	8.00	11.6	15.38	6.14	0.511	4	0.00	"	turbidity
935	~1.0	8.00	9.1	15.37	6.14	0.513	4	0.00	"	looks good
940	~1.25	8.00	6.4	15.35	6.14	0.514	3	0.00	"	
945	~1.5	8.00	7.8	15.40	6.14	0.514	4	0.00	"	
950	Well stable; Disconnect Horiba									
955	Sample Well									

12/5/08

Notes:

Checked by: Date:

50404

Engineer Proving Ground U.S. Army Garrison Fort Belvoir, Virginia 2005 BRAC Environmental Restoration Program	PROJECT NUMBER 3572-09-1263	WELL NUMBER MW-B6C-13	SHEET 1 OF 1
	Development WELL PURGE AND SAMPLING FIELD SHEET		

		CASING DIAMETER	GAL/FT OF CASING
DEPTH TO WATER (FT): = 8.19'			
WELL DEPTH (FT): 23.19'		2 IN.	0.1632
WATER COLUMN (FT): = 15.00		4 IN.	0.6528
GAL/FT OF CASING x 0.1632		6 IN.	1.4688
CASING VOLUME (GAL) = 2.45		8 IN.	2.611
NO. OF VOLUMES min.(3) ~10		10 IN.	4.0797
PURGE VOLUME (GAL) = 24.5 gal		12 IN.	5.8748

METHOD OF PURGING (circle one)

PUMP: SUB. CENT. PERIST. | OTHER:
TIME ON: 945
FLOW RATE (gpm): Whale pump
PUMP TIME (min): 50
VOL. PURGED (gals): 55

BAILER : TEFLON, SS ,OTHER:
BAILER VOL.. (gal) .25 / .33
REQUIRED PULLS:
VOL. PURGED (gals):
OTHER:

NA

Time	Water Volume Discharged (gal)	Water Level (ft BTOC)	Turbidity (NTU)	Temperature (°C)	pH	Conductivity (µmhos/cm)	ORP mV	Dissolved Oxygen mg/L	Remarks (color, odor, sheen, sediment, etc.)
945	—	8.19							Surged well
	15	—	460	18.75	4.98	3.96	37	1.72	light grey
	20	—	5.0	16.72	5.12	4.52	31	2.00	Surged well
	25	—	"	16.84	5.16	3.12	30	2.33	
	30	—	524.0	16.21	5.41	3.59	17	2.45	
	35	—	143.0	16.15	5.52	3.50	12	2.02	Surged well
	40	—	72.1	16.05	5.69	2.19	1	2.38	
	45	—	54.5	16.27	5.77	2.64	-4	2.27	
	50	—	44.3	16.01	5.72	2.53	-2	1.94	
	55	—	26.5	16.10	5.69	2.09	-4	3.24	
1035	Stopped	pump							

6/9/09

Attachment 6 well purge form

50405

Engineer Proving Ground U.S. Army Garrison Fort Belvoir, Virginia 2005 BRAC Environmental Restoration Program	PROJECT NUMBER 3552-09-1263	WELL NUMBER MW-BGC-14	SHEET 1 OF 1
	Development	WELL PURGE AND SAMPLING FIELD SHEET	

		CASING DIAMETER	GAL/FT OF CASING
DEPTH TO WATER (FT): =	9.21		
WELL DEPTH (FT):	21.16	2 IN.	0.1632
WATER COLUMN (FT): =	11.95	4 IN.	0.6528
GAL/FT OF CASING x	0.1632	6 IN.	1.4688
CASING VOLUME (GAL) =	1.95	8 IN.	2.611
NO. OF VOLUMES min.(3) x	10	10 IN.	4.0797
PURGE VOLUME (GAL) =	19.5	12 IN.	5.8748

METHOD OF PURGING (circle one)

PUMP: SUB. CENT. PERIST. | chale pump | OTHER:
TIME ON: 1045
FLOW RATE (gpm): -
PUMP TIME (min): 50
VOL. PURGED (gals): 65

BAILER : TEFLON, SS ,OTHER:
BAILER VOL.. (gal) .25 / .33
REQUIRED PULLS:
VOL. PURGED (gals):
OTHER:

NA

Time	Water Volume Discharged (gal)	Water Level (ft BTOC)	Turbidity (NTU)	Temperature (°C)	pH	Conductivity (µmhos/cm)	ORP mV	Dissolved Oxygen mg/L	Remarks (color, odor, sheen, sediment, etc.)
1045	-	9.21							surged well
	25	-	469.0	19.47	5.91	0.454	-9	1.88	
	30	-	-5.0	17.83	5.92	0.446	-9	2.01	surged well
	35	-	200.0	17.52	5.74	0.443	-2	2.27	
	40	-	-5.0	17.38	5.63	0.403	2	2.05	surged well
	45	-	377.0	17.36	5.63	0.429	4	2.07	
	50	-	509.0	17.28	5.71	0.679	-1	1.79	
	55	-	85.2	17.26	5.68	0.399	1	2.23	
	60	-	0.0	17.42	5.73	0.601	-3	2.40	
1135	65	-	0.0	17.01	5.80	0.778	-7	1.92	

6/9/09

Attachment 6 well purge form

50406

Engineer Proving Ground U.S. Army Garrison Fort Belvoir, Virginia 2005 BRAC Environmental Restoration Program	PROJECT NUMBER 3552-09-1263	WELL NUMBER MW-B6C-15	SHEET 1 OF 1
	Developing	WELL PURGE AND SAMPLING FIELD SHEET	

		CASING DIAMETER	GAL/FT OF CASING
DEPTH TO WATER (FT): =	5.29		
WELL DEPTH (FT):	16.09	2 IN.	0.1632
WATER COLUMN (FT): =	10.9	4 IN.	0.6528
GAL/FT OF CASING	x 0.1632	6 IN.	1.4688
CASING VOLUME (GAL) =	1.76	8 IN.	2.611
NO. OF VOLUMES min.(3) x	10	10 IN.	4.0797
PURGE VOLUME (GAL) =	17.6	12 IN.	5.8748

METHOD OF PURGING (circle one)

PUMP: SUB. CENT. PERIST. | Whale Pump OTHER
TIME ON: 1150
FLOW RATE (gpm):
PUMP TIME (min): 41.5
VOL. PURGED (gals): 25

BAILER : TEFLON, SS ,OTHER:
BAILER VOL.. (gal) .25 / .33
REQUIRED PULLS:
VOL. PURGED (gals):
OTHER:

NA

Time	Water Volume Discharged (gal)	Water Level (ft BTOC)	Turbidity (NTU)	Temperature (°C)	pH	Conductivity (µmhos/cm)	ORP mV	Dissolved Oxygen mg/L	Remarks (color, odor, sheen, sediment, etc.)
1150	-	5.29							
1210	20		558	21.05	5.94	2.58	-11	1.59	cloudy, gray
1213	25		29.3	19.56	6.08	8.64	-14	1.19	rel. clear
1217	30		995	19.31	5.84	2.52	-5	1.89	cloudy, gray
1222	40		174	19.18	6.04	5.74	-17	1.56	rel. clear
1228	50		0.0	18.78	6.12	5.59	-21	1.71	" "
1231	55		0.0	19.68	6.10	6.00	-21	2.02	" "

purged dry

Attachment 6 well purge form

50407

6-16-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BGC-5A
Sheet 1 of 1

Sampler Name: JMB
Date: 6-16-09
Well Location Description: N perimeter
Weather Conditions: Overcast, 70s

Sample Tubing Type: Teflon ~~Teflon-Lined~~ Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 01065
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: N/A

Laboratory Parameters: See COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	15		
Depth to Water (FT) -	1.30	1 in	0.0408
Water Column (FT) =	13.70	2 in	0.1631
Gal/Ft of Casing x	N/A	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:
Time On: 955
Flow Rate (gpm): ~150 ml/min
Pump Time (min): ~1hr 15min
Vol. Purged (gals): ~3

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal): N/A
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
955	–	1.30	START	PUMP						
1000	–	1.30	94.8	18.63	6.98	0.90	-73	4.25		
1005	Had pump issue w/ tubing. Had to disconnect pump + replace									
1010	tubing. Started pump @ 1015									
1020	~0.25	1.30	107.0	19.74	7.17	0.889	-82	4.36	150	Slight orange tint
1025	~0.75	1.30	65.9	19.23	7.49	2.03	-97	3.51	"	
1030	~1	1.30	46.7	19.40	7.56	2.69	-101	3.39	"	
1035	~1.5	1.30	30.4	19.40	7.71	2.69	-109	3.21	"	
1040	~1.75	1.30	19.9	19.58	7.74	2.70	-110	3.14	"	
1045	~2	1.30	11.5	19.68	7.84	2.32	-116	3.07	"	
1050	~2.5	1.30	8.6	19.61	7.85	2.45	-117	3.04	"	
1055	~2.75	1.30	8.1	19.37	7.87	2.46	-118	3.04	"	
1100	~3	1.30	8.5	19.25	7.87	2.47	-119	3.03	"	
1105	Well stable; Disconnect Horiba									
1110	Sample well									

6/16/09

Notes:

Checked by: Date:

50408

6-16-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552091263
Well Number: MW-BGL-5B
Sheet 1 of 1

Sampler Name: Randall Morrison
Date: 6-16-09
Well Location Description: North Perimeter
Weather Conditions: Overcast 72°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. (Perist.) Other:
Pump ID No.: 01129
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See COC

Total Well Depth (FT) (RM) ~~36~~ 35
Depth to Water (FT) - 1.15
Water Column (FT) = 33.5
Gal/Ft of Casing x .163
Casing Volume (Gal) = 5.46
No.of Volumes min.(3) x 3
Purge Volume (Gal) = 16.4

Casing Diameter:	Gal/Ft of Casing:
1 in	0.0408
(2 in)	(0.163)
4 in	0.6524
6 in	1.4680
8 in	2.6097
10 in	4.0776
12 in	5.8718

pump @ 30

Pump:
Time On: 0905
Flow Rate (gpm): 130 ml/min
Pump Time (min): 85 min
Vol. Purged (gals): ~2 gal

Bailer:
Bailer Vol. (gal): NA
Required Pulls: NA
Vol. Purged(gal): NA
Other:

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. (S/cm) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
0905		1.15	0.0					7		slightly turbid
0910 ~~0910~~	~.1	1.16	0.0	22.40	6.15	0.409	-115	2.87	45	
0915	~.1	1.16	7.4	18.82	6.33	0.422	-128	1.50	≈	
0920	~.1	1.18	23.7	18.58	6.38	0.443	-136	0.71	150	
0925	~.1	1.20	11.5	18.49	6.39	0.537	-140	0.44	~150	
0930	~.1	1.20	110.0	18.30	6.40	0.520	-142	0.25	130	
0935	~.1	1.17	47.7	18.78	6.42	0.469	-143	0.22	≈	
0940	~.1	1.17	42.4	18.78	6.44	0.461	-142	0.20	145	
0945	~.1	1.17	38.9	18.84	6.46	0.439	-143	0.20	≈	
0950	~.1	1.17	53.6	18.83	6.48	0.420	-143	0.17	≈	
0955	~.1	1.18	88.7	18.89	6.50	0.401	-143	0.15	145	
1000	~.1	1.17	100.0	19.65	6.52	0.467	-142	0.15	140	
1005	~.1	1.16	42.0	20.21	6.53	0.381	-139	0.25	130	
1010	~.1	1.16	27.1	20.32	6.55	0.387	-137	0.28	130	
1015	~.1	1.16	10.8	20.33	6.55	0.389	-134	0.27	≈	
1020	~.2	1.17	5.7	20.65	6.58	0.389	-134	0.28	130	
1025	~.2	1.16	6.0	20.62	6.59	0.389	-134	0.27	≈	
1030	~.2	1.16	5.3	20.74	6.59	0.388	-134	0.28	≈	
- well stable			stabilized							
- disconnected Horiba										
Sampled @ 1035										

Notes: sampled @ 1035

Checked by: Date:

50409

6-16-09

MACTEC

Low Flow Well Purge and ~~Sampling~~ Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BGL-6A
Sheet ___ of ___

Sampler Name: JMJ
Date: 6-16-09
Well Location Description: NW corner
Weather Conditions: Overcast 70s

Sample Tubing Type: Teflon ~~Teflon Lined~~ Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 01065
Pump Type: Sub. Cent. ~~Peristal.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: Fe COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	~15		
Depth to Water (FT) -	2.28	1 in	0.0408
Water Column (FT) =		2 in	0.1631
Gal/Ft of Casing x	NA	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:
Time On: 1410
Flow Rate (gpm): 150 ml/min
Pump Time (min): 50 min
Vol. Purged (gals): 0.5 gal

Bailer:
Bailer Vol. (gal):
Required Pulls: NA
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1410	-	2.28	START PUMP							
1415	~0.1	2.45	0.0	18.78	6.61	0.727	-54	4.39	150	clear water
1420	~0.25	2.44	0.0	19.21	6.89	0.561	-65	3.57	"	
1425	~0.75	2.45	0.0	19.32	7.05	0.998	-75	3.30	"	
1430	~1	2.45	0.0	19.44	7.17	1.60	-82	3.34	"	
1435	~1.5	2.44	0.0	19.63	7.39	1.69	-94	3.41	"	
1440	~1.75	2.44	0.0	19.68	7.45	1.66	-97	3.40	"	
1445	~2	2.44	0.0	19.86	7.46	1.69	-100	3.39	"	
1450	~2.5	2.45	0.0	19.88	7.45	1.70	-101	3.39	"	
1455	Well stable		disconnect Horiba							
1500	Sample Well									

Notes:

Checked by: Date:

50410

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552091263
Well Number: MW-BGC-6B
Sheet 1 of 1

Sampler Name: Randall Morrison
Date: 6/16/09
Well Location Description: North West Corner
Weather Conditions: Cloudy Breezy 72°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba - U22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. (Peristal.) Other:
Pump ID No.: 01129
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See COC

Total Well Depth (FT):	42	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	2.21	1 in	0.0408
Water Column (FT) =	39.8	2 in	0.1631
Gal/Ft of Casing x	.163	4 in	0.6524
Casing Volume (Gal) =	6.49	6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =	NA	10 in	4.0776
		12 in	5.8718

pump intake @ 37'

Pump:
Time On: 1415
Flow Rate (gpm): 100 ml/min
Pump Time (min): 35 min
Vol. Purged (gals): ~.8 gal

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1415		2.22								No Flow out of cell
1420	~.1	2.22	124.0	19.93	4.54	0.331	147	4.26	100	
1425	~.1	2.22	72.1	19.81	4.65	0.323	159	1.86	≈	Clear
1430	~.1	2.26	0.0	20.46	4.61	0.305	149	0.48	100	
1435	~.1	2.21	0.0	20.75	4.57	0.302	150	0.41	≈	
1440	~.1	2.21	0.0	21.39	4.57	0.302	148	0.45	100	
1445	~.1	2.21	0.0	21.90	4.58	0.301	147	0.47	≈	
1450	~.1	2.21	0.0	21.76	4.59	0.302	147	0.49	100	
1455 ~~1505~~	~.1	2.21	0.0	21.72	4.58	0.302	147	0.48	≈	
- Stabilized @		1455								
- Disconnected		from	Horiba							
- Sampled		@ 1505								

Notes:

Checked by: Date:

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6-17-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263 | Well Number: MW-BGC-7A | Sheet ___ of ___

Sampler Name: DWB
Date: 6-17-09
Well Location Description: W. Perimeter
Weather Conditions: overcast 70s

Sample Tubing Type: Teflon ~~Teflon Lined~~ Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 01065
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: NA

Laboratory Parameters:
Gel LOC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	15		
Depth to Water (FT) -	2.95	1 in	0.0408
Water Column (FT) =	12.05	2 in	0.1631
Gal/Ft of Casing x	NA	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:
Time On: 835
Flow Rate (gpm): 175 mL/min
Pump Time (min): 50
Vol. Purged (gals): ~2.5

Bailer:
Bailer Vol. (gal): NA
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
835	–	2.95	START PUMP							
840	~0.1	2.97	0.01	18.39	7.40	0.274	-42	3.77	175	Clear water
845	~0.25	2.97	1.5	18.62	7.80	0.244	-59	3.28	"	
850	~0.5	2.97	8.6	18.60	8.05	0.478	-72	3.10	"	
855	~0.75	2.97	8.5	18.55	8.27	0.92	-84	2.99	"	
900	~1.25	2.97	9.1	18.60	8.36	1.35	-93	2.93	"	
905	~1.5	2.97	7.9	18.60	8.51	1.44	-99	2.85	"	
910	~1.75	2.97	6.2	18.62	8.55	1.43	-102	2.84	"	
915	~2.5	2.97	8.3	18.61	8.56	1.42	-102	2.84	"	
920	Well Stable; Disconnect Hoses									
925	Sample Well									

6/17/09

Notes:

Checked by: Date:

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MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552091263
Well Number: MW-BGC-78
Sheet 1 of 1

Sampler Name: Randall Manning
Date: 6/17/09
Well Location Description:
Weather Conditions: Drizzle, Overcast 72°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba U-22 ~~12364~~
Analyzer ID No.: 12364 ~~01129~~
Pump Type: Sub. Cent. (Perist.) Other:
Pump ID No.: 01129
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See chain of custody

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT):	42		
Depth to Water (FT) -	2.25	1 in	0.0408
Water Column (FT) =	39.75	2 in	0.1631
Gal/Ft of Casing x	.1631	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x	N/A	8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump @ 37'

Pump:
Time On: 0841
Flow Rate (gpm): 90 mL/min
Pump Time (min): 35 min
Vol. Purged (gals): ~.8 gal

Bailer:
Bailer Vol. (gal):
Required Pulls: N/A
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
0841		2.25		Pump started						
0845	~.1	2.25	24.2	19.58	5.69	0.194	-17	3.59	90	Clear
0850	~.2	2.25	0.0	19.62	5.75	0.181	-25	1.37	90	
0855	~.3	2.26	0.0	19.55	5.78	0.173	-27	0.85	≈	
0900	~.4	2.26	0.0	19.48	5.81	0.172	-29	0.67	≈	
0905	~.5	2.26	0.0	19.43	5.87	0.171	-32	0.54	90	
0910	~.6	2.25	0.0	19.39	5.88	0.170	-33	0.53	≈	
0915	~.8	2.25	0.0	19.38	5.89	0.170	-34	0.54		
Stabilized @ 0915										
Discontinued Hach										
Sampled @ 0925										

Notes:

Checked by: Date:

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6/16/09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BGC-8A
Sheet ___ of ___

Sampler Name: JMB
Date: 6-16-09
Well Location Description: S. perimeter
Weather Conditions: overcast · 70's

Sample Tubing Type: Teflon ~~Teflon Lined~~ Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 61065
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	~20	1 in	0.0408
Depth to Water (FT) -	9.44	2 in	0.1631
Water Column (FT) =	10.56	4 in	0.6524
Gal/Ft of Casing x	NA	6 in	1.4680
Casing Volume (Gal) =		8 in	2.6097
No.of Volumes min.(3) x		10 in	4.0776
Purge Volume (Gal) =		12 in	5.8718

Pump:
Time On: 1225
Flow Rate (gpm): 175 ml/min
Pump Time (min): 50
Vol. Purged (gals): ~2

Bailer:
Bailer Vol. (gal):
Required Pulls: NA
Vol. Purged(gal):
Other:

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1225	-	9.44	START	PUMP						
1230	~0.1	9.45	0.0	17.29	7.00	4.50	-74	3.92	175	Clear water
1235	~0.25	9.45	0.0	17.29	6.93	2.30	-70	3.58	"	
1240	~0.5	9.45	0.0	18.43	6.53	2.34	-50	3.43	"	
1245	~0.75	9.45	0.0	18.89	6.45	2.29	-46	3.37	"	
1250	~1	9.45	0.0	18.93	6.45	2.46	-45	3.35	"	
1255	~1.25	9.45	0.0	19.01	6.44	2.49	-45	3.38	"	
1300	~1.5	9.45	0.0	19.27	6.43	2.50	-44	3.37	"	
1305	~1.75	9.45	0.0	19.26	6.43	2.50	-45	3.37	"	
1310	Well stable; discontinue Karize									
1315	Sample well									

- Sampled well as a Dup ID = MW-BGC-Dup03

6/16/09

Notes: - MW-BGC-Dup03

Checked by: Date:

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MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BGC-8D
Sheet 1 of 1

Sampler Name: Randall Massiba
Date: 6/16/09
Well Location Description: Southern Perimeter
Weather Conditions: Overcast 70°F

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: 0429
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: Gel Cl

Total Well Depth (FT) :	44	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	9.06	1 in	0.0408
Water Column (FT) =	35	2 in	0.1631
Gal/Ft of Casing x	.163	4 in	0.6524
Casing Volume (Gal) =	5.7	6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =	N/A	10 in	4.0776
		12 in	5.8718

Pump intake @ 39'

Pump: 1220
Time On: ~~35 min~~
Flow Rate (gpm): 100 mL/min
Pump Time (min): 35 min
Vol. Purged (gals): .6 gal

Bailer:
Bailer Vol. (gal): N/A
Required Pulls: NA
Vol. Purged(gal): NA
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
~~1220~~		9.06								
~~1225~~					6.30	0.321				Clear
		* GL Calibrated			Back on @			1230 *		
1230	~.1	9.06	0.0	18.88	5.69	0.381	-94	1.49	100	
1235	~.1	9.08	0.0	19.12	5.98	0.339	-101	0.50	≈	
1240	~.1	9.08	0.0	19.07	6.00	0.336	-102	0.45	≈	
1245	~.1	9.06	0.0	19.01	6.06	0.330	-104	0.29	100	
1250	~.1	9.06	0.0	19.00	6.08	0.329	-105	0.25	≈	
1255	~.1	9.06	0.0	19.02	6.09	0.329	-105	0.25		
Stabilized @ 1255										
Disconnected from Horiba										
	Sampled @ 1305									

Notes:

Checked by: Date:

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MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-B&C-9A
Sheet 1 of 1

Sampler Name: JMB
Date: 6-17-09
Well Location Description: Summer
Weather Conditions: Overcast 70s

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 01005
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: NA

Laboratory Parameters:
See COC

Total Well Depth (FT) :	20	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	8.07	1 in	0.0408
Water Column (FT) =	11.93	2 in	0.1631
Gal/Ft of Casing x		4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:
Time On: 1020
Flow Rate (gpm): 175 ml/min
Pump Time (min): 1hr 10min
Vol. Purged (gals): 3

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1020	-	8.07	START PUMP							
1025	~0.1	8.10	30.7	18.45	8.37	1.68	-93	4.69	175	Clear water
1030	~0.2	8.08	26.3	17.85	8.72	1.57	-110	3.19	≈	
1035	~0.3	8.09	20.9	17.81	8.78	1.71	-114	3.09	≈	
1040	~0.5	8.09	19.3	17.79	8.84	2.81	-118	3.01	"	
1045	~0.75	8.09	16.4	17.86	8.92	4.75	-123	2.93	"	
1050	~0.1	8.09	15.8	17.83	8.97	5.17	-126	2.88	"	
1055	~1.25	8.09	12.4	17.72	9.03	4.55	-130	2.86	"	
1100	~1.5	8.09	11.8	17.71	9.06	4.35	-131	2.84	"	
1105	~1.75	8.09	9.3	17.89	9.08	4.39	-133	2.80	"	
1110	~2	8.09	3.5	18.07	9.10	4.50	-134	2.79	"	
1115	~2.5	8.09	2.8	18.11	9.11	4.51	-135	2.79	"	
1120	~3	8.09	3.4	18.13	9.12	4.51	-135	2.78	"	
1125	Well stable; Disconnect Horiba									
1130	Sample well									

6/17/09

Notes:

Checked by: Date:

50416

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3557091263
Well Number: MW-BGC-9B
Sheet 1 of 1

Sampler Name: Randall Morrison
Date: 6/17/09
Well Location Description:
Weather Conditions: Overcast 72°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. (Perist.) Other:
Pump ID No.: 01129
Bailer Type: Teflon SS Other: N4

Laboratory Parameters: See chain of Custody

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	42	1 in	0.0408
Depth to Water (FT) -	7.64	(2 in)	(0.1631)
Water Column (FT) =	34.36	4 in	0.6524
Gal/Ft of Casing x	.1631	6 in	1.4680
Casing Volume (Gal) =	5.6	8 in	2.6097
No.of Volumes min.(3) x	N/A	10 in	4.0776
Purge Volume (Gal) =		12 in	5.8718

Pump intake @ 37'

Pump:
Time On: 1020
Flow Rate (gpm): 150
Pump Time (min): 40 min
Vol. Purged (gals): 1.6

Bailer:
Bailer Vol. (gal): N/A
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1020		Pump Started								Clear
1025	~.1	7.65	2.8	17.77	6.59	0.461	-128	3.87	150	
1030	~.3	7.65	0.0	17.55	7.61	0.473	-141	0.51	150	
1035	~.4	7.66	7.8	17.55	7.22	0.486	-147	0.78	≈	
1040	~.5	7.66	8.3	17.58	7.31	0.479	-150	0.77	≈	
1045	~.8	7.65	8.7	17.61	7.36	0.477	-151	0.76	150	
1050	~1.1	7.66	0.0	17.62	7.38	0.477	-152	0.72	≈	
1055	~1.3	7.67	7.69	17.59	7.40	0.478	-153	0.74	150	
1100	~1.6	7.69	7.64	17.61	7.44	0.479	-153	0.73	≈	
Stabilized @ 1100										
DO reconnected Horiba										
Sampled @ 1105										

Notes:

Checked by: Date:

50417

6-17-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-B6L-10A
Sheet ___ of ___

Sampler Name: JMS
Date: 6-17-09
Well Location Description: Spring
Weather Conditions: Sunny 70s

Sample Tubing Type: Teflon Teflon Lined Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 01065
Pump Type: Sub. Cent. Perist. Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: N/A

Laboratory Parameters:
full COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	~20		
Depth to Water (FT) -	8.85	1 in	0.0408
Water Column (FT) =	11.15	2 in	0.1631
Gal/Ft of Casing x	N/A	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:
Time On: 1205
Flow Rate (gpm): 175 ml/min
Pump Time (min): 50 min
Vol. Purged (gals): 3.5

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other: N/A

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1205	-	8.85	START PUMP							
1210	~0.1	8.91	104.0	17.73	9.60	1.81	-160	4.54	175	
1215	~0.75	8.91	30.4	17.27	9.52	1.15	-155	3.50	"	
1220	~1	8.91	19.2	17.06	9.51	2.84	-156	3.18	"	
1225	~1.5	8.91	12.1	17.05	9.53	3.74	-158	3.04	"	
1230	~2	8.91	8.3	17.01	9.57	3.95	-161	2.94	"	
1235	~2.5	8.91	5.8	16.95	9.58	3.65	-166	2.85	"	
1240	~3	8.91	7.3	17.03	9.59	3.64	-166	2.84	"	
1245	~3.5	8.91	6.4	17.01	9.58	3.65	-167	2.86	"	
1250	Well stable; Document Header									
1255	Sample Well									

6/17/09

Notes:

Checked by: Date:

50418

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 555209/263
Well Number: BW-BGW-10 b
Sheet 1 of 1

Sampler Name: Randall Mannings
Date: 6/17/09
Well Location Description:
Weather Conditions: Drizzle, Cloudy 70°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: HOSIBA U22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. (Perist.) Other:
Pump ID No.: 0112a
Bailer Type: Teflon SS Other: N/A

Laboratory Parameters: See Chain of Custody

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	35.00		
Depth to Water (FT) -	8.44	1 in	0.0408
Water Column (FT) =		2 in	0.1631
Gal/Ft of Casing x	N/A	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x	N/A	8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump @ 30'

Pump:
Time On: 1205
Flow Rate (gpm): 145 ml/min
Pump Time (min): 90 min
Vol. Purged (gals): ~2.2 gal

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal): N/A
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1205		8.44		Pump Started						
1210	~.15	8.47	80.24	19.77	7.25	0.659	-132	2.06	150	Clear
1215	~.25	8.47	81.90	18.44	7.31	0.745	-135	0.70	≈	
1220	~.4	8.47	37.0	18.19	7.33	0.999	-136	0.86	150	
1225	~.6	8.46	24.3	18.11	7.32	0.842	-135	0.50	≈	
1230	~1.2	8.44	8.8	18.03	7.32	0.673	-135	0.52	≈	
1235	~1.5	8.48	7.2	18.36	7.31	0.655	-135	0.55	145	
1240	~1.8	8.48	0.0	18.55	7.31	0.652	-135	0.53	≈	
1245	~2.2	8.48	2.3	18.50	7.31	0.656	-135	0.57	≈	
Stabilized @ 1245										
Disconnected from Horiba										
Sampled @ 1300										

Randall Mannings

Notes:

Checked by: Date:

50419

6-17-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-05-1263
Well Number: MW-B6L-11A
Sheet ___ of ___

Sampler Name: [illegible]
Date: 6-17-09
Well Location Description: SE corner
Weather Conditions: Sunny 80s

Sample Tubing Type: Teflon ~~Teflon Lined~~ Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 01065
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: NA

Laboratory Parameters:
Del COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	20		
Depth to Water (FT) -	8.80	1 in	0.0408
Water Column (FT) =	11.20	2 in	0.1631
Gal/Ft of Casing x	NA	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:
Time On: 1345
Flow Rate (gpm): 175 ml/min
Pump Time (min): 70
Vol. Purged (gals): ~3.5

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal): NA
Other:

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU) ±	Temp (C) ±	pH ±	Cond. ( ) ±	ORP (mV) ±	DO (mg/L) ±	Flow Rate (mL/m) ±	Remarks
1345	-	8.80	START PUMP							
1350	~0.1	8.84	9.3	18.47	7.06	1.01	-29	5.66	175	
1355	~0.25	8.84	2.0	17.87	7.63	0.591	-53	4.31	"	
1400	~0.30	8.81	2.27	17.41	8.06	2.94	-72	3.74	"	
1405	~.40	8.84	6.28	17.32	8.26	6.31	-87	3.55	"	
1410	~0.80	8.84	5.00	17.06	8.57	4.00	-105	3.29	"	
1415	~1.2	8.83	3.8	17.03	8.60	3.80	-106	3.27	"	
1420	~1.5	8.86	6.1	17.09	8.78	2.90	-116	3.17	"	
1425	~2.0	8.86	7.9	17.12	9.02	2.14	-128	3.09	"	
1430	~2.6	8.85	6.9	17.03	9.13	1.93	-139	3.07	"	
1435	~3.2	8.86	6.8	16.98	9.23	1.53	-139	3.05	"	
1440	~3.5	8.86	5.9	16.99	9.23	1.52	-141	3.03		
Stabilized @		1440								
	Discharged	4 liter								
	Sampled @ 1455									

Notes:

Checked by: Date:

50420

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BEC-1B
Sheet 1 of 1

Sampler Name: Randall Morrison
Date: 6/17/09
Well Location Description:
Weather Conditions: Overcast Breezy 72°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba U22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. (Peristal) Other:
Pump ID No.: 01129
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See chain of custody

Total Well Depth (FT) :	38	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	8.64	1 in	0.0408
Water Column (FT) =	N/A	(2 in)	(0.1631)
Gal/Ft of Casing x		4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump @ 33

Pump:
Time On: ~~1040~~ 1340
Flow Rate (gpm): 125 ml/min
Pump Time (min): 40 min
Vol. Purged (gals): 1.5 gal

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1340		8.69		Pump On						
1345	~.1	8.66	66.7	18.14	6.07	0.99	-65	0.53		Clear
1350	~.2	8.69	41.1	17.99	6.34	0.93	-69	0.80	125	
1355	~.3	8.70	12.5	17.93	6.36	0.93	-70	0.62	"	
1400	~.4	8.69	7.3	17.88	6.37	0.93	-71	0.52		
1405	~.5	8.70	2.1	17.86	6.39	0.92	-73	0.42		
1410	~.8	8.69	3.7	17.55	6.39	0.92	-73	0.41		
1415	~1.2	8.69	2.0	17.48	6.40	0.91	-74	0.42		
1420	~1.5	8.69	0.0	17.44	6.40	0.91	-74	0.42		
	stabilized @ 1420									
	Disconnected Horiba									
	Sampled @ 1425									

Notes:

Checked by: Date:

50421

6-18-09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number:

Well Number: MW-B6C-12A

Sheet ___ of _____

Sampler Name: JWB

Date: 6-18-09

Well Location Description: E perimeter

Weather Conditions: Sunny 80's

Sample Tubing Type: Teflon Teflon Lined Other:

Analyzer Type: Horiba U22

Analyzer ID No.: 01065

Pump Type: Sub. Cent. Perist. Other:

Pump ID No.: 04837

Bailer Type: Teflon SS Other: NA

Laboratory Parameters: see COC

Total Well Depth (FT) :	~20	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	8.39	1 in	0.0408
Water Column (FT) =	11.62	2 in	0.1631
Gal/Ft of Casing x	NA	4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

Pump:

Time On: 1245

Flow Rate (gpm): 175

Pump Time (min): 50

Vol. Purged (gals): 2.5

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal):

Other: NA

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1245	–	8.39	START PUMP							
1250	~0.1	8.40	36.4	17.76	6.88	0.546	6	5.05	250	
1255	~0.25	8.41	21.9	18.55	7.35	0.534	-13	3.94	175	
~~1230~~ 1300	~0.75	8.41	16.8	18.09	7.56	0.543	-25	3.58	"	
1305	~1	8.41	12.4	18.00	7.76	0.018	-36	3.35	"	
1310	~1.5	8.41	7.8	18.36	7.92	0.999	-44	3.15	"	
1315	~1.75	8.41	6.1	18.08	8.09	1.06	-54	3.14	"	
1320	~2	8.41	7.8	18.36	8.10	1.07	-55	3.16	"	
1325	~2.5	8.41	1.2	18.42	8.11	1.05	-55	3.15		
1330	Well Stable, Disconnect Horiba									
1335	Sample Well									

Notes:

Checked by: Date:

50422

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BGC-12B
Sheet 1 of 1

Sampler Name: Randall Plummer
Date: 6/18/09
Well Location Description: East
Weather Conditions: Overcast 76°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba U-22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 0129
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See Chain of Custody

Total Well Depth (FT) : 41	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) - 8.75	1 in	0.0408
Water Column (FT) = NA	2 in	0.1631
Gal/Ft of Casing x	4 in	0.6524
Casing Volume (Gal) =	6 in	1.4680
No.of Volumes min.(3) x	8 in	2.6097
Purge Volume (Gal) =	10 in	4.0776
	12 in	5.8718

Pump @ 35'

Pump:
Time On: 1251
Flow Rate (gpm): 125
Pump Time (min): 39 min
Vol. Purged (gals): 1.5

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1251		8.75		Pump ON						
1255	~1.1	8.75	235.0	18.13	5.87	0.457	-22	1.05	250	Clear
1300	~1.2	8.76	200.0	18.51	5.94	0.455	-26	0.91	125	
1305	~1.3	8.76	24.0	18.77	5.97	0.453	-29	0.78		125
1310	~1.4	8.76	17.2	18.95	5.99	0.453	-30	0.67	125	
1315	~1.6	8.75	11.0	19.02	6.00	0.454	-31	0.60		
1320	~1.0	8.75	9.8	19.17	6.01	0.455	-32	0.61		
1325	~1.2	8.76	2.1	19.16	6.01	0.456	-32	0.62	125	
1330	~1.5	8.75	0.0	19.09	6.02	0.455	-33	0.61		
Stabilized @ 1330										
Decommissioned Horiba U22										
Sampled @ 1340										

Notes:

Checked by: Date:

50423

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 5552-09-1263 | Well Number: MW-BEC-13 | Sheet 1 of 1

Sampler Name: [illegible] | Well Location Description:

Date: 6/18/09 | Weather Conditions: Overcast, Humid 80s

Sample Tubing Type: Teflon (Teflon Lined) Other:

Analyzer Type: Horiba U-22

Analyzer ID No.: 12364

Pump Type: Sub. Cent. (Perist.) Other:

Pump ID No.: 01124

Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See chain of custody

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	23.25	1 in	0.0408
Depth to Water (FT) -	8.17	(2 in)	(0.1631) Pump @ 18'
Water Column (FT) =		4 in	0.6524
Gal/Ft of Casing x		6 in	1.4680
Casing Volume (Gal) =	NA	8 in	2.6097
No.of Volumes min.(3) x		10 in	4.0776
Purge Volume (Gal) =		12 in	5.8718

Pump:

Time On: 1410

Flow Rate (gpm): 125 ml/min

Pump Time (min): 35 min

Vol. Purged (gals): ~1.5 gal

Bailer:

Bailer Vol. (gal):

Required Pulls:

Vol. Purged(gal): NA

Other:

Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
Sampling Parameters			±	±	±	±	±	±	±	
1410		8.17	Pump on							
1415	~.1	8.18	140.0	18.25	5.15	1.07	90	1.03	~140	Clear
1420	~.2	8.18	103.0	17.79	5.08	1.06	100	0.21	≈	
1425	~.4	8.17	73.5	18.63	5.14	1.06	96	0.24	≈	
1430	~.6	8.17	34.6	18.64	5.16	1.07	96	0.21	125	
1435	~.8	8.18	10.0	18.60	5.17	1.06	93	0.40	≈	
1440	~1.2	8.17	5.3	18.71	5.19	1.06	91	0.39	125	
1445	~1.5	8.17	4.4	18.86	5.20	1.06	91	0.40	≈	
Stabilized @ 1445										
Disconnected Pump										
Sampled @ 1455										

Notes:

Checked by: Date:

50424

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-BGC-14
Sheet 1 of 1

Sampler Name: Randall Mounts
Date: 6/18/09
Well Location Description: Overcast
Weather Conditions: 80°F

Sample Tubing Type: Teflon (Teflon Lined) Other:
Analyzer Type: Horiba-U-22
Analyzer ID No.: 12364
Pump Type: Sub. Cent. (Perist.) Other:
Pump ID No.: 01129
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See COC

Total Well Depth (FT) :	21.31	Casing Diameter:	Gal/Ft of Casing:
Depth to Water (FT) -	9.24	1 in	0.0408
Water Column (FT) =		(2 in)	(0.1631)
Gal/Ft of Casing x		4 in	0.6524
Casing Volume (Gal) =		6 in	1.4680
No.of Volumes min.(3) x		8 in	2.6097
Purge Volume (Gal) =		10 in	4.0776
		12 in	5.8718

pump @ 16'

Pump:
Time On: 1540
Flow Rate (gpm): 125 ml/min
Pump Time (min): 40 min
Vol. Purged (gals): ~1.6

Bailer:
Bailer Vol. (gal):
Required Pulls:
Vol. Purged(gal):
Other:

Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1540		Pump On								
1545	~.1	9.24	12.1	18.91	6.19	0.311	-20	0.20	145	Clear
1550	~.2	9.26	14.1	19.09	6.19	0.296	-19	0.25	120	
1555	~.4	9.25	11.0	18.91	6.18	0.293	-20	0.24		
1600	~.5	9.25	2.2	18.95	6.17	0.292	-19	0.24	120	
1605	~.8	9.26	3.8	18.94	6.14	0.292	-16	0.22	~	
1610	~1.2	9.25	0.0	18.89	6.12	0.290	-16	0.21	125	
1615	~1.4	9.25	0.0	18.89	6.12	0.289	-15	0.22	~	
1620	~1.6	9.25	0.0	18.90	6.13	0.288	-14	0.20	~	
Stabilized @ 1620										
Disconnected from Horiba										
Sampled @ 1636										

Notes:

Checked by: Date:

50425

6/18/09

MACTEC

Low Flow Well Purge and Sampling Field Sheet

Project Number: 3552-09-1263
Well Number: MW-B6C-15
Sheet ___ of _____

Sampler Name: JMB
Date: 6-18-09
Well Location Description: N of SG + SG
Weather Conditions: Sunny

Sample Tubing Type: Teflon ~~Teflon Lined~~ Other:
Analyzer Type: Horiba U-22XL
Analyzer ID No.: 01065
Pump Type: Sub. Cent. ~~Perist.~~ Other:
Pump ID No.: 04837
Bailer Type: Teflon SS Other: NA

Laboratory Parameters: See COC

		Casing Diameter:	Gal/Ft of Casing:
Total Well Depth (FT) :	15.80	1 in	0.0408
Depth to Water (FT) -	5.27	2 in	0.1631
Water Column (FT) =	10.53	4 in	0.6524
Gal/Ft of Casing x	NA	6 in	1.4680
Casing Volume (Gal) =	NA	8 in	2.6097
No.of Volumes min.(3) x	NA	10 in	4.0776
Purge Volume (Gal) =	NA	12 in	5.8718

Pump:
Time On: 1420
Flow Rate (gpm): 200 mL/min
Pump Time (min): 60 min
Vol. Purged (gals): ~3.5

Bailer:
Bailer Vol. (gal): NA
Required Pulls:
Vol. Purged(gal):
Other:

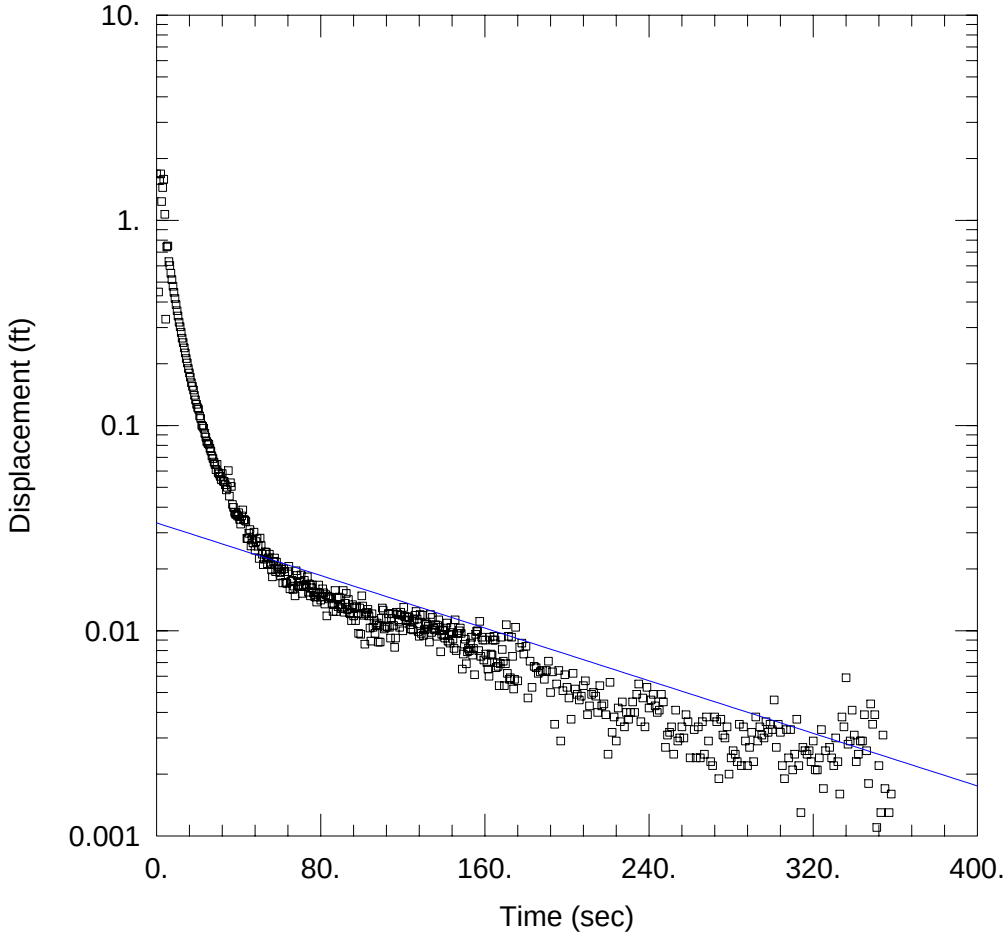
Sampling Parameters			±	±	±	±	±	±	±	
Time	Water Volume Discharged (gal)	Water Level (if BTOC)	Turbidity (NTU)	Temp (C)	pH	Cond. ( )	ORP (mV)	DO (mg/L)	Flow Rate (mL/m)	Remarks
1420	-	5.27	START PUMP							
1425	~0.1	5.30	27.6	20.68	7.40	4.73	-23	5.27	250	
1430	~0.25	5.31	17.7	20.07	7.68	4.64	-36	4.04	200	
1435	~0.75	5.31	5.3	19.87	7.85	8.37	-46	3.58	"	
1440	~1	5.31	2.4	19.85	7.93	7.37	-50	3.44	"	
1445	~1.5	5.31	7.1	19.90	7.95	6.42	-53	3.30	"	
1450	~2	5.31	8.3	19.80	7.99	5.70	-56	3.22	"	
1455	~2.25	5.31	8.0	19.80	8.01	5.18	-57	3.11	"	
1500	~2.5	5.31	7.2	19.81	8.02	5.11	-58	3.09	"	
1505	~3	5.31	4.1	19.89	8.03	5.10	-57	3.09	"	
1510	~3.5	5.31	6.6	19.89	8.03	5.10	-57	3.07	"	
1515	Well Stable; Disconnect Horiba									
1520	Sample Lock									

Notes:
Sampled well as a Dup; MW-B6C-Dup04

Checked by: Date:

50426

APPENDIX B
SLUG TEST EVALUATION DATA



5A - SLUG IN

Data Set: P:\...\5A - Slug In_NK.aqt
Date: 01/30/09 Time: 12:03:58

PROJECT INFORMATION

Company: MACTEC
Client: Dominion
Project: 3552081210
Location: Battlefield GC
Test Well: 5A
Test Date: 12-3-08

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

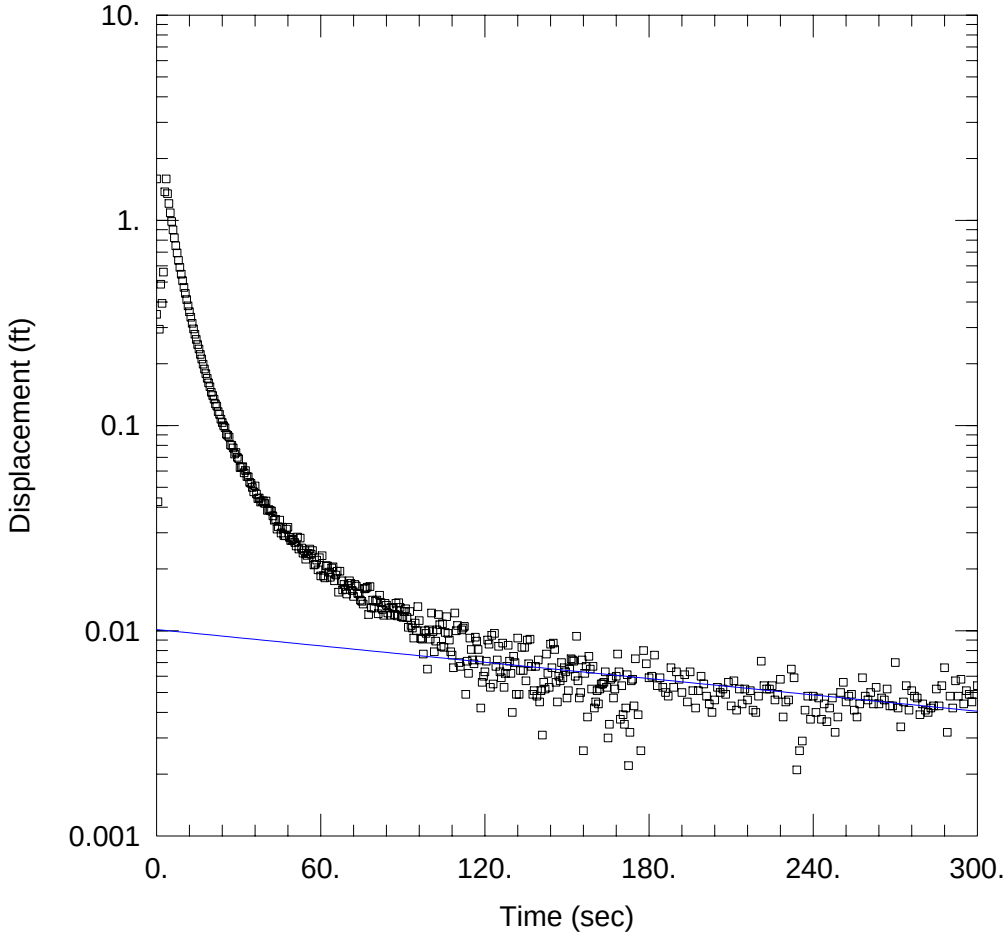
WELL DATA (5A)

Initial Displacement: 1.684 ft
Total Well Penetration Depth: 13.82 ft
Casing Radius: 0.1 ft
Static Water Column Height: 13.82 ft
Screen Length: 10. ft
Wellbore Radius: 0.1 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.029 ft/day
y0 = 0.03353 ft



5A - SLUG OUT

Data Set: P:\...\5A - Slug Out_NK.aqt
Date: 01/30/09 Time: 11:01:09

PROJECT INFORMATION

Company: MACTEC
Client: Dominion
Project: 3552081210
Location: Battlefield GC
Test Well: 5A - Slug Out
Test Date: 12-3-08

AQUIFER DATA

Saturated Thickness: 40. ft Anisotropy Ratio (Kz/Kr): 1.

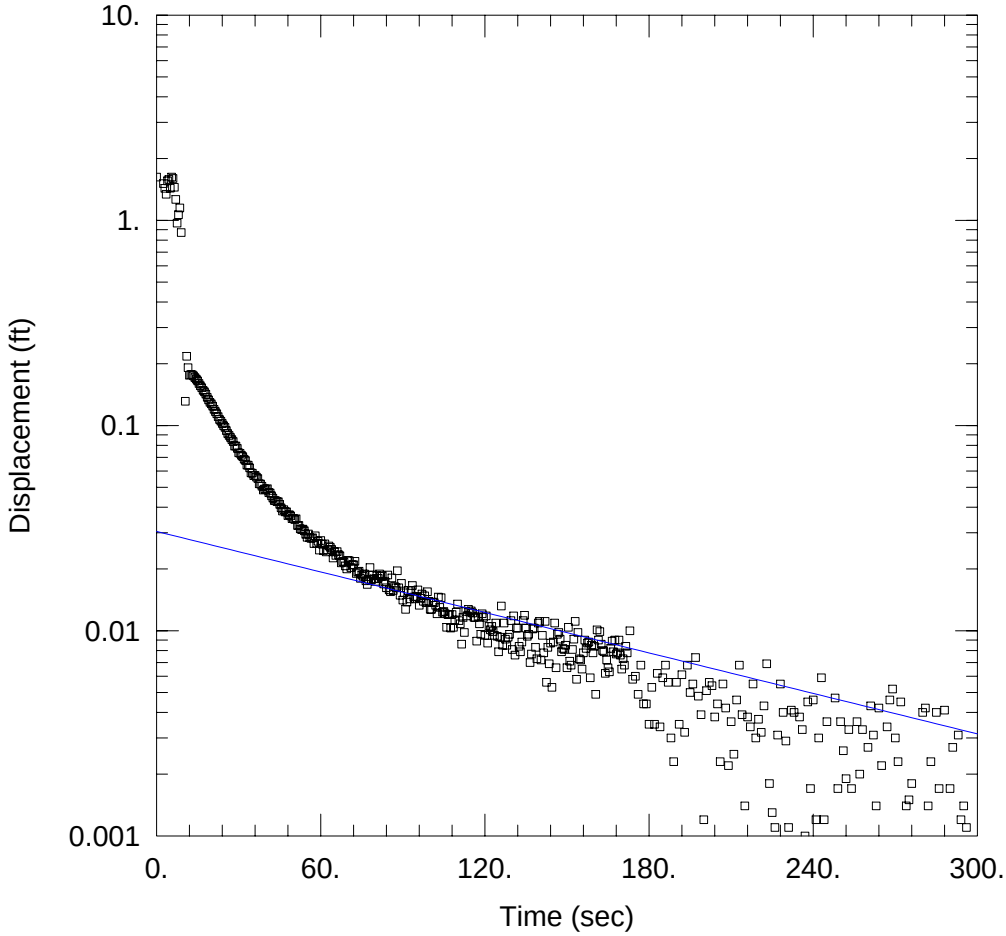
WELL DATA (5A)

Initial Displacement: 1.591 ft
Total Well Penetration Depth: 13.82 ft
Casing Radius: 0.1 ft
Static Water Column Height: 13.82 ft
Screen Length: 10. ft
Wellbore Radius: 0.1 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.4296 ft/day
y0 = 0.01013 ft



5B - SLUG IN

Data Set: P:\...\5B - Slug In.aqt
Date: 01/30/09 Time: 11:02:03

PROJECT INFORMATION

Company: MACTEC
Client: Dominion
Project: 3552081210
Location: Battlefield GC
Test Well: 5B
Test Date: 12-3-08

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

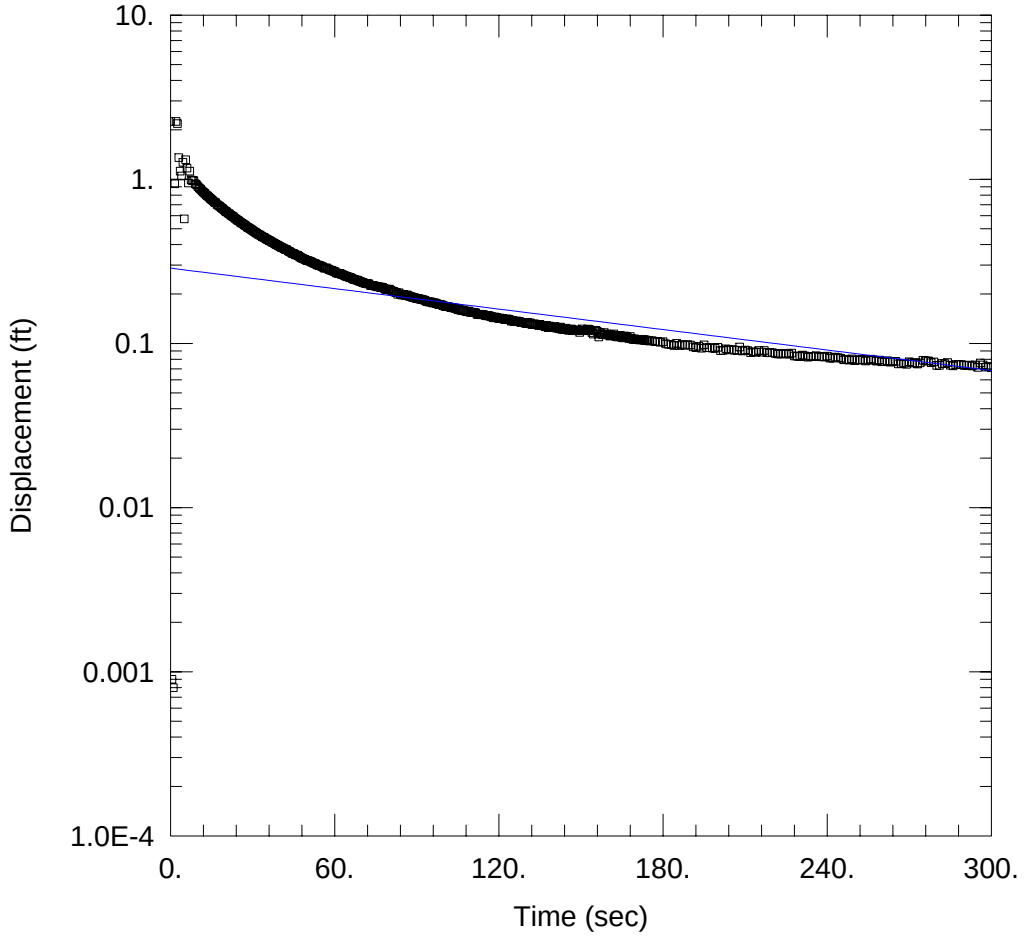
WELL DATA (5B)

Initial Displacement: 1.625 ft Static Water Column Height: 33.93 ft
Total Well Penetration Depth: 33.93 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.1 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.214 ft/day y0 = 0.03046 ft



6A - SLUG IN

Data Set: P:\...\6A - SLUG IN_NK.aqt
Date: 01/30/09 Time: 12:05:47

PROJECT INFORMATION

Company: MACTEC
Client: Dominion
Project: 3552081208
Location: Battlefield
Test Well: 6A

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

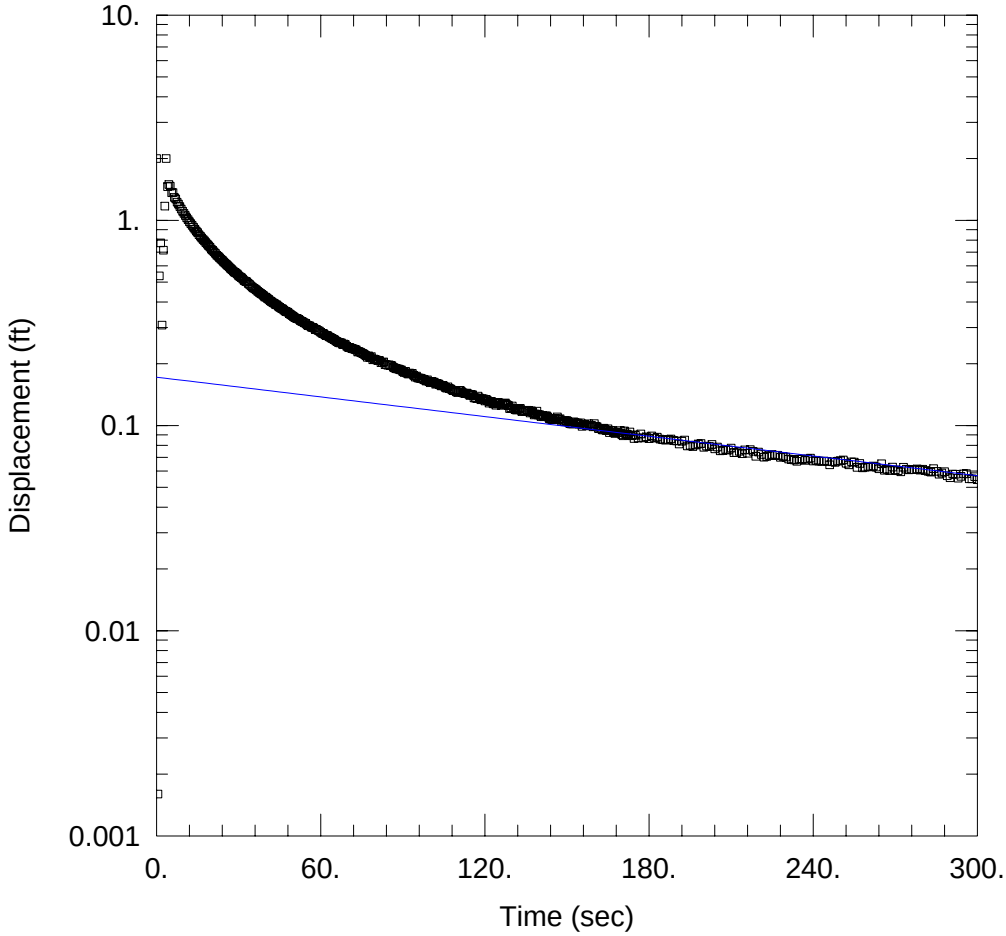
WELL DATA (OW 1)

Initial Displacement: 2.252 ft Static Water Column Height: 13.43 ft
Total Well Penetration Depth: 13.43 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.1 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.6643 ft/day y0 = 0.2874 ft



6A - SLUG OUT

Data Set: P:\...\6A - SLUG OUT_NK.aqt
Date: 01/30/09 Time: 09:13:26

PROJECT INFORMATION

Company: MACTEC
Client: Dominion
Project: 3552081208
Location: Battlefield
Test Well: 6A

AQUIFER DATA

Saturated Thickness: 40. ft Anisotropy Ratio (Kz/Kr): 1.

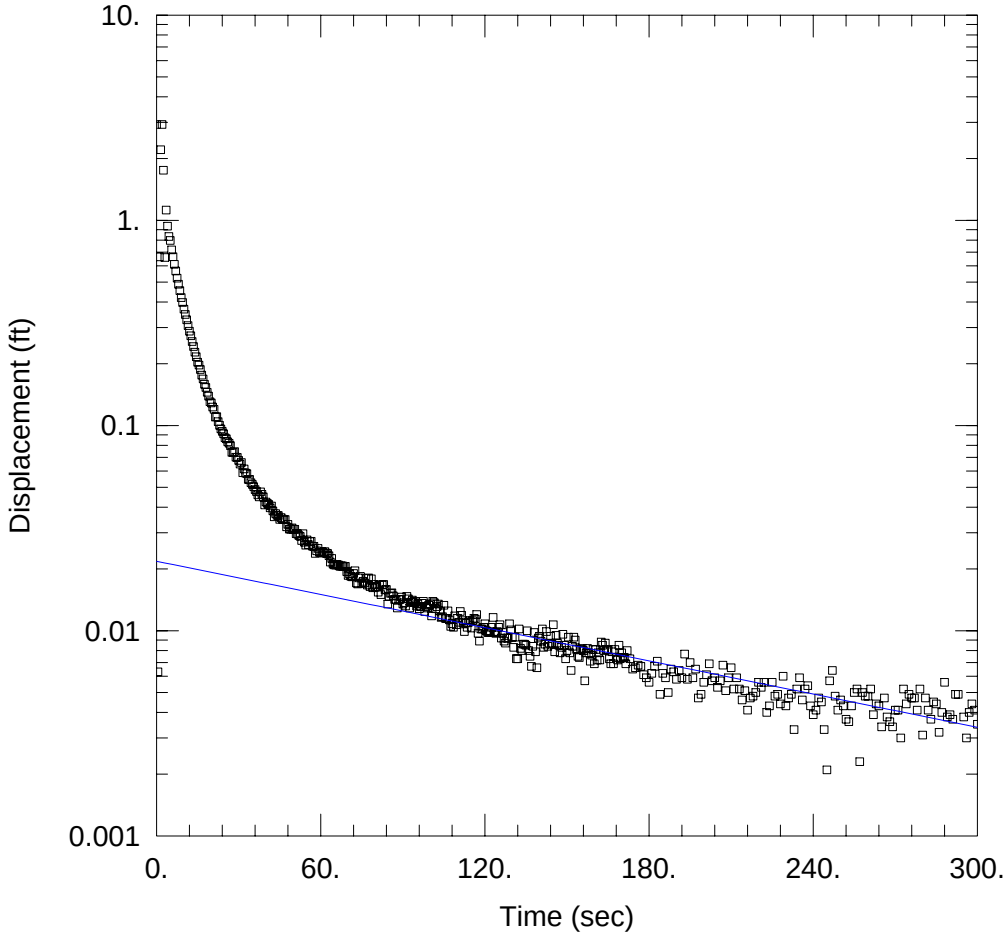
WELL DATA (6A - OUT)

Initial Displacement: 2. ft Static Water Column Height: 13.43 ft
Total Well Penetration Depth: 13.43 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.1 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.5155 ft/day y0 = 0.172 ft



11A - SLUG IN

Data Set: P:\...\11A - Slug In.aqt
Date: 01/30/09 Time: 10:57:43

PROJECT INFORMATION

Company: MACTEC
Client: Dominion
Project: 3552081210
Location: Battlefield G.C.
Test Well: 11A
Test Date: 12-3-08

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

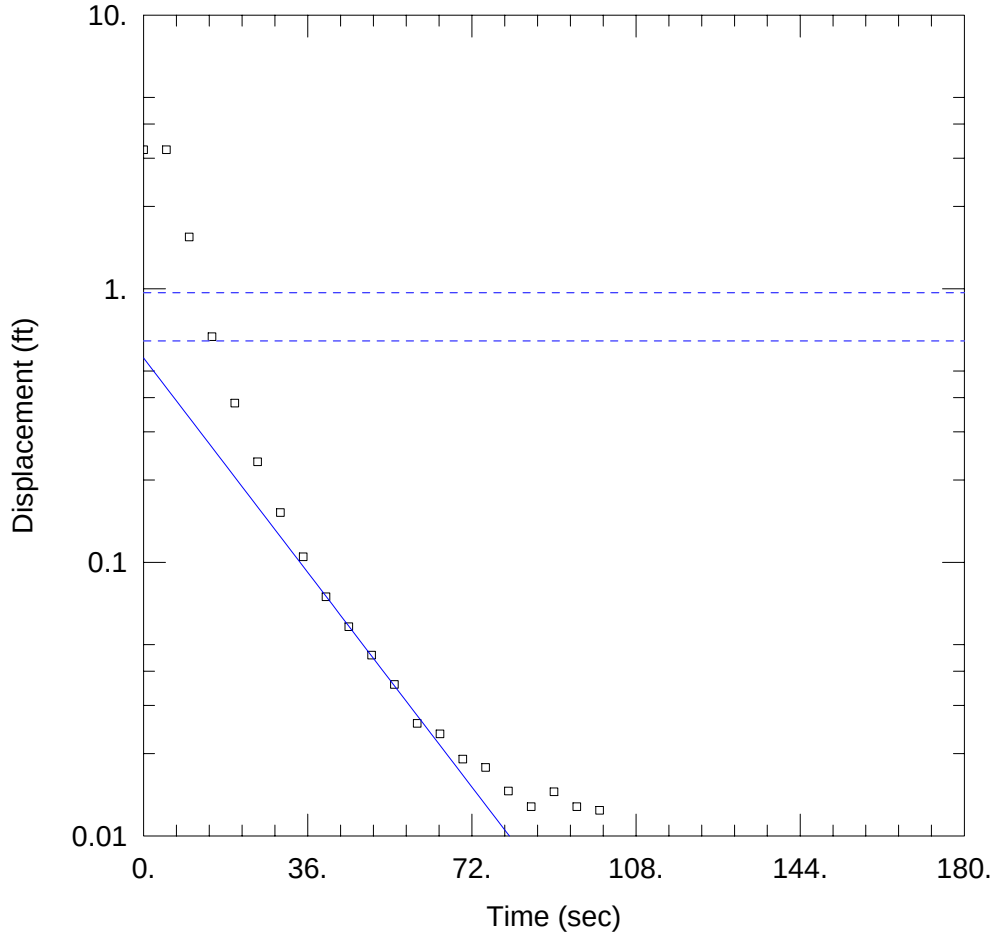
WELL DATA (11A)

Initial Displacement: 2.93 ft
Total Well Penetration Depth: 14.37 ft
Casing Radius: 0.1 ft
Static Water Column Height: 14.37 ft
Screen Length: 10. ft
Wellbore Radius: 0.1 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.8713 ft/day
y0 = 0.0218 ft



MW- BGC-8A SLUG IN

Data Set: P:\...\MW-BGC-8A - SLUG IN.aqt
Date: 09/08/09 Time: 16:00:45

PROJECT INFORMATION

Company: MACTEC
Client: BGC
Project: 3552-09-1263
Location: Chesapeake
Test Well: MW-BGC-8A
Test Date: 7-15-09

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

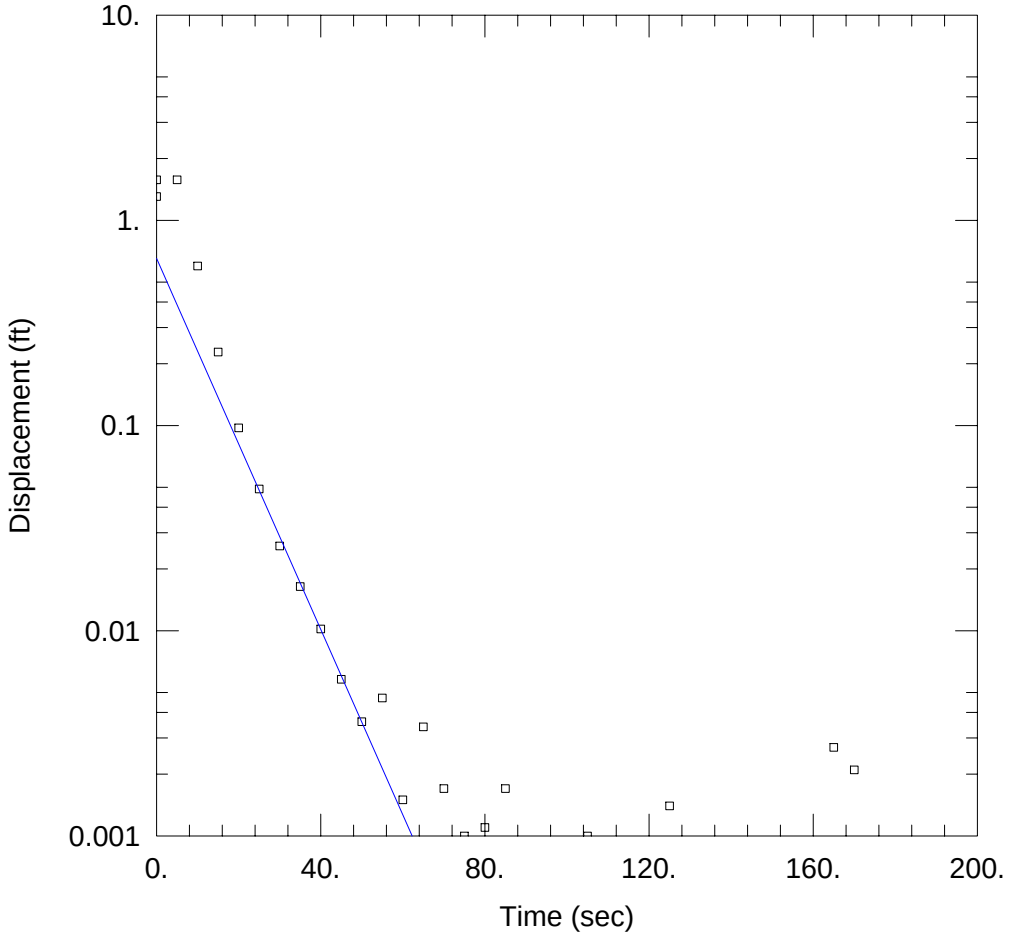
WELL DATA (MW-BGC-8A)

Initial Displacement: 3.223 ft Static Water Column Height: 13.04 ft
Total Well Penetration Depth: 13.04 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.4 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.001611 cm/sec y0 = 0.5583 ft



MW-BGC-8A SLUG OUT

Data Set: P:\...\MW-BGC-8A - SLUG OUT.aqt
Date: 09/08/09 Time: 16:01:17

PROJECT INFORMATION

Company: MACTEC
Client: BGC
Project: 3552-09-1263
Location: Chesapeake
Test Well: MW-BGC-8A
Test Date: 7-15-09

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

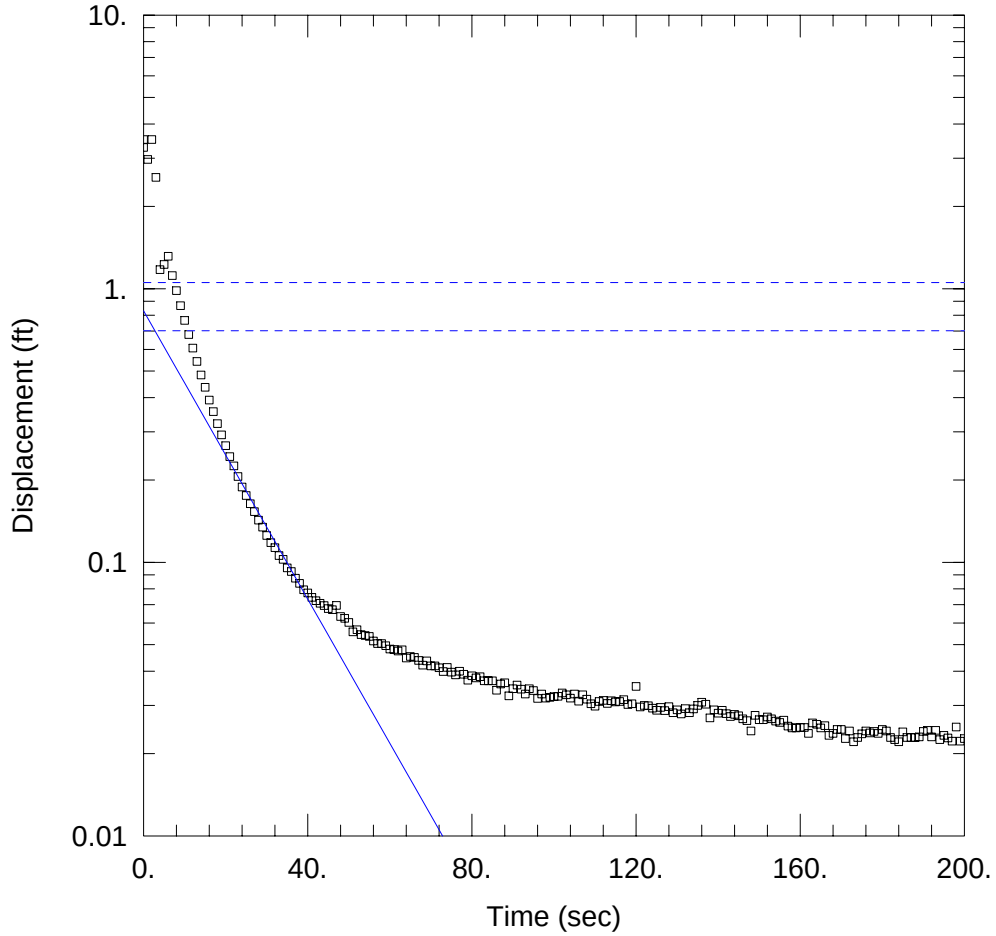
WELL DATA (MW-BGC-8A)

Initial Displacement: 1.576 ft Static Water Column Height: 13.04 ft
Total Well Penetration Depth: 13.04 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.4 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.003344 cm/sec y0 = 0.6518 ft



MW-BGC-13 SLUG IN

Data Set: P:\...\MW-BGC-13 - SLUG IN.aqt
Date: 09/08/09 Time: 16:02:12

PROJECT INFORMATION

Company: MACTEC
Client: BGC
Project: 3552-09-1263
Location: Chesapeake
Test Well: MW-BGC-13
Test Date: 7-15-2009

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

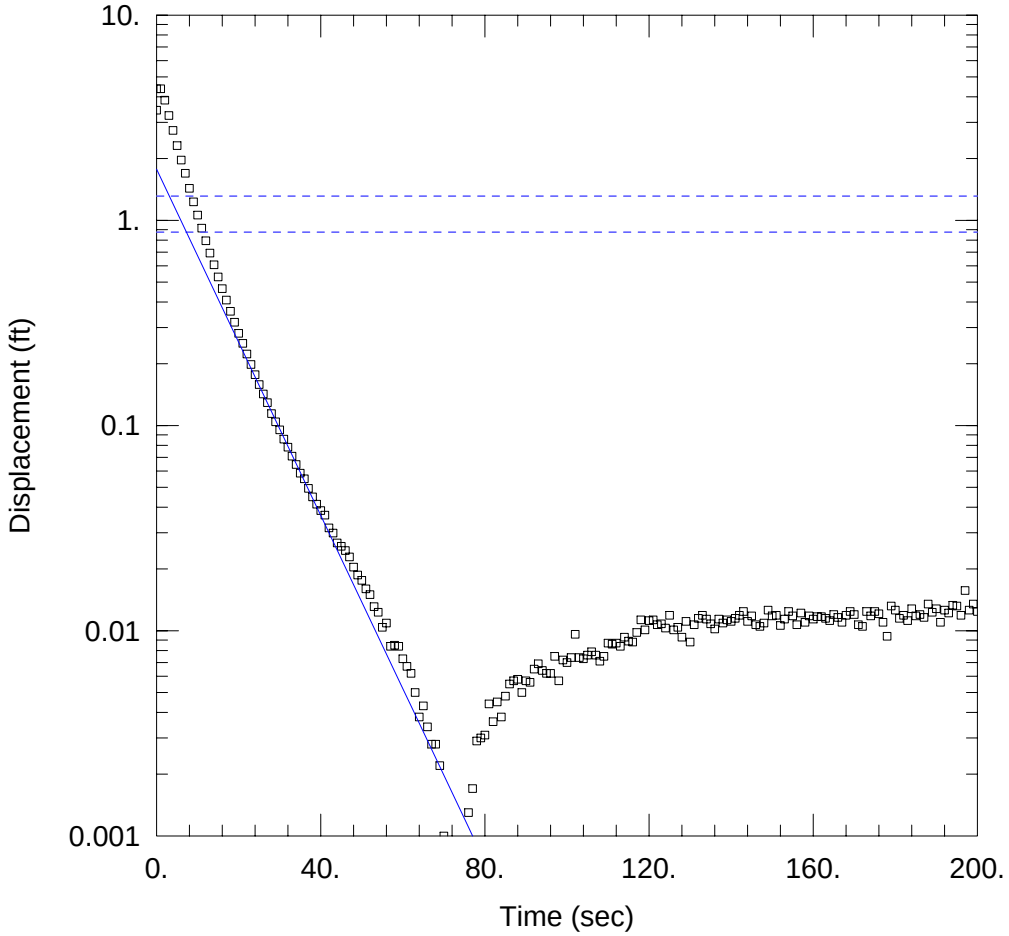
WELL DATA (MW-BGC-13)

Initial Displacement: 3.51 ft Static Water Column Height: 15.08 ft
Total Well Penetration Depth: 15.08 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.4 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.002006 cm/sec y0 = 0.8299 ft



MW-BGC-13 SLUG OUT

Data Set: P:\...\MW-BGC-13 - SLUG OUT.aqt
Date: 09/08/09 Time: 16:02:36

PROJECT INFORMATION

Company: MACTEC
Client: BGC
Project: 3552-09-1263
Location: Chesapeake
Test Well: MW-BGC-13
Test Date: 7-15-2009

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

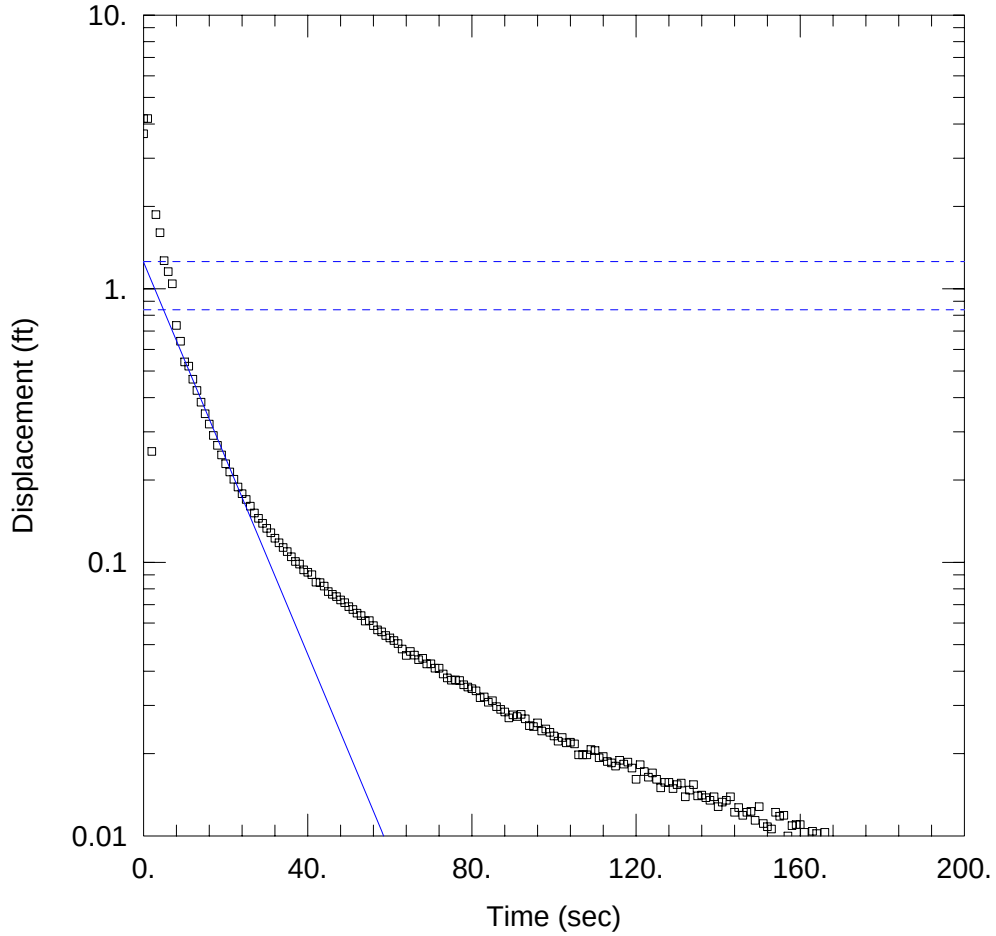
WELL DATA (MW-BGC-13)

Initial Displacement: 4.379 ft Static Water Column Height: 15.08 ft
Total Well Penetration Depth: 15.08 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.4 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.003213 cm/sec y0 = 1.774 ft



MW-BGC-15 SLUG IN

Data Set: P:\...\MW-BGC-15 SLUG IN.aqt
Date: 09/08/09 Time: 16:05:07

PROJECT INFORMATION

Company: MACTEC
Client: BGC
Project: 3552-09-1263
Location: Chesapeake
Test Well: MW-BGC-15
Test Date: 7-17-09

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

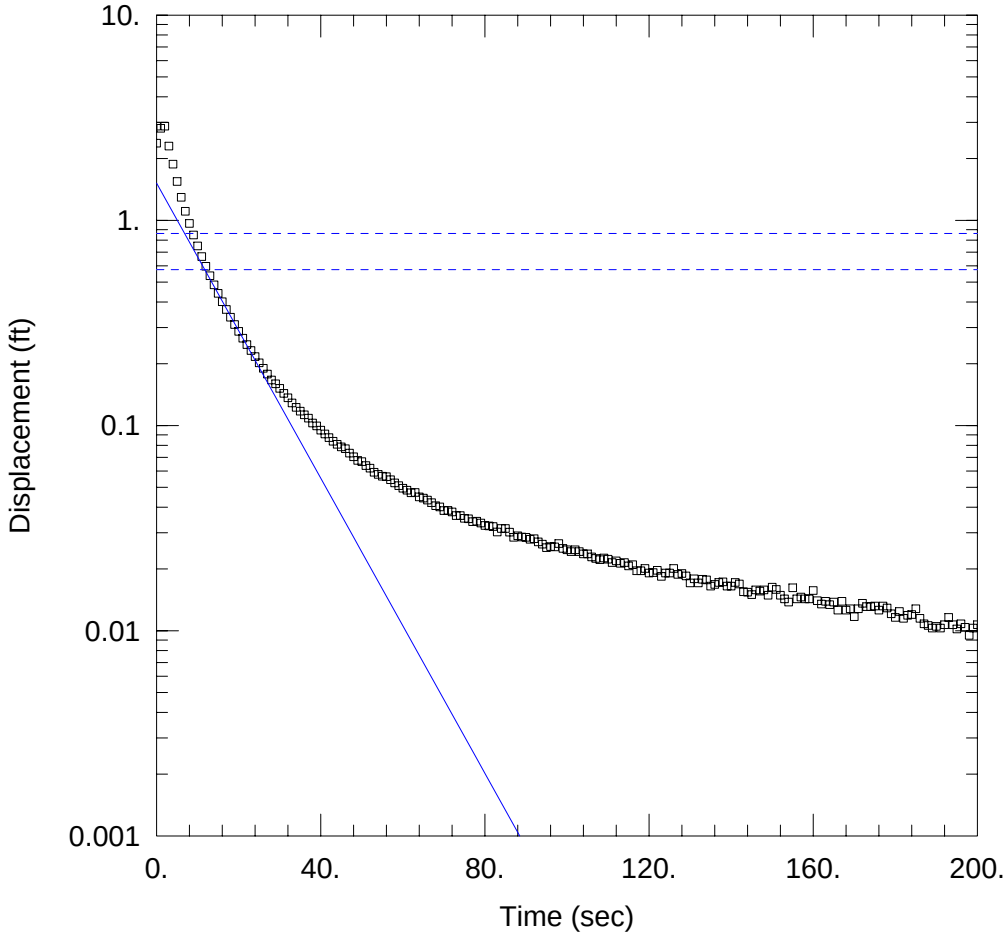
WELL DATA (MW-BGC-15)

Initial Displacement: 4.188 ft Static Water Column Height: 11.09 ft
Total Well Penetration Depth: 11.09 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.4 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.002565 cm/sec y0 = 1.251 ft



MW-BGC-15 SLUG OUT

Data Set: P:\...\MW-BGC-15 SLUG OUT.aqt
Date: 09/08/09 Time: 16:05:32

PROJECT INFORMATION

Company: MACTEC
Client: BGC
Project: 3552-09-1263
Location: Chesapeake
Test Well: MW-BGC-15
Test Date: 7-17-09

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-BGC-15)

Initial Displacement: 2.875 ft Static Water Column Height: 11.09 ft
Total Well Penetration Depth: 11.09 ft Screen Length: 10. ft
Casing Radius: 0.1 ft Wellbore Radius: 0.4 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.002573 cm/sec y0 = 1.518 ft

APPENDIX C
PHYSICAL LABORATORY TEST DATA

MACTEC

MACTEC Engineering and Consulting, Inc.
22010 Commerce Drive
Abingdon, VA 24211

Compaction Test Results

Project No.	3552-08-1210	**Tested By**	JCM
Project Name	Battle Field Golf Club	**Test Date**	Dec. 10 2008
Project Location	Chesapeake, Virginia	**Reviewed By**	GBG
		Review Date	January 29, 2009

COMPACTION DATA

Sample Location	Sample Depth (ft)	Nuclear Gauge Test			Proctor Compaction Test		Relative Compaction
		Wet Density	Lab Moisture	Dry Density	Maximum Dry	Optimum Moisture	
TP-1	3.8	92.7	52.1%	60.9	66.2	40.1%	92.1%
TP-2	2.1	83.7	49.1%	56.1	64.5	41.0%	87.0%
TP-3	2.5	82.8	52.0%	54.5	64.9	41.1%	83.9%

Created By: Jason C. Monk

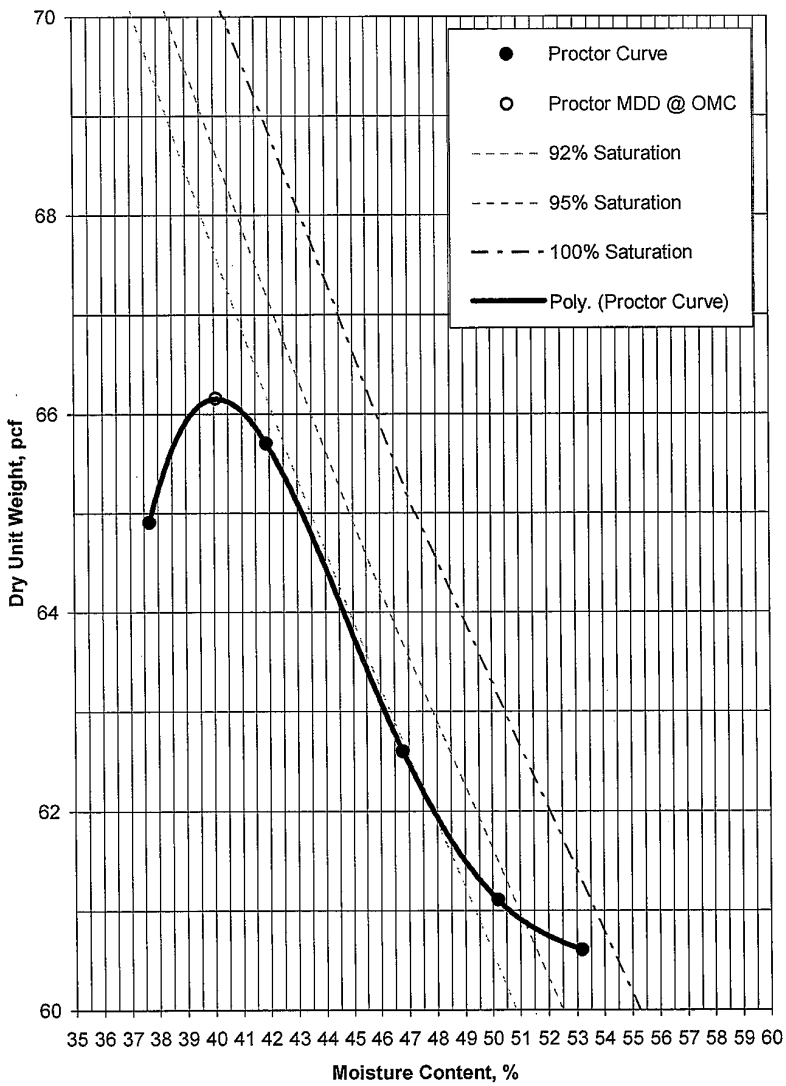
Reviewed by:

50441

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211

Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/15/2008
Sample I.D.: TP-1 Bulk **Sample Depth:** 2.0 - 3.8
Test Method: ASTM D698 A
Description: Black, sandy SILT (ML)
Material Source: Test pit excavation

Moisture Density Curves



PROCTOR MAX. DRY DENSITY	66.2
PROCTOR OPT. MOISTURE, %	40.1
MATERIAL PASSING SIEVE	No. 4
% MATERIAL RETAINED	N/A
Gs, RETAINED MATERIAL	2.1
CORRECTED MAX. DRY DENSITY	66.2
CORRECTED OPT. MOISTURE, %	40.1

Assumed Zero Air-Voids Curves for Gs=2.05

SAMPLE #	SAMPLE DEPTH (ft.)	SAMPLE TYPE	SOIL CLASS.	% FINER NO. 200 SIEVE ASTM D422	NAT. MOIST. (%) ASTM D2216	ATTERBERG LIMITS ASSTHO T90-00(2004)		
						LL	PL	PI
TP-1 Bulk	2.0 - 3.8	Bulk	ML	74.3	52.1	NLL	NPL	NP

Performed by: Bryan C. Williams
Checked by: JCM

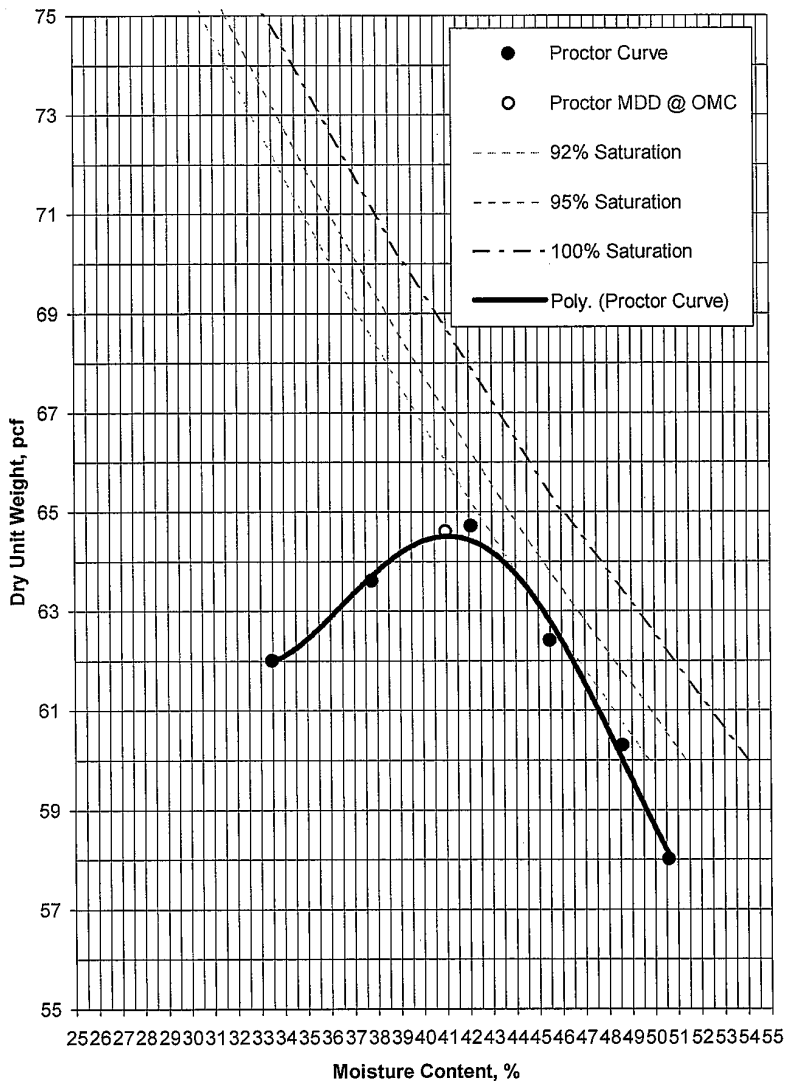
Proctor, TP-1, Bulk .xls

50442

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211

Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/17/2008
Sample I.D.: TP-2 Bulk **Sample Depth:** 1.8 - 2.1
Test Method: ASTM D698 A
Description: Black, SILT (ML) with sand
Material Source: Test pit excavation

Moisture Density Curves



PROCTOR MAX. DRY DENSITY	64.6
PROCTOR OPT. MOISTURE, %	41.0
MATERIAL PASSING SIEVE	No. 4
% MATERIAL RETAINED	N/A
Gs, RETAINED MATERIAL	2.0
CORRECTED MAX. DRY DENSITY	64.6
CORRECTED OPT. MOISTURE, %	41.0

Assumed Zero Air-Voids Curves for Gs=2.00

SAMPLE #	SAMPLE DEPTH (ft.)	SAMPLE TYPE	SOIL CLASS.	% FINER NO. 200 SIEVE ASTM D422	NAT. MOIST. (%) ASTM D2216	ATTERBERG LIMITS ASSTHO T90-00(2004)		
						LL	PL	PI
TP-2 Bulk	1.8 - 2.1	Bulk	ML	73.3	49.1	NLL	NPL	NP

Performed by: Bryan C. Williams
Checked by: J C M.

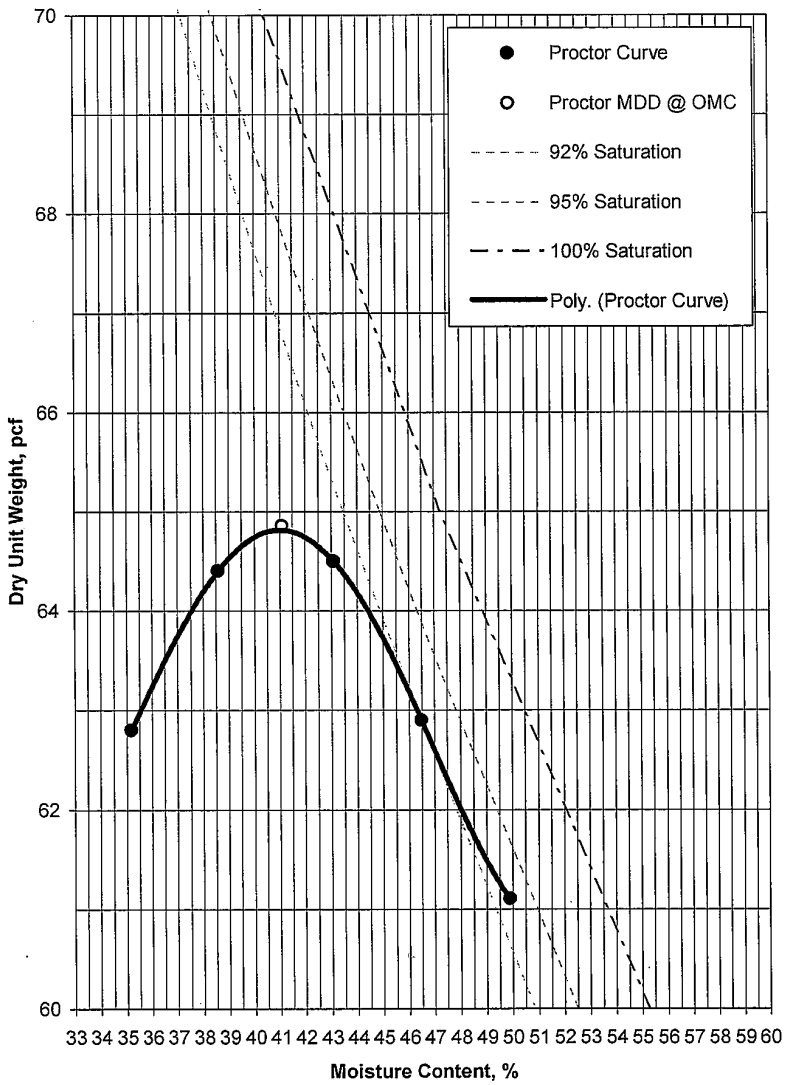
Proctor, TP-2, Bulk .xls

50443

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211

Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/15/2008
Sample I.D.: TP-3 Bulk **Sample Depth:** 2.5-3.0
Test Method: ASTM D698 A
Description: Black, sandy SILT (ML)
Material Source: Test pit excavation

Moisture Density Curves



PROCTOR MAX. DRY DENSITY	64.9
PROCTOR OPT. MOISTURE, %	41.1
MATERIAL PASSING SIEVE	No. 4
% MATERIAL RETAINED	N/A
Gs, RETAINED MATERIAL	2.1

Assumed Zero Air-Voids Curves for Gs=2.05

SAMPLE #	SAMPLE DEPTH (ft.)	SAMPLE TYPE	SOIL CLASS.	% FINER NO. 200 SIEVE ASTM D422	NAT. MOIST. (%) ASTM D2216	ATTERBERG LIMITS ASSTHO T90-00(2004)		
						LL	PL	PI
TP-3 Bulk	2.5-3.0	Bulk	ML	68.9	52.0	NLL	NPL	NP

Performed by: Bryan C. Williams
Checked by: ACM

Proctor, TP-3, Bulk .xls

50444

MACTEC

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211
(276) 676-0426

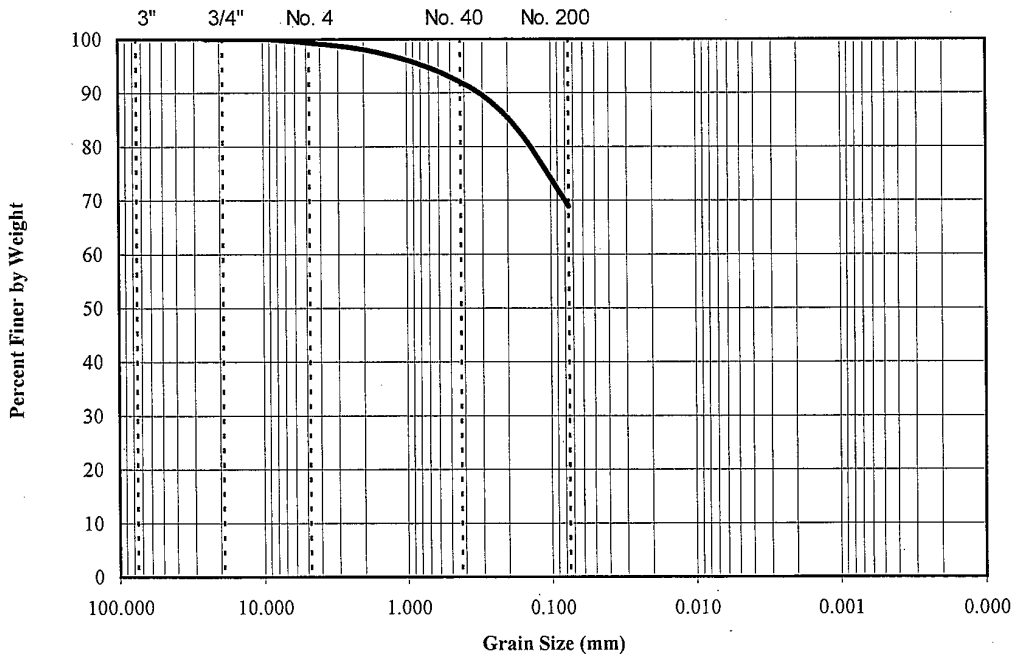
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/16/08

Washed Particle Size/Gradation Test Report
ASTM D422

Sample Number: TP-3 **Location:** 2.5 - 3.0
Description : *Black. Sandy* ***SILT (ML)***
Percent Finer than No. 200: 68.9% % (from washing)

Sieve Size	Cumulative (g)	Wt. Retained Each Sieve (g)	Cumulative % Passing	Cumulative % Passing w/ Wash 200
1 in.	0.00	0.00	100.0	100.0
3/4 in.	0.00	0.00	100.0	100.0
3/8 in.	0.00	0.00	100.0	100.0
# 4	2.25	2.25	97.7	99.3
# 10	5.82	3.57	94.0	98.1
# 20	14.21	8.39	85.4	95.5
# 40	25.13	10.92	74.2	92.0
# 60	37.72	12.59	61.2	87.9
# 100	58.40	20.68	39.9	81.3
#200	97.24	38.84	0.0	68.9
PAN	97.25	0.01	0.0	
Wt. of Soil, g	312.86			

Particle Size Analysis
U.S. Standard Sieve Sizes



Performed By: B.C.W. Checked By: JCM Sieve Analysis,TP-3.xls

50445

MACTEC

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211
(276) 676-0426

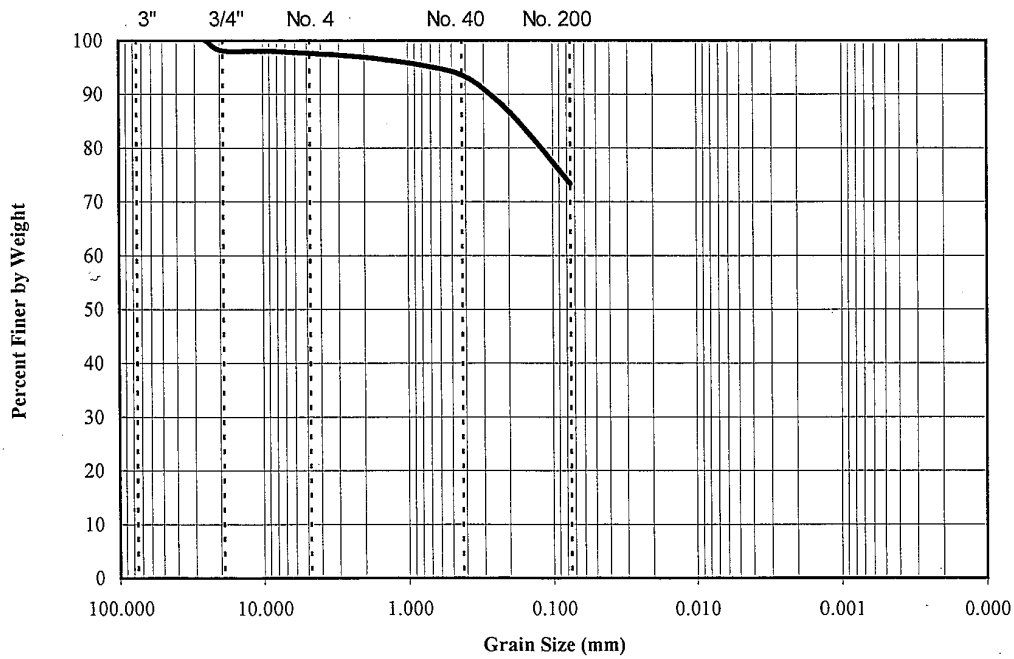
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/16/08

Washed Particle Size/Gradation Test Report
ASTM D422

Sample Number: TP-2 **Location:** 1.8-2.1
Description : *Black , SILT (ML) with sand*
Percent Finer than No. 200: 73.3% % (from washing)

Sieve Size	Cumulative (g)	Wt. Retained Each Sieve (g)	Cumulative % Passing	Cumulative % Passing w/ Wash 200
1 in.	0.00	0.00	100.0	100.0
3/4 in.	5.36	5.36	93.0	98.1
3/8 in.	5.86	0.50	92.4	98.0
# 4	6.84	0.98	91.1	97.6
# 10	9.03	2.19	88.2	96.9
# 20	12.89	3.86	83.2	95.5
# 40	18.55	5.66	75.8	93.6
# 60	30.66	12.11	60.0	89.3
# 100	48.70	18.04	36.5	83.1
#200	76.71	28.01	0.0	73.3
PAN	76.71	0.00	0.0	
Wt. of Soil, g	287.61			

Particle Size Analysis
U.S. Standard Sieve Sizes



Performed By: B.C.W.

Checked By: JCM

Sieve Analysis,TP-2.xls

50446

MACTEC

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211
(276) 676-0426

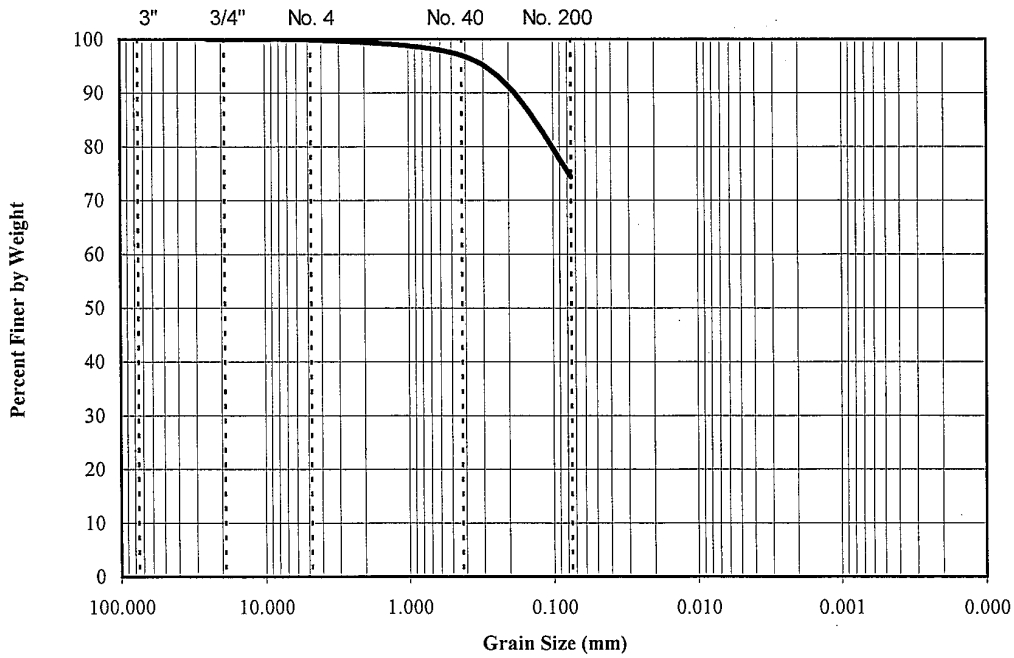
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/16/08

Washed Particle Size/Gradation Test Report
ASTM D422

Sample Number: TP-1 **Location:** 2.0 - 3.8
Description : *Black, **SILT (ML)** with sand*
Percent Finer than No. 200: 74.3% % (from washing)

Sieve Size	Cumulative (g)	Wt. Retained Each Sieve (g)	Cumulative % Passing	Cumulative % Passing w/ Wash 200
1 in.	0.00	0.00	100.0	100.0
3/4 in.	0.00	0.00	100.0	100.0
3/8 in.	0.00	0.00	100.0	100.0
# 4	0.26	0.26	99.7	99.9
# 10	1.68	1.42	97.8	99.4
# 20	4.25	2.57	94.3	98.5
# 40	8.77	4.52	88.3	97.0
# 60	18.25	9.48	75.7	93.7
# 100	37.83	19.58	49.6	87.0
#200	75.13	37.30	0.0	74.3
PAN	75.13	0.00	0.0	
Wt. of Soil, g	291.87			

Particle Size Analysis
U.S. Standard Sieve Sizes



Performed By: B.C.W.

Checked By: JCM

Sieve Analysis,TP-1.xls

50447

MACTEC

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211
(276) 676-0426

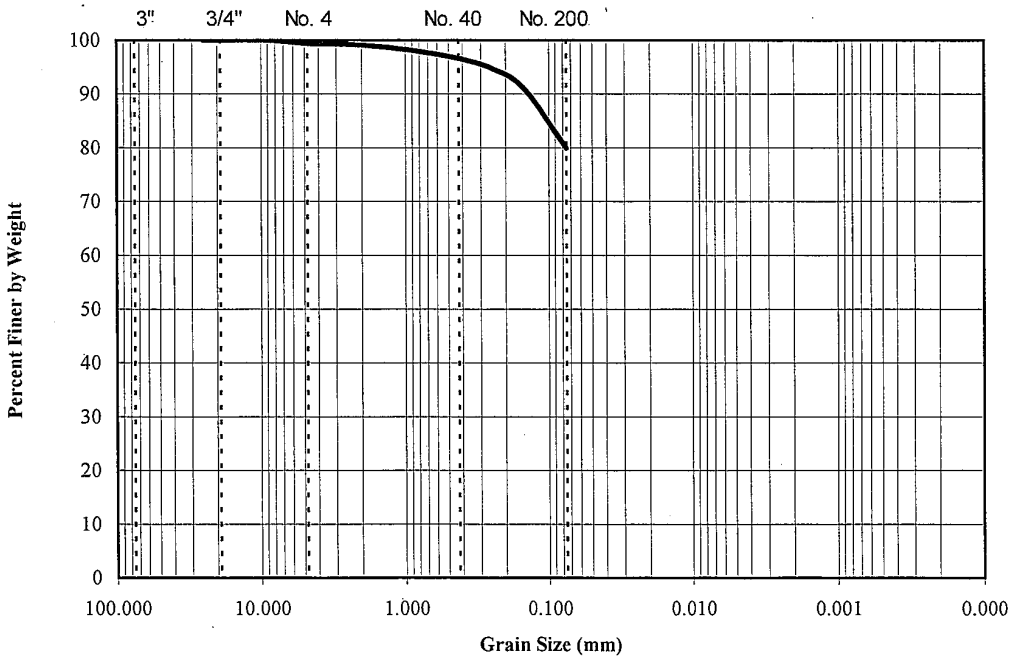
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/16/08

Washed Particle Size/Gradation Test Report
ASTM D422

Sample Number: SB-3 **Location:** 16.0-18.0
Description : *Very dark greenish gray,* ***SILT (ML)*** *with sand*
Percent Finer than No. 200: 79.9% % (from washing)

Sieve Size	Cumulative (g)	Wt. Retained Each Sieve (g)	Cumulative % Passing	Cumulative % Passing w/ Wash 200
1 in.	0.00	0.00	100.0	100.0
3/4 in.	0.00	0.00	100.0	100.0
3/8 in.	0.00	0.00	100.0	100.0
# 4	0.18	0.18	96.9	99.4
# 10	0.26	0.08	95.6	99.1
# 20	0.59	0.33	89.9	98.0
# 40	1.00	0.41	83.0	96.6
# 60	1.53	0.53	73.9	94.8
# 100	2.60	1.07	55.7	91.1
#200	5.87	3.27	0.0	79.9
PAN	5.87	0.00	0.0	
Wt. of Soil, g	29.25			

Particle Size Analysis
U.S. Standard Sieve Sizes



Performed By: B.C.W.

Checked By: JCM

Sieve Analysis,SB-3.xls

50448

MACTEC

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211
(276) 676-0426

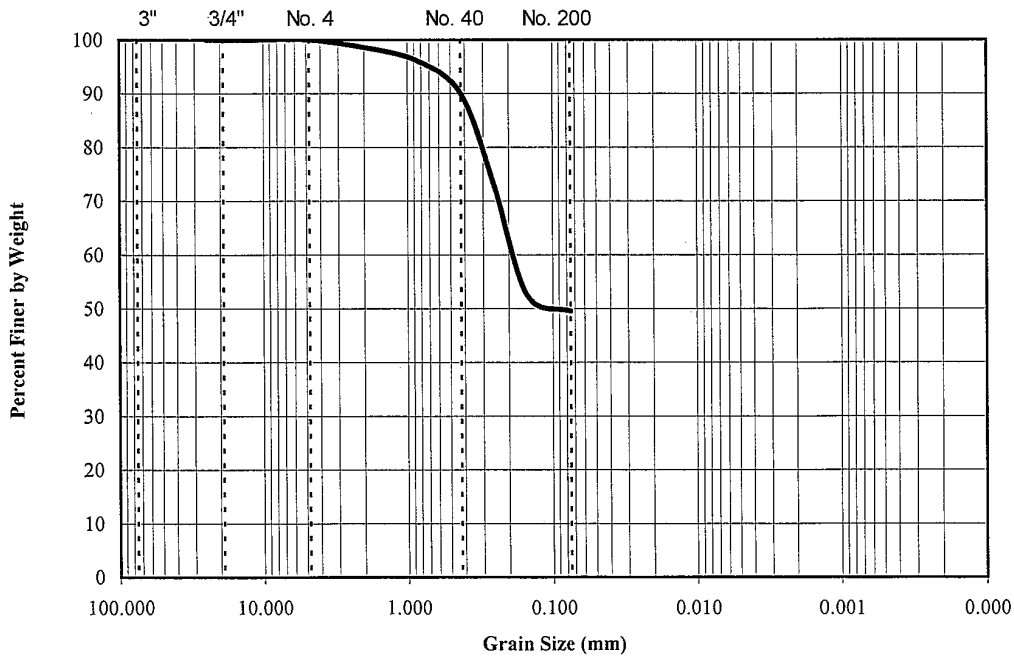
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/16/08

Washed Particle Size/Gradation Test Report
ASTM D422

Sample Number: SB-2 **Location:** 17.0-18.0
Description : *Very dark gray, silty* ***SAND (SM)***
Percent Finer than No. 200: 49.5% % (from washing)

Sieve Size	Cumulative (g)	Wt. Retained Each Sieve (g)	Cumulative % Passing	Cumulative % Passing w/ Wash 200
1 in.	0.00	0.00	100.0	100.0
3/4 in.	0.00	0.00	100.0	100.0
3/8 in.	0.00	0.00	100.0	100.0
# 4	0.00	0.00	100.0	100.0
# 10	0.84	0.84	97.3	98.6
# 20	2.39	1.55	92.3	96.1
# 40	6.18	3.79	80.1	90.0
# 60	16.80	10.62	46.0	72.7
# 100	29.23	12.43	6.0	52.5
#200	31.07	1.84	0.1	49.5
PAN	31.09	0.02	0.0	
Wt. of Soil, g	61.52			

Particle Size Analysis
U.S. Standard Sieve Sizes



Performed By: B.C.W. Checked By: JCM Sieve Analysis,SB-2.xls

50449

MACTEC

MACTEC ENGINEERING AND CONSULTING, INC
22010 Commerce Drive
Abingdon, Virginia 24211
(276) 676-0426

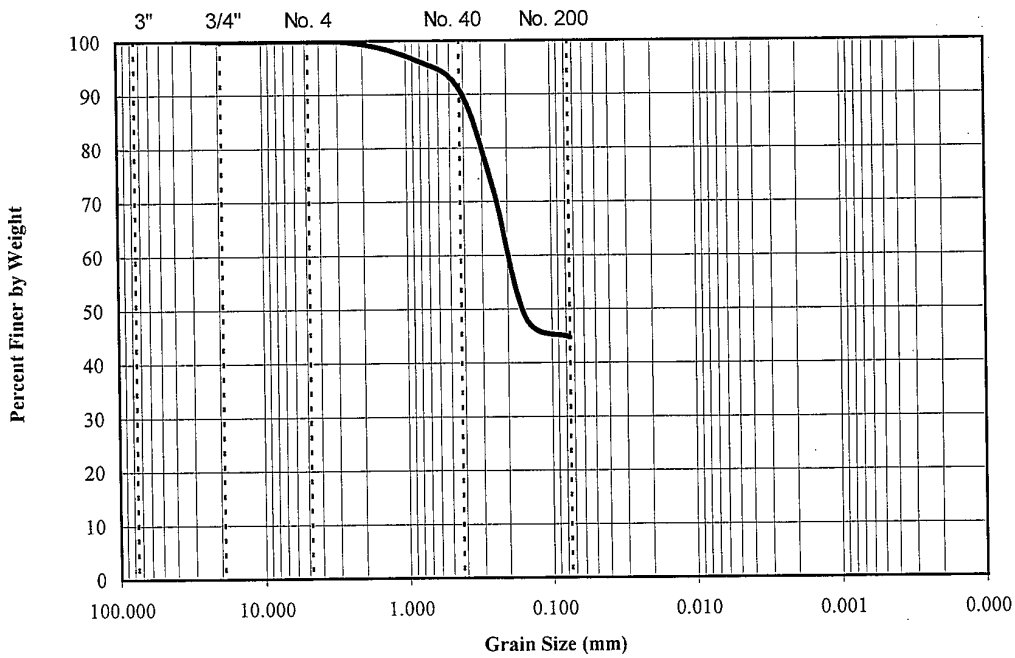
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/16/08

Washed Particle Size/Gradation Test Report
ASTM D422

Sample Number: SB-1 **Location:** 18.5 - 19.0
Description : *Very dark greenish gray, silty* ***SAND (SM)***
Percent Finer than No. 200: 44.7% % (from washing)

Sieve Size	Cumulative (g)	Wt. Retained Each Sieve (g)	Cumulative % Passing	Cumulative % Passing w/ Wash 200
1 in.	0.00	0.00	100.0	100.0
3/4 in.	0.00	0.00	100.0	100.0
3/8 in.	0.00	0.00	100.0	100.0
# 4	0.00	0.00	100.0	100.0
# 10	0.45	0.45	98.9	99.4
# 20	2.52	2.07	93.6	96.4
# 40	6.44	3.92	83.6	90.9
# 60	19.59	13.15	50.0	72.4
# 100	36.63	17.04	6.6	48.3
#200	39.20	2.57	0.0	44.7
PAN	39.20	0.00	0.0	
Wt. of Soil, g	70.88			

Particle Size Analysis
U.S. Standard Sieve Sizes



Performed By: B.C.W.

Checked By: JCM

Sieve Analysis,SB-1.xls

MACTEC

22010 Commerce Drive
Abingdon, Virginia 24211
Telephone: 276-676-0426 ~ Facsimile: 276-676-0761

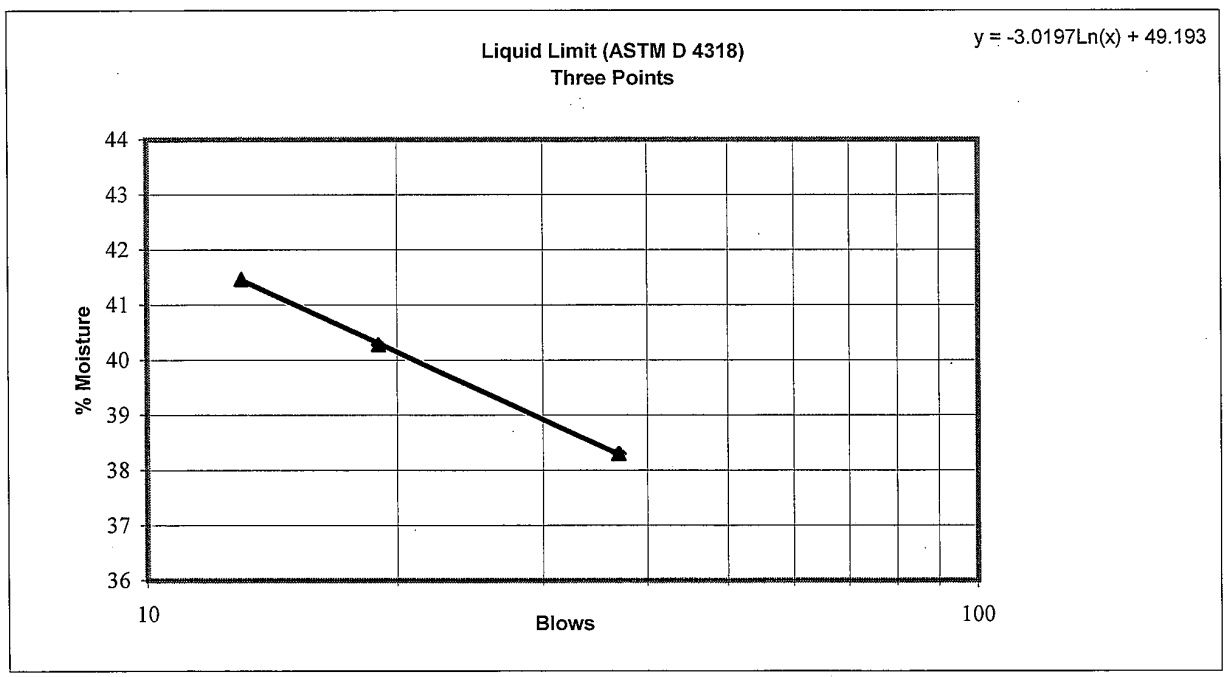
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/15/08 Soil Description: *Very dark greenish gray,* ***SILT (ML)*** *with sand*

Atterberg Limits ASTM D 4318
(Three Points)

Sample Location: SB-3 Sample Number: SS-9
Depth (ft): 16.0-18.0

Blows	% Moisture
37	38.3
19	40.3
13	41.5

Liquid Limit	Plastic Limit	Plasticity Index
40	31	9



Performed by: B C W Checked by: JCM

50451

MACTEC

22010 Commerce Drive
Abingdon, Virginia 24211
Telephone: 276-676-0426 ~ Facsimile: 276-676-0761

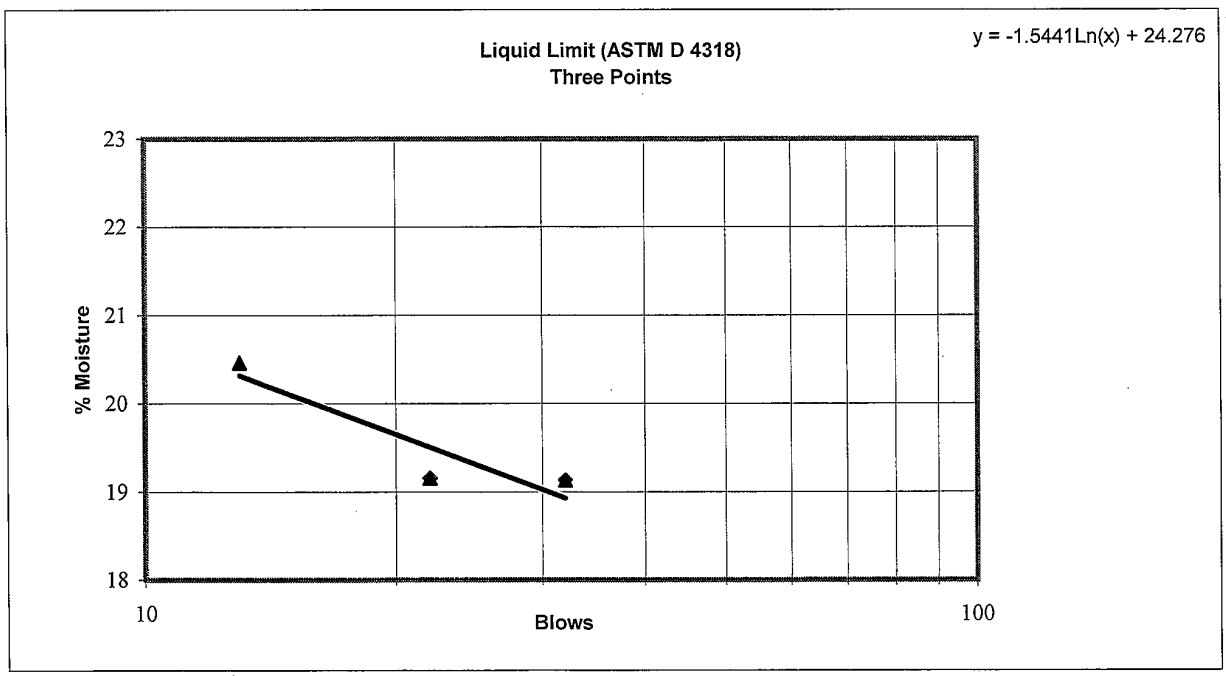
Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/15/08 Soil Description: *Very dark gray, silty* ***SAND (SM)***

Atterberg Limits ASTM D 4318
(Three Points)

Sample Location: SB-2 Sample Number: SS-10
Depth (ft): 17.0-18.0

Blows	% Moisture
32	19.1
22	19.2
13	20.5

Liquid Limit	Plastic Limit	Plasticity Index
19	16	3



Performed by: B C W Checked by: JCM

50452

MACTEC

22010 Commerce Drive
Abingdon, Virginia 24211
Telephone: 276-676-0426 ~ Facsimile: 276-676-0761

Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Report Date: 12/15/08

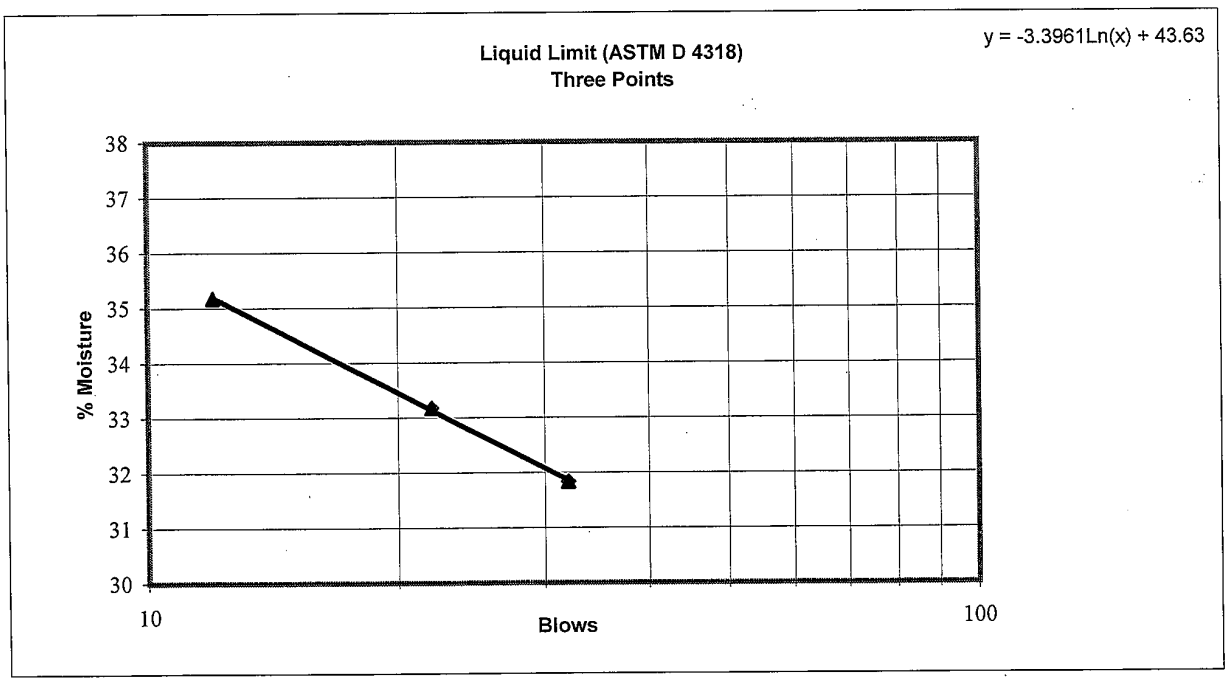
Soil Description: *Very dark greenish gray, silty* ***SAND (SM)***

Atterberg Limits ASTM D 4318
(Three Points)

Sample Location: SB-1
Sample Number: SS-10
Depth (ft): 18.5 - 19.0

Blows	% Moisture
32	31.8
22	33.2
12	35.2

Liquid Limit	Plastic Limit	Plasticity Index
33	27	6



Performed by: B C W

Checked by: JCM

50453

MACTEC

MACTEC Engineering and Consulting, Inc.
22010 CommerceDrive
Abingdon, VA 24211

Moisture Content, %

Project Name: Battle Field Golf Club
Project Number: 3552-08-1210
Date: 12/15/2008

Boring	TP-1	TP-2	TP-3					
Depth	3.8	2.1	2.5					
Tare + Wet	222.23	275.17	215.35					
Tare + Dry	148.87	187.39	144.42					
Tare	8.04	8.47	8.02					
Moisture, %	52.1	49.1	52.0					

Boring	SB-1	SB-1	SB-1	SB-1	SB-1	SB-1		
Depth	2.0-4.0	6.0-8.0	10.0-12.0	14.0-16.0	16.0-18.0	18.5-19.0		
Tare + Wet	113.67	134.54	99.59	137.62	125.32	94.89		
Tare + Dry	87.83	101.28	72.26	99.11	91.46	76.11		
Tare	8.50	8.26	8.35	9.15	8.23	8.40		
Moisture, %	32.6	35.8	42.8	42.8	40.7	27.7		

Boring	SB-2	SB-2	SB-2	SB-2	SB-2	SB-2		
Depth	2.0-4.0	6.0-8.0	10.0-12.0	12.0-14.0	14.0-16.0	17.0-18.0		
Tare + Wet	126.89	108.45	131.99	120.09	133.01	100.97		
Tare + Dry	94.67	80.15	89.36	73.14	85.38	84.40		
Tare	9.17	8.47	8.47	8.30	9.01	8.29		
Moisture, %	37.7	39.5	52.7	72.4	62.4	21.8		

Boring	SB-3	SB-3	SB-3	SB-3	SB-3			
Depth	2.0-4.0	6.0-8.0	12.0-14.0	14.0-16.0	16.0-18.0			
Tare + Wet	112.40	115.44	116.92	112.85	92.87			
Tare + Dry	82.15	85.53	78.33	68.55	58.69			
Tare	8.04	9.09	7.99	8.46	8.05			
Moisture, %	40.8	39.1	54.9	73.7	67.5			

Performed by: Bryan C. Williams

Checked by: JCM

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 5A
Elev. or Depth: **Sample Length (in./cm.):**
Location:
Description:
Date: 12-11-08 **PL:** **LL:** **PI:**
USCS Classification: **AASHTO Classification:**
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	404.16	382.83
Tare =	0.00	0.00
Dry sample weight =	404.16	382.83

Minus #200 from wash= 5.3 %
Tare for cumulative weight retained= .00

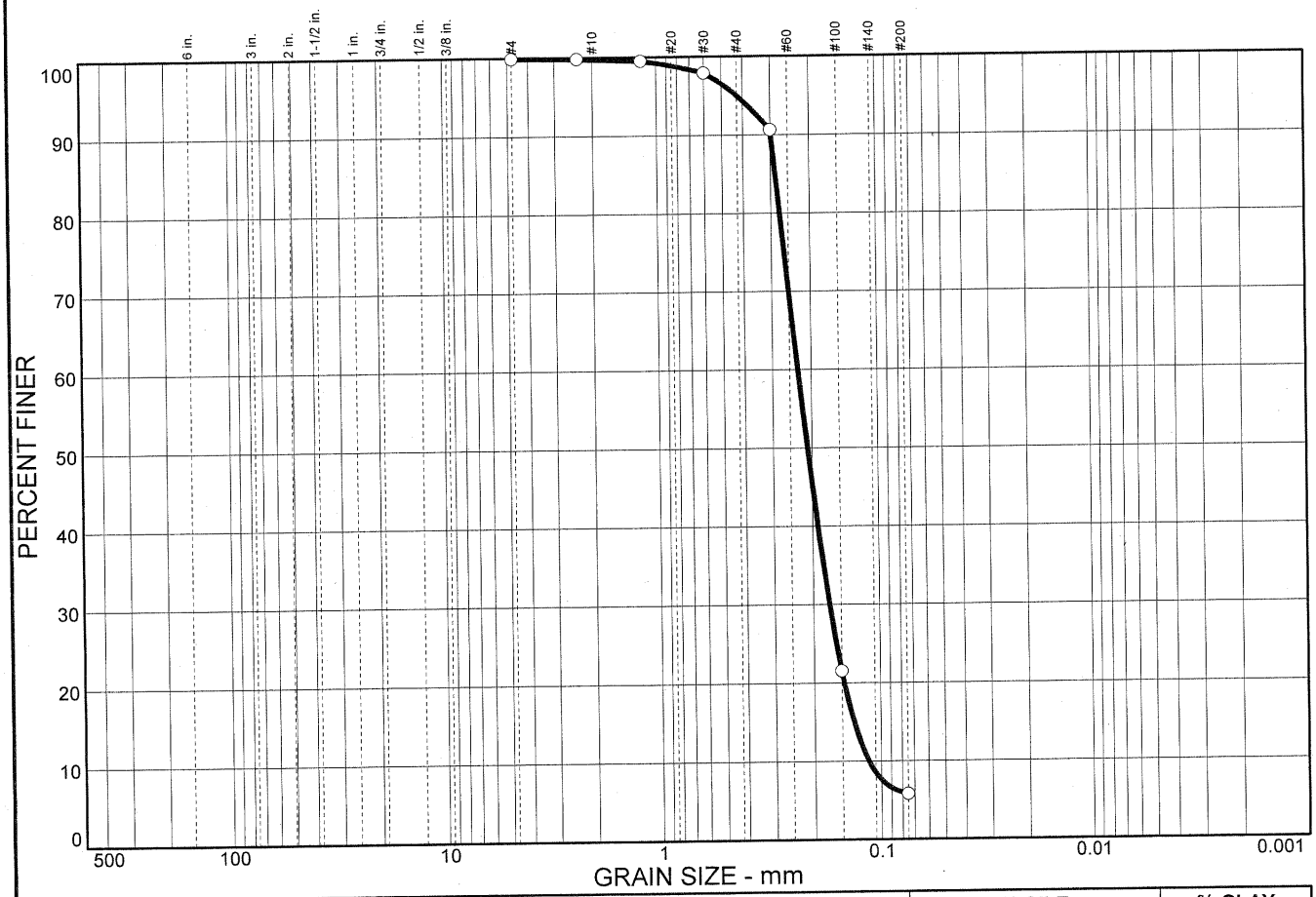
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.42	99.9
# 8	0.95	99.8
# 16	2.02	99.5
# 30	8.34	97.9
# 50	37.95	90.6
# 100	317.35	21.5
# 200	380.64	5.8

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** **% SAND =** 94.1
% FINES = 5.9

D_{85}= 0.29 D_{60}= 0.23 D_{50}= 0.21
D_{30}= 0.17 D_{15}= 0.13 D_{10}= 0.11
C_c= 1.0925 C_u= 2.0228

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		94.1	5.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.9		
#8	99.8		
#16	99.5		
#30	97.9		
#50	90.6		
#100	21.5		
#200	5.8		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.286 D_{60}= 0.230 D_{50}= 0.209
D_{30}= 0.169 D_{15}= 0.132 D_{10}= 0.114
C_u= 2.02 C_c= 1.09

Classification

USCS= AASHTO=

Remarks

Sample No.: 5A **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50456

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 5B
Elev. or Depth:
Sample Length (in./cm.):
Location:
Description:
Date: 12-11-08 **PL:**
LL: **PI:**
USCS Classification:
AASHTO Classification:
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	400.16	345.65
Tare =	0.00	0.00
Dry sample weight =	400.16	345.65

Minus #200 from wash= 13.6 %
Tare for cumulative weight retained= .00

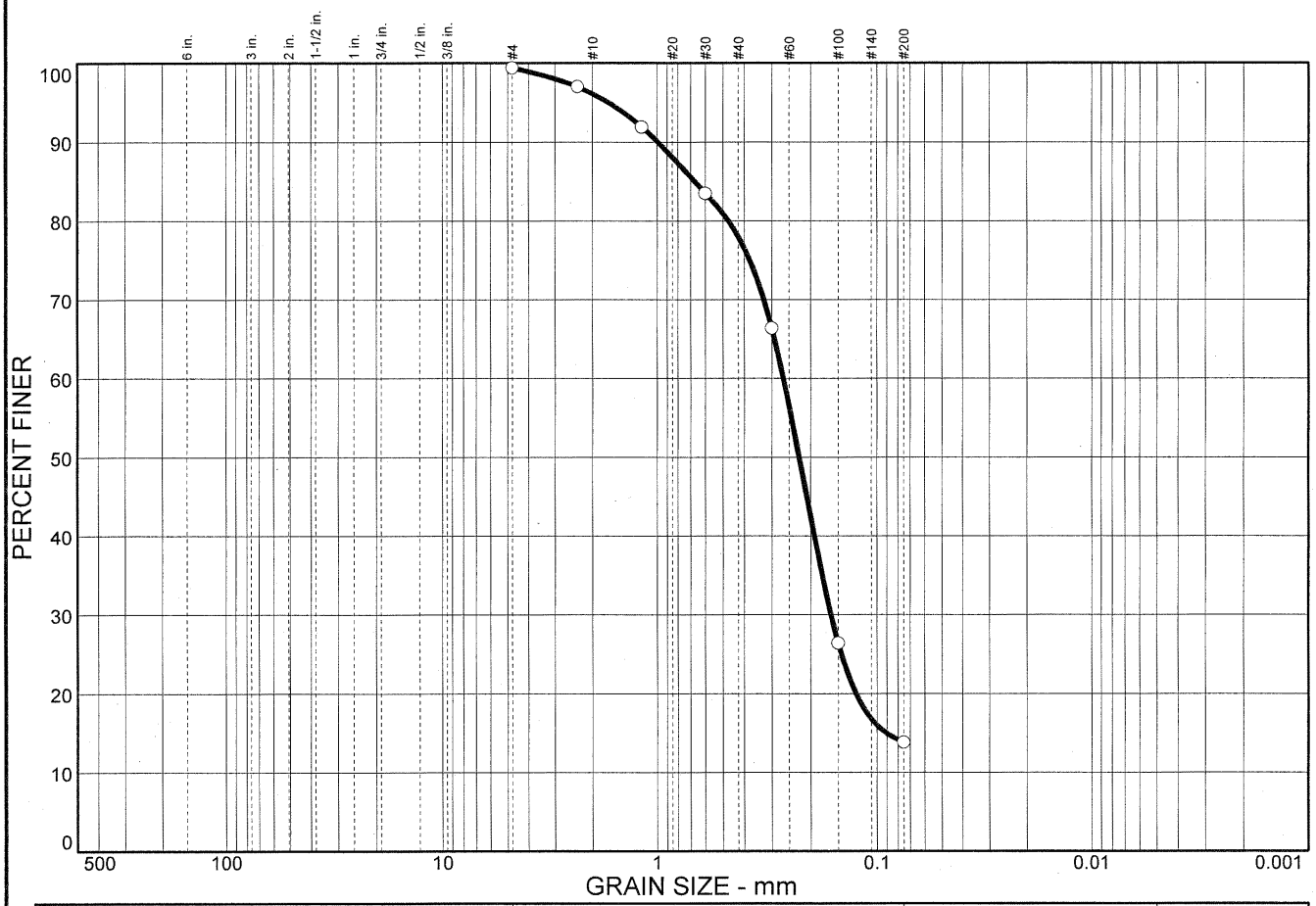
Sieve	Cumul. Wt. retained	Percent finer
# 4	2.46	99.4
# 8	12.00	97.0
# 16	32.50	91.9
# 30	65.97	83.5
# 50	134.51	66.4
# 100	294.66	26.4
# 200	344.90	13.8

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** **% SAND =** 85.6
% FINES = 13.8

D_{85}= 0.67 D_{60}= 0.27 D_{50}= 0.23
D_{30}= 0.16 D_{15}= 0.09

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		85.6	13.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.4		
#8	97.0		
#16	91.9		
#30	83.5		
#50	66.4		
#100	26.4		
#200	13.8		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.671 D_{60}= 0.266 D_{50}= 0.226
D_{30}= 0.162 D_{15}= 0.0905 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample No.: 5B **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50458

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 6A
Elev. or Depth:
Sample Length (in./cm.):
Location:
Description:
Date: 12-11-08 **PL:**
LL: **PI:**
USCS Classification:
AASHTO Classification:
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	411.98	401.94
Tare =	0.00	0.00
Dry sample weight =	411.98	401.94

Minus #200 from wash= 2.4 %

Tare for cumulative weight retained= .00

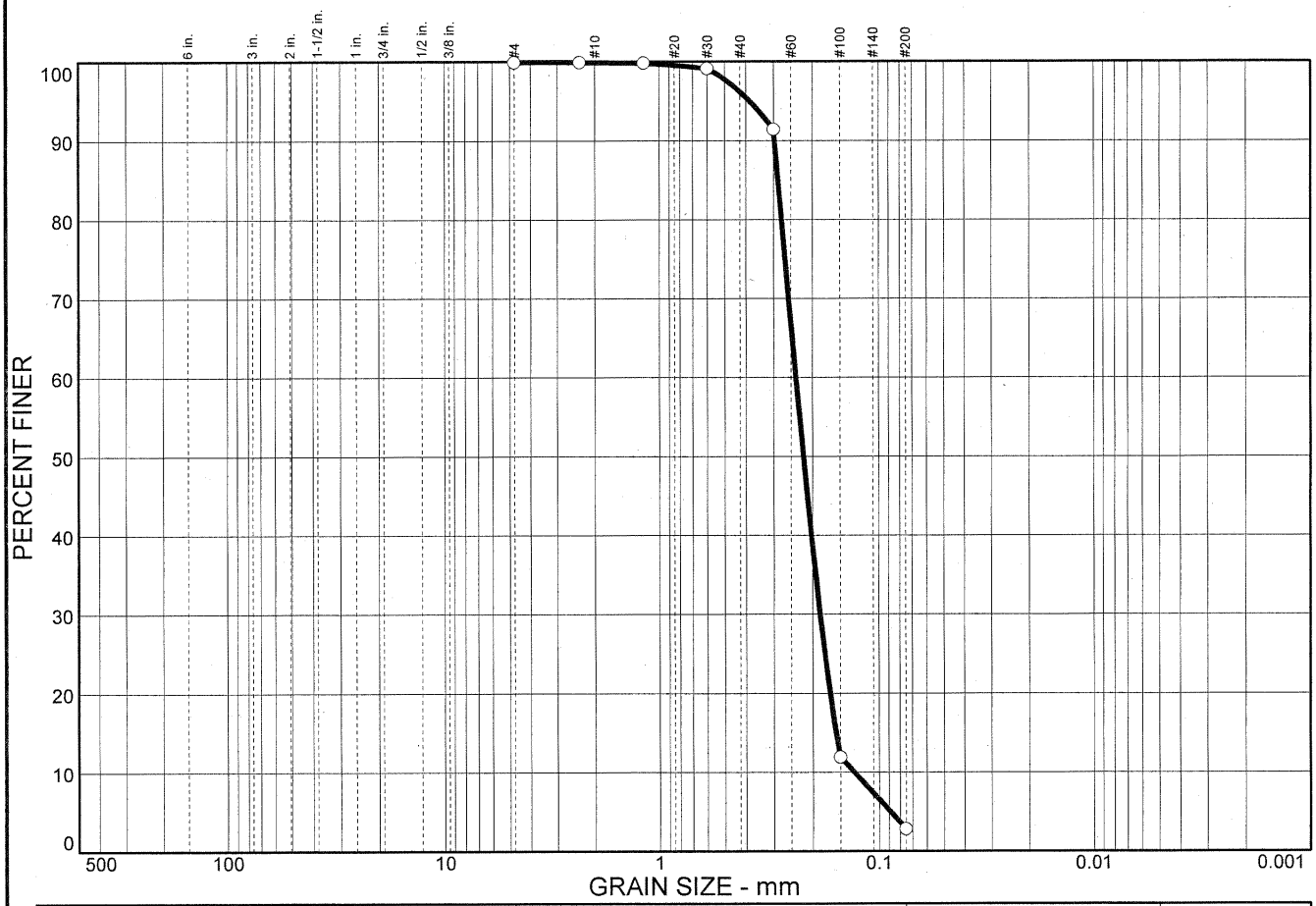
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.40	99.9
# 8	0.46	99.9
# 16	0.65	99.8
# 30	3.81	99.1
# 50	35.60	91.4
# 100	362.80	11.9
# 200	400.39	2.8

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = % SAND = 97.1
% FINES = 2.9

D_{85}= 0.29 D_{60}= 0.24 D_{50}= 0.22
D_{30}= 0.19 D_{15}= 0.16 D_{10}= 0.13
C_c= 1.1106 C_u= 1.8341

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		97.1	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.9		
#8	99.9		
#16	99.8		
#30	99.1		
#50	91.4		
#100	11.9		
#200	2.8		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.286 D_{60}= 0.238 D_{50}= 0.220
D_{30}= 0.185 D_{15}= 0.157 D_{10}= 0.130
C_u= 1.83 C_c= 1.11

Classification

USCS= AASHTO=

Remarks

Sample No.: 6A **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50460

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 6B
Elev. or Depth: **Sample Length (in./cm.):**
Location:
Description:
Date: 12-11-08 **PL:** **LL:** **PI:**
USCS Classification: **AASHTO Classification:**
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	414.87	395.68
Tare =	0.00	0.00
Dry sample weight =	414.87	395.68

Minus #200 from wash= 4.6 %
Tare for cumulative weight retained= .00

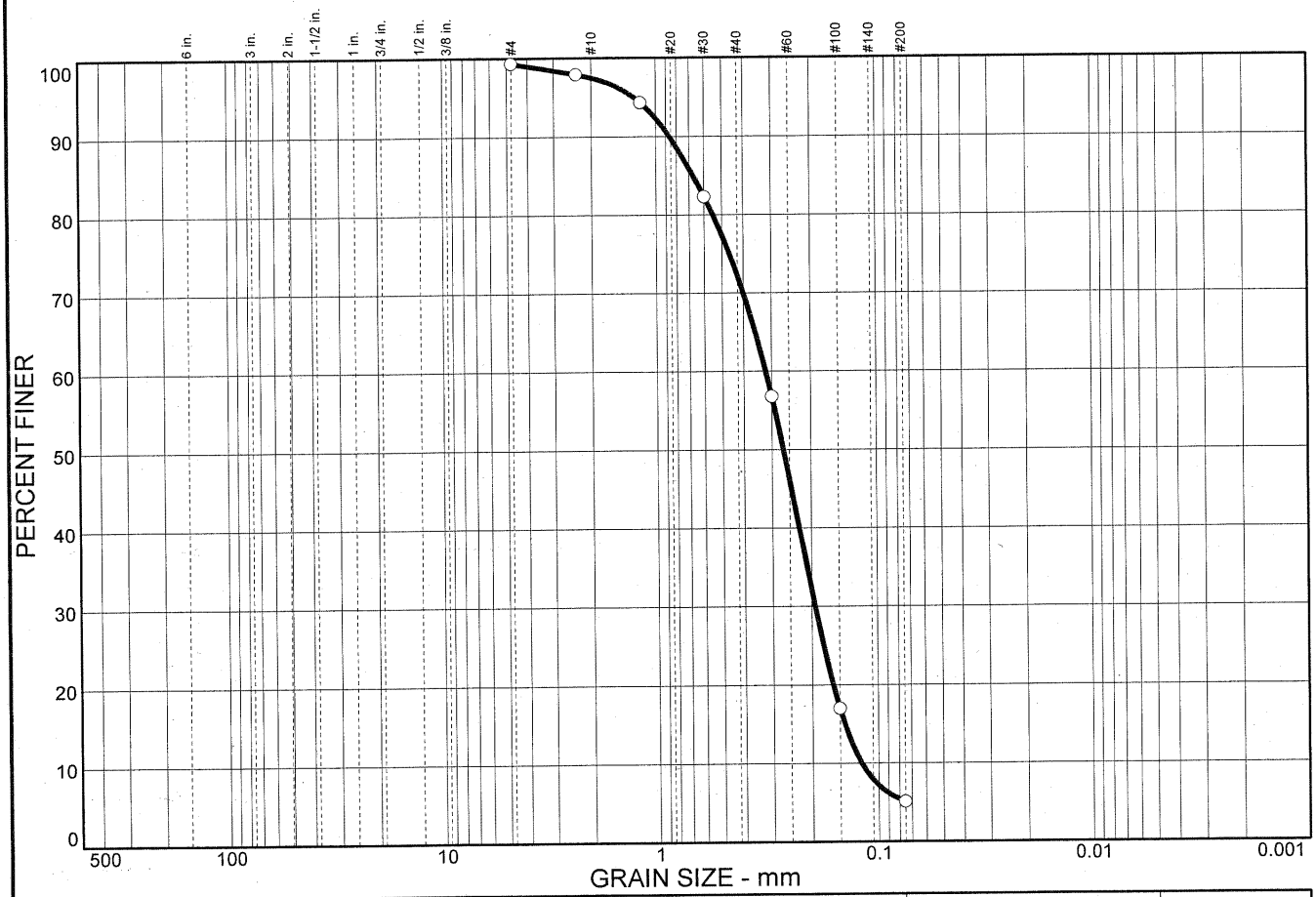
Sieve	Cumul. Wt. retained	Percent finer
# 4	2.92	99.3
# 8	8.82	97.9
# 16	23.82	94.3
# 30	73.34	82.3
# 50	179.27	56.8
# 100	344.32	17.0
# 200	393.55	5.1

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = % SAND = 94.2
% FINES = 5.1

D_{85}= 0.67 D_{60}= 0.32 D_{50}= 0.27
D_{30}= 0.19 D_{15}= 0.14 D_{10}= 0.12
C_c= 0.9795 C_u= 2.6744

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		94.2	5.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.3		
#8	97.9		
#16	94.3		
#30	82.3		
#50	56.8		
#100	17.0		
#200	5.1		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.673 D_{60}= 0.319 D_{50}= 0.267
D_{30}= 0.193 D_{15}= 0.142 D_{10}= 0.119
C_u= 2.67 C_c= 0.98

Classification

USCS= AASHTO=

Remarks

Sample No.: 6B **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50462

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 8A
Elev. or Depth: **Sample Length (in./cm.):**
Location:
Description:
Date: 12-11-08 **PL:** **LL:** **PI:**
USCS Classification: **AASHTO Classification:**
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	413.46	402.35
Tare =	0.00	0.00
Dry sample weight =	413.46	402.35

Minus #200 from wash= 2.7 %
Tare for cumulative weight retained= .00

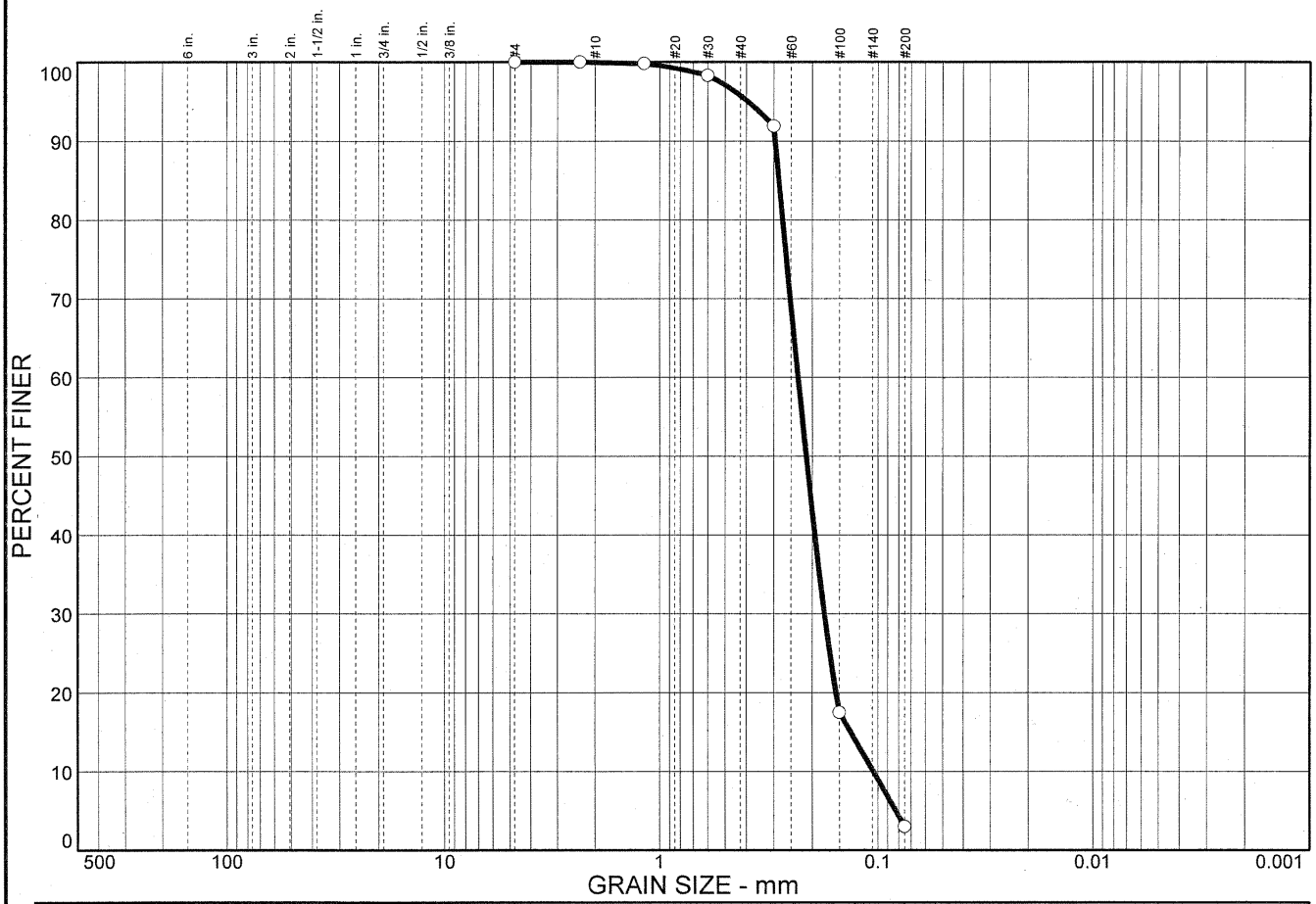
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.08	100.0
# 8	0.15	100.0
# 16	0.81	99.8
# 30	7.01	98.3
# 50	33.30	91.9
# 100	341.14	17.5
# 200	400.91	3.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** **% SAND =** 97.0
% FINES = 3.0

D_{85}= 0.28 D_{60}= 0.23 D_{50}= 0.21
D_{30}= 0.18 D_{15}= 0.13 D_{10}= 0.10
C_c= 1.2695 C_u= 2.2179

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	97.0	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	100.0		
#16	99.8		
#30	98.3		
#50	91.9		
#100	17.5		
#200	3.0		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.284 D_{60}= 0.232 D_{50}= 0.213
D_{30}= 0.176 D_{15}= 0.133 D_{10}= 0.105
C_u= 2.22 C_c= 1.27

Classification

USCS= AASHTO=

Remarks

Sample No.: 8A **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50464

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 8B
Elev. or Depth: **Sample Length (in./cm.):**
Location:
Description:
Date: 12-11-08 **PL:** **LL:** **PI:**
USCS Classification: **AASHTO Classification:**
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	410.63	332.88
Tare =	0.00	0.00
Dry sample weight =	410.63	332.88

Minus #200 from wash= 18.9 %
Tare for cumulative weight retained= .00

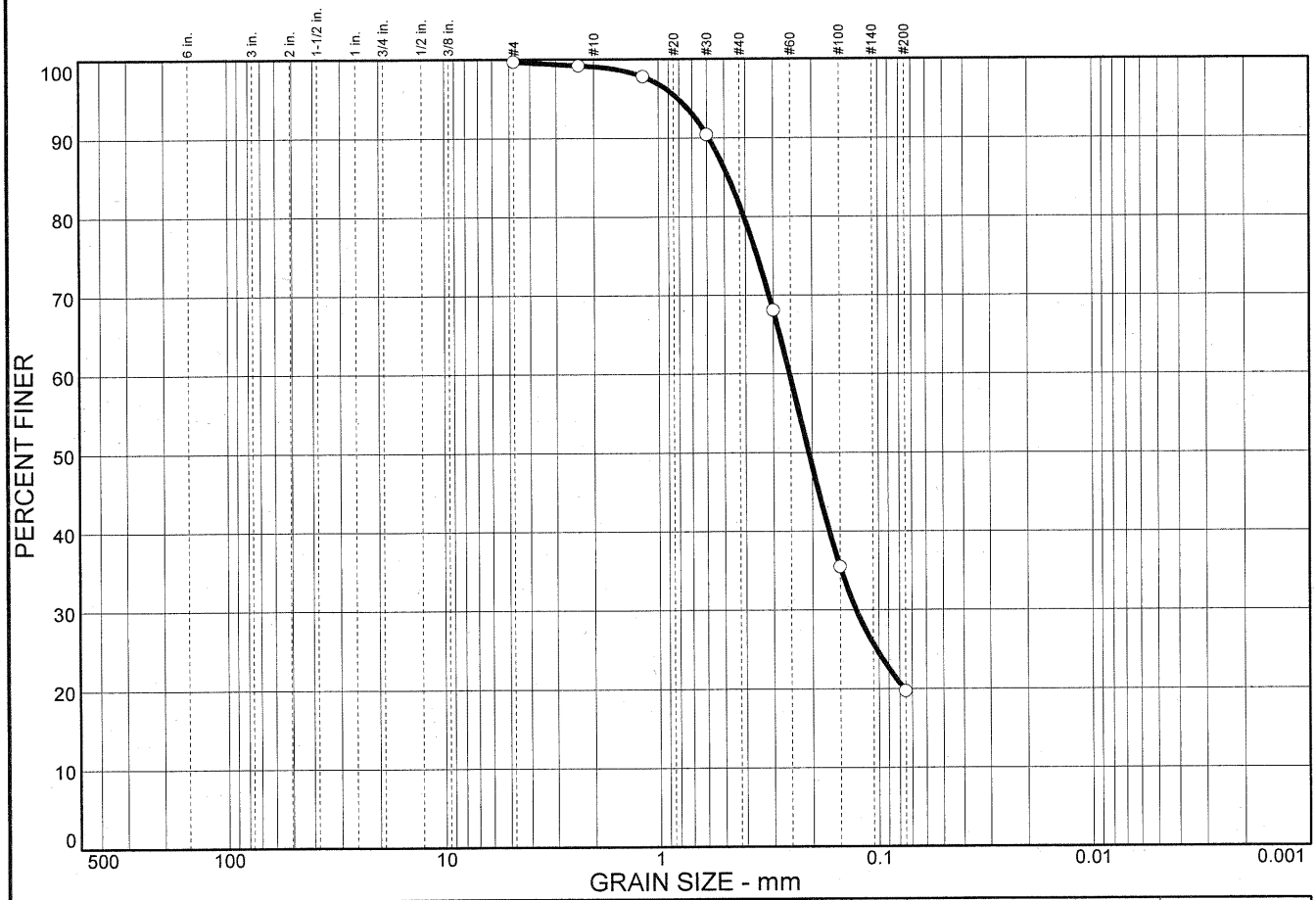
Sieve	Cumul. Wt. retained	Percent finer
# 4	1.28	99.7
# 8	3.27	99.2
# 16	8.84	97.8
# 30	39.49	90.4
# 50	131.06	68.1
# 100	264.90	35.5
# 200	329.65	19.7

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** **% SAND =** 80.0
% FINES = 19.7

D_{85}= 0.48 D_{60}= 0.25 D_{50}= 0.21
D_{30}= 0.13

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		80.0	19.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.7		
#8	99.2		
#16	97.8		
#30	90.4		
#50	68.1		
#100	35.5		
#200	19.7		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.478 D_{60}= 0.253 D_{50}= 0.207
D_{30}= 0.127 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample No.: 8B **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50466

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 11A
Elev. or Depth:
Sample Length (in./cm.):
Location:
Description:
Date: 12-11-08 **PL:** **LL:** **PI:**
USCS Classification:
AASHTO Classification:
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	407.83	381.54
Tare =	0.00	0.00
Dry sample weight =	407.83	381.54

Minus #200 from wash= 6.4 %
Tare for cumulative weight retained= .00

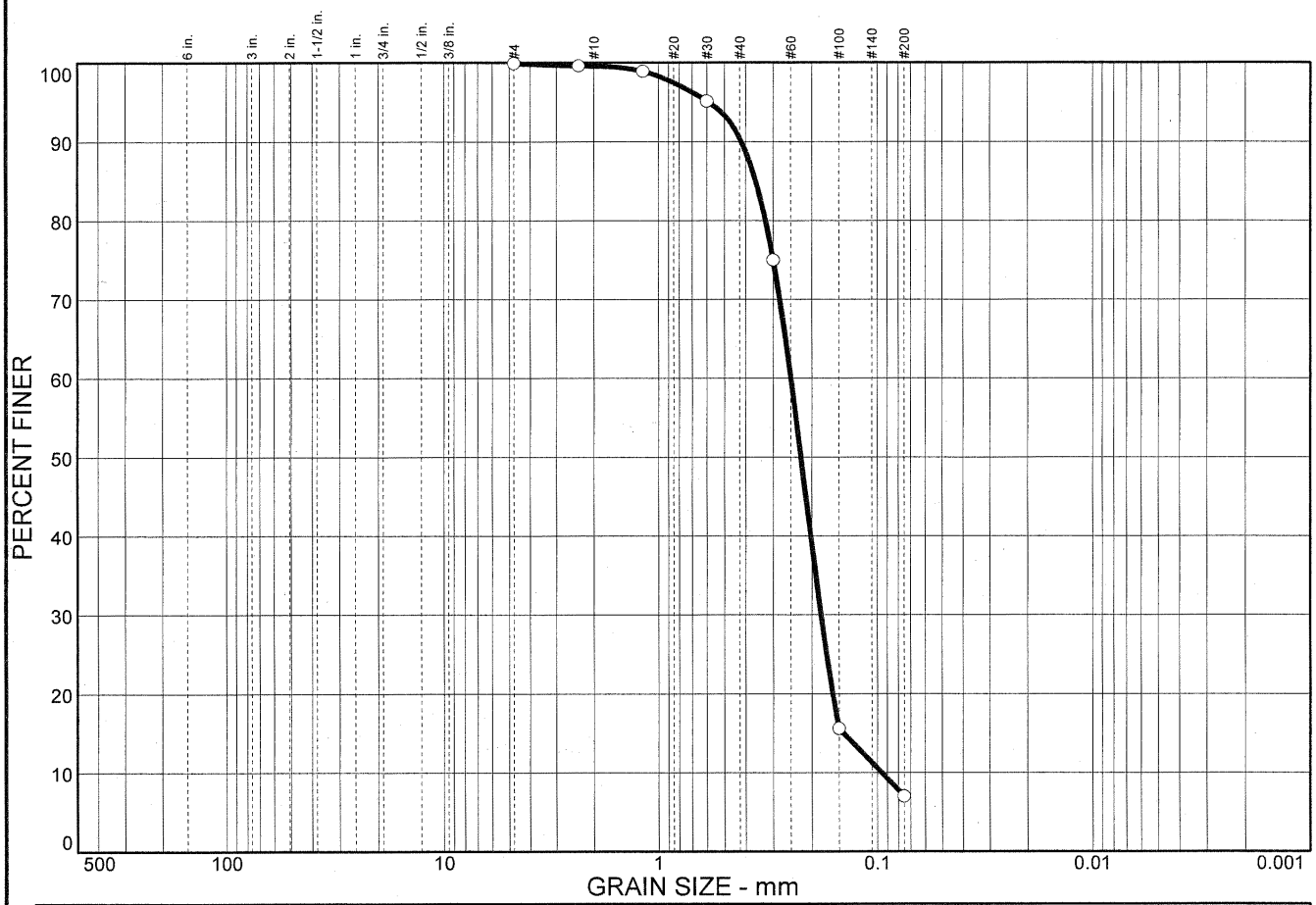
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.30	99.9
# 8	1.44	99.6
# 16	4.33	98.9
# 30	19.91	95.1
# 50	101.83	75.0
# 100	344.32	15.6
# 200	379.28	7.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** **% SAND =** 92.9
% FINES = 7.1

D_{85}= 0.36 D_{60}= 0.25 D_{50}= 0.22
D_{30}= 0.18 D_{15}= 0.14 D_{10}= 0.10
C_c= 1.3841 C_u= 2.6158

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		92.9	7.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.9		
#8	99.6		
#16	98.9		
#30	95.1		
#50	75.0		
#100	15.6		
#200	7.0		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.360 D_{60}= 0.250 D_{50}= 0.225
D_{30}= 0.182 D_{15}= 0.143 D_{10}= 0.0955
C_u= 2.62 C_c= 1.38

Classification

USCS= AASHTO=

Remarks

Sample No.: 11A **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50468

GRAIN SIZE DISTRIBUTION TEST DATA

Client:
Project: Battlefield Golf Club
Project Number: 3552081210 task 05

Sample Data

Source:
Sample No.: 11B
Elev. or Depth:
Sample Length (in./cm.):
Location:
Description:
Date: 12-11-08 **PL:** **LL:** **PI:**
USCS Classification:
AASHTO Classification:
Testing Remarks:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	406.67	369.14
Tare =	0.00	0.00
Dry sample weight =	406.67	369.14

Minus #200 from wash= 9.2 %
Tare for cumulative weight retained= .00

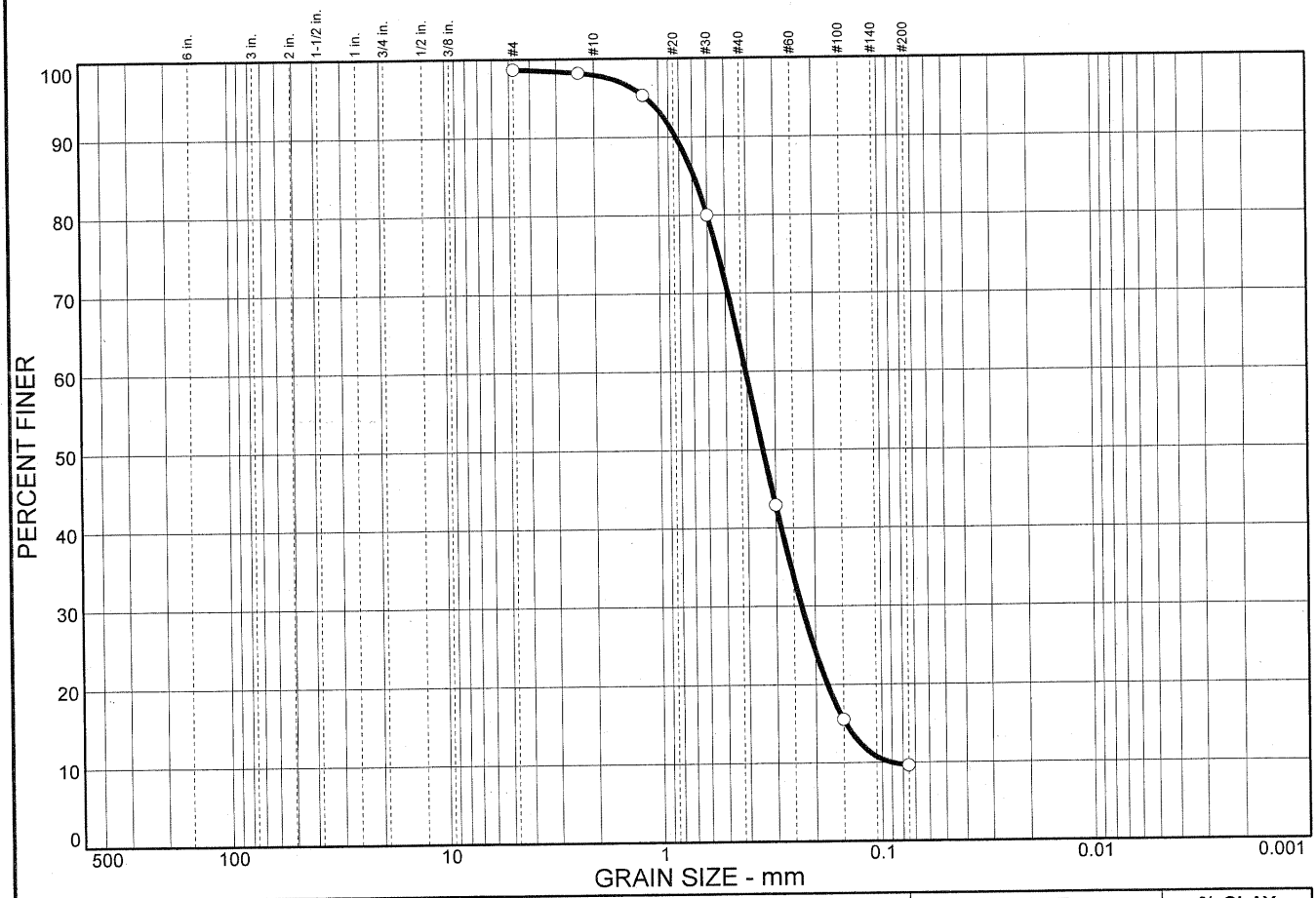
Sieve	Cumul. Wt. retained	Percent finer
# 4	5.23	98.7
# 8	7.32	98.2
# 16	19.00	95.3
# 30	81.27	80.0
# 50	232.02	42.9
# 100	343.80	15.5
# 200	367.46	9.6

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** **% SAND =** 89.1
% FINES = 9.6

D_{85}= 0.69 D_{60}= 0.41 D_{50}= 0.34
D_{30}= 0.23 D_{15}= 0.15 D_{10}= 0.09
C_c= 1.4594 C_u= 4.5039

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		89.1	9.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	98.7		
#8	98.2		
#16	95.3		
#30	80.0		
#50	42.9		
#100	15.5		
#200	9.6		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.688 D_{60}= 0.406 D_{50}= 0.341
D_{30}= 0.231 D_{15}= 0.147 D_{10}= 0.0900
C_u= 4.50 C_c= 1.46

Classification

USCS= AASHTO=

Remarks

Sample No.: 11B **Source of Sample:** **Date:** 12-11-08
Location: **Elev./Depth:**

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Client:
Project: Battlefield Golf Club
Project No: 3552081210 task 05 **Plate**

50470

12-9-00 GRAIN SIZE / 200 WASH

FLS CHESEPEAKE VA ~~GOLF COURSE~~

BATTLEFIELD GOLF ~~COURSE~~ CLUB

12-10-00 PMW

SAMP	DRY WT BEFORE	DRY WT AFTER WASH		
5B	= 400.16 g	345.65	4 - 2.46 8 - 12.00 16 - 32.50 30 - 65.97	50 - 134.51 100 - 294.66 200 - 344.98 Pan - 345.61
D 5A	= 404.16 g	382.83	4 - 0.42 8 - 0.95 16 - 2.02 30 - 8.34 50 - 37.95 100 - 317.35 200 - 380.64	Pan - 382.83
(8) 11B	= 406.67	369.14	4 - 5.23 8 - 7.32 16 - 19.00 30 - 81.27 50 - 232.02 100 - 343.80 200 - 367.46	Pan - 368.92
(6) 8B	= 410.63	332.88	4 - 1.20 8 - 3.27 16 - 8.84 30 - 39.49 50 - 131.06 100 - 264.90 200 - 329.65	Pan - 332.67
11A	= 407.82	381.54	4 - 0.30 8 - 1.44 16 - 4.33 30 - 19.91 50 - 101.83	100 - 288.34 200 - 379.28 Pan - 381.82
(4) 10B	= 414.87	395.68	4 - 2.92 8 - 8.82 16 - 23.82 30 - 73.34 50 - 179.27	100 - 344.32 200 - 393.55 Pan - 394.98
8A	= 413.46	402.35	4 - 0.08 8 - 0.15 16 - 0.81 30 - 7.01 50 - 33.30	100 - 341.14 200 - 400.91 Pan - 402.31
6A	= 411.98	401.94	4 - 0.40 8 - 0.46 16 - 0.65 50 - 2.01	50 - 35.60 100 - 362.80 200 - 400.39

50471

MACTEC ENGINEERING AND CONSULTING, INC.
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147

50472

SATURATED HYDRAULIC CONDUCTIVITY

ASTM D 5084

PROJECT NAME: Battlefield Golf Club
PROJECT NUMBER: 3552-08-1210.03
DATE: 03/06/09

Sample I.D.	Sample Depth (ft)	Dry Density (pcf)	Initial Moisture (%)	Length (cm)	Diameter (cm)	Assumed Gs Solids	Head (cm)	ß Coefficient	Consolidation Δ Volume (cu. cm)	After Test Moisture (%)	Quantity (cu. cm)	Elapsed Time (sec)	Temperature (C)
SB-1/COV-1	0.1-2.0	57.2	34.3	6.41	7.20	2.650	70.30	1.0	4.9	61.6	47.8	14,400	22.4
SB-1/ASH-1	17.0-19.0	101.9	19.5	6.44	7.14	2.650	70.34	1.0	5.6	21.7	44.3	18,000	22.3
SB-2/COV-2	0.0-2.0	62.6	38.4	6.39	7.16	2.650	70.34	1.0	5.4	53.2	49.3	12,600	22.2
SB-2/ASH-2	17.0-19.0	108.0	20.5	6.40	7.16	2.650	140.68	1.0	7.3	23.3	13.8	21,600	22.2
SB-3/ASH-3	16.5-18.5	57.2	46.6	6.41	7.19	2.650	70.34	1.0	6.7	62.0	48.0	10,800	22.3
TP-3/COV-3	0.0-2.0	109.7	16.6	6.43	7.34	2.650	175.85	1.0	8.1	17.9	15.3	28,800	23.3

Sample Number	Sample Depth (in.)	Area (sq. cm)	Hydraulic Gradient	Porosity (*n*)	Void Ratio (*e*)	Initial Saturation (%)	Final Saturation (%)	Correction Factor	Coefficient of Permeability k cm/sec	Visual Soil Description (manual Procedure)
SB-1/COV-1	0.1-2.0	40.7	11.0	65.4	1.891	48.1	86.3	0.946	7.0E-06	Very dark gray to black, sandy Silt (ML)
SB-1/ASH-1	17.0-19.0	40.0	10.9	38.3	0.623	82.9	92.3	0.948	5.3E-06	Very dark gray , sandy Silt (ML)
SB-2/COV-2	0.0-2.0	40.3	11.0	62.1	1.642	62.0	85.9	0.951	8.4E-06	Very dark gray, sandy Silt to silty Sand, contains organics (ML-SM)
SB-2/ASH-2	17.0-19.0	40.3	22.0	34.7	0.531	102.3	116.3	0.951	6.9E-07	Dark gray Clayey Sand, contains organics (SC)
SB-3/ASH-3	16.5-18.5	40.6	11.0	65.4	1.891	65.3	86.9	0.948	9.5E-06	Very dark gray to black, sandy Silt to silty Sand (ML-SM)
TP-3/COV-3	0.0-2.0	42.3	27.3	33.6	0.507	86.8	93.6	0.924	4.2E-07	Dark brown, sandy Clay, contains organics(CL)

NOTES: ***Permeability Test in Accordance with ASTM D 5084***
MC, % by ASTM D 2216
N/A = Not Available

Prepared by: PMF

Reviewed by: WBH

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EMSL Case No.:	360801777rev020409
Sample(s) Received:	12/11/2008
Date of Analysis:	12/30/2008
Date Printed:	2/4/2009
Reported By:	D. D'Ulisse

- Laboratory Report -

-Revised-

Material analysis with Reference Comparison

For

Project: Battlefield Golf Club 3552-08-1210

Analyzed by: *Dana D'Ulisse*
Materials Scientist

February 4, 2009
Date

QA/QC : *Eugenia Mirica, Ph.D.*
Senior Materials Scientist

February 4, 2009
Date

50473

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EMSL Case No.: 360801777rev020409
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Date of Analysis: 12/30/2008
Date Printed: 2/4/2009
Reported By: D. D'Ulisse

Conclusions:

- Samples "ASH-BGC-TP1" through "ASH-BGC-TP3" are primarily composed of ash.
- The samples display similar chemical composition and morphology with reference sample "ASH-CEC-STD". Material similar with reference sample "KILNDUST-GC-STD" was not identified in the samples within the limit of detection in samples "ASH-BGC-TP2" and "ASH-BGC-TP3". . Using a chemical finger print identified by XRF material similar to "KILNDUST-GC-STD" was detected in sample "ASH-BGC-TP1".

Procurement of Samples and Analytical Overview:

The samples for analysis (bulk) arrived at EMSL Analytical's corporate laboratory in Westmont, NJ on December 11, 2008. The package arrived in satisfactory condition with no evidence of damage to the contents. The samples reported herein have been analyzed using the following equipment and methodologies.

Methods & Equipment:
Stereomicroscopy
Polarized Light Microscopy (PLM)
Scanning Electron Microscopy (SEM)
Energy Dispersive X-Ray (EDX)
X-Ray Diffraction (XRD)
X-Ray Fluorescence (XRF)

Sample Preparation and Analysis:

The samples were placed under a heat lamp for several hours until dried. The dried samples were then ground into a powder with a mortar and pestle and placed through a sieve to insure the appropriate particle size for analysis.

For XRD analysis the fine powder was pressed into a sample holder taking care to produce a flat surface for analysis. The conditions for measurement were set to run full scan 2Θ from 5 to 90 at 40 rpm. The data was analyzed using *Jade 6.0 XRD Pattern Processing* software.

For XRF analysis approximately 2 grams of the fine powder was placed into a three piece sample cell with a 6.0 micron polypropylene film. The samples were run under helium and analyzed with *Bruker AXS Spectra Plus* Software.

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Reported By: D. D'Ulisse

Results and Discussion:

Sample ID	Analyte	Concentration(%)	LOD (%)	Comments
ASH-BGC-TP2	Ash Kiln Dust Other	97 <LOD 3	~1 ~1 ~1	Displays similar chemical composition and morphology with "ASH-CEC-STD"
ASH-BGC-TP3	Ash Kiln Dust Other	98 <LOD 2	~1 ~1 ~1	Displays similar chemical composition and morphology with "ASH-CEC-STD"
ASH-BGC-TP1	Ash Kiln Dust Other	94 2-4 1	~1 ~1 ~1	Displays similar chemical composition and morphology with "ASH-CEC-STD" Small amounts with similar chemical compositions to "KILNDUST-GC-STD" Were detected

- Reference sample "ASH-CEC-STD" is composed of aluminum silicates, quartz and calcite (as determined by XRD and light microscopy).
- Reference sample "KILNDUST-GC-STD" is composed of lime, calcite, portlandite and anhydrite (as determined by XRD and light microscopy).

Since both references have calcite in the elemental composition, the presence of calcite could not be used as fingerprint for identifying the presence of the references in the samples. Therefore, based on the elemental composition as determined by XRF, CuO (present in "KINDUST-GC-STD" but not in "ASH-CEC-STD") was used as a finger print for determining the presence of "KINDUST-GC-STD" in the samples instead. This assessment is based on the assumption that the samples and the references have uniform composition.

The ratio of the elements was used in determining the concentration of "KILNDUST-GC-STD" in the samples. Copper oxide is not detected in samples "ASH-BGC-TP2" and "ASH-BGC-TP3"; therefore, it is assumed that "KILNDUST-GC-STD" is not present in these samples.

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Elemental composition of the samples and the reference samples as determined by XRF (the concentrations were measured as elements and reported as oxides by stoichimetric calculation)

Sample ID	ASH-CEC-STD	KILNDUST-GC-STD	ASH-BGC-TP1	ASH-BGC-TP2	ASH-BGC-TP3
Oxide	Conc. (wt%)	Conc. (wt%)	Conc. (wt%)	Conc. (wt%)	Conc. (wt%)
SiO_2	54.3	2.48	51.4	49.5	49.6
Al_2O_3	27.4	1.34	26.9	26.9	26.4
Fe_2O_3	7.67	0.729	9.14	9.36	7.99
K_2O	3.60	0.774	3.72	3.34	3.37
CaO	2.37	90.1	3.45	5.06	5.75
TiO_2	1.59	0.119	1.72	1.67	1.77
MgO	1.20	0.823	1.29	1.25	1.16
SO_3	0.521	3.22	0.885	1.39	1.66
Na_2O	0.501	--	0.492	0.573	0.969
P_2O_5	0.194	--	0.241	0.229	0.338
BaO	0.180	--	0.217	0.244	--
SrO	0.110	0.0510	0.154	0.215	0.139
Cl	0.0820	0.412	0.0322	--	0.612
V_2O_5	0.0561	--	0.0518	0.0595	0.0658
ZrO_2	0.0459	--	0.0495	0.0475	0.0507
MnO	0.0353	--	0.0414	0.0409	0.0420
Cr_2O_3	0.0289	--	0.0409	0.0398	0.0444
ZnO	0.0212	--	0.0247	0.0298	0.0295
Y_2O_3	0.0185	--	0.0230	0.0258	0.0195
Rb_2O	0.0176	--	0.0204	0.0180	0.0188
Ga_2O_3	0.00772	--	0.0110	0.0116	0.0112
CuO	--	0.289	0.0508	--	--
NiO	--	--	0.0135	--	--
Br	--	--	--	--	0.00538
C	Balance	Balance	Balance	Balance	Balance

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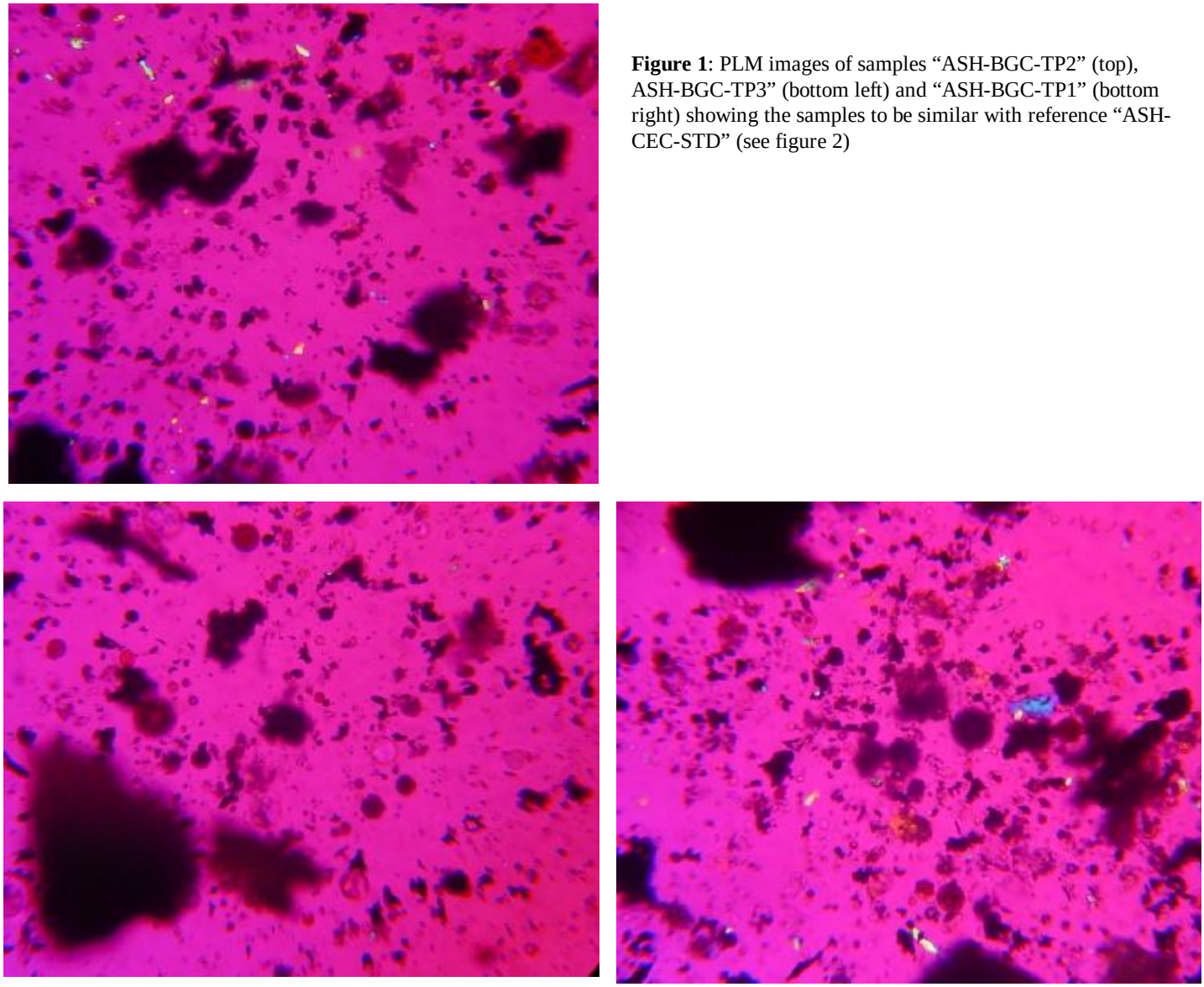

Figure 1: PLM images of samples "ASH-BGC-TP2" (top), ASH-BGC-TP3" (bottom left) and "ASH-BGC-TP1" (bottom right) showing the samples to be similar with reference "ASH-CEC-STD" (see figure 2)

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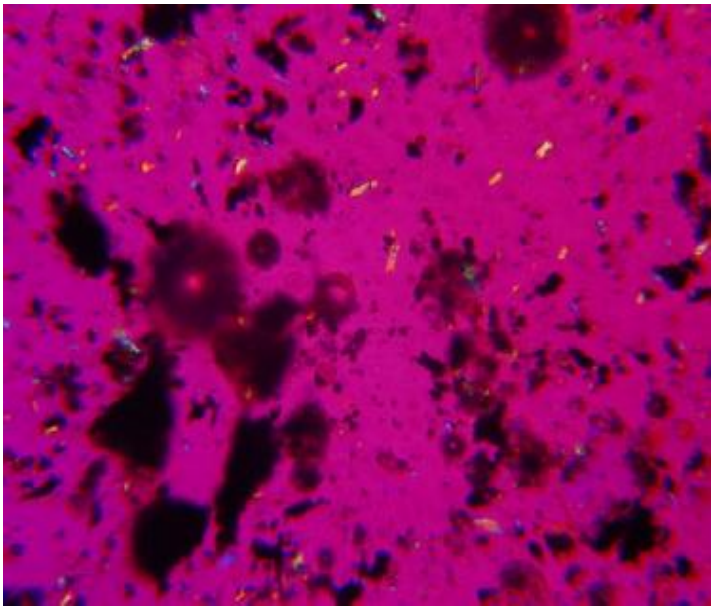

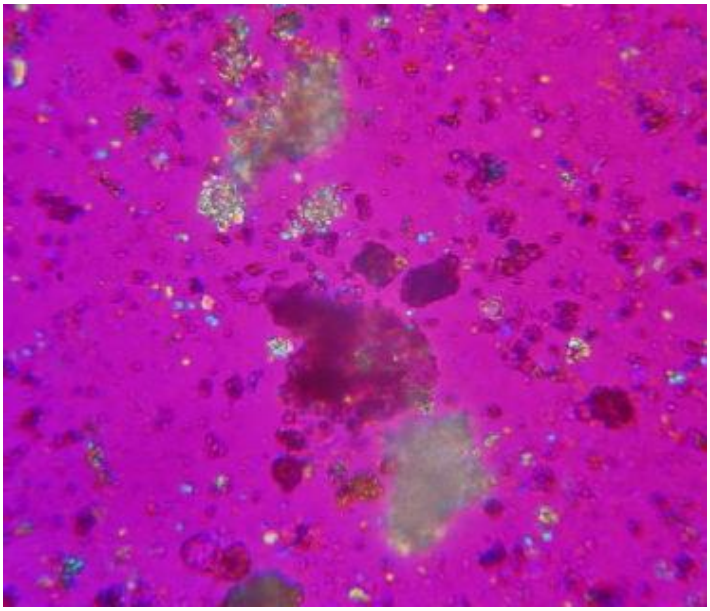

Figure 2: PLM images of the reference samples "ASH-CEC-STD" (top) and "KILNDUST-GC-STD" (bottom)

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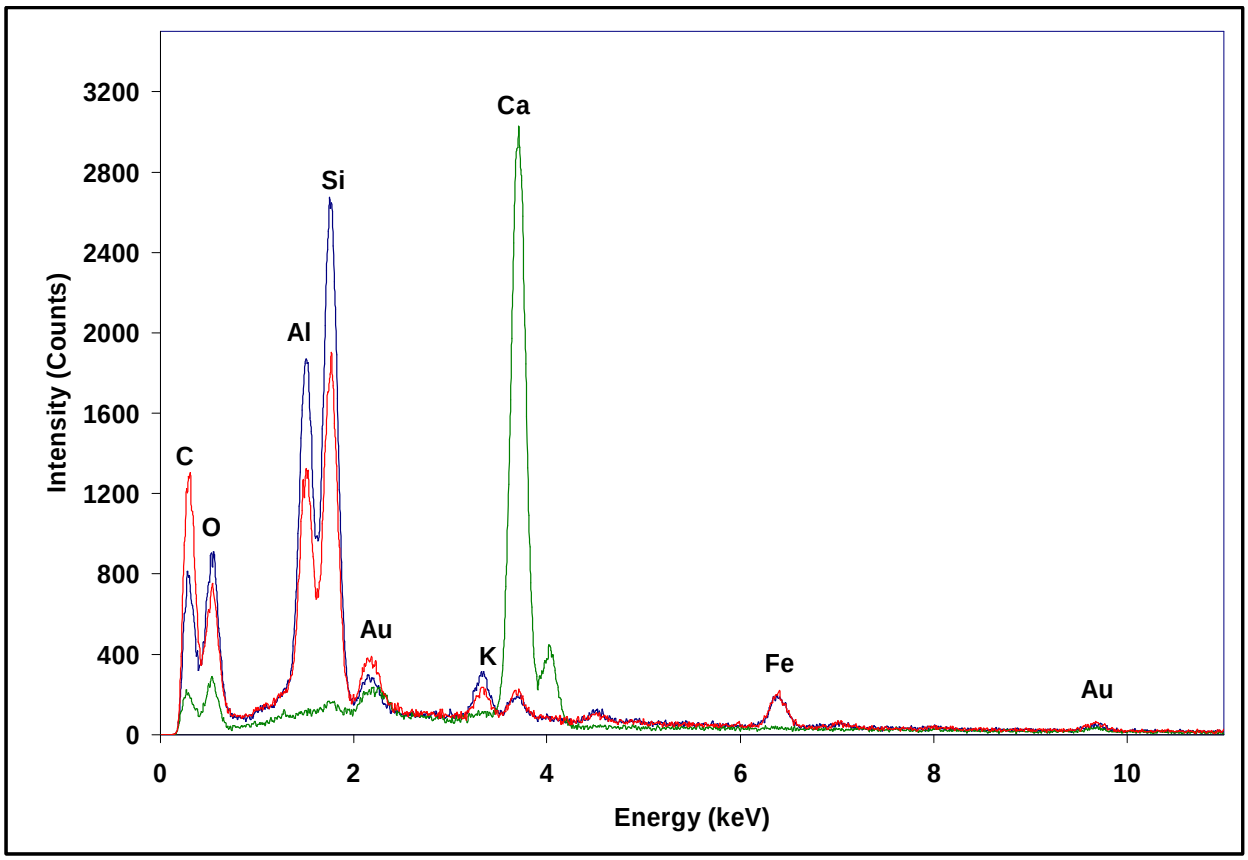

Figure 3: Comparative SEM/ EDX elemental spectra of sample "ASH-BGC-TP1" (red) against "ASH-CEC-STD" (blue) and "KILNDUST-GC-STD" (green). Sample "ASH-BGC-TP1" and "ASH-CEC-STD" display similar compositions.

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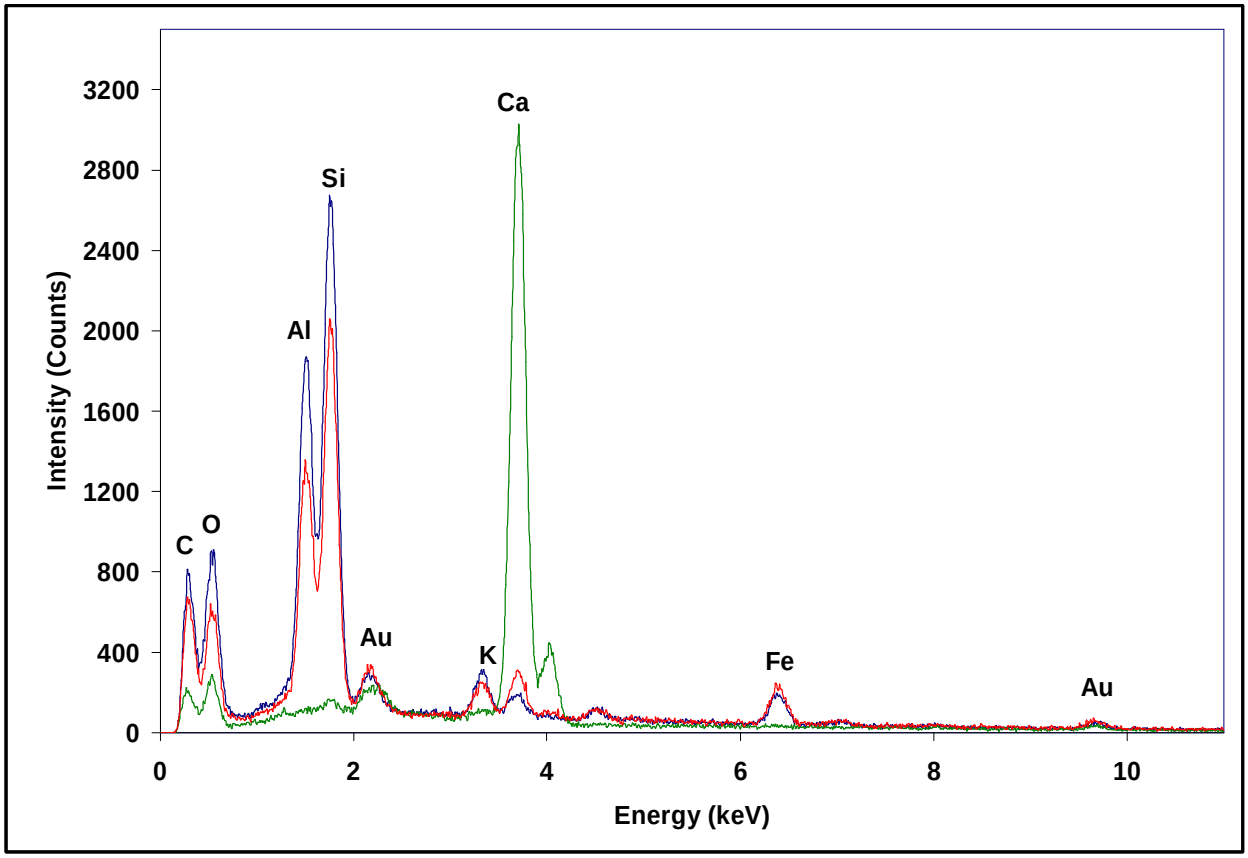

Figure 4: Comparative SEM/ EDX elemental spectra of sample "ASH-BGC-TP2" (red) against "ASH-CEC-STD" (blue) and "KILNDUST-GC-STD" (green). Sample "ASH-BGC-TP2" and "ASH-CEC-STD" display similar compositions.

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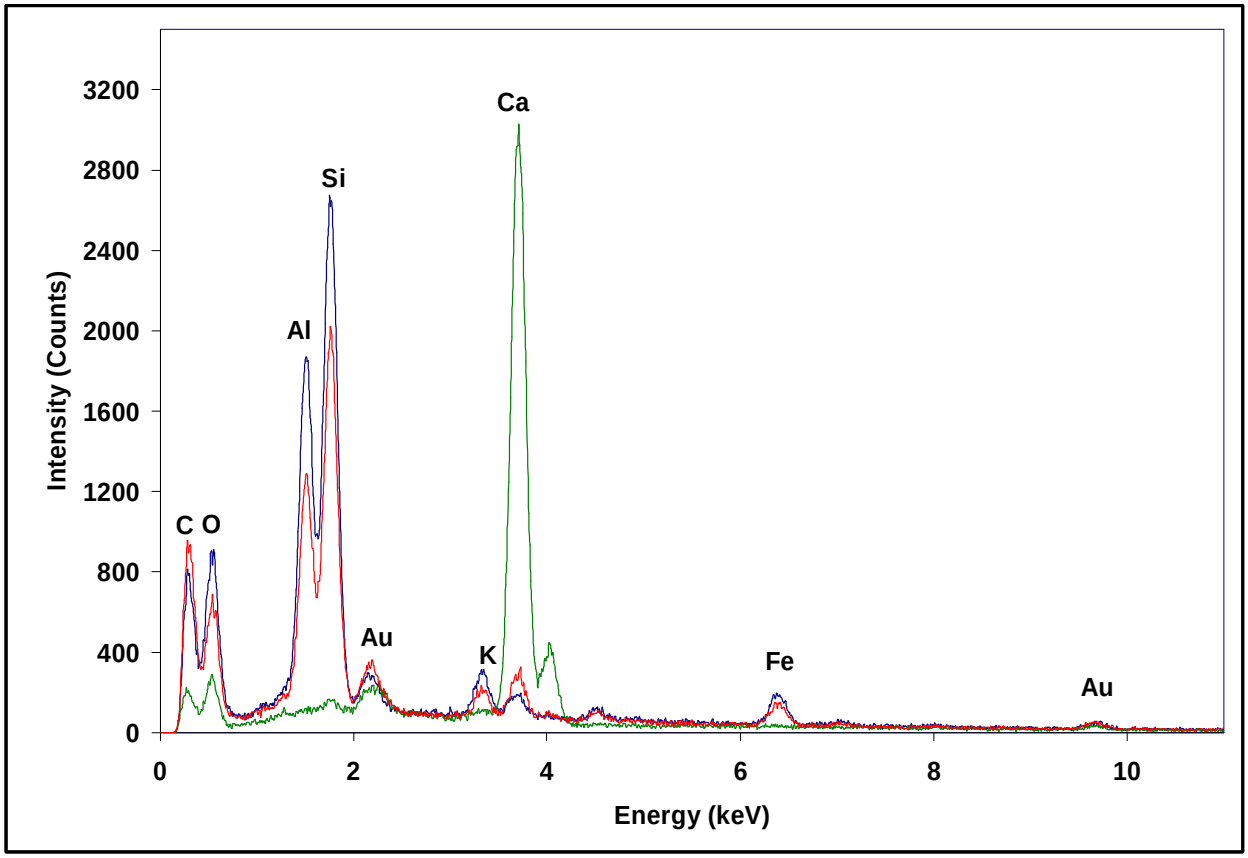

Figure 5: Comparative SEM/ EDX elemental spectra of sample "ASH-BGC-TP3" (red) against "ASH-CEC-STD" (blue) and "KILNDUST-GC-STD" (green). Sample "ASH-BGC-TP3" and "ASH-CEC-STD" display similar compositions.

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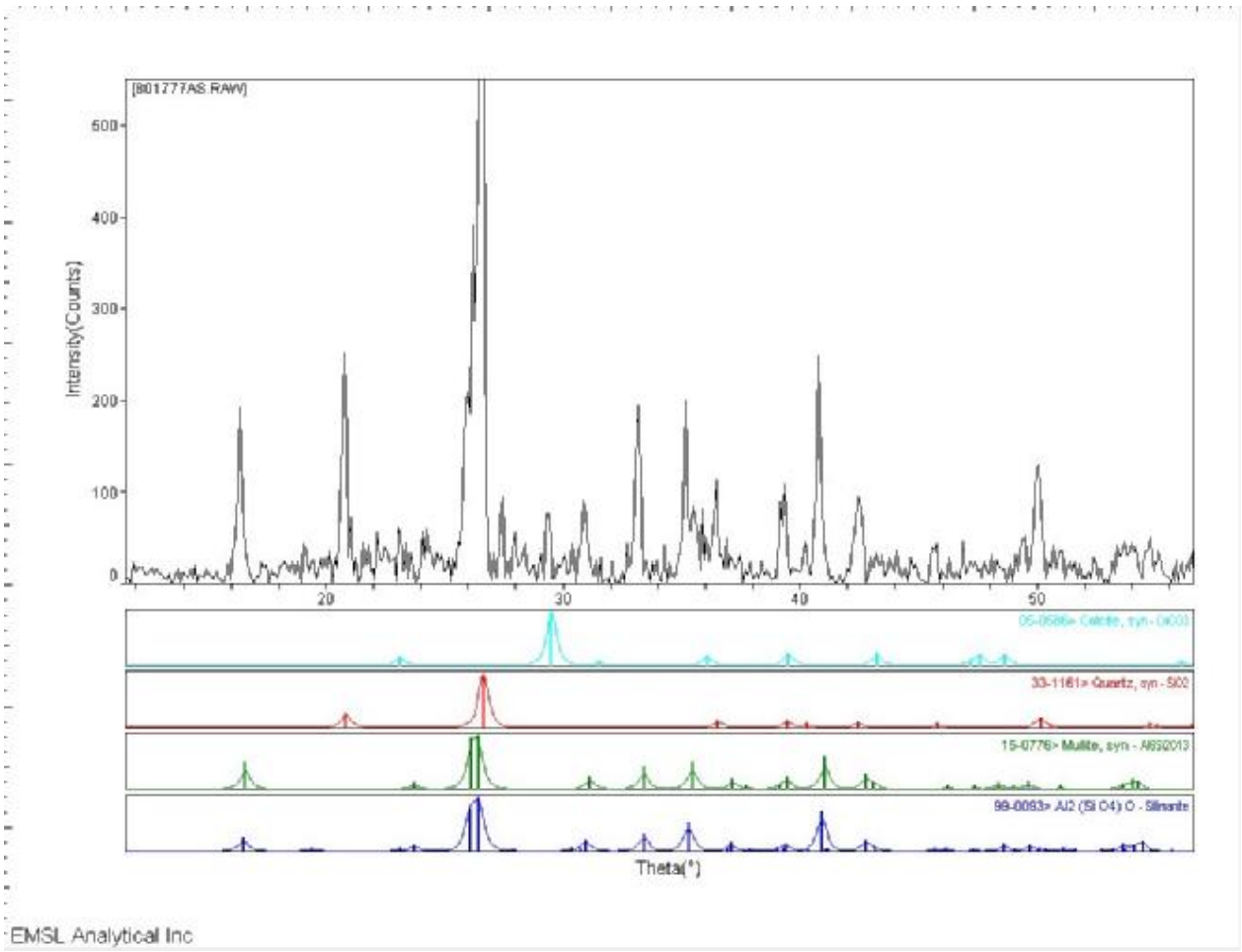

Figure 6: XRD pattern of "ASH-CEC-STD" showing the primary mineral components

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EMSL Case No.: 360801777rev020409
Sample(s) Received: 12/11/2008
Date of Analysis: 12/30/2008
Date Printed: 2/4/2009
Reported By: D. D'Ulisse

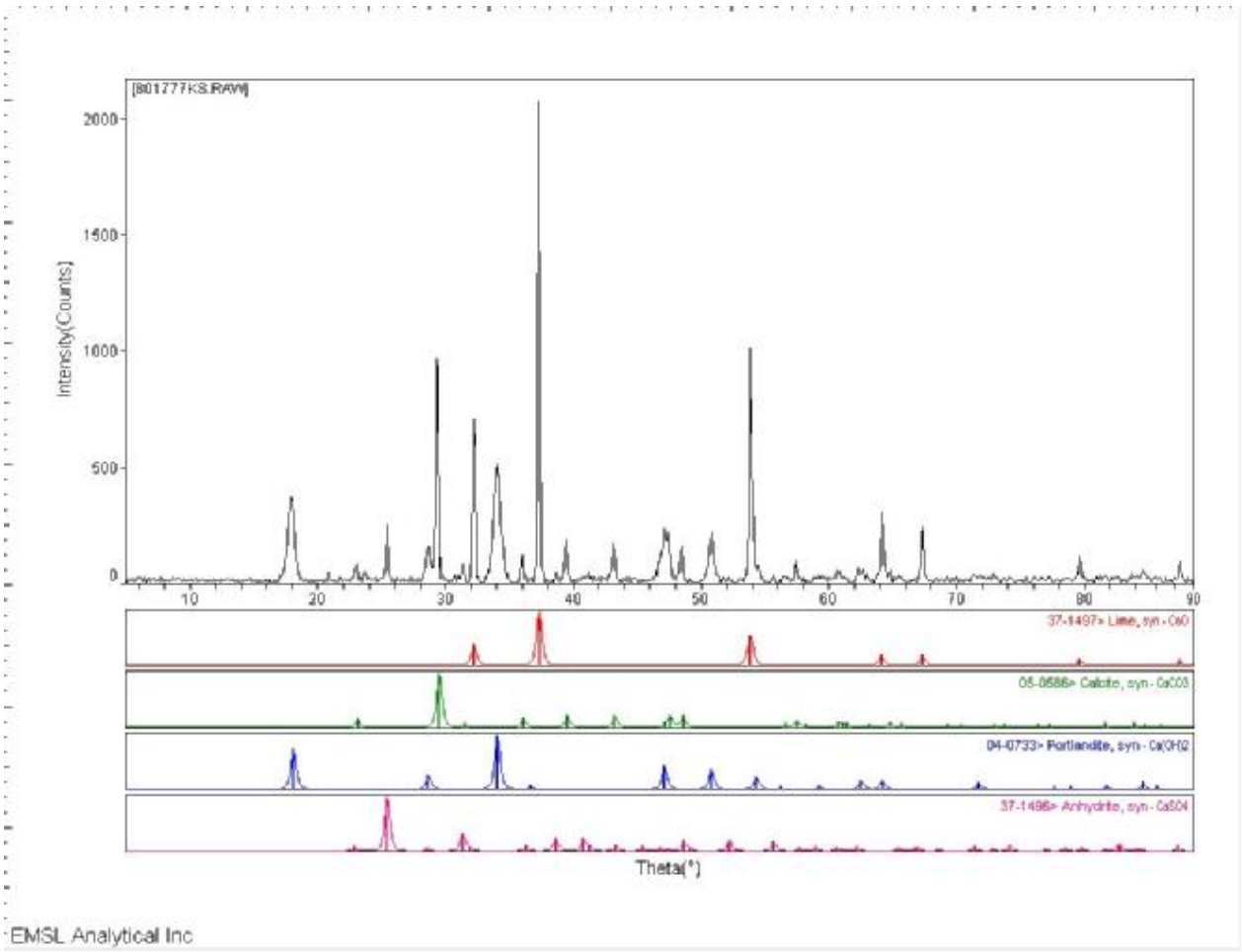

Figure 7: XRD pattern of "KILNDUST-GC-STD" showing the primary mineral components

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EMSL Case No.: 360801777rev020409
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Date of Analysis: 12/30/2008
Date Printed: 2/4/2009
Reported By: D. D'Ulisse

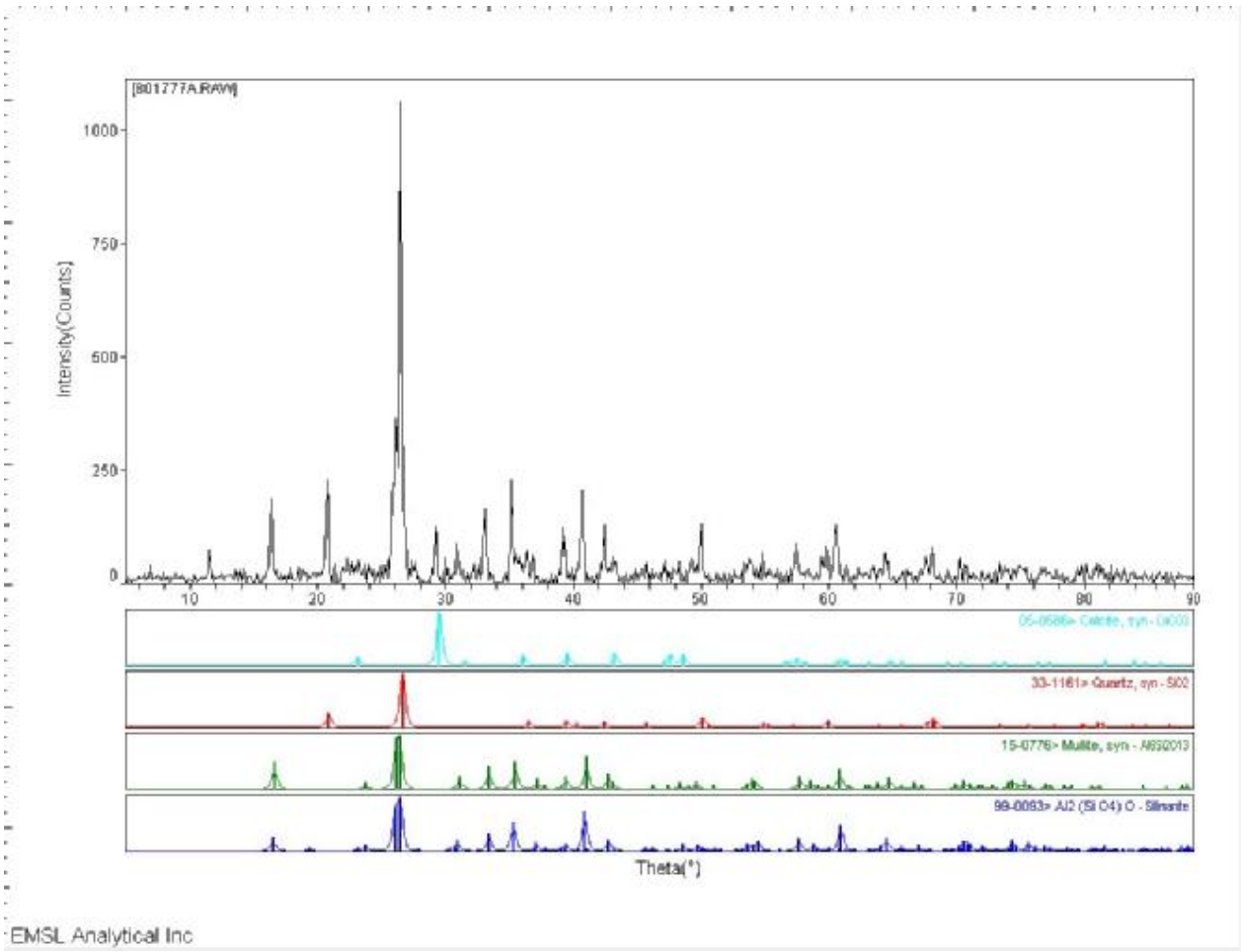

Figure 8: XRD pattern of "ASH-BGC-TP1" showing the primary mineral components

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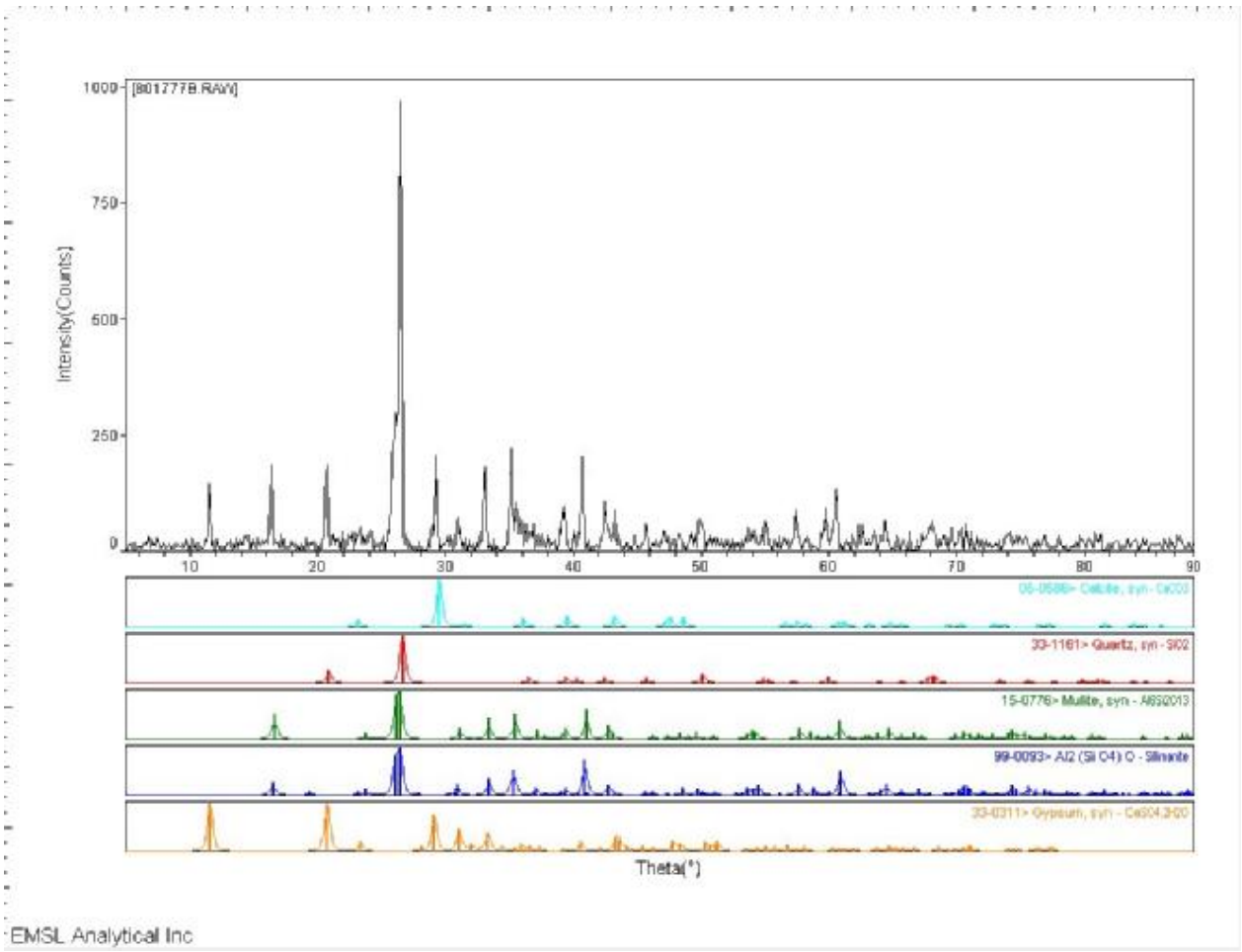

Figure 9: XRD pattern of "ASH-BGC-TP2" showing the primary mineral components

EMSL Analytical, Inc.

107 Haddon Avenue, Westmont, NJ 08108
Phone: (856) 858-4800

Attn.: *Gregory B. Grose*
MACTEC Engineering
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147

Phone: 571-252-2566 Fax: 703-858-1858

EMSL Case No.: 360801777rev020409
Sample(s) Received: 12/11/2008
Date of Analysis: 12/30/2008
Date Printed: 2/4/2009
Reported By: D. D'Ulisse

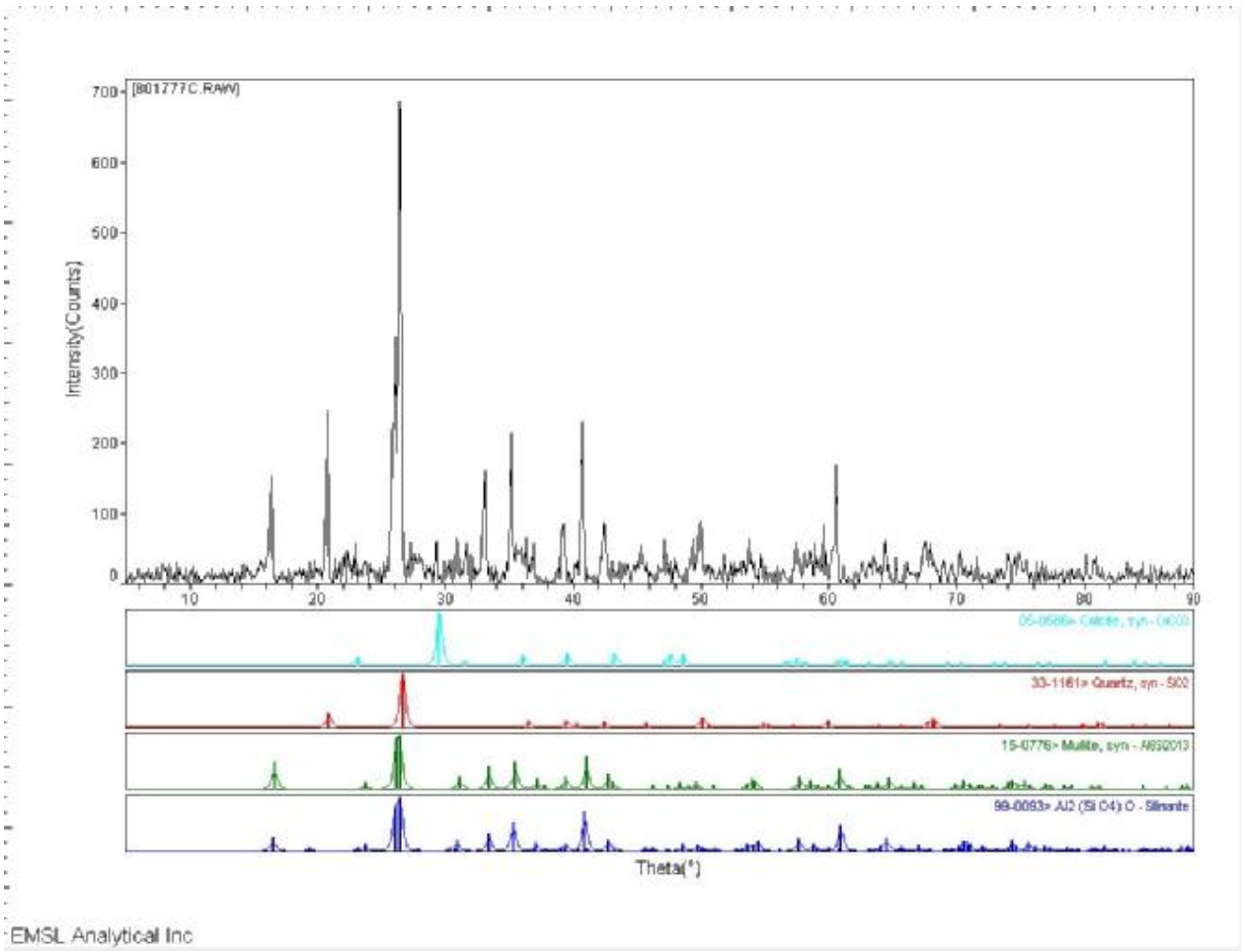

Figure 10: XRD pattern of "ASH-BGC-TP3" showing the primary mineral components

EMSL Analytical, Inc.

107 Haddon Avenue, Westmont, NJ 08108
Phone: (856) 858-4800

Attn.: Gregory B. Grose
MACTEC Engineering
21740 Beaumeade Circle, Suite 150
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Phone: 571-252-2566 Fax: 703-858-1858

EMSL Case No.: 360801777rev020409
Sample(s) Received: 12/11/2008
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Reported By: D. D'Ulisse

Descriptions & Definitions:

None Detected (ND) denotes the absence of an analyte in the subsample analyzed. Trace levels of the analyte may be present in the sample below the limit of detection (LOD).

Limit of Detection (LOD): The minimum concentration that can be theoretically achieved for a given analytical procedure in the absence of matrix or sample processing effects. Particle analysis is limited to a single occurrence of an analyte particle in the sub-sample analyzed.

Concentrations for bulk samples are derived from Visual Area Estimation (VAE) unless otherwise noted. Air sample concentrations are calculated to particles per unit volume.

VAE technique estimates the relative projected area of a certain type of particulate from a mixture of particulate by comparison to data derived from analysis of calibration materials having similar texture and particulate content. Due to bi-dimensional nature of the measurements, in some cases the particle thickness could affect the results.

The results are obtained using the methods and sampling procedures as described in the report or as stated in the published standard methods, and are only guaranteed to the accuracy and precision consistent with the used methods and sampling procedures. Any change in methods and sampling procedure may generate substantially different results. EMSL Analytical, Inc. assumes no responsibility or liability for the manner in which the results are used or interpreted.

APPENDIX D
BORING LOGS AND WELL COMPLETION DIAGRAMS

MACTEC

BORING NO.	**MW-BGC-5A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,420,246.7 E 12,164,009.4**
SURFACE ELEVATION **10.41** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			CL				Firm, black (10YR, 2/1), organic rich CLAY (CL), dry	3/8" Bentonite Chips: 1.0' to 3.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 5.0' bgs
	1	3-2 2-3	ML	24			Gray (10YR, 6/1), stiff, clayey SILT (ML), dry	
5	2	4-2 4-5	SP SP	24			SAME Gray, hard, fine SAND (SP), wet	
	3	5-8 15-14	SP	24			SAME	
	4	2-3 12-13	SP	24			SAME	No. 2 Clean Silica Sand Filter Pack: 3.0' to 15.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 5.0' to 15.0' bgs
10	5	10-8 9-8	SP	24			SAME	
	6	1-1 1-2		24				
15							Boring terminated at 15.0' bgs on 11/18/2008.	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/18/08** ENDED **11/18/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-5B**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,420,248.1 E 12,164,004.6**
SURFACE ELEVATION **10.30** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-3 3-3	CL	24			Very dark grayish brown (10YR 3/2), stiff, silty CLAY (CL), organic rich, dry	
	2	3-3 4-6	CL	2			SAME, poor recovery	
5	3	10-10 10-11	CL SP	24			SAME	
	4	10-9 11-10	SP	24			Light gray (10YR 7/1) dense, fine SAND (SP), wet at 5.0' SAME, gray (10YR 5/1)	
	5	2-3 4-4	SP	24			SAME	Cement Grout: 0.0' to 19.0' bgs
10							SAME	2" ID Sch 40 PVC casing: 0.0' to 25.0' bgs
	6	4-1 1-2	SP	24				
15							SAME	
	7	2-3 3-4	SP	24				
20							SAME	3/8" Bentonite Chips: 19.0' to 22.0' bgs
	8	WOH-1 1-1	SP CH	24				
25							Gray (10YR 5/1) soft CLAY (CH) Gray (10YR 5/1) stiff, fine SAND (SP)	
	9	4-3 4-8	SP	24				No. 2 Clean Silica Sand Filter Pack: 22.0' to 35.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 25.0' to 35.0' bgs
30			SP				SAME	
			SP				SAME, coarse SAND with trace gravel	
	10	2-3 3-7	CL	24			Sandy CLAY (CL)	
35							Boring terminated at 35.0' bgs on 11/19/2008.	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/19/08** ENDED **11/19/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-6A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,420,546.5 E 12,162,135.3**
SURFACE ELEVATION **15.77** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	1-2 2-2	SM CL	24			Grayish brown (10YR 5/2) loose, silty SAND (SM)	3/8" Bentonite Chips: 0.0' to 3.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 5.0' bgs
	2	2-3 2-3	CL SP	24			Light gray (10YR 7/1) firm, sandy CLAY (CL), damp SAME	
5	3	3-3 2-3	SP SP	24			Gray (10YR 5/1) loose, medium SAND (SP), damp SAME	
	4	5-9 11-11	SP	24			SAME, light gray (10YR 7/1), wet at 5.0' SAME, white (10YR 8/1) fine SAND (SP)	
10	5	1-5 5-6	SP	12			SAME, yellow (10YR 7/6) SAND (SP) SAME, light gray (10YR 7/2) SAND (SP)	No. 2 Clean Silica Sand Filter Pack: 3.0' to 15.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 5.0' to 1.0' bgs
15	6	5-7 5-5	SP	10			Boring terminated at 15.0' bgs on 11/17/2008.	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/17/08** ENDED **11/17/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-6B**	SHEET	**1** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,420,541.7 E 12,162,133.4**
SURFACE ELEVATION **15.66** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-4 2-3	SC CL	24			Black (10YR 2/1) loose, clayey SAND (SC) organic rich Gray (10YR 5/1) sandy CLAY (CL), damp	
	2	3-4 4-4	CL SP	24			SAME Dark grayish brown (10YR 4/2) fine to medium SAND (SP), damp	
5	3	3-3 5-9	SP	24			Very pale brown (10YR 7/3) medium SAND (SP), wet at 5.0'	
	4	6-7 9-9	SP	24			SAME; fine to medium	
	5	5-4 3-5	SP	24			SAME	
10							SAME, light gray (10YR 7/1)	
	6	4-4 4-3	SP	24				Cement Grout: 0.0' to 28.0' bgs
15							No Recovery	2" ID Sch 40 PVC casing: 0.0' to 32.0' bgs
	7	WOH-1 3-3		0				
20							Dark gray (10YR 4/1) fine SAND (SP)	
	8	3-2 1-5	SP	24				
25							SAME	
	9	1-1 1-1	SP	24				3/8" Bentonite Chips: 28.0' to 30.0' bgs
30							Light gray (10YR 7/1) very firm, fine to medium SAND (SP); basal 2" coarse sand	
	10	4-5 8-8	SP	24				
35							Gray (10YR 6/1) fine SAND (SP)	No. 2 Clean Silica Sand Filter Pack: 30.0' to 42.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 32.0' to 42.0' bgs
	11	12-8 7-8	SP	24				

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/17/08** ENDED **11/17/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-6B**	SHEET	**2** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,420,541.7 E 12,162,133.4**
SURFACE ELEVATION **15.66** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	12	9-21 27-26	SW	24			Gray (10YR 5/1) medium coarse SAND (SW)	
			SP				Light greenish gray (GLEY1 7/1) fine SAND (SP)	
							Boring terminated at 42.0' bgs on 11/17/2008.	

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-7A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,419,391.6 E 12,161,625.6**
SURFACE ELEVATION **14.61** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	1-2 1-2	CL	24			Black (10YR 2/1) firm, organic rich silty CLAY (CL), dry	3/8" Bentonite Chips: 1.0' to 3.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 5.0' bgs
	2	1-1 1-3	CL SP	24			SAME	
5	3	5-4 6-8	SP	24			Light brown (7.5YR 6/3) loose, fine to medium SAND (SP), moist SAME, wet at ~5.0'	
	4	8-9 8-11	SP	24			SAME, gray (GLEY1 5/1), wet	
	5	1-3 4-3	SP	24			SAME	No. 2 Clean Silica Sand Filter Pack: 3.0' to 15.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 5.0' to 15.0' bgs
10			SP				SAME	
	6	1-4 4-4		24				
15							Boring terminated at 15.0' bgs on 11/18/2008.	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/18/08** ENDED **11/18/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-7B**	SHEET	**1** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,419,386.5 E 12,161,624.9**
SURFACE ELEVATION **14.47** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-2 2-1	ML	12			Black (10YR 2/1) organic rich, firm clayey SILT (ML), dry	
	2	1-1 2-2	ML SP	24			SAME Light gray (10YR 7/2) loose, fine to medium SAND (SP)	
5	3	4-5 6-6	SP	24			SAME, wet at 5.0'	
	4	6-12 11-11	SP	24			SAME	
	5	4-3 4-3	SP	24			Greenish gray (GLEY1 5/1) loose, fine to medium SAND (SP)	
10			SP				SAME	
	6	WOH-1 1-3		24				Cement Grout: 0.0' to 28.0' bgs
15			SP				Gray (10YR 6/1) very firm, fine to medium SAND (SP)	2" ID Sch 40 PVC casing: 0.0' to 32.0' bgs
	7	4-5 7-9		24				
20			SP				SAME	
	8	1-1 3-6		24				
25			SP				SAME	
	9	3-3 6-6		24				3/8" Bentonite Chips: 28.0' to 30.0' bgs
30			SP				SAME, trace shell fragments	
	10	2-6 10-17		24				
35			SP				SAME	No. 2 Clean Silica Sand Filter Pack: 30.0' to 42.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 32.0' to 42.0' bgs
	11	1-3 6-8		24				

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/18/08** ENDED **11/18/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-7B**	SHEET	**2** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,419,386.5 E 12,161,624.9**
SURFACE ELEVATION **14.47** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	12	5-4 3-3	SC	24			Dark greenish gray (GLEY1 4/1) loose, fine SAND (SC) with trace clay and silt	
							Boring terminated at 42.0' bgs on 11/18/2008	

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-8A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,234.1 E 12,162,031.4**
SURFACE ELEVATION **13.83** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	4-2 2-3	ML	24			Dark brown (10YR 3/2) firm, clayey SILT (ML), organic rich, dry	
	2	2-2 2-2	ML	24			SAME	
5	3	2-3 4-4	ML SP	12			SAME Light gray (10YR 7/1) firm, fine SAND (SP), moist	3/8" Bentonite Chips: 0.0' to 8.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 10.0' bgs
	4	6-4 5-7	SP	24			SAME, light brown (10YR 7/3)	
	5	3-4 6-6	SP	24			Gray (10YR 5/1) firm, fine to medium SAND (SP), wet at 8.0'	
10			SP				SAME, fine SAND	
	6	1-3 5-7		24				No. 2 Clean Silica Sand Filter Pack: 8.0' to 20.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 10.0' to 20.0' bgs
15			SP				SAME	
	7	6-11 10-11		24				
20							Boring terminated at 20.0' bgs on 11/19/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/19/08** ENDED **11/19/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-8B**	SHEET	**1** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,235.4 E 12,162,024.4**
SURFACE ELEVATION **13.77** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	3-2 2-2	ML	24			Dark grayish brown (10YR 4/2) firm, clayey SILT (ML), dry	
	2	3-2 2-1	ML	24			SAME, moist	
5	3	2-1 1-3	ML	1			SAME, poor recovery	
	4	6-6 6-6	SP	24			Very pale brown (10YR 7/4) firm, fine SAND (SP)	
	5	3-3 4-6	SP	12			Gray (10YR 6/1) firm, fine SAND (SP)	
10			SP				SAME	
	6	3-3 4-5		24				Cement Grout: 0.0' to 28.0' bgs
15			SP				SAME	2" ID Sch 40 PVC casing: 0.0' to 32.0' bgs
	7	3-5 6-7		24				
20			SP				SAME	
	8	1-1 1-1	CH	24			Gray (10YR 6/1) soft, CLAY (CH), trace organics	
25			SP				Gray (10YR 6/1) firm, fine SAND (SP) with 4" interbedded CLAY (CH)	
	9	2-2 1-5		24				3/8" Bentonite Chips: 28.0' to 31.0' bgs
30			SP				SAME	
	10	1-3 6-10		24				
35			SP				SAME, SAND (SP) with 2" clay interbedded	
	11	1-1 1-1		24				No. 2 Clean Silica Sand Filter Pack: 31.0' to 44.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 34.0' to

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/19/08** ENDED **11/19/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-8B**	SHEET	**2** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,235.4 E 12,162,024.4**
SURFACE ELEVATION **13.77** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	12	1-3 3-7	SP	24			SAME, fine to medium SAND (SP)	44.0' bgs
	13	1-1 1-1	SP CL	24			SAME, SAND (SP) Dark greenish gray (GLEY1 4/1) soft, CLAY (CL) with trace silt	
							Boring terminated at 44.0' bgs on 11/19/2008.	

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-9A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,055.7 E 12,163,042.2**
SURFACE ELEVATION **10.95** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	3-3 3-3	CL	24			Very dark grayish brown (10YR 3/2) stiff, CLAY (CL) with little silt, organic rich, dry	
	2	3-2 4-4	CH CH	24			SAME Gray (10YR 6/1) stiff, CLAY (CH), dry	
5	3	3-4 4-4	CL	24			SAME, becoming sandy CLAY (CL), moist	3/8" Bentonite Chips: 1.0' to 8.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 10.0' bgs
	4	7-1 14-14	SP SP	24			SAME Gray (10YR 5/1) very firm, fine SAND (SP), moist	
	5	2-3 3-3	SP	24			SAME; wet at 8.0'	
10							SAME	
	6	1-4 9-10	SP	24				No. 2 Clean Silica Sand Filter Pack: 8.0' to 20.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen:10.0' to 20.0' bgs
15							SAME	
	7	1-2 4-6	SP	24				
20							Boring terminated at 20.0' bgs on 11/20/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/20/08** ENDED **11/20/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-9B**	SHEET	**1** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,056.7 E 12,163,034.4**
SURFACE ELEVATION **11.12** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	1-3 4-5	CL	24			Black (10YR 2/1) stiff, organic rich silty CLAY (CL), dry	
	2	2-3 4-5	CH CH	24			SAME	
5	3	3-4 3-4	CH	24			Light gray (10YR 7/1) stiff, CLAY (CH), dry; SAME	
	4	3-5 7-9	SP SP	24			SAME; Light gray (10YR 7/1), very firm, medium SAND (SP), moist	
	5	2-1 1-1	SP	24			Gray (10YR 5/1) very loose, fine SAND (SP), wet at 8.0'	
10							SAME, wet	Cement Grout: 0.0' to 24.0' bgs
	6	5-6 9-7	SP	24				2" ID Sch 40 PVC casing: 0.0' to 30.0' bgs
15							SAME, wet	
	7	2-2 5-9	SP	24				
20							SAME	
	8	5-4 3-6	SP SP	24			Gray (10YR 6/1), wet	
25							Light gray (10YR 7/1), dense, medium to coarse SAND (SW), wet	3/8" Bentonite Chips: 24.0' to 26.0' bgs
	9	1-5 16-15	SW	24				
30							Gray (10YR 6/1) loose, fine SAND (SP), wet	
	10	6-1 1-4	SP	24				No. 2 Clean Silica Sand Filter Pack: 26.0' to 40.0' bgs; 2" ID Sch 40 PVC 0.010-inch factory slotted screen:30.' to 40.0' bgs
35							Gray (10YR 5/1) dense, medium SAND (SP)	
	11	3-10 15-10	SP	24			Very dark greenish gray (GLEY1 3/1) dense, fine to medium SAND (SP), wet	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/20/08** ENDED **11/20/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-9B**	SHEET	**2** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,056.7 E 12,163,034.4**
SURFACE ELEVATION **11.12** DATUM

SAMPLE INFORMATION							STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL	
DEPTH FEET	LAB SAMPLE	BLOW COUNTS		USCS	Recovery (inches)	PID				
								Boring terminated at 40.0' bgs on 11/20/2008		

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-10A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,417,888.8 E 12,164,015.8**
SURFACE ELEVATION **10.86** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-5 4-5	CL	24			Dark gray (10YR 4/1) stiff, silty CLAY (CL), dry	
	2	4-3 4-3	CL	24			SAME	3/8" Bentonite Chips: 0.0' to 8.0' bgs
5	3	4-3 3-2	CH CH	24			SAME Gray (10YR 6/1) firm, CLAY (CH), moist	2" ID Sch 40 PVC casing: 0.0' to 10.0' bgs
	4	2-2 3-4	CH SP	24			SAME	
	5	1-5 6-4	SP	24			Gray (10YR 5/1) loose, fine SAND (SP), moist SAME, wet at 8.0'	No. 2 Clean Silica Sand Filter Pack: 8.0' to 20.0' bgs
10							SAME	
	6	3-4 7-10	SP	24				2" ID Sch 40 PVC 0.010-inch factory slotted screen: 10.0' to 20.0' bgs
15							SAME, dark gray (10YR 4/1)	
	7	5-7 7-7	SP	24				
20							Boring terminated at 20.0' bgs on 11/20/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/20/08** ENDED **11/20/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-10B**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,417,887.1 E 12,164,023.2**
SURFACE ELEVATION **10.54** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	3-2 2-3	CH	24			Gray (10YR 5/1) firm, CLAY (CH) with little silt, dry	
	2	2-2 3-3	CH CH	24			SAME	
5	3	3-2 3-3	CH	24			Gray (10YR 6/1) firm, CLAY (CH), moist SAME	
	4	3-5 7-7	SP	24			Gray (10YR 6/1) firm, fine SAND (SP), moist	
	5	1-3 4-3	SP	6			SAME, wet	
10			SP				SAME	Cement Grout: 0.0' to 21.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 25.0' bgs
	6	1-1 3-3		24				
15			SP				SAME, gray (10YR 5/1)	
	7	1-2 2-6		24				
20			SP				SAME	3/8" Bentonite Chips: 21.0' to 23.0' bgs
	8	15-22 25-27		24				
25			SP				Light gray (10YR 7/1) SAND (SP) SAME, gray (10YR 6/1)	
	9	1-19 22-25		24				No. 2 Clean Silica Sand Filter Pack: 23.0' to 35.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 25.0' to 35.0' bgs
30			SP				SAME	
	10	1-1 1-1	SC	24			Very dark gray (GLEY 3/1) very loose, clayey SAND (SC), wet	
35							Boring terminated at 35.0' bgs on 11/21/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/21/08** ENDED **11/21/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-11A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,417,849.2 E 12,164,878.6**
SURFACE ELEVATION **9.91** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-2 3-3	CL	24			Light gray (10YR 7/1) firm, CLAY (CL) with little silt, dry	
	2	3-5 4-4	CL	24			SAME	3/8" Bentonite Chips: 0.0' to 8.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 10.0' bgs
5	3	4-3 2-3	CH	24			Gray (10YR 5/1) firm, CLAY (CH), moist	
	4	1-2 2-3	CH SC	24			SAME Gray (10YR 5/1) loose, clayey SAND (SC), moist	
	5	2-2 4-4	SP	24			Gray (10YR 5/1) loose, fine SAND (SP), wet at 8.0'	
10							SAME	
	6	1-3 10-13	SP	24				No. 2 Clean Silica Sand Filter Pack: 8.0' to 20.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 10.0' to 20.0' bgs
15							SAME	
	7	1-3 3-8	SP	24				
20							Boring terminated at 20.0' bgs on 11/21/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/21/08** ENDED **11/21/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-11B**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,417,848.2 E 12,164,884.0**
SURFACE ELEVATION **9.83** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-2 2-2	CL	24			Light gray (10YR 7/1) firm, CLAY (CL) with little silt, dry	
	2	7-7 7-9	CL	24			SAME	
5	3	4-5 4-4	CL	2			SAME	
	4	1-4 5-9	SC	24			Light gray (10YR 7/1) firm, clayey fine SAND (SC), wet at 7.0'	
	5	1-2 3-3	SC	2			SAME	
10			SP				Gray (10YR 5/1) very firm, fine SAND (SP), wet	Cement Grout: 0.0' to 21.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 25.0' bgs
	6	7-8 10-12		24				
15			SP				Gray (10YR 5/1) firm, medium SAND (SP), wet	
	7	5-6 8-5		24				
20			SP				SAME	3/8" Bentonite Chips: 21.0' to 23.0' bgs
	8	1-1 6-10		24				
25			SW				Gray (10YR 5/1) loose, medium to coarse SAND (SW), wet	
	9	1-1 1-3		24				No. 2 Clean Silica Sand Filter Pack: 23.0' to 35.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 25.0' to 35.0' bgs
30			SW				SAME, trace gravel	
	10	1-1 5-6	SC	24			Greenish gray (GLEY2 5/1) firm, fine SAND (SC) with trace clay, wet	
35							Boring terminated at 35.0' bgs on 11/21/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/21/08** ENDED **11/21/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-12A**	SHEET	**1** OF **1**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,609.0 E 12,165,569.6**
SURFACE ELEVATION **9.62** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-2 1-1	CH	24			Light brownish gray (10YR 6/2) soft, CLAY (CH), moist	3/8" Bentonite Chips: 0.0' to 8.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 10.0' bgs
	2	2-3 4-3	CH	24			SAME, dry	
5	3	4-3 3-2	CH	24			SAME, moist	
	4	2-3 4-4	CH SC	24			SAME Gray (10YR 6/1) firm, clayey SAND (SC), moist to wet	
	5	1-1 2-3	SP	24			Gray (10YR 6/1) loose, fine SAND (SP), wet	
10			SP				SAME	No. 2 Clean Silica Sand Filter Pack: 8.0' to 20.0' bgs 2" ID Sch 40 PVC 0.010-inch factory slotted screen: 10.0' to 20.0' bgs
	6	1-2 3-4		24				
15			SP				SAME	
	7	3-10 9-4		24				
20							Boring terminated at 20.0' bgs on 11/24/2008	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/24/08** ENDED **11/24/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-12B**	SHEET	**1** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,605.2 E 12,165,573.9**
SURFACE ELEVATION **9.62** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-2 2-4	CL	24			Brown (10YR 5/3) firm CLAY (CL), dry	
	2	3-4 3-3	CL	6			SAME	
5	3	4-4 4-3	CL	24			Gray (10YR 6/1) stiff CLAY (CL), dry	
	4	3-4 5-6	CL SC	18			SAME; Gray (10YR 6/1) firm, clayey SAND (SC), moist	
	5	3-6 5-6	SP	24			Light gray (10YR 7/1) firm, fine SAND (SP), wet at 8.0'	
10			SP				SAME, gray (10YR 5/1)	Cement Grout: 0.0' to 20.0' bgs
	6	1-2 6-11		24				2" ID Sch 40 PVC casing: 0.0' to 30.0' bgs
15			SP				SAME, 1" clay layer at 19.0'	
	7	3-2 2-5		24				
20			SP				SAME, no clay	3/8" Bentonite Chips: 20.0' to 24.0' bgs
	8	1-1 2-3		24				
25			SP				Gray (10YR 6/1) very firm, fine to medium SAND (SP), coarse SAND (SW) at 28.8', wet	
	9	1-1 12-10		24				
30			SP				Gray (10YR 6/1) very dense, medium SAND (SP), wet	No. 2 Clean Silica Sand Filter Pack: 24.0' to 40.0' bgs
	10	2-10 34-35		24				2" ID Sch 40 PVC 0.010-inch factory slotted screen: 30.0' to 40.0' bgs
35			SP CH				SAME; Dark gray (10YR 4/1) CLAY (CH)	
	11	1-2 7-10	SW	24			Dark gray (10YR 4/1) fine to medium SAND (SW), wet	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **Track Rig**
DRILLING STARTED **11/24/08** ENDED **11/24/08**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level (MSL) as surveyed by Site Improvement Assoc., Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A BATTLEFIELD LOGS_1210.GPJ LAEWNN03.GDT 1/26/09

MACTEC

BORING NO.	**MW-BGC-12B**	SHEET	**2** OF **2**
PROJECT	**Dominion Power Battlefield**		
LOCATION	**Chesapeake, VA**		
PROJECT NO.	**3552081210**		
LOGGED BY	**B. Grosser**		

COORDINATES **N 3,418,605.2 E 12,165,573.9**
SURFACE ELEVATION **9.62** DATUM

SAMPLE INFORMATION							STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL	
DEPTH FEET	LAB SAMPLE	BLOW COUNTS		USCS	Recovery (inches)	PID				
								Boring terminated at 40.0' bgs on 11/24/2008		

MACTEC

BORING NO.	**MW-BGC-13**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Shockley/J. Buchy**		

COORDINATES **N 3,418,156.1 E 12,162,509.9**
SURFACE ELEVATION **11.37** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	4-5 4-4	ML	18			Very dark gray (7.5YR 3/11), clayey SILT (ML), trace sand, trace organic roots, firm, moist	Cement Grout: 0.0' to 1.5' bgs
	2	3-2 4-4		12.1				
5	3	8-8 7-7	SM	24			Light brown gray (5YR 6/2), fine to medium SAND (SM), medium dense, moist	3/8" Bentonite Chips: 1.5' to 8.0' bgs 2" ID Sch 40 PVC Casing: 0.0' to 10.0' bgs
	4	5-6 10-11	SM	24			SAME, dark greenish gray (GLEY1 4/10Y) SAME, wet at 7.0'	
	5	3-3 7-6	SM	12			SAME, greenish gray (GLEY1 6/10Y)	
10	6	8-8 10-11	SM	24				
	7	4-6 13-18		24			SAME	No. 2 Clean Silica Sand Filter Pack: 8.0' to 20.0' bgs 2" ID Sch 40 PVC 0.010" factory slotted screen: 10.0' to 20.0' bgs
15	8	2-6 8-0	SM	24				
	9	8-11 13-14		24				
20	10	5-5 6-10	SM	24			SAME, fine, silty	

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **CME 55**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level as surveyed by Site Improvement Association Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

MACTEC

BORING NO.	**MW-BGC-14**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Shockley/J. Buchy**		

COORDINATES **N 3,418,284.1 E 12,161,724.5**
SURFACE ELEVATION **14.43** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-3 3-2	ML	24			Grayish brown (10YR 5/2), clayey SILT (ML) with sand, firm (trace organic roots 0-2"), moist	Cement Grout: 0.0' to 5.0' bgs
	2	3-4 3-3		19				
5	3	2-3 5-5	SM	18			Yellowish brown (10YR 5/6), silty fine SAND (SM), trace clay, loose, moist	2" ID Sch 40 PVC Casing: 2.5' to 8.7' bgs
	4	6-6 7-8	SM	24			SAME, light olive brown (2.5Y 5/3), trace silt, medium dense SAME, fine to medium, wet at ~ 7.0'	3/8" Bentonite Chips: 5.0' to 6.5' bgs
	5	8-9 9-9	SM	19			SAME, dark grayish brown (2.5Y 4/2)	
10			SM SM				SAME, greenish gray (GLEY1 5/10Y)	No. 2 Clean Silica Sand Filter Pack: 6.5' to 18.7' bgs 2" ID Sch 40 PVC 0.010" factory slotted screen: 8.7' to 18.7' bgs
	6	4-6 5-8		24				
15								
	7	5-7 10-10		19				
20								

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **CME 55**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level as surveyed by Site Improvement Association Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

MACTEC

BORING NO.	**MW-BGC-15**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Shockley**		

COORDINATES **N 3,418,571.5 E 12,161,995.5**
SURFACE ELEVATION **9.68** DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
	1	2-3 3-4	ML	24			Grayish brown (10YR 5/2), sandy SILT (ML), trace clay, trace organics/roots 0 to 2", firm, moist	Cement Grout: 0.0' to 2.0' bgs 2" ID Sch 40 PVC casing: 0.0' to 4.0' bgs 3/8" Bentonite Chips: 2.0' to 3.0' bgs
	2	2-2 3-3	SM	18			Dark grayish brown (2.5Y 4/2), fine to medium SAND (SM), trace silt, loose, moist	
5	3	2-1 1-1	SM	19			SAME, wet at ~2.0'	
	4	2-5 6-9	SM	18			SAME, grayish brown (2.5Y 5/2), intermittent clayey organics SAME, greenish gray (GLEY 1 5/10), medium to coarse, medium dense	
	5	6-6 9-11	SM	12			SAME, fine to medium with silt	No. 2 Clean Silica Sand Filter Pack: 3.0' to 14.07' bgs 2" ID Sch 40 PVC 0.010" factory slotted screen: 4.07' to 14.07' bgs
10			SM					
	6	1-2 3-6		12				
15								

DRILLING CONTRACTOR **Fishburne**
DRILLING METHOD **6.25" ID HSA**
DRILLING EQUIPMENT **CME 55**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

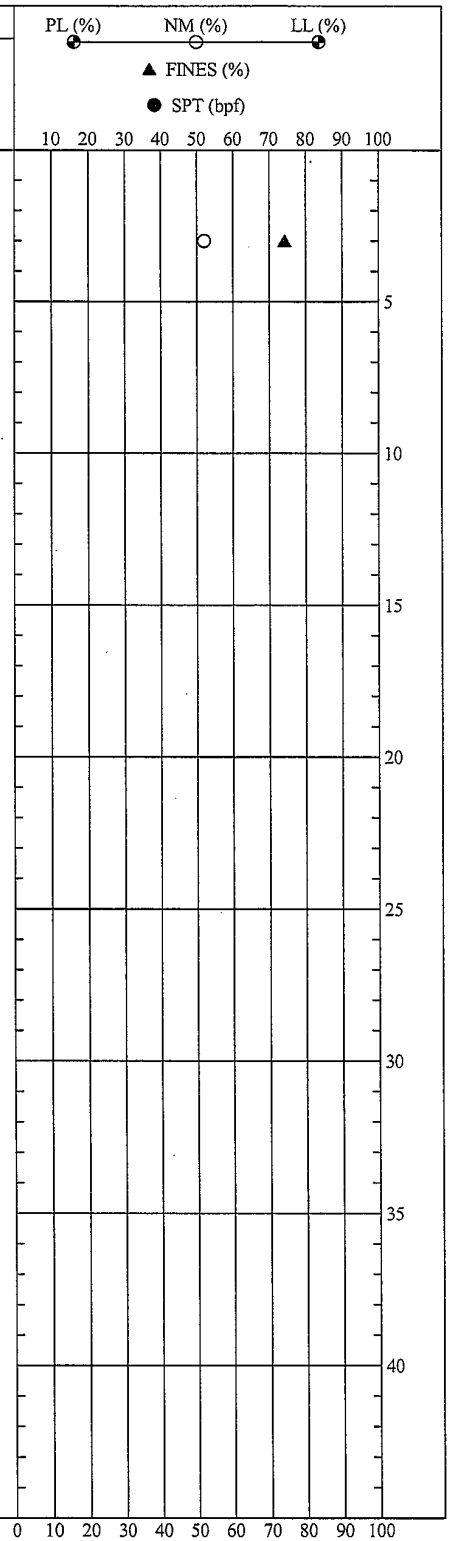
REMARKS **Well completed with 10' of pre-packed screen (2" ID inner screen surrounded by 4" ID outer screen with No. 2 clean silica sand in interstitial space). Elevations are relative to Mean Sea Level as surveyed by Site Improvement Association Inc. (SIA).**

See key sheet for symbols and abbreviations used above.

ENV2A MW-BGC-13.GPJ LAEWNN03.GDT 8/10/09

50512

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	TOPCOVER: 24.0" Gray brown, sandy CLAY (CL), with yellow gray silt, moist						
	ASH: Black, SILT (ML), with sand, moist Note: Nuclear Density Test @ 3.8 ft: DD-60.95 pcf, WD-92.7 pcf, % Moisture-52.1			BK-1			
	Excavation Terminated at 3.8' Below Ground Surface on 12/10/2008.						
5							
10							
15							
20							
25							
30							
35							
40							
45							



SOIL TEST BORING BATTLE FIELD GOLF CLUB TEST PIT.GPJ MACTEC.GDT 27/01/09

DRILLER: Fishburne Drilling, Inc.
EQUIPMENT: Deere 310G
METHOD: Excavation
HOLE DIA.:
REMARKS: Recompacted and Covered with Jute Mat
LOGGED BY: Jason Monk
CHECKED BY: G. B. G.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

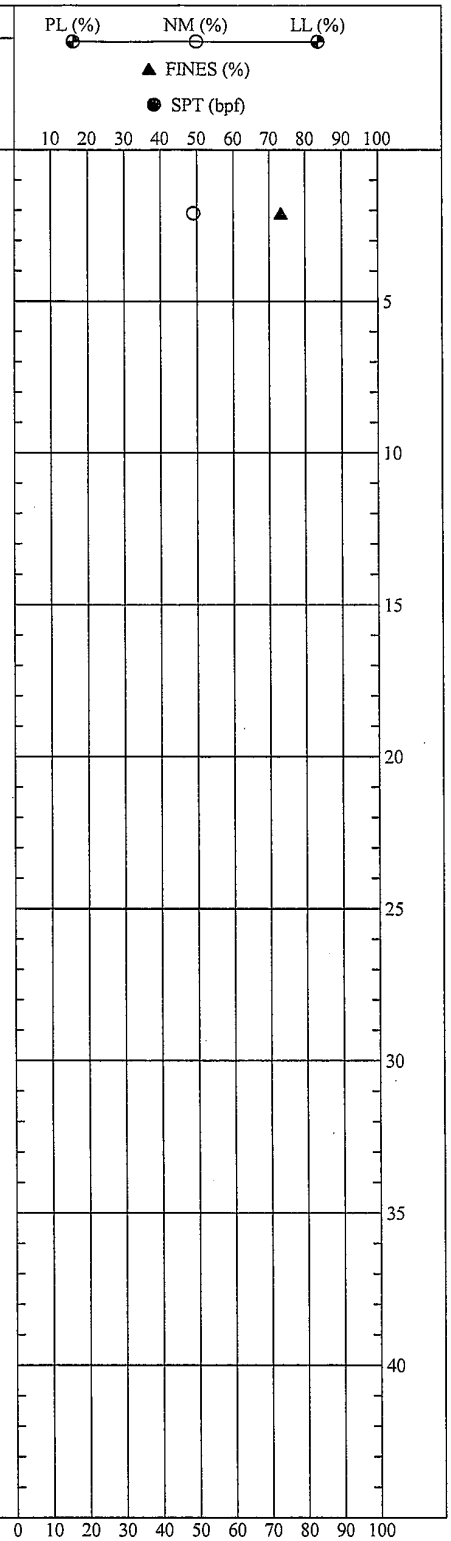
SOIL TEST BORING RECORD

BORING NO.: TP-1
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 10 December 2008
PROJECT NO.: 3552-08-1210 **PAGE** 1 **OF** 1

MACTEC

50513

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	TOPCOVER: 21.6" Dark brown, silty CLAY (CL) , trace sand, moist						
	ASH: Gray Black, SILT (ML), with sand, moist NOTE: Nuclear Density Test @ 2.1 ft, DD-56.14 pcf, WD-83.7 pcf, % Moisture-49.1			BK-1			
5	Excavation Terminated at 3.0' Below Ground Surface on 12/10/2008.						
10							
15							
20							
25							
30							
35							
40							
45							



SOIL TEST BORING BATTLE FIELD GOLF CLUB TEST PIT.GPJ MACTEC.GDT 27/01/09

DRILLER:	Fishburne Drilling, Inc.
EQUIPMENT:	Deere 310G
METHOD:	Excavation
HOLE DIA.:	
REMARKS:	Recompacted and Covered with Jute Mat
LOGGED BY:	Jason Monk
CHECKED BY:	G. B. G.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

BORING NO.: TP-2
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 10 December 2008
PROJECT NO.: 3552-08-1210 **PAGE 1 OF 1**

MACTEC

50514

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	TOPCOVER: 30.0" Dark brown, silty CLAY (CL), with lenses of ash, contains rootlets, moist						
	TOPCOVER: Tan brown, Silty CLAY (CL), with sand, trace ash, moist			BK-1			
	ASH: Gray black, SILT (ML), with sand, moist NOTE: Nucelar Density Test @ 2.5 ft: WD-82.8 pcf, DD-54.4 pcf, % Moisture-52.0						
5	Excavation Terminated at 2.8' Below Ground Surface on 12/10/2008.						
10							
15							
20							
25							
30							
35							
40							
45							

SOIL TEST BORING BATTLE FIELD GOLF CLUB TEST PIT.GPJ MACTEC.GDT 26/02/09

DRILLER:	Fishburne Drilling, Inc.
EQUIPMENT:	Deere 310G
METHOD:	Excavation
HOLE DIA.:	
REMARKS:	Recompacted and Covered with Jute Mat
LOGGED BY:	Jason Monk
CHECKED BY:	G. B. G.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

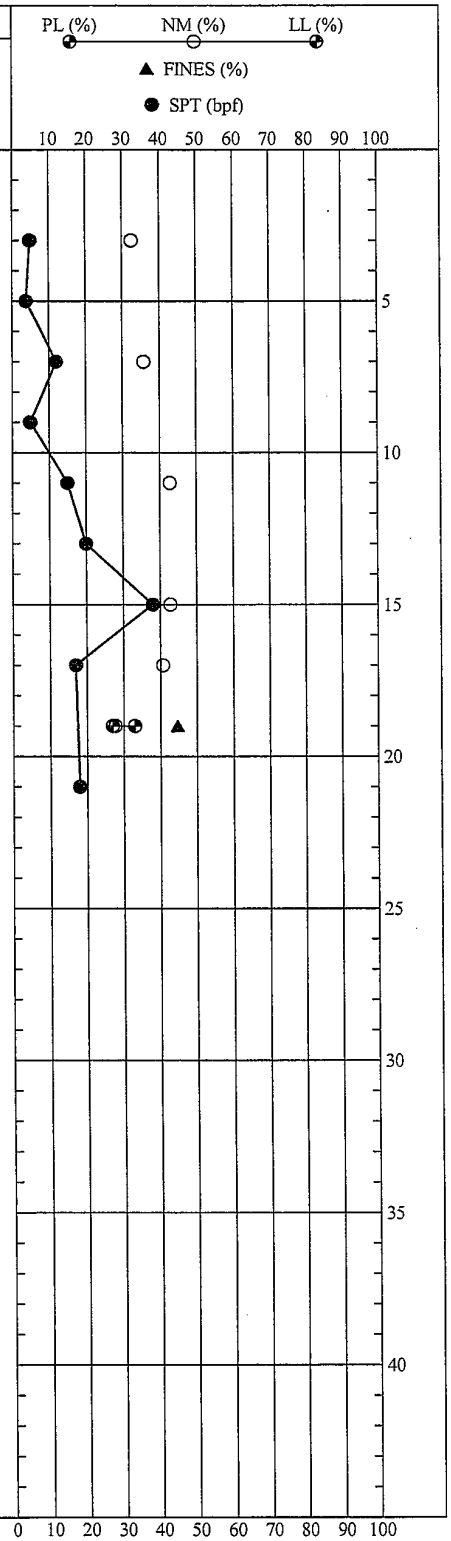
BORING NO.: TP-3
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 10 December 2008
PROJECT NO.: 3552-08-1210

MACTEC

50515

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)
0	TOPCOVER: 21.6" Brown, silty CLAY (CL), trace sand, contains organics		
	ASH: Gray black, fine grain, silty SAND (SM), loose, moist		
5			
	ASH: Gray black, fine grain, silty SAND (SM), firm, moist		
	ASH: Gray black, fine grain, silty SAND (SM), firm, moist		
10	ASH: Gray black, fine grain, silty SAND (SM), firm, moist		
15	ASH: Gray black, fine grain, silty SAND (SM), dense, moist		
	ASH: Gray black, very fine grain, silty SAND (SM), firm, moist		
	ASH: Gray black, very fine grain, silty SAND (SM), very loose, moist		
20	Gray, silty CLAY (CL), with sand, lense of gray black ash, very soft		
	Black, fine to medium silty SAND (SM), very loose, moist NOTE: Organic odor		
	Gray white, fine to medium, subangular, poorly graded SAND (SP), firm, wet		
25	Boring Terminated at 22.0' Below Ground Surface on 12/9/2008.		
30			
35			
40			
45			

SAMPLES IDENT	TYPE	N-COUNT 1st 6" 2nd 6" 3rd 6"
UD-1		
SS-2		1-2-3 (N = 5)
SS-3		2-2-2 (N = 4)
SS-4		5-6-6 (N = 12)
SS-5		3-3-2 (N = 5)
SS-6		8-9-6 (N = 15)
SS-7		8-10-10 (N = 20)
SS-8		16-18-20 (N = 38)
SS-9		6-8-9 (N = 17)
SS-10		1-WOH-1
SS-11		
SS-12		
SS-13		8-7-11 (N = 18)



SOIL TEST BORING BATTLE FIELD GOLF CLUB BORINGS.GPJ MACTEC.GDT 27/01/09

DRILLER:	Fishburne Drilling, Inc.
EQUIPMENT:	CME 55 ATV
METHOD:	Mud Rotary
HOLE DIA.:	
REMARKS:	Boring backfilled with quick grout
LOGGED BY:	Jason Monk
CHECKED BY:	G.B.G.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

BORING NO.:	SB-1
PROJECT:	Battle Field Golf Club
LOCATION:	
DRILLED:	09 December 2008
PROJECT NO.:	3552-08-1210

MACTEC

50516

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf) 10 20 30 40 50 60 70 80 90 100
0							
5							
10							
15							
	Undisturbed Sample			UD-1			
20	Boring Terminated at 19.0' Below Ground Surface on 12/9/2008.						
25							
30							
35							
40							
45							

SOIL TEST BORING BATTLE FIELD GOLF CLUB BORINGS.GPJ MACTEC.GDT 27/01/09

DRILLER:	Fishburne Drilling, Inc.
EQUIPMENT:	CME 55 ATV
METHOD:	Mud Rotary
HOLE DIA.:	
REMARKS:	Offset 2 ft from SB-1, Boring backfilled with quick grout
LOGGED BY:	Jason Monk
CHECKED BY:	

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

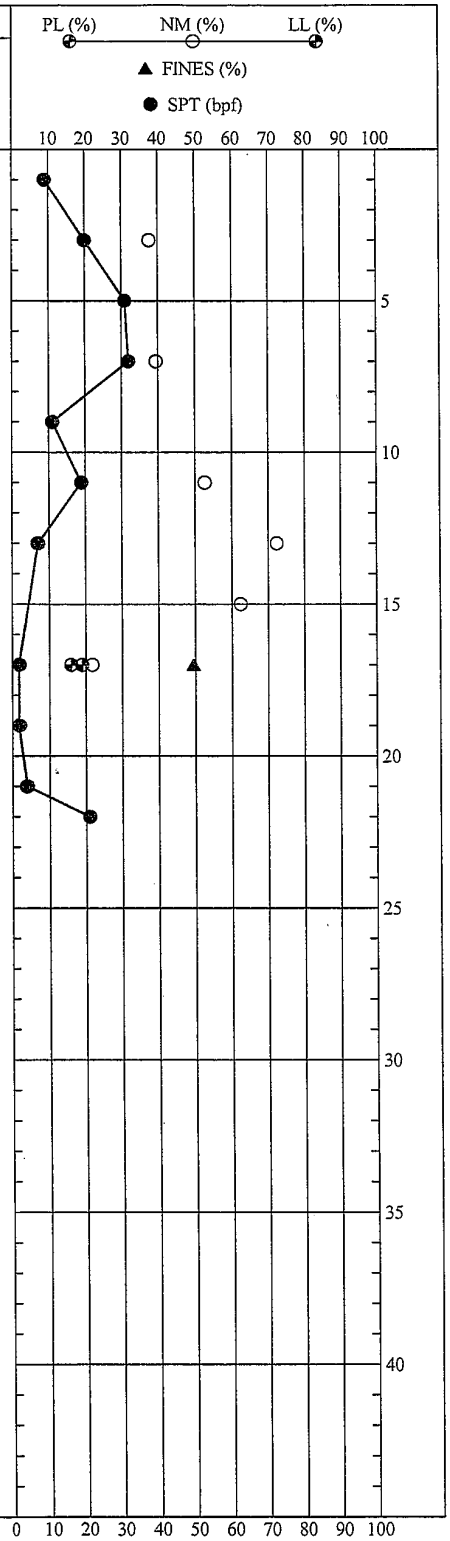
BORING NO.:	SB-1A
PROJECT:	Battle Field Golf Club
LOCATION:	
DRILLED:	09 December 2008
PROJECT NO.:	3552-08-1210

MACTEC

50517

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)
0	TOPCOVER: 19.2" Brown, silty CLAY (CL), contains organic material, stiff, moist		
	ASH: Gray black, fine grain, silty SAND (SM), firm, moist		
5	ASH: Gray black, medium to fine grain, silty SAND (SM), dense, moist		
	ASH: Gray black, fine grain, silty SAND (SM), firm, moist		
10			
	ASH: Gray black, fine grain, silty SAND (SM), loose, moist		
	ASH: Gray black, fine grain, silty SAND (SM), very loose, wet		
15			
	Very dark gray, fine grain, silty SAND (SM), contains lenses of gray ash, very soft, wet		
	Yellow brown, sandy CLAY (CL), very soft, moist		
	Dark gray, fine to med, subrounded, silty SAND (SM), very loose, wet		
20			
	Brown, medium to coarse, well graded SAND (SW) , firm, wit		
	Boring Terminated at 22.0' Below Ground Surface on 12/9/2008.		
25			
30			
35			
40			
45			

SAMPLES IDENT	TYPE	N-COUNT 1st 6" 2nd 6" 3rd 6"
SS-1		3-4-5 (N = 9)
SS-2		9-9-11 (N = 20)
SS-3		13-17-14 (N = 31)
SS-4		4-13-19 (N = 32)
SS-5		4-4-7 (N = 11)
SS-6		6-11-8 (N = 19)
SS-7		3-4-3 (N = 7)
SS-8		1-WOH-1
SS-9		1-1-1 (N = 2)
SS-10		WOH-1-1 (N = 2)
SS-11		1-2-2 (N = 4)
SS-12		7-9-12 (N = 21)



SOIL TEST BORING BATTLE FIELD GOLF CLUB BORINGS.GPJ MACTEC.GDT 27/01/09

DRILLER: Fishburne Drilling, Inc.
EQUIPMENT: CME 55 ATV
METHOD: Mud Rotary
HOLE DIA.:
REMARKS: Boring backfilled with quick grout
LOGGED BY: Jason Monk
CHECKED BY:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

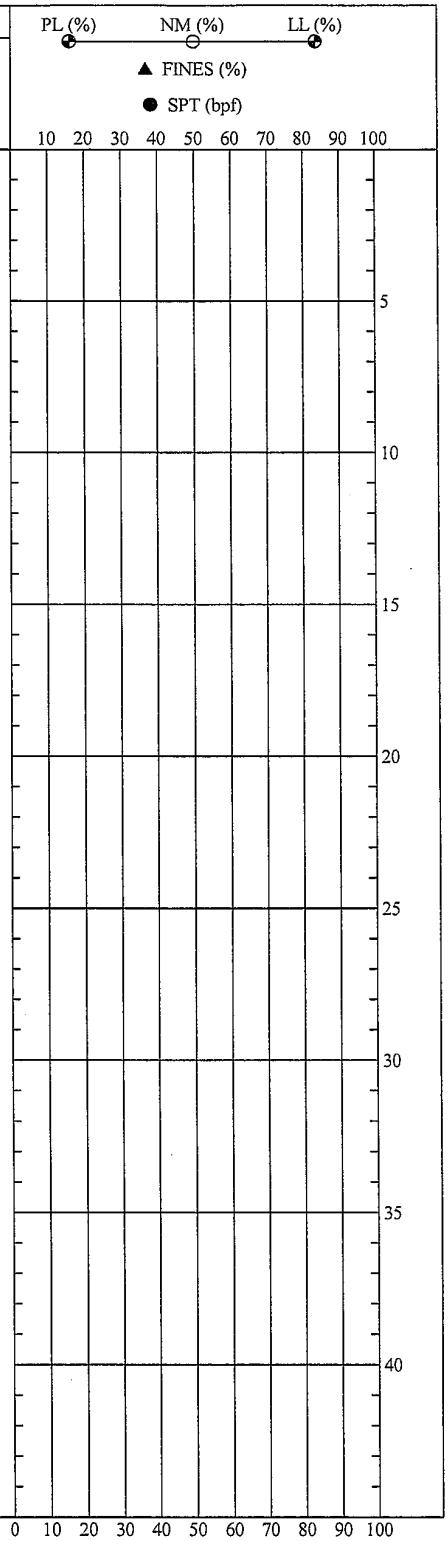
SOIL TEST BORING RECORD

BORING NO.: SB-2
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 09 December 2008
PROJECT NO.: 3552-08-1210 **PAGE 1 OF 1**

MACTEC

50518

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	Undisturbed Sample			UD-1			
5							
10							
15	Undisturbed Sample			UD-2			
	Boring Terminated at 17.0' Below Ground Surface on 12/9/2008.						
20							
25							
30							
35							
40							
45							



SOIL TEST BORING BATTLE FIELD GOLF CLUB BORINGS.GPJ MACTEC.GDT 27/01/09

DRILLER:	Fishburne Drilling, Inc.
EQUIPMENT:	CME 55 ATV
METHOD:	Mud Rotary
HOLE DIA.:	
REMARKS:	Offset 3 ft from SB-3, Boring backfilled with quick grout
LOGGED BY:	Jason Monk
CHECKED BY:	

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

BORING NO.: SB-2A
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 09 December 2008
PROJECT NO.: 3552-08-1210

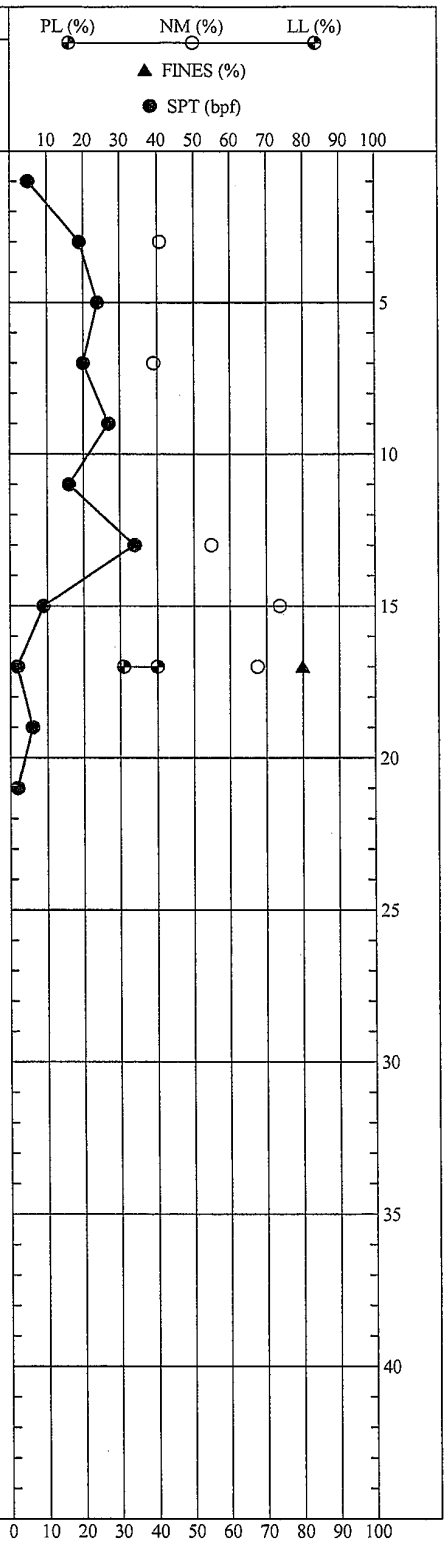
MACTEC

50519

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)
0	TOPCOVER: 30.0" Gray brown, clayey SILT (ML), trace sand, firm, moist		
	ASH: Gray black, fine grain, silty SAND (SM), firm, moist		
5			
10			
	ASH: Gray black, very fine grain, silty SAND (SM), dense, moist		
	ASH: Gray black, sandy SILT (ML), stiff, moist		
15	ASH: Very dark greenish gray, SILT (ML), with sand, very soft, wet		
	Tan brown, silty CLAY (CL), trace sand, contains trace organic material, firm, moist NOTE: Organic odor		
20	Gray tan, fine to medium subangular, poorly-graded, silty SAND (SM),contains trace organic material, very loose, wet Boring Terminated at 22.0' Below Ground Surface on 12/10/2008.		
25			
30			
35			
40			
45			

SAMPLES

IDENT	TYPE	N-COUNT 1st 6" 2nd 6" 3rd 6"
SS-1		2-2-3 (N = 5)
SS-2		2-6-13 (N = 19)
SS-3		10-12-12 (N = 24)
SS-4		11-10-10 (N = 20)
SS-5		7-11-16 (N = 27)
SS-6		7-6-10 (N = 16)
SS-7		16-16-18 (N = 34)
SS-8		3-5-4 (N = 9)
SS-9		2-1-1 (N = 2)
SS-10		2-2-4 (N = 6)
SS-11		1-1-1 (N = 2)



DRILLER:	Fishburne Drilling, Inc.
EQUIPMENT:	CME 55 ATV
METHOD:	Mud Rotary
HOLE DIA.:	
REMARKS:	Boring backfilled with quick grout
LOGGED BY:	Jason Monk
CHECKED BY:	

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

BORING NO.: SB-3
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 10 December 2008
PROJECT NO.: 3552-08-1210 **PAGE 1 OF 1**

MACTEC

SOIL TEST BORING BATTLE FIELD GOLF CLUB BORINGS.GPJ MACTEC.GDT 27/01/09

50520

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS SEE KEY SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf) 10 20 30 40 50 60 70 80 90 100
0	Undisturbed Sample			UD-1			
5							
10							
15							
	Undisturbed Sample			UD-2			
	Boring Terminated at 18.5' Below Ground Surface on 12/10/2008.						
20							
25							
30							
35							
40							
45							

0 10 20 30 40 50 60 70 80 90 100

SOIL TEST BORING BATTLE FIELD GOLF CLUB BORINGS.GPJ MACTEC.GDT 27/01/09

DRILLER: Fishburne Drilling, Inc.
EQUIPMENT: CME 55 ATV
METHOD: Mud Rotary
HOLE DIA.:
REMARKS: Offset 2 ft from SB-3, Boring backfilled with quick grout
LOGGED BY: Jason Monk
CHECKED BY:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

BORING NO.: SB-3A
PROJECT: Battle Field Golf Club
LOCATION:
DRILLED: 10 December 2008
PROJECT NO.: 3552-08-1210

MACTEC

50521

MACTEC

BORING NO.	**SB-BGC-SB4**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Pale brown, fine silty SAND (SM) with organics	No well installed.
5			SM				SAME	
			SM				SAME with some clay	
			SP				Gray, fine sand (SP)	
							Boring terminated at 8.0' bgs on 6/8/2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

50522

MACTEC

BORING NO.	**SB-BGC-SB5**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Dark brown, fine silty SAND (SM) with organics	No well installed.
			SC				Gray, clayey fine SAND (SC)	
			SP				Gray, fine SAND (SP)	
							Boring terminated at 4.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

MACTEC

BORING NO.	**SB-BGC-SB6**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			CLS				Dark brown, stiff CLAY (CLS) with fine sand	No well installed.
			SP				Gray, fine to coarse SAND (SP)	
5			SP				Gray, speckled orange, fine to coarse SAND (SP)	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

50524

MACTEC

BORING NO.	**SB-BGC-SB7**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			CL-ML				Dark brown, silty sandy CLAY (CL-ML), organic matter	No well installed.
5			CL-ML				SAME	
			SP				Gray/orange fine to coarse SAND (SP)	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

MACTEC

BORING NO.	**SB-BGC-SB8**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SP-SM				Dark brown, silty SAND (SP-SM) with clay, organic matter	No well installed.
5			SP-SM				SAME, with clay	
			SP				Gray to dark gray, fine to coarse SAND (SP)	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

50526

MACTEC

BORING NO.	**SB-BGC-SB9**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Dark brown, silty SAND (SM) with clay, organic matter	No well installed.
5			SP				Gray with orange, fine to coarse SAND (SP), wet at 7.0'	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

MACTEC

BORING NO.	**SB-BGC-SB10**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Dark brown, silty SAND (SM) with organic matter	No well installed.
							Ash - silty fines, wet	
5			SC				Dark brown, clayey silty SAND (SC)	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **Ash encountered at 1.8' below ground surface.**

See key sheet for symbols and abbreviations used above.

ENV2A_SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

MACTEC

BORING NO.	**SB-BGC-SB11**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Dark brown, silty SAND (SM) with organic matter	No well installed.
							Ash -- silty fines; semi-consolidation, dry	
			SC				Black/dark brown, clayey SAND (SC) with trace ash	
5							Brown, clayey fine SAND (SC)	
			SC					
			SP				Gray, fine SAND (SP)	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **Ash encountered at 1.9' below ground surface.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

MACTEC

BORING NO.	**SB-BGC-SB12**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Drak brown, silty SAND (SM) with organic matter	No well installed.
							Ash -- fine silty, dry	
			SC				Dark brown, clayey silty SAND (SC)	
5			SC				SAME	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **Ash encountered at 1.75' below ground surface.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

MACTEC

BORING NO.	**SB-BGC-SB13**	SHEET	**1** OF **1**
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Dark brown, silty SAND (SM) with organics	
							Ash -- silty fines, wet	No well installed.
			SM				Light gray, silty SAND (SM) with clay	
5			SM				Dark brown, silty SAND (SM), dry	
			SP				Fine to coarse SAND (SP), moist	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **Ash encountered at 0.9' below ground surface.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 10/30/09

MACTEC

BORING NO.	**SB-BGC-SB14**	SHEET **1** OF **1**	
PROJECT	**BATTLEFIELD GOLF COURSE**		
LOCATION	**CHESAPEAKE, VA**		
PROJECT NO.	**3552-09-1263**		
LOGGED BY	**J. Buchy**		

COORDINATES
SURFACE ELEVATION DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL
DEPTH FEET	LAB SAMPLE	BLOW COUNTS	USCS	Recovery (inches)	PID			
			SM				Dark brown, silty SAND (SM) with organic matter	No well installed.
5			SM				SAME, no organics	
			SP				Light gray/orange, fine to coarse SAND (SP), moist	
							Boring terminated at 8.0' bgs on June 8, 2009.	

DRILLING CONTRACTOR **Fishburne Drilling**
DRILLING METHOD **Direct Push**
DRILLING EQUIPMENT **Geoprobe**
DRILLING STARTED **6/8/09** ENDED **6/8/09**

REMARKS **No ash encountered.**

See key sheet for symbols and abbreviations used above.

ENV2A SB-4 BGC.GPJ LAEWNN03.GDT 6/30/09

50532

APPENDIX E
LABORATORY DATA SUMMARY REPORTS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 08, 2008 10:11:30AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK1831
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/20/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-BGC-SG4	NRK1831-01	11/19/08 09:40
SW-BGC-SG6	NRK1831-02	11/19/08 10:40
SW-BGC-SG7	NRK1831-03	11/19/08 11:00
SW-BGC-DUP1	NRK1831-04	11/19/08 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments:
The test for TDS was inadvertently requested for these samples. At the request of the consultant, the test for TSS was analyzed instead of TDS.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 29, 2008 1:06:33PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRL0761
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 12/09/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-8B	NRL0761-01	12/08/08 15:15

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments: This is a Final Report.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0761-01 (MW-BGC-8B - Ground Water) Sampled: 12/08/08 15:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**111**		mg/L	5.00	10.0	1	12/16/08 21:04	SM2320 B	8122470
Bicarbonate Alkalinity as CaCO3	**116**		mg/L	5.00	10.0	1	12/09/08 13:34	SM 2320B	8121445
Bromide	ND	M7	mg/L	0.500	1.00	1	12/09/08 17:36	EPA 300.1	8121458
Chloride	**12.0**	M8	mg/L	0.500	1.00	1	12/14/08 07:13	EPA 300.0	8121458
Fluoride	**0.277**		mg/L	0.0500	0.100	1	12/14/08 07:13	EPA 300.0	8121458
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/09/08 17:36	EPA 300.0	8121458
Phosphorus	**0.0730**	J	mg/L	0.0450	0.100	1	12/18/08 15:22	EPA 365.4	8122846
Sulfate	**16.0**		mg/L	0.500	1.00	1	12/14/08 07:13	EPA 300.0	8121458
Total Dissolved Solids	**168**		mg/L	5.00	10.0	1	12/10/08 19:50	SM2540 C	8121689
Total Organic Carbon	**2.44**		mg/L	0.500	1.00	1	12/10/08 07:53	SW846 9060A	8121367
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.233**		mg/L	0.0180	0.100	1	12/15/08 14:35	SW846 6010B	8121240
Antimony	ND		mg/L	0.00380	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Arsenic	ND		mg/L	0.00450	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Barium	**0.0257**		mg/L	0.00150	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Beryllium	ND		mg/L	0.00100	0.00400	1	12/15/08 14:35	SW846 6010B	8121240
Boron	**0.0557**		mg/L	0.00200	0.0500	1	12/15/08 14:35	SW846 6010B	8121240
Cadmium	ND		mg/L	0.000500	0.00100	1	12/15/08 14:35	SW846 6010B	8121240
Calcium	**26.8**		mg/L	0.100	1.00	1	12/15/08 14:35	SW846 6010B	8121240
Chromium	ND		mg/L	0.00150	0.00500	1	12/15/08 14:35	SW846 6010B	8121240
Cobalt	ND		mg/L	0.00200	0.0200	1	12/15/08 14:35	SW846 6010B	8121240
Copper	ND		mg/L	0.00350	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Iron	**5.62**		mg/L	0.0280	0.0500	1	12/15/08 14:35	SW846 6010B	8121240
Lead	ND		mg/L	0.00280	0.00500	1	12/15/08 14:35	SW846 6010B	8121240
Magnesium	**9.53**		mg/L	0.100	1.00	1	12/15/08 14:35	SW846 6010B	8121240
Manganese	**0.238**		mg/L	0.00100	0.0150	1	12/15/08 14:35	SW846 6010B	8121240
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/15/08 14:35	SW846 6010B	8121240
Nickel	ND		mg/L	0.00240	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Potassium	**4.82**		mg/L	0.200	1.00	1	12/15/08 14:35	SW846 6010B	8121240
Selenium	ND		mg/L	0.00430	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Silver	ND		mg/L	0.00160	0.00500	1	12/15/08 14:35	SW846 6010B	8121240
Sodium	**14.4**		mg/L	0.500	1.00	1	12/15/08 14:35	SW846 6010B	8121240
Thallium	ND		mg/L	0.00750	0.0100	1	12/15/08 14:35	SW846 6010B	8121240
Vanadium	ND		mg/L	0.00150	0.0200	1	12/15/08 14:35	SW846 6010B	8121240
Zinc	**0.0130**	J	mg/L	0.0100	0.0500	1	12/15/08 14:35	SW846 6010B	8121240
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/12/08 13:55	SW846 7470A	8122000

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8122000	NRL0761-01	30.00	30.00	12/12/08 09:18	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0761-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8121367-BLK1						
Total Organic Carbon	<0.500		mg/L	8121367	8121367-BLK1	12/10/08 07:53
8121445-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8121445	8121445-BLK1	12/09/08 13:34
8121458-BLK1						
Bromide	<0.500		mg/L	8121458	8121458-BLK1	12/09/08 16:41
Chloride	<0.500		mg/L	8121458	8121458-BLK1	12/14/08 06:18
Fluoride	<0.0500		mg/L	8121458	8121458-BLK1	12/14/08 06:18
Nitrate as N	<0.0500		mg/L	8121458	8121458-BLK1	12/09/08 16:41
Sulfate	<0.500		mg/L	8121458	8121458-BLK1	12/14/08 06:18
8121689-BLK1						
Total Dissolved Solids	<5.00		mg/L	8121689	8121689-BLK1	12/10/08 19:50
8122470-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8122470	8122470-BLK1	12/16/08 21:04
8122473-BLK1						
Total Organic Halides	<0.0270		mg/L	8122473	8122473-BLK1	12/18/08 12:27
8122846-BLK1						
Phosphorus	<0.0450		mg/L	8122846	8122846-BLK1	12/18/08 15:22
Total Metals by EPA Method 6010B						
8121240-BLK1						
Aluminum	<0.0180		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Antimony	<0.00380		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Arsenic	<0.00450		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Barium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Beryllium	<0.00100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Boron	<0.00200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Cadmium	<0.000500		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Calcium	<0.100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Chromium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Cobalt	<0.00200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Copper	<0.00350		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Iron	<0.0280		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Lead	<0.00280		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Magnesium	<0.100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Manganese	<0.00100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Molybdenum	<0.00900		mg/L	8121240	8121240-BLK1	12/15/08 13:47

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8121240-BLK1						
Nickel	<0.00240		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Potassium	<0.200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Selenium	<0.00430		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Silver	<0.00160		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Sodium	<0.500		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Thallium	<0.00750		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Vanadium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Zinc	<0.0100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Mercury by EPA Methods 7470A/7471A						
8122000-BLK1						
Mercury	<0.000150		mg/L	8122000	8122000-BLK1	12/12/08 13:41

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8121367-DUP1									
Total Organic Carbon	39.4	40.4		mg/L	3	20	8121367	NRL0536-08	12/10/08 07:53
8121367-DUP2									
Total Organic Carbon	2.44	2.28		mg/L	7	20	8121367	NRL0761-01	12/10/08 07:53
8121445-DUP1									
Bicarbonate Alkalinity as CaCO3	873	873		mg/L	0.06	20	8121445	NRL0753-01	12/09/08 13:34
8121458-DUP1									
Bromide	ND	<0.500		mg/L		20	8121458	NRL0761-01	12/09/08 18:31
Chloride	12.0	12.0		mg/L	0.05	20	8121458	NRL0761-01	12/14/08 07:31
Fluoride	0.277	0.283		mg/L	2	19	8121458	NRL0761-01	12/14/08 07:31
Nitrate as N	ND	<0.0500		mg/L		20	8121458	NRL0761-01	12/09/08 18:31
Sulfate	16.0	15.9		mg/L	0.4	20	8121458	NRL0761-01	12/14/08 07:31
8121689-DUP1									
Total Dissolved Solids	168	171		mg/L	2	20	8121689	NRL0761-01	12/10/08 19:50
8121689-DUP2									
Total Dissolved Solids	86.0	89.0		mg/L	3	20	8121689	NRL0778-04	12/10/08 19:50
8122470-DUP1									
Alkalinity, Total (CaCO3)	111	111		mg/L	0.2	20	8122470	NRL0761-01	12/16/08 21:04
8122473-DUP1									
Total Organic Halides	0.0325	0.0297	J	mg/L	9	50	8122473	NRL0195-01	12/18/08 12:27
8122473-DUP2									
Total Organic Halides	0.0925	0.0840		mg/L	10	50	8122473	NRL0495-02	12/18/08 12:27
8122846-DUP1									
Phosphorus	0.0730	0.0700	J	mg/L	4	20	8122846	NRL0761-01	12/18/08 15:22

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8121367-BS1								
Total Organic Carbon	200	182		ug/mL	91%	90 - 110	8121367	12/10/08 07:53
8121458-BS1								
Bromide	10.0	10.6		mg/L	106%	90 - 110	8121458	12/09/08 16:59
Chloride	3.00	3.01		mg/L	100%	90 - 110	8121458	12/14/08 06:36
Fluoride	2.00	2.06		mg/L	103%	90 - 110	8121458	12/14/08 06:39
Nitrate as N	3.00	3.21		mg/L	107%	90 - 110	8121458	12/09/08 16:59
Sulfate	15.0	15.7		mg/L	105%	90 - 110	8121458	12/14/08 06:36
8121689-BS1								
Total Dissolved Solids	100	106		ug/mL	106%	90 - 110	8121689	12/10/08 19:50
8122470-BS1								
Alkalinity, Total (CaCO3)	100	106		ug/mL	106%	90 - 110	8122470	12/16/08 21:04
8122473-BS1								
Total Organic Halides	0.250	0.248		mg/L	99%	90 - 130	8122473	12/18/08 12:27
8122846-BS1								
Phosphorus	2.00	1.95		mg/L	98%	90 - 110	8122846	12/18/08 15:22
Total Metals by EPA Method 6010B								
8121240-BS1								
Aluminum	2.00	1.95		mg/L	97%	80 - 120	8121240	12/15/08 13:50
Antimony	0.100	0.0953		mg/L	95%	80 - 120	8121240	12/15/08 13:50
Arsenic	0.0500	0.0507		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Barium	2.00	2.08		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8121240	12/15/08 13:50
Boron	1.00	0.975		mg/L	97%	80 - 120	8121240	12/15/08 13:50
Cadmium	0.0500	0.0504		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Calcium	5.00	5.03		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Chromium	0.200	0.206		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Cobalt	0.500	0.521		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Copper	0.250	0.246		mg/L	98%	80 - 120	8121240	12/15/08 13:50
Iron	1.00	1.03		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Lead	0.0500	0.0447		mg/L	89%	80 - 120	8121240	12/15/08 13:50
Magnesium	5.00	4.93		mg/L	99%	80 - 120	8121240	12/15/08 13:50
Manganese	0.500	0.517		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Molybdenum	0.500	0.494		mg/L	99%	80 - 120	8121240	12/15/08 13:50
Nickel	0.500	0.504		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Potassium	5.00	4.42		mg/L	88%	80 - 120	8121240	12/15/08 13:50
Selenium	0.0500	0.0466		mg/L	93%	80 - 120	8121240	12/15/08 13:50

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8121240-BS1								
Silver	0.0500	0.0473		mg/L	95%	80 - 120	8121240	12/15/08 13:50
Sodium	5.00	4.89		mg/L	98%	80 - 120	8121240	12/15/08 13:50
Thallium	0.0500	0.0402		mg/L	80%	80 - 120	8121240	12/15/08 13:50
Vanadium	0.500	0.503		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Zinc	0.500	0.520		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Mercury by EPA Methods 7470A/7471A								
8122000-BS1								
Mercury	0.00100	0.00112		mg/L	112%	78 - 124	8122000	12/12/08 13:43

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8121689-BSD1												
Total Dissolved Solids		109		ug/mL	100	109%	90 - 110	3	20	8121689		12/10/08 19:50
8122473-BSD1												
Total Organic Halides		0.248		mg/L	0.250	99%	90 - 130	0.2	50	8122473		12/18/08 12:27

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0761
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8121367-MS1										
Total Organic Carbon	0.687	20.8		ug/mL	20.0	101%	79 - 130	8121367	NRL0536-01	12/10/08 07:53
8121458-MS1										
Bromide	ND	11.3	M7	mg/L	10.0	113%	90 - 110	8121458	NRL0761-01	12/09/08 17:55
Chloride	12.0	13.2	M8	mg/L	3.00	42%	80 - 120	8121458	NRL0761-01	12/16/08 13:28
Fluoride	0.277	2.13		mg/L	2.00	93%	80 - 120	8121458	NRL0761-01	12/16/08 13:28
Nitrate as N	ND	3.40		mg/L	3.00	113%	80 - 120	8121458	NRL0761-01	12/09/08 17:55
Sulfate	16.0	28.6		mg/L	15.0	84%	80 - 120	8121458	NRL0761-01	12/16/08 13:28
8122470-MS1										
Alkalinity, Total (CaCO3)	113	194		ug/mL	100	81%	80 - 120	8122470	NRL0750-01	12/16/08 21:04
8122473-MS1										
Total Organic Halides	0.0325	0.124		mg/L	0.100	91%	74 - 131	8122473	NRL0195-01	12/18/08 12:27
8122846-MS1										
Phosphorus	1.15	2.83		mg/L	2.00	84%	76 - 112	8122846	NRL0812-01	12/18/08 15:22
Total Metals by EPA Method 6010B										
8121240-MS1										
Aluminum	0.0198	2.03		mg/L	2.00	101%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Antimony	ND	0.0954		mg/L	0.100	95%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Arsenic	ND	0.0508		mg/L	0.0500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Barium	0.156	2.20		mg/L	2.00	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Beryllium	ND	0.0521		mg/L	0.0500	104%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Boron	0.800	1.76		mg/L	1.00	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Chromium	ND	0.199		mg/L	0.200	100%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Cobalt	ND	0.509		mg/L	0.500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Copper	ND	0.249		mg/L	0.250	99%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Iron	0.963	1.89		mg/L	1.00	93%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Lead	ND	0.0452		mg/L	0.0500	90%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Manganese	0.639	1.12		mg/L	0.500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Molybdenum	ND	0.486		mg/L	0.500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Nickel	ND	0.493		mg/L	0.500	99%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Selenium	ND	0.0485		mg/L	0.0500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Silver	ND	0.0506		mg/L	0.0500	101%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Thallium	ND	0.0407		mg/L	0.0500	81%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Vanadium	ND	0.491		mg/L	0.500	98%	75 - 125	8121240	NRL1101-01	12/15/08 15:39

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0761
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8121240-MS1										
Zinc	0.0104	0.521		mg/L	0.500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Mercury by EPA Methods 7470A/7471A										
8122000-MS1										
Mercury	ND	0.000891		mg/L	0.00100	89%	63 - 138	8122000	NRL1101-01	12/12/08 14:23

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8121367-MSD1												
Total Organic Carbon	0.687	21.1		ug/mL	20.0	102%	79 - 130	2	20	8121367	NRL0536-01	12/10/08 07:53
8121458-MSD1												
Bromide	ND	10.6		mg/L	10.0	106%	90 - 110	6	20	8121458	NRL0761-01	12/09/08 18:13
Chloride	12.0	13.3	M8	mg/L	3.00	42%	80 - 120	0.1	20	8121458	NRL0761-01	12/16/08 13:46
Fluoride	0.277	2.12		mg/L	2.00	92%	80 - 120	0.9	19	8121458	NRL0761-01	12/16/08 13:46
Nitrate as N	ND	3.22		mg/L	3.00	107%	80 - 120	6	20	8121458	NRL0761-01	12/09/08 18:13
Sulfate	16.0	28.5		mg/L	15.0	84%	80 - 120	0.2	20	8121458	NRL0761-01	12/16/08 13:46
8122473-MSD1												
Total Organic Halides	0.0325	0.115		mg/L	0.100	82%	74 - 131	7	50	8122473	NRL0195-01	12/18/08 12:27
8122846-MSD1												
Phosphorus	1.15	2.28	M8, R2	mg/L	2.00	57%	76 - 112	22	20	8122846	NRL0812-01	12/18/08 15:22
Total Metals by EPA Method 6010B												
8121240-MSD1												
Aluminum	0.0198	2.10		mg/L	2.00	104%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	1	20	8121240	NRL1101-01	12/15/08 15:43
Arsenic	ND	0.0539		mg/L	0.0500	108%	75 - 125	6	20	8121240	NRL1101-01	12/15/08 15:43
Barium	0.156	2.27		mg/L	2.00	106%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Beryllium	ND	0.0543		mg/L	0.0500	109%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Boron	0.800	1.85		mg/L	1.00	105%	75 - 125	5	20	8121240	NRL1101-01	12/15/08 15:43
Cadmium	ND	0.0506		mg/L	0.0500	101%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Chromium	ND	0.206		mg/L	0.200	103%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Cobalt	ND	0.527		mg/L	0.500	105%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Copper	ND	0.257		mg/L	0.250	103%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Iron	0.963	1.98		mg/L	1.00	101%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Lead	ND	0.0452		mg/L	0.0500	90%	75 - 125	0	20	8121240	NRL1101-01	12/15/08 15:43
Manganese	0.639	1.18		mg/L	0.500	108%	75 - 125	5	20	8121240	NRL1101-01	12/15/08 15:43
Molybdenum	ND	0.508		mg/L	0.500	102%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Nickel	ND	0.509		mg/L	0.500	102%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Selenium	ND	0.0481		mg/L	0.0500	96%	75 - 125	0.8	20	8121240	NRL1101-01	12/15/08 15:43
Silver	ND	0.0513		mg/L	0.0500	103%	75 - 125	1	20	8121240	NRL1101-01	12/15/08 15:43
Thallium	ND	0.0420		mg/L	0.0500	84%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Vanadium	ND	0.507		mg/L	0.500	101%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Zinc	0.0104	0.545		mg/L	0.500	107%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Mercury by EPA Methods 7470A/7471A												
8122000-MSD1												
Mercury	ND	0.000623	M2, R3	mg/L	0.00100	62%	63 - 138	35	22	8122000	NRL1101-01	12/12/08 14:25

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/09/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time

Mercury by EPA Methods 7470A/7471A

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Attn	Luke Clark	Received:	12/09/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

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Attn	Luke Clark	Received:	12/09/08 08:00

DATA QUALIFIERS AND DEFINITIONS

J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
R2	The RPD exceeded the acceptance limit.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION
Nashville, TN

COOLER RECEIPT FORM

NRL076

Cooler Received/Opened On: 12/09/08 @ 8:00

1. Tracking # 0981 (last 4 digits, FedEx)

   Fed-ex IR Gun ID:95610068

2. Temperature of rep. sample or temp blank when opened: 4.5 *Degrees Celsius*
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 4/18/07

THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joseph Bailey
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.0	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	Total organic halides			RUSH TAT (Pre Schedule) *
MW-BG-8B	12-8-08	1515	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X			

NRL0761
12/23/08 23:59

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
~~Mo~~ Antimony Thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	12-8-08	1800	Fed Ex					

Shipped Via:

Received for TestAmerica by:	Date:	Time:	Temperature Upon Receipt:	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N
	12-9-08	0800	4.5		

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

50551

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 29, 2008 1:01:11PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRL0662
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 12/06/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-12B	NRL0662-01	12/05/08 09:55
MW-BGC-12A	NRL0662-02	12/05/08 10:55
MW-Dup-3	NRL0662-03	12/05/08 11:15

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments: This is a Final Report.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0662-01 (MW-BGC-12B - Water) Sampled: 12/05/08 09:55									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**76.2**		mg/L	5.00	10.0	1	12/16/08 17:43	SM2320 B	8122469
Bicarbonate Alkalinity as CaCO3	**81.4**		mg/L	5.00	10.0	1	12/06/08 17:09	SM 2320B	8121136
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 18:12	EPA 300.1	8122791
Chloride	**43.4**		mg/L	5.00	10.0	10	12/17/08 12:14	EPA 300.0	8122397
Fluoride	**0.439**		mg/L	0.0500	0.100	1	12/16/08 17:53	EPA 300.0	8122397
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 18:12	EPA 300.0	8121122
Phosphorus	**0.138**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122656
Sulfate	**117**		mg/L	5.00	10.0	10	12/17/08 12:14	EPA 300.0	8122397
Total Dissolved Solids	**382**		mg/L	5.00	10.0	1	12/06/08 13:52	SM2540 C	8121116
Total Organic Carbon	**3.02**		mg/L	0.500	1.00	1	12/10/08 07:53	SW846 9060A	8121367
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**1.14**		mg/L	0.0180	0.100	1	12/15/08 14:11	SW846 6010B	8121240
Antimony	ND		mg/L	0.00380	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Arsenic	**0.00540**	J	mg/L	0.00450	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Barium	**0.0357**		mg/L	0.00150	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Beryllium	ND		mg/L	0.00100	0.00400	1	12/15/08 14:11	SW846 6010B	8121240
Boron	**0.0867**		mg/L	0.00200	0.0500	1	12/15/08 14:11	SW846 6010B	8121240
Cadmium	ND		mg/L	0.000500	0.00100	1	12/15/08 14:11	SW846 6010B	8121240
Calcium	**48.0**		mg/L	0.100	1.00	1	12/15/08 14:11	SW846 6010B	8121240
Chromium	**0.00230**	J	mg/L	0.00150	0.00500	1	12/15/08 14:11	SW846 6010B	8121240
Cobalt	ND		mg/L	0.00200	0.0200	1	12/15/08 14:11	SW846 6010B	8121240
Copper	ND		mg/L	0.00350	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Iron	**4.69**		mg/L	0.0280	0.0500	1	12/15/08 14:11	SW846 6010B	8121240
Lead	ND		mg/L	0.00280	0.00500	1	12/15/08 14:11	SW846 6010B	8121240
Magnesium	**17.4**		mg/L	0.100	1.00	1	12/15/08 14:11	SW846 6010B	8121240
Manganese	**0.201**		mg/L	0.00100	0.0150	1	12/15/08 14:11	SW846 6010B	8121240
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/15/08 14:11	SW846 6010B	8121240
Nickel	ND		mg/L	0.00240	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Potassium	**7.26**		mg/L	0.200	1.00	1	12/15/08 14:11	SW846 6010B	8121240
Selenium	ND		mg/L	0.00430	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Silver	ND		mg/L	0.00160	0.00500	1	12/15/08 14:11	SW846 6010B	8121240
Sodium	**44.5**		mg/L	0.500	1.00	1	12/15/08 14:11	SW846 6010B	8121240
Thallium	ND		mg/L	0.00750	0.0100	1	12/15/08 14:11	SW846 6010B	8121240
Vanadium	**0.00200**	J	mg/L	0.00150	0.0200	1	12/15/08 14:11	SW846 6010B	8121240
Zinc	**0.0172**	J	mg/L	0.0100	0.0500	1	12/15/08 14:11	SW846 6010B	8121240
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:54	SW846 7470A	8121170

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0662-02 (MW-BGC-12A - Water) Sampled: 12/05/08 10:55									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**42.4**		mg/L	5.00	10.0	1	12/16/08 17:43	SM2320 B	8122469
Bicarbonate Alkalinity as CaCO3	**50.3**		mg/L	5.00	10.0	1	12/06/08 17:09	SM 2320B	8121136
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 19:07	EPA 300.1	8122791
Chloride	**32.1**		mg/L	5.00	10.0	10	12/16/08 18:48	EPA 300.0	8122397
Fluoride	**0.310**		mg/L	0.100	0.200	2	12/16/08 19:25	EPA 300.0	8122397
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 19:07	EPA 300.0	8121122
Phosphorus	**0.0520**	J	mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122656
Sulfate	**76.9**		mg/L	1.00	2.00	2	12/16/08 19:25	EPA 300.0	8122397
Total Dissolved Solids	**263**		mg/L	5.00	10.0	1	12/06/08 13:52	SM2540 C	8121116
Total Organic Carbon	**2.60**		mg/L	0.500	1.00	1	12/10/08 07:53	SW846 9060A	8121367
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.324**		mg/L	0.0180	0.100	1	12/15/08 14:15	SW846 6010B	8121240
Antimony	ND		mg/L	0.00380	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Arsenic	**0.0205**		mg/L	0.00450	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Barium	**0.0520**		mg/L	0.00150	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Beryllium	ND		mg/L	0.00100	0.00400	1	12/15/08 14:15	SW846 6010B	8121240
Boron	**0.0185**	J	mg/L	0.00200	0.0500	1	12/15/08 14:15	SW846 6010B	8121240
Cadmium	ND		mg/L	0.000500	0.00100	1	12/15/08 14:15	SW846 6010B	8121240
Calcium	**27.6**		mg/L	0.100	1.00	1	12/15/08 14:15	SW846 6010B	8121240
Chromium	**0.00150**	J	mg/L	0.00150	0.00500	1	12/15/08 14:15	SW846 6010B	8121240
Cobalt	ND		mg/L	0.00200	0.0200	1	12/15/08 14:15	SW846 6010B	8121240
Copper	ND		mg/L	0.00350	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Iron	**6.95**		mg/L	0.0280	0.0500	1	12/15/08 14:15	SW846 6010B	8121240
Lead	ND		mg/L	0.00280	0.00500	1	12/15/08 14:15	SW846 6010B	8121240
Magnesium	**14.0**		mg/L	0.100	1.00	1	12/15/08 14:15	SW846 6010B	8121240
Manganese	**0.172**		mg/L	0.00100	0.0150	1	12/15/08 14:15	SW846 6010B	8121240
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/15/08 14:15	SW846 6010B	8121240
Nickel	**0.00430**	J	mg/L	0.00240	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Potassium	**2.24**		mg/L	0.200	1.00	1	12/15/08 14:15	SW846 6010B	8121240
Selenium	ND		mg/L	0.00430	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Silver	ND		mg/L	0.00160	0.00500	1	12/15/08 14:15	SW846 6010B	8121240
Sodium	**14.1**		mg/L	0.500	1.00	1	12/15/08 14:15	SW846 6010B	8121240
Thallium	ND		mg/L	0.00750	0.0100	1	12/15/08 14:15	SW846 6010B	8121240
Vanadium	**0.00170**	J	mg/L	0.00150	0.0200	1	12/15/08 14:15	SW846 6010B	8121240
Zinc	**0.0281**	J	mg/L	0.0100	0.0500	1	12/15/08 14:15	SW846 6010B	8121240
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:56	SW846 7470A	8121170

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0662-03 (MW-Dup-3 - Water) Sampled: 12/05/08 11:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**41.7**		mg/L	5.00	10.0	1	12/16/08 17:43	SM2320 B	8122469
Bicarbonate Alkalinity as CaCO3	**47.9**		mg/L	5.00	10.0	1	12/06/08 17:09	SM 2320B	8121136
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 19:44	EPA 300.1	8122791
Chloride	**31.7**		mg/L	5.00	10.0	10	12/16/08 20:01	EPA 300.0	8122397
Fluoride	**0.328**		mg/L	0.100	0.200	2	12/16/08 20:57	EPA 300.0	8122397
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 19:44	EPA 300.0	8121122
Phosphorus	**0.120**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122656
Sulfate	**77.4**		mg/L	1.00	2.00	2	12/16/08 20:57	EPA 300.0	8122397
Total Dissolved Solids	**271**		mg/L	5.00	10.0	1	12/06/08 13:52	SM2540 C	8121116
Total Organic Carbon	**2.86**		mg/L	0.500	1.00	1	12/10/08 07:53	SW846 9060A	8121367
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.321**		mg/L	0.0180	0.100	1	12/15/08 14:30	SW846 6010B	8121240
Antimony	ND		mg/L	0.00380	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Arsenic	**0.0195**		mg/L	0.00450	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Barium	**0.0518**		mg/L	0.00150	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Beryllium	ND		mg/L	0.00100	0.00400	1	12/15/08 14:30	SW846 6010B	8121240
Boron	**0.0196**	J	mg/L	0.00200	0.0500	1	12/15/08 14:30	SW846 6010B	8121240
Cadmium	ND		mg/L	0.000500	0.00100	1	12/15/08 14:30	SW846 6010B	8121240
Calcium	**27.9**		mg/L	0.100	1.00	1	12/15/08 14:30	SW846 6010B	8121240
Chromium	ND		mg/L	0.00150	0.00500	1	12/15/08 14:30	SW846 6010B	8121240
Cobalt	ND		mg/L	0.00200	0.0200	1	12/15/08 14:30	SW846 6010B	8121240
Copper	ND		mg/L	0.00350	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Iron	**6.96**		mg/L	0.0280	0.0500	1	12/15/08 14:30	SW846 6010B	8121240
Lead	ND		mg/L	0.00280	0.00500	1	12/15/08 14:30	SW846 6010B	8121240
Magnesium	**14.0**		mg/L	0.100	1.00	1	12/15/08 14:30	SW846 6010B	8121240
Manganese	**0.174**		mg/L	0.00100	0.0150	1	12/15/08 14:30	SW846 6010B	8121240
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/15/08 14:30	SW846 6010B	8121240
Nickel	**0.00510**	J	mg/L	0.00240	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Potassium	**2.28**		mg/L	0.200	1.00	1	12/15/08 14:30	SW846 6010B	8121240
Selenium	ND		mg/L	0.00430	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Silver	ND		mg/L	0.00160	0.00500	1	12/15/08 14:30	SW846 6010B	8121240
Sodium	**14.2**		mg/L	0.500	1.00	1	12/15/08 14:30	SW846 6010B	8121240
Thallium	ND		mg/L	0.00750	0.0100	1	12/15/08 14:30	SW846 6010B	8121240
Vanadium	**0.00170**	J	mg/L	0.00150	0.0200	1	12/15/08 14:30	SW846 6010B	8121240
Zinc	**0.0213**	J	mg/L	0.0100	0.0500	1	12/15/08 14:30	SW846 6010B	8121240
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:58	SW846 7470A	8121170

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8121170	NRL0662-01	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0662-02	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0662-03	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-01	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-02	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0662-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8121116-BLK1						
Total Dissolved Solids	<5.00		mg/L	8121116	8121116-BLK1	12/06/08 13:52
8121122-BLK1						
Chloride	<0.500		mg/L	8121122	8121122-BLK1	12/06/08 17:17
Fluoride	<0.0500		mg/L	8121122	8121122-BLK1	12/06/08 17:17
Nitrate as N	<0.0500		mg/L	8121122	8121122-BLK1	12/06/08 17:17
Sulfate	<0.500		mg/L	8121122	8121122-BLK1	12/06/08 17:17
8121136-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8121136	8121136-BLK1	12/06/08 17:09
8121367-BLK1						
Total Organic Carbon	<0.500		mg/L	8121367	8121367-BLK1	12/10/08 07:53
8122397-BLK1						
Chloride	<0.500		mg/L	8122397	8122397-BLK1	12/16/08 16:39
Fluoride	<0.0500		mg/L	8122397	8122397-BLK1	12/16/08 16:39
Sulfate	0.749	J	mg/L	8122397	8122397-BLK1	12/16/08 16:39
8122469-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8122469	8122469-BLK1	12/16/08 17:43
8122473-BLK1						
Total Organic Halides	<0.0270		mg/L	8122473	8122473-BLK1	12/18/08 12:27
8122656-BLK1						
Phosphorus	<0.0450		mg/L	8122656	8122656-BLK1	12/18/08 13:13
8122791-BLK1						
Bromide	<0.500		mg/L	8122791	8122791-BLK1	12/06/08 17:17
Total Metals by EPA Method 6010B						
8121240-BLK1						
Aluminum	<0.0180		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Antimony	<0.00380		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Arsenic	<0.00450		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Barium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Beryllium	<0.00100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Boron	<0.00200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Cadmium	<0.000500		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Calcium	<0.100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Chromium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Cobalt	<0.00200		mg/L	8121240	8121240-BLK1	12/15/08 13:47

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8121240-BLK1						
Copper	<0.00350		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Iron	<0.0280		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Lead	<0.00280		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Magnesium	<0.100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Manganese	<0.00100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Molybdenum	<0.00900		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Nickel	<0.00240		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Potassium	<0.200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Selenium	<0.00430		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Silver	<0.00160		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Sodium	<0.500		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Thallium	<0.00750		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Vanadium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Zinc	<0.0100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Mercury by EPA Methods 7470A/7471A						
8121170-BLK1						
Mercury	<0.000150		mg/L	8121170	8121170-BLK1	12/09/08 10:58

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8121116-DUP1									
Total Dissolved Solids	127	124		mg/L	2	20	8121116	NRL0638-02	12/06/08 13:52
8121116-DUP2									
Total Dissolved Solids	45000	47900		mg/L	6	20	8121116	NRL0512-03RE1	12/06/08 13:52
8121122-DUP1									
Nitrate as N	ND	<0.0500		mg/L		20	8121122	NRL0662-02	12/06/08 19:26
8121136-DUP1									
Bicarbonate Alkalinity as CaCO3	81.4	81.2		mg/L	0.2	20	8121136	NRL0662-01	12/06/08 17:09
8121367-DUP1									
Total Organic Carbon	39.4	40.4		mg/L	3	20	8121367	NRL0536-08	12/10/08 07:53
8121367-DUP2									
Total Organic Carbon	2.44	2.28		mg/L	7	20	8121367	NRL0761-01	12/10/08 07:53
8122397-DUP1									
Chloride	32.1	31.1		mg/L	3	20	8122397	NRL0662-02RE1	12/16/08 19:06
Fluoride	0.310	0.342		mg/L	10	19	8122397	NRL0662-02RE1	12/16/08 19:43
Sulfate	76.9	76.6		mg/L	0.4	20	8122397	NRL0662-02RE1	12/16/08 19:43
8122469-DUP1									
Alkalinity, Total (CaCO3)	41.7	42.6		mg/L	2	20	8122469	NRL0662-03	12/16/08 17:43
8122473-DUP1									
Total Organic Halides	0.0325	0.0297	J	mg/L	9	50	8122473	NRL0195-01	12/18/08 12:27
8122473-DUP2									
Total Organic Halides	0.0925	0.0840		mg/L	10	50	8122473	NRL0495-02	12/18/08 12:27
8122656-DUP1									
Phosphorus	ND	<0.0450		mg/L		20	8122656	NRL0540-05	12/18/08 13:13
8122791-DUP1									
Bromide	ND	<0.500		mg/L		20	8122791	NRL0662-02	12/06/08 19:26

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8121116-BS1								
Total Dissolved Solids	100	110		ug/mL	110%	90 - 110	8121116	12/06/08 13:52
8121122-BS1								
Chloride	3.00	3.07	MNR	mg/L	102%	90 - 110	8121122	12/06/08 17:35
Fluoride	2.00	2.19		mg/L	110%	90 - 110	8121122	12/06/08 17:35
Nitrate as N	3.00	3.09		mg/L	103%	90 - 110	8121122	12/06/08 17:35
Sulfate	15.0	15.1	MNR	mg/L	101%	90 - 110	8121122	12/06/08 17:35
8121367-BS1								
Total Organic Carbon	200	182		ug/mL	91%	90 - 110	8121367	12/10/08 07:53
8122397-BS1								
Chloride	3.00	2.98	MNR	mg/L	100%	90 - 110	8122397	12/16/08 16:57
Fluoride	2.00	1.98		mg/L	99%	90 - 110	8122397	12/16/08 16:57
Sulfate	15.0	15.1	MNR	mg/L	101%	90 - 110	8122397	12/16/08 16:57
8122469-BS1								
Alkalinity, Total (CaCO3)	100	106		ug/mL	106%	90 - 110	8122469	12/16/08 17:43
8122473-BS1								
Total Organic Halides	0.250	0.248		mg/L	99%	90 - 130	8122473	12/18/08 12:27
8122656-BS1								
Phosphorus	2.00	2.12		mg/L	106%	90 - 110	8122656	12/18/08 13:13
8122791-BS1								
Bromide	10.0	10.1		mg/L	101%	90 - 110	8122791	12/06/08 17:35
Total Metals by EPA Method 6010B								
8121240-BS1								
Aluminum	2.00	1.95		mg/L	97%	80 - 120	8121240	12/15/08 13:50
Antimony	0.100	0.0953		mg/L	95%	80 - 120	8121240	12/15/08 13:50
Arsenic	0.0500	0.0507		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Barium	2.00	2.08		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8121240	12/15/08 13:50
Boron	1.00	0.975		mg/L	97%	80 - 120	8121240	12/15/08 13:50
Cadmium	0.0500	0.0504		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Calcium	5.00	5.03		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Chromium	0.200	0.206		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Cobalt	0.500	0.521		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Copper	0.250	0.246		mg/L	98%	80 - 120	8121240	12/15/08 13:50
Iron	1.00	1.03		mg/L	103%	80 - 120	8121240	12/15/08 13:50

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8121240-BS1								
Lead	0.0500	0.0447		mg/L	89%	80 - 120	8121240	12/15/08 13:50
Magnesium	5.00	4.93		mg/L	99%	80 - 120	8121240	12/15/08 13:50
Manganese	0.500	0.517		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Molybdenum	0.500	0.494		mg/L	99%	80 - 120	8121240	12/15/08 13:50
Nickel	0.500	0.504		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Potassium	5.00	4.42		mg/L	88%	80 - 120	8121240	12/15/08 13:50
Selenium	0.0500	0.0466		mg/L	93%	80 - 120	8121240	12/15/08 13:50
Silver	0.0500	0.0473		mg/L	95%	80 - 120	8121240	12/15/08 13:50
Sodium	5.00	4.89		mg/L	98%	80 - 120	8121240	12/15/08 13:50
Thallium	0.0500	0.0402		mg/L	80%	80 - 120	8121240	12/15/08 13:50
Vanadium	0.500	0.503		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Zinc	0.500	0.520		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Mercury by EPA Methods 7470A/7471A								
8121170-BS1								
Mercury	0.00100	0.00110		mg/L	110%	78 - 124	8121170	12/09/08 11:01

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8122473-BSD1												
Total Organic Halides		0.248		mg/L	0.250	99%	90 - 130	0.2	50	8122473		12/18/08 12:27
Mercury by EPA Methods 7470A/7471A												
8121170-BSD1												
Mercury		0.00108		mg/L	0.00100	108%	78 - 124	2	22	8121170		12/09/08 11:03

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0662
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8121122-MS1										
Nitrate as N	ND	3.13		mg/L	3.00	104%	80 - 120	8121122	NRL0662-01	12/06/08 18:30
8121367-MS1										
Total Organic Carbon	0.687	20.8		ug/mL	20.0	101%	79 - 130	8121367	NRL0536-01	12/10/08 07:53
8122397-MS1										
Fluoride	0.439	2.41		mg/L	2.00	99%	80 - 120	8122397	NRL0662-01RE1	12/16/08 18:11
8122469-MS1										
Alkalinity, Total (CaCO3)	-2.31	93.5		ug/mL	100	96%	80 - 120	8122469	NRL0537-01	12/16/08 17:43
8122473-MS1										
Total Organic Halides	0.0325	0.124		mg/L	0.100	91%	74 - 131	8122473	NRL0195-01	12/18/08 12:27
8122656-MS1										
Phosphorus	ND	2.15		mg/L	2.00	108%	76 - 112	8122656	NRL0537-01	12/18/08 13:13
8122791-MS1										
Bromide	ND	10.3		mg/L	10.0	103%	90 - 110	8122791	NRL0662-01	12/06/08 18:30
Total Metals by EPA Method 6010B										
8121240-MS1										
Aluminum	0.0198	2.03		mg/L	2.00	101%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Antimony	ND	0.0954		mg/L	0.100	95%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Arsenic	ND	0.0508		mg/L	0.0500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Barium	0.156	2.20		mg/L	2.00	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Beryllium	ND	0.0521		mg/L	0.0500	104%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Boron	0.800	1.76		mg/L	1.00	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Chromium	ND	0.199		mg/L	0.200	100%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Cobalt	ND	0.509		mg/L	0.500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Copper	ND	0.249		mg/L	0.250	99%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Iron	0.963	1.89		mg/L	1.00	93%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Lead	ND	0.0452		mg/L	0.0500	90%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Manganese	0.639	1.12		mg/L	0.500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Molybdenum	ND	0.486		mg/L	0.500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Nickel	ND	0.493		mg/L	0.500	99%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Selenium	ND	0.0485		mg/L	0.0500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Silver	ND	0.0506		mg/L	0.0500	101%	75 - 125	8121240	NRL1101-01	12/15/08 15:39

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8121240-MS1										
Thallium	ND	0.0407		mg/L	0.0500	81%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Vanadium	ND	0.491		mg/L	0.500	98%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Zinc	0.0104	0.521		mg/L	0.500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Mercury by EPA Methods 7470A/7471A										
8121170-MS1										
Mercury	ND	0.00114		mg/L	0.00100	114%	63 - 138	8121170	NRL0495-01	12/09/08 11:07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA
Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8121122-MSD1												
Nitrate as N	ND	3.16		mg/L	3.00	105%	80 - 120	0.9	20	8121122	NRL0662-01	12/06/08 18:49
8121367-MSD1												
Total Organic Carbon	0.687	21.1		ug/mL	20.0	102%	79 - 130	2	20	8121367	NRL0536-01	12/10/08 07:53
8122397-MSD1												
Fluoride	0.439	2.39		mg/L	2.00	98%	80 - 120	0.8	19	8122397	NRL0662-01RE1	12/16/08 18:29
8122473-MSD1												
Total Organic Halides	0.0325	0.115		mg/L	0.100	82%	74 - 131	7	50	8122473	NRL0195-01	12/18/08 12:27
8122656-MSD1												
Phosphorus	ND	2.27	M7	mg/L	2.00	114%	76 - 112	5	20	8122656	NRL0537-01	12/18/08 13:13
8122791-MSD1												
Bromide	ND	10.4		mg/L	10.0	104%	90 - 110	0.6	20	8122791	NRL0662-01	12/06/08 18:49
Total Metals by EPA Method 6010B												
8121240-MSD1												
Aluminum	0.0198	2.10		mg/L	2.00	104%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	1	20	8121240	NRL1101-01	12/15/08 15:43
Arsenic	ND	0.0539		mg/L	0.0500	108%	75 - 125	6	20	8121240	NRL1101-01	12/15/08 15:43
Barium	0.156	2.27		mg/L	2.00	106%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Beryllium	ND	0.0543		mg/L	0.0500	109%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Boron	0.800	1.85		mg/L	1.00	105%	75 - 125	5	20	8121240	NRL1101-01	12/15/08 15:43
Cadmium	ND	0.0506		mg/L	0.0500	101%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Chromium	ND	0.206		mg/L	0.200	103%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Cobalt	ND	0.527		mg/L	0.500	105%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Copper	ND	0.257		mg/L	0.250	103%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Iron	0.963	1.98		mg/L	1.00	101%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Lead	ND	0.0452		mg/L	0.0500	90%	75 - 125	0	20	8121240	NRL1101-01	12/15/08 15:43
Manganese	0.639	1.18		mg/L	0.500	108%	75 - 125	5	20	8121240	NRL1101-01	12/15/08 15:43
Molybdenum	ND	0.508		mg/L	0.500	102%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Nickel	ND	0.509		mg/L	0.500	102%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Selenium	ND	0.0481		mg/L	0.0500	96%	75 - 125	0.8	20	8121240	NRL1101-01	12/15/08 15:43
Silver	ND	0.0513		mg/L	0.0500	103%	75 - 125	1	20	8121240	NRL1101-01	12/15/08 15:43
Thallium	ND	0.0420		mg/L	0.0500	84%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Vanadium	ND	0.507		mg/L	0.500	101%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Zinc	0.0104	0.545		mg/L	0.500	107%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43

Mercury by EPA Methods 7470A/7471A

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A												
8121170-MSD1												
Mercury	ND	0.00109		mg/L	0.00100	109%	63 - 138	4	22	8121170	NRL0495-01	12/09/08 11:09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0662
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/06/08 08:30

DATA QUALIFIERS AND DEFINITIONS

J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT

NRL0662

Cooler Received/Opened On 12 / 06/ 08 @ 8:30

1. Tracking # 0970 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 90942856

2. Temperature of rep. sample or temp blank when opened: 1-6 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 on T

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50570

THE LEADER IN ENVIRONMENTAL TESTING
2900 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

50571

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buck
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

NRL0662
12/22/08 23:59

	Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	Thallium, total			RUSH TAT (Pre Schedule) *
1	MW-BGL-12B	12-5-08	955	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X			
2	MW-BGL-12A	12-5-08	1055	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X			
3	MW-Dup-3	12-5-08	1115	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X			

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
~~Na~~ Antimony Thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	12-5-08	1400	Fed Ex					

Shipped Via:

Received for TestAmerica by: Date: 12/6/08 Time: 0830

Shipped Via:
Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 29, 2008 12:47:31PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRL0511
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 12/05/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-9B	NRL0511-01	12/04/08 12:40
MW-BGC-9A	NRL0511-02	12/04/08 13:35
MW-BGC-10B	NRL0511-03	12/04/08 14:05
MW-BGC-10A	NRL0511-04	12/04/08 15:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments: This is a Final Report.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0511-01 (MW-BGC-9B - Water) Sampled: 12/04/08 12:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**148**	M8	mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**161**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 01:50	EPA 300.1	8121037
Chloride	**36.9**		mg/L	5.00	10.0	10	12/07/08 04:56	EPA 300.0	8121037
Fluoride	**0.320**		mg/L	0.0500	0.100	1	12/06/08 01:50	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 01:50	EPA 300.0	8121037
Phosphorus	**0.123**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**11.9**		mg/L	0.500	1.00	1	12/06/08 01:50	EPA 300.0	8121037
Total Dissolved Solids	**227**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**2.87**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	**0.0286**	J	mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.0660**	J	mg/L	0.0180	0.100	1	12/09/08 13:57	SW846 6010B	8120068
Antimony	**0.00550**	B, J	mg/L	0.00380	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Barium	**0.0198**		mg/L	0.00150	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:57	SW846 6010B	8120068
Boron	**0.115**	B1	mg/L	0.00200	0.0500	1	12/09/08 13:57	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:57	SW846 6010B	8120068
Calcium	**30.6**		mg/L	0.100	1.00	1	12/09/08 13:57	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 13:57	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 13:57	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Iron	**0.272**		mg/L	0.0280	0.0500	1	12/09/08 13:57	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:57	SW846 6010B	8120068
Magnesium	**13.6**		mg/L	0.100	1.00	1	12/09/08 13:57	SW846 6010B	8120068
Manganese	**0.102**		mg/L	0.00100	0.0150	1	12/09/08 13:57	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 13:57	SW846 6010B	8120068
Nickel	ND		mg/L	0.00240	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Potassium	**11.6**		mg/L	0.200	1.00	1	12/09/08 13:57	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:57	SW846 6010B	8120068
Sodium	**28.0**		mg/L	0.500	1.00	1	12/09/08 13:57	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:57	SW846 6010B	8120068
Vanadium	ND		mg/L	0.00150	0.0200	1	12/09/08 13:57	SW846 6010B	8120068
Zinc	ND		mg/L	0.0100	0.0500	1	12/09/08 13:57	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:17	SW846 7470A	8121170

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0511-02 (MW-BGC-9A - Water) Sampled: 12/04/08 13:35									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**102**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**102**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 02:08	EPA 300.1	8121037
Chloride	**28.3**		mg/L	5.00	10.0	10	12/07/08 05:14	EPA 300.0	8121037
Fluoride	**0.233**		mg/L	0.0500	0.100	1	12/06/08 02:08	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 02:08	EPA 300.0	8121037
Phosphorus	**0.156**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**76.7**		mg/L	5.00	10.0	10	12/07/08 05:14	EPA 300.0	8121037
Total Dissolved Solids	**296**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**5.11**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.0652**	J	mg/L	0.0180	0.100	1	12/09/08 14:01	SW846 6010B	8120068
Antimony	**0.00630**	B, J	mg/L	0.00380	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Barium	**0.0497**		mg/L	0.00150	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 14:01	SW846 6010B	8120068
Boron	**0.0646**	B1	mg/L	0.00200	0.0500	1	12/09/08 14:01	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 14:01	SW846 6010B	8120068
Calcium	**43.9**		mg/L	0.100	1.00	1	12/09/08 14:01	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 14:01	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 14:01	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Iron	**4.74**		mg/L	0.0280	0.0500	1	12/09/08 14:01	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 14:01	SW846 6010B	8120068
Magnesium	**15.0**		mg/L	0.100	1.00	1	12/09/08 14:01	SW846 6010B	8120068
Manganese	**0.217**		mg/L	0.00100	0.0150	1	12/09/08 14:01	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 14:01	SW846 6010B	8120068
Nickel	ND		mg/L	0.00240	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Potassium	**8.44**		mg/L	0.200	1.00	1	12/09/08 14:01	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 14:01	SW846 6010B	8120068
Sodium	**16.0**		mg/L	0.500	1.00	1	12/09/08 14:01	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 14:01	SW846 6010B	8120068
Vanadium	ND		mg/L	0.00150	0.0200	1	12/09/08 14:01	SW846 6010B	8120068
Zinc	ND		mg/L	0.0100	0.0500	1	12/09/08 14:01	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:24	SW846 7470A	8121170

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0511-03 (MW-BGC-10B - Water) Sampled: 12/04/08 14:05									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**176**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**179**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 02:27	EPA 300.1	8121037
Chloride	**57.5**		mg/L	5.00	10.0	10	12/07/08 05:33	EPA 300.0	8121037
Fluoride	**0.334**		mg/L	0.0500	0.100	1	12/06/08 02:27	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 02:27	EPA 300.0	8121037
Phosphorus	**0.176**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**38.6**		mg/L	0.500	1.00	1	12/06/08 02:27	EPA 300.0	8121037
Total Dissolved Solids	**312**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**4.56**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.0382**	J	mg/L	0.0180	0.100	1	12/15/08 14:01	SW846 6010B	8121240
Antimony	ND		mg/L	0.00380	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Arsenic	ND		mg/L	0.00450	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Barium	**0.00930**	J	mg/L	0.00150	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Beryllium	ND		mg/L	0.00100	0.00400	1	12/15/08 14:01	SW846 6010B	8121240
Boron	**0.138**		mg/L	0.00200	0.0500	1	12/15/08 14:01	SW846 6010B	8121240
Cadmium	ND		mg/L	0.000500	0.00100	1	12/15/08 14:01	SW846 6010B	8121240
Calcium	**40.2**		mg/L	0.100	1.00	1	12/15/08 14:01	SW846 6010B	8121240
Chromium	ND		mg/L	0.00150	0.00500	1	12/15/08 14:01	SW846 6010B	8121240
Cobalt	ND		mg/L	0.00200	0.0200	1	12/15/08 14:01	SW846 6010B	8121240
Copper	ND		mg/L	0.00350	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Iron	**0.380**		mg/L	0.0280	0.0500	1	12/15/08 14:01	SW846 6010B	8121240
Lead	ND		mg/L	0.00280	0.00500	1	12/15/08 14:01	SW846 6010B	8121240
Magnesium	**18.5**		mg/L	0.100	1.00	1	12/15/08 14:01	SW846 6010B	8121240
Manganese	**0.0708**		mg/L	0.00100	0.0150	1	12/15/08 14:01	SW846 6010B	8121240
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/15/08 14:01	SW846 6010B	8121240
Nickel	ND		mg/L	0.00240	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Potassium	**15.9**		mg/L	0.200	1.00	1	12/15/08 14:01	SW846 6010B	8121240
Selenium	ND		mg/L	0.00430	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Silver	ND		mg/L	0.00160	0.00500	1	12/15/08 14:01	SW846 6010B	8121240
Sodium	**45.2**		mg/L	0.500	1.00	1	12/15/08 14:01	SW846 6010B	8121240
Thallium	ND		mg/L	0.00750	0.0100	1	12/15/08 14:01	SW846 6010B	8121240
Vanadium	ND		mg/L	0.00150	0.0200	1	12/15/08 14:01	SW846 6010B	8121240
Zinc	ND		mg/L	0.0100	0.0500	1	12/15/08 14:01	SW846 6010B	8121240
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:26	SW846 7470A	8121170

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0511-04 (MW-BGC-10A - Water) Sampled: 12/04/08 15:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**104**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**110**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 02:45	EPA 300.1	8121037
Chloride	**25.2**		mg/L	10.0	20.0	20	12/07/08 05:51	EPA 300.0	8121037
Fluoride	**0.434**		mg/L	0.0500	0.100	1	12/06/08 02:45	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 02:45	EPA 300.0	8121037
Phosphorus	**0.587**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**169**		mg/L	10.0	20.0	20	12/07/08 05:51	EPA 300.0	8121037
Total Dissolved Solids	**409**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**5.22**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.145**		mg/L	0.0180	0.100	1	12/15/08 14:05	SW846 6010B	8121240
Antimony	**0.00430**	J	mg/L	0.00380	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Arsenic	ND		mg/L	0.00450	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Barium	**0.0191**		mg/L	0.00150	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Beryllium	ND		mg/L	0.00100	0.00400	1	12/15/08 14:05	SW846 6010B	8121240
Boron	**0.0357**	J	mg/L	0.00200	0.0500	1	12/15/08 14:05	SW846 6010B	8121240
Cadmium	ND		mg/L	0.000500	0.00100	1	12/15/08 14:05	SW846 6010B	8121240
Calcium	**74.8**		mg/L	0.100	1.00	1	12/15/08 14:05	SW846 6010B	8121240
Chromium	ND		mg/L	0.00150	0.00500	1	12/15/08 14:05	SW846 6010B	8121240
Cobalt	ND		mg/L	0.00200	0.0200	1	12/15/08 14:05	SW846 6010B	8121240
Copper	ND		mg/L	0.00350	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Iron	**6.14**		mg/L	0.0280	0.0500	1	12/15/08 14:05	SW846 6010B	8121240
Lead	ND		mg/L	0.00280	0.00500	1	12/15/08 14:05	SW846 6010B	8121240
Magnesium	**15.1**		mg/L	0.100	1.00	1	12/15/08 14:05	SW846 6010B	8121240
Manganese	**0.230**		mg/L	0.00100	0.0150	1	12/15/08 14:05	SW846 6010B	8121240
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/15/08 14:05	SW846 6010B	8121240
Nickel	ND		mg/L	0.00240	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Potassium	**5.18**		mg/L	0.200	1.00	1	12/15/08 14:05	SW846 6010B	8121240
Selenium	ND		mg/L	0.00430	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Silver	ND		mg/L	0.00160	0.00500	1	12/15/08 14:05	SW846 6010B	8121240
Sodium	**22.3**		mg/L	0.500	1.00	1	12/15/08 14:05	SW846 6010B	8121240
Thallium	ND		mg/L	0.00750	0.0100	1	12/15/08 14:05	SW846 6010B	8121240
Vanadium	ND		mg/L	0.00150	0.0200	1	12/15/08 14:05	SW846 6010B	8121240
Zinc	**0.0121**	J	mg/L	0.0100	0.0500	1	12/15/08 14:05	SW846 6010B	8121240
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:28	SW846 7470A	8121170

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8121170	NRL0511-01	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0511-02	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0511-03	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0511-04	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0511-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-03	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010
SW846 6010B	8121240	NRL0511-04	50.00	50.00	12/12/08 13:14	LTB	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8120944-BLK1						
Total Organic Carbon	<0.500		mg/L	8120944	8120944-BLK1	12/08/08 10:27
8120970-BLK1						
Total Dissolved Solids	<5.00		mg/L	8120970	8120970-BLK1	12/05/08 15:07
8121037-BLK1						
Bromide	<0.500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Chloride	<0.500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Fluoride	<0.0500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Nitrate as N	<0.0500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Sulfate	<0.500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
8121074-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8121074	8121074-BLK1	12/05/08 19:46
8121175-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8121175	8121175-BLK1	12/08/08 11:57
8122438-BLK1						
Phosphorus	<0.0450		mg/L	8122438	8122438-BLK1	12/18/08 13:13
8122473-BLK1						
Total Organic Halides	<0.0270		mg/L	8122473	8122473-BLK1	12/18/08 12:27
Total Metals by EPA Method 6010B						
8120068-BLK1						
Aluminum	<0.0180		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Antimony	0.00750	J	mg/L	8120068	8120068-BLK1	12/09/08 12:45
Arsenic	<0.00450		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Barium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Beryllium	<0.00100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Boron	0.00280	J	mg/L	8120068	8120068-BLK1	12/09/08 12:45
Cadmium	<0.000500		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Calcium	<0.100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Chromium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Cobalt	<0.00200		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Copper	<0.00350		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Iron	<0.0280		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Lead	<0.00280		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Magnesium	<0.100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Manganese	<0.00100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Molybdenum	<0.00900		mg/L	8120068	8120068-BLK1	12/09/08 12:45

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8120068-BLK1						
Nickel	<0.00240		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Potassium	<0.200		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Selenium	<0.00430		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Silver	<0.00160		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Sodium	<0.500		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Thallium	<0.00750		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Vanadium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Zinc	<0.0100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
8121240-BLK1						
Aluminum	<0.0180		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Antimony	<0.00380		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Arsenic	<0.00450		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Barium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Beryllium	<0.00100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Boron	<0.00200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Cadmium	<0.000500		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Calcium	<0.100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Chromium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Cobalt	<0.00200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Copper	<0.00350		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Iron	<0.0280		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Lead	<0.00280		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Magnesium	<0.100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Manganese	<0.00100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Molybdenum	<0.00900		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Nickel	<0.00240		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Potassium	<0.200		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Selenium	<0.00430		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Silver	<0.00160		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Sodium	<0.500		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Thallium	<0.00750		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Vanadium	<0.00150		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Zinc	<0.0100		mg/L	8121240	8121240-BLK1	12/15/08 13:47
Mercury by EPA Methods 7470A/7471A						
8121170-BLK1						
Mercury	<0.000150		mg/L	8121170	8121170-BLK1	12/09/08 10:58

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8120944-DUP1									
Total Organic Carbon	6.62	6.12		mg/L	8	20	8120944	NRL0471-06	12/08/08 10:27
8120944-DUP2									
Total Organic Carbon	5.22	5.08		mg/L	3	20	8120944	NRL0511-04	12/08/08 10:27
8120970-DUP1									
Total Dissolved Solids	387	389		mg/L	0.5	20	8120970	NRL0495-01	12/05/08 15:07
8120970-DUP2									
Total Dissolved Solids	227	207		mg/L	9	20	8120970	NRL0511-01	12/05/08 15:07
8121037-DUP1									
Bromide	ND	<0.500		mg/L		20	8121037	NRL0495-01	12/06/08 00:36
Chloride	82.6	82.9		mg/L	0.3	20	8121037	NRL0495-01	12/07/08 02:10
Fluoride	0.356	0.351		mg/L	1	19	8121037	NRL0495-01	12/06/08 00:36
Nitrate as N	ND	<0.0500		mg/L		20	8121037	NRL0495-01	12/06/08 00:36
Sulfate	90.7	90.5		mg/L	0.2	20	8121037	NRL0495-01	12/07/08 02:10
8121074-DUP1									
Bicarbonate Alkalinity as CaCO3	120	116		mg/L	3	20	8121074	NRL0495-01	12/05/08 19:46
8121175-DUP1									
Alkalinity, Total (CaCO3)	104	106		mg/L	2	20	8121175	NRL0511-04	12/08/08 11:57
8122438-DUP1									
Phosphorus	0.587	0.560		mg/L	5	20	8122438	NRL0511-04	12/18/08 13:13
8122473-DUP1									
Total Organic Halides	0.0325	0.0297	J	mg/L	9	50	8122473	NRL0195-01	12/18/08 12:27
8122473-DUP2									
Total Organic Halides	0.0925	0.0840		mg/L	10	50	8122473	NRL0495-02	12/18/08 12:27

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8120944-BS1								
Total Organic Carbon	200	181		ug/mL	90%	90 - 110	8120944	12/08/08 10:27
8120970-BS1								
Total Dissolved Solids	100	101		ug/mL	101%	90 - 110	8120970	12/05/08 15:07
8121037-BS1								
Bromide	10.0	10.2		mg/L	102%	90 - 110	8121037	12/05/08 20:00
Chloride	3.00	3.08	MNR	mg/L	103%	90 - 110	8121037	12/05/08 20:00
Fluoride	2.00	2.18		mg/L	109%	90 - 110	8121037	12/05/08 20:00
Nitrate as N	3.00	3.12		mg/L	104%	90 - 110	8121037	12/05/08 20:00
Sulfate	15.0	15.2	MNR	mg/L	101%	90 - 110	8121037	12/05/08 20:00
8121175-BS1								
Alkalinity, Total (CaCO3)	100	101		ug/mL	101%	90 - 110	8121175	12/08/08 11:57
8122438-BS1								
Phosphorus	2.00	2.12		mg/L	106%	90 - 110	8122438	12/18/08 13:13
8122473-BS1								
Total Organic Halides	0.250	0.248		mg/L	99%	90 - 130	8122473	12/18/08 12:27
Total Metals by EPA Method 6010B								
8120068-BS1								
Aluminum	2.00	1.92		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Antimony	0.100	0.120		mg/L	120%	80 - 120	8120068	12/09/08 13:01
Arsenic	0.0500	0.0469		mg/L	94%	80 - 120	8120068	12/09/08 13:01
Barium	2.00	2.05		mg/L	102%	80 - 120	8120068	12/09/08 13:01
Beryllium	0.0500	0.0523		mg/L	105%	80 - 120	8120068	12/09/08 13:01
Boron	1.00	0.998		mg/L	100%	80 - 120	8120068	12/09/08 13:01
Cadmium	0.0500	0.0497		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Calcium	5.00	4.84		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Chromium	0.200	0.203		mg/L	102%	80 - 120	8120068	12/09/08 13:01
Cobalt	0.500	0.506		mg/L	101%	80 - 120	8120068	12/09/08 13:01
Copper	0.250	0.244		mg/L	98%	80 - 120	8120068	12/09/08 13:01
Iron	1.00	0.955		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Lead	0.0500	0.0482		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Magnesium	5.00	4.86		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Manganese	0.500	0.496		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Molybdenum	0.500	0.486		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Nickel	0.500	0.485		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Potassium	5.00	4.38		mg/L	88%	80 - 120	8120068	12/09/08 13:01
Selenium	0.0500	0.0495		mg/L	99%	80 - 120	8120068	12/09/08 13:01

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8120068-BS1								
Silver	0.0500	0.0517		mg/L	103%	80 - 120	8120068	12/09/08 13:01
Sodium	5.00	4.57		mg/L	91%	80 - 120	8120068	12/09/08 13:01
Thallium	0.0500	0.0499		mg/L	100%	80 - 120	8120068	12/09/08 13:01
Vanadium	0.500	0.493		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Zinc	0.500	0.481		mg/L	96%	80 - 120	8120068	12/09/08 13:01
8121240-BS1								
Aluminum	2.00	1.95		mg/L	97%	80 - 120	8121240	12/15/08 13:50
Antimony	0.100	0.0953		mg/L	95%	80 - 120	8121240	12/15/08 13:50
Arsenic	0.0500	0.0507		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Barium	2.00	2.08		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8121240	12/15/08 13:50
Boron	1.00	0.975		mg/L	97%	80 - 120	8121240	12/15/08 13:50
Cadmium	0.0500	0.0504		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Calcium	5.00	5.03		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Chromium	0.200	0.206		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Cobalt	0.500	0.521		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Copper	0.250	0.246		mg/L	98%	80 - 120	8121240	12/15/08 13:50
Iron	1.00	1.03		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Lead	0.0500	0.0447		mg/L	89%	80 - 120	8121240	12/15/08 13:50
Magnesium	5.00	4.93		mg/L	99%	80 - 120	8121240	12/15/08 13:50
Manganese	0.500	0.517		mg/L	103%	80 - 120	8121240	12/15/08 13:50
Molybdenum	0.500	0.494		mg/L	99%	80 - 120	8121240	12/15/08 13:50
Nickel	0.500	0.504		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Potassium	5.00	4.42		mg/L	88%	80 - 120	8121240	12/15/08 13:50
Selenium	0.0500	0.0466		mg/L	93%	80 - 120	8121240	12/15/08 13:50
Silver	0.0500	0.0473		mg/L	95%	80 - 120	8121240	12/15/08 13:50
Sodium	5.00	4.89		mg/L	98%	80 - 120	8121240	12/15/08 13:50
Thallium	0.0500	0.0402		mg/L	80%	80 - 120	8121240	12/15/08 13:50
Vanadium	0.500	0.503		mg/L	101%	80 - 120	8121240	12/15/08 13:50
Zinc	0.500	0.520		mg/L	104%	80 - 120	8121240	12/15/08 13:50
Mercury by EPA Methods 7470A/7471A								
8121170-BS1								
Mercury	0.00100	0.00110		mg/L	110%	78 - 124	8121170	12/09/08 11:01

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8122473-BSD1												
Total Organic Halides		0.248		mg/L	0.250	99%	90 - 130	0.2	50	8122473		12/18/08 12:27
Mercury by EPA Methods 7470A/7471A												
8121170-BSD1												
Mercury		0.00108		mg/L	0.00100	108%	78 - 124	2	22	8121170		12/09/08 11:03

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0511
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8120944-MS1										
Total Organic Carbon	2.81	26.9		ug/mL	20.0	121%	79 - 130	8120944	NRL0495-01	12/08/08 10:27
8121037-MS1										
Bromide	ND	9.81		mg/L	10.0	98%	90 - 110	8121037	NRL0414-01	12/05/08 20:37
Fluoride	0.356	2.32		mg/L	2.00	98%	80 - 120	8121037	NRL0414-01	12/05/08 20:37
Nitrate as N	ND	2.93		mg/L	3.00	98%	80 - 120	8121037	NRL0414-01	12/05/08 20:37
8121175-MS1										
Alkalinity, Total (CaCO3)	148	224	M8	ug/mL	100	76%	80 - 120	8121175	NRL0511-01	12/08/08 11:57
8122438-MS1										
Phosphorus	1.03	4.52		mg/L	4.00	87%	76 - 112	8122438	NRL0590-01	12/18/08 13:13
8122473-MS1										
Total Organic Halides	0.0325	0.124		mg/L	0.100	91%	74 - 131	8122473	NRL0195-01	12/18/08 12:27
Total Metals by EPA Method 6010B										
8120068-MS1										
Aluminum	ND	1.91		mg/L	2.00	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Antimony	0.00750	0.118		mg/L	0.100	110%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Arsenic	ND	0.0493		mg/L	0.0500	99%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Barium	0.0611	2.03		mg/L	2.00	99%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Beryllium	ND	0.0504		mg/L	0.0500	101%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Boron	0.0204	0.935		mg/L	1.00	91%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Cadmium	ND	0.0474		mg/L	0.0500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Chromium	0.00300	0.195		mg/L	0.200	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Cobalt	ND	0.482		mg/L	0.500	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Copper	0.0124	0.244		mg/L	0.250	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Iron	ND	0.935		mg/L	1.00	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Lead	ND	0.0485		mg/L	0.0500	97%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Manganese	ND	0.472		mg/L	0.500	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Nickel	ND	0.463		mg/L	0.500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Selenium	0.00520	0.0516		mg/L	0.0500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Silver	0.00190	0.0492		mg/L	0.0500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Thallium	ND	0.0499		mg/L	0.0500	100%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Vanadium	ND	0.473		mg/L	0.500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Zinc	0.0127	0.476		mg/L	0.500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0511
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8121240-MS1										
Aluminum	0.0198	2.03		mg/L	2.00	101%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Antimony	ND	0.0954		mg/L	0.100	95%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Arsenic	ND	0.0508		mg/L	0.0500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Barium	0.156	2.20		mg/L	2.00	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Beryllium	ND	0.0521		mg/L	0.0500	104%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Boron	0.800	1.76		mg/L	1.00	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Chromium	ND	0.199		mg/L	0.200	100%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Cobalt	ND	0.509		mg/L	0.500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Copper	ND	0.249		mg/L	0.250	99%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Iron	0.963	1.89		mg/L	1.00	93%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Lead	ND	0.0452		mg/L	0.0500	90%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Manganese	0.639	1.12		mg/L	0.500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Molybdenum	ND	0.486		mg/L	0.500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Nickel	ND	0.493		mg/L	0.500	99%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Selenium	ND	0.0485		mg/L	0.0500	97%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Silver	ND	0.0506		mg/L	0.0500	101%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Thallium	ND	0.0407		mg/L	0.0500	81%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Vanadium	ND	0.491		mg/L	0.500	98%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Zinc	0.0104	0.521		mg/L	0.500	102%	75 - 125	8121240	NRL1101-01	12/15/08 15:39
Mercury by EPA Methods 7470A/7471A										
8121170-MS1										
Mercury	ND	0.00114		mg/L	0.00100	114%	63 - 138	8121170	NRL0495-01	12/09/08 11:07

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0511
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8120944-MSD1												
Total Organic Carbon	2.81	27.0		ug/mL	20.0	121%	79 - 130	0.1	20	8120944	NRL0495-01	12/08/08 10:27
8121037-MSD1												
Bromide	ND	10.0		mg/L	10.0	100%	90 - 110	2	20	8121037	NRL0414-01	12/05/08 20:56
Fluoride	0.356	2.37		mg/L	2.00	101%	80 - 120	2	19	8121037	NRL0414-01	12/05/08 20:56
Nitrate as N	ND	2.98		mg/L	3.00	99%	80 - 120	2	20	8121037	NRL0414-01	12/05/08 20:56
8122438-MSD1												
Phosphorus	1.03	5.53	M7	mg/L	4.00	113%	76 - 112	20	20	8122438	NRL0590-01	12/18/08 13:13
8122473-MSD1												
Total Organic Halides	0.0325	0.115		mg/L	0.100	82%	74 - 131	7	50	8122473	NRL0195-01	12/18/08 12:27
Total Metals by EPA Method 6010B												
8120068-MSD1												
Aluminum	ND	2.03		mg/L	2.00	101%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Antimony	0.00750	0.108		mg/L	0.100	100%	75 - 125	9	20	8120068	NRK2580-04	12/09/08 13:14
Arsenic	ND	0.0478		mg/L	0.0500	96%	75 - 125	3	20	8120068	NRK2580-04	12/09/08 13:14
Barium	0.0611	2.15		mg/L	2.00	105%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Beryllium	ND	0.0524		mg/L	0.0500	105%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Boron	0.0204	1.02		mg/L	1.00	100%	75 - 125	9	20	8120068	NRK2580-04	12/09/08 13:14
Cadmium	ND	0.0494		mg/L	0.0500	99%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Chromium	0.00300	0.202		mg/L	0.200	100%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Cobalt	ND	0.511		mg/L	0.500	102%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Copper	0.0124	0.262		mg/L	0.250	100%	75 - 125	7	20	8120068	NRK2580-04	12/09/08 13:14
Iron	ND	0.968		mg/L	1.00	97%	75 - 125	3	20	8120068	NRK2580-04	12/09/08 13:14
Lead	ND	0.0476		mg/L	0.0500	95%	75 - 125	2	20	8120068	NRK2580-04	12/09/08 13:14
Manganese	ND	0.505		mg/L	0.500	101%	75 - 125	7	20	8120068	NRK2580-04	12/09/08 13:14
Molybdenum	ND	0.495		mg/L	0.500	99%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Nickel	ND	0.492		mg/L	0.500	98%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Selenium	0.00520	0.0528		mg/L	0.0500	95%	75 - 125	2	20	8120068	NRK2580-04	12/09/08 13:14
Silver	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8120068	NRK2580-04	12/09/08 13:14
Thallium	ND	0.0451		mg/L	0.0500	90%	75 - 125	10	20	8120068	NRK2580-04	12/09/08 13:14
Vanadium	ND	0.498		mg/L	0.500	100%	75 - 125	5	20	8120068	NRK2580-04	12/09/08 13:14
Zinc	0.0127	0.514		mg/L	0.500	100%	75 - 125	8	20	8120068	NRK2580-04	12/09/08 13:14
8121240-MSD1												
Aluminum	0.0198	2.10		mg/L	2.00	104%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	1	20	8121240	NRL1101-01	12/15/08 15:43
Arsenic	ND	0.0539		mg/L	0.0500	108%	75 - 125	6	20	8121240	NRL1101-01	12/15/08 15:43
Barium	0.156	2.27		mg/L	2.00	106%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Beryllium	ND	0.0543		mg/L	0.0500	109%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA Method 6010B												
8121240-MSD1												
Boron	0.800	1.85		mg/L	1.00	105%	75 - 125	5	20	8121240	NRL1101-01	12/15/08 15:43
Cadmium	ND	0.0506		mg/L	0.0500	101%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Chromium	ND	0.206		mg/L	0.200	103%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Cobalt	ND	0.527		mg/L	0.500	105%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Copper	ND	0.257		mg/L	0.250	103%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Iron	0.963	1.98		mg/L	1.00	101%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Lead	ND	0.0452		mg/L	0.0500	90%	75 - 125	0	20	8121240	NRL1101-01	12/15/08 15:43
Manganese	0.639	1.18		mg/L	0.500	108%	75 - 125	5	20	8121240	NRL1101-01	12/15/08 15:43
Molybdenum	ND	0.508		mg/L	0.500	102%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Nickel	ND	0.509		mg/L	0.500	102%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Selenium	ND	0.0481		mg/L	0.0500	96%	75 - 125	0.8	20	8121240	NRL1101-01	12/15/08 15:43
Silver	ND	0.0513		mg/L	0.0500	103%	75 - 125	1	20	8121240	NRL1101-01	12/15/08 15:43
Thallium	ND	0.0420		mg/L	0.0500	84%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Vanadium	ND	0.507		mg/L	0.500	101%	75 - 125	3	20	8121240	NRL1101-01	12/15/08 15:43
Zinc	0.0104	0.545		mg/L	0.500	107%	75 - 125	4	20	8121240	NRL1101-01	12/15/08 15:43
Mercury by EPA Methods 7470A/7471A												
8121170-MSD1												
Mercury	ND	0.00109		mg/L	0.00100	109%	63 - 138	4	22	8121170	NRL0495-01	12/09/08 11:09

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0511
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECE

NRL051

Cooler Received/Opened On 12/05/2008 @ 0800

1. Tracking # 0992 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 2.2 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO..NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? YES..NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) M

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES..NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO..NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES..NO...NA

18. Did you sign the custody papers in the appropriate place? YES..NO...NA

19. Were correct containers used for the analysis requested? YES..NO...NA

20. Was sufficient amount of sample sent in each container? YES..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50592

THE LEADER IN ENVIRONMENTAL TESTING
2900 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NRL0511
12/19/08 23:59

Page 1 of 1

50593

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Bric
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	Total organic halides				RUSH TAT (Pre Schedule) *
MW-BGC-9B	12-4-08	1240	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X	NRL0511			-01
MW-BGC-9A	12-4-08	1335	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X				02
MW-BGC-10B	12-4-08	1405	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X				03
MW-BGC-10A	12-4-08	1500	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X				04

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
~~Na~~ Antimony Thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	12-4-08	1200						
Shipped Via:			Shipped Via:					
Received for TestAmerica by:	Date: 12-9-08	Time: 0900	Temperature Upon Receipt: 2.2	Sample Containers Intact? Y N VOCs Free of Headspace? Y N				

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 29, 2008 12:37:38PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRL0495
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 12/05/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-11A	NRL0495-01	12/04/08 11:15
MW-BGC-11B	NRL0495-02	12/04/08 10:15
MW-BGC-8A	NRL0495-03	12/04/08 11:15
MW-BGC-5B	NRL0495-04	12/04/08 13:15

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:
This is a Final Report.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0495-01 (MW-BGC-11A - Water) Sampled: 12/04/08 11:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**115**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**120**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 00:18	EPA 300.1	8121037
Chloride	**82.6**		mg/L	5.00	10.0	10	12/07/08 01:52	EPA 300.0	8121037
Fluoride	**0.356**		mg/L	0.0500	0.100	1	12/06/08 00:18	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 00:18	EPA 300.0	8121037
Phosphorus	**0.0730**	J	mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**90.7**		mg/L	5.00	10.0	10	12/07/08 01:52	EPA 300.0	8121037
Total Dissolved Solids	**387**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**2.81**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.0643**	J	mg/L	0.0180	0.100	1	12/09/08 13:29	SW846 6010B	8120068
Antimony	**0.00790**	B, J	mg/L	0.00380	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Barium	**0.0360**		mg/L	0.00150	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:29	SW846 6010B	8120068
Boron	**0.0527**	B1	mg/L	0.00200	0.0500	1	12/09/08 13:29	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:29	SW846 6010B	8120068
Calcium	**64.0**		mg/L	0.100	1.00	1	12/09/08 13:29	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 13:29	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 13:29	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Iron	**3.87**		mg/L	0.0280	0.0500	1	12/09/08 13:29	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:29	SW846 6010B	8120068
Magnesium	**24.7**		mg/L	0.100	1.00	1	12/09/08 13:29	SW846 6010B	8120068
Manganese	**0.117**		mg/L	0.00100	0.0150	1	12/09/08 13:29	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 13:29	SW846 6010B	8120068
Nickel	ND		mg/L	0.00240	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Potassium	**4.18**		mg/L	0.200	1.00	1	12/09/08 13:29	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:29	SW846 6010B	8120068
Sodium	**28.6**		mg/L	0.500	1.00	1	12/09/08 13:29	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:29	SW846 6010B	8120068
Vanadium	ND		mg/L	0.00150	0.0200	1	12/09/08 13:29	SW846 6010B	8120068
Zinc	**0.0137**	J	mg/L	0.0100	0.0500	1	12/09/08 13:29	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:05	SW846 7470A	8121170

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0495-02 (MW-BGC-11B - Water) Sampled: 12/04/08 10:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**176**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**175**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 00:55	EPA 300.1	8121037
Chloride	**66.8**		mg/L	5.00	10.0	10	12/07/08 02:29	EPA 300.0	8121037
Fluoride	**0.384**		mg/L	0.0500	0.100	1	12/06/08 00:55	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 00:55	EPA 300.0	8121037
Phosphorus	**0.101**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**50.0**		mg/L	1.00	2.00	2	12/07/08 02:47	EPA 300.0	8121037
Total Dissolved Solids	**372**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**2.61**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	**0.0925**		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.698**		mg/L	0.0180	0.100	1	12/09/08 13:32	SW846 6010B	8120068
Antimony	**0.00400**	J, B	mg/L	0.00380	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Barium	**0.0385**		mg/L	0.00150	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:32	SW846 6010B	8120068
Boron	**0.120**	B1	mg/L	0.00200	0.0500	1	12/09/08 13:32	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:32	SW846 6010B	8120068
Calcium	**37.2**		mg/L	0.100	1.00	1	12/09/08 13:32	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 13:32	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 13:32	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Iron	**1.79**		mg/L	0.0280	0.0500	1	12/09/08 13:32	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:32	SW846 6010B	8120068
Magnesium	**19.6**		mg/L	0.100	1.00	1	12/09/08 13:32	SW846 6010B	8120068
Manganese	**0.141**		mg/L	0.00100	0.0150	1	12/09/08 13:32	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 13:32	SW846 6010B	8120068
Nickel	ND		mg/L	0.00240	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Potassium	**16.0**		mg/L	0.200	1.00	1	12/09/08 13:32	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:32	SW846 6010B	8120068
Sodium	**56.8**		mg/L	0.500	1.00	1	12/09/08 13:32	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:32	SW846 6010B	8120068
Vanadium	ND		mg/L	0.00150	0.0200	1	12/09/08 13:32	SW846 6010B	8120068
Zinc	**0.0143**	J	mg/L	0.0100	0.0500	1	12/09/08 13:32	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:11	SW846 7470A	8121170

TestAmerica
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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0495-03 (MW-BGC-8A - Water) Sampled: 12/04/08 11:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 01:13	EPA 300.1	8121037
Chloride	**13.7**		mg/L	1.00	2.00	2	12/07/08 03:24	EPA 300.0	8121037
Fluoride	**0.171**		mg/L	0.0500	0.100	1	12/06/08 01:13	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 01:13	EPA 300.0	8121037
Phosphorus	ND		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**1050**		mg/L	50.0	100	100	12/07/08 03:06	EPA 300.0	8121037
Total Dissolved Solids	**1620**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**11.9**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**109**		mg/L	0.0180	0.100	1	12/09/08 13:36	SW846 6010B	8120068
Antimony	**0.00960**	J, B	mg/L	0.00380	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Barium	**0.0289**		mg/L	0.00150	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Beryllium	**0.0149**		mg/L	0.00100	0.00400	1	12/09/08 13:36	SW846 6010B	8120068
Boron	**0.0573**	B1	mg/L	0.00200	0.0500	1	12/09/08 13:36	SW846 6010B	8120068
Cadmium	**0.00180**		mg/L	0.000500	0.00100	1	12/09/08 13:36	SW846 6010B	8120068
Calcium	**56.6**		mg/L	0.100	1.00	1	12/09/08 13:36	SW846 6010B	8120068
Chromium	**0.00830**		mg/L	0.00150	0.00500	1	12/09/08 13:36	SW846 6010B	8120068
Cobalt	**0.790**		mg/L	0.00200	0.0200	1	12/09/08 13:36	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Iron	**169**		mg/L	0.0280	0.0500	1	12/09/08 13:36	SW846 6010B	8120068
Lead	**0.00310**	J	mg/L	0.00280	0.00500	1	12/09/08 13:36	SW846 6010B	8120068
Magnesium	**15.8**		mg/L	0.100	1.00	1	12/09/08 13:36	SW846 6010B	8120068
Manganese	**2.26**		mg/L	0.00100	0.0150	1	12/09/08 13:36	SW846 6010B	8120068
Molybdenum	**0.00930**	J	mg/L	0.00900	0.0500	1	12/09/08 13:36	SW846 6010B	8120068
Nickel	**0.825**		mg/L	0.00240	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Potassium	**9.43**		mg/L	0.200	1.00	1	12/09/08 13:36	SW846 6010B	8120068
Selenium	**0.00690**	J	mg/L	0.00430	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:36	SW846 6010B	8120068
Sodium	**16.6**		mg/L	0.500	1.00	1	12/09/08 13:36	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:36	SW846 6010B	8120068
Vanadium	**0.0323**		mg/L	0.00150	0.0200	1	12/09/08 13:36	SW846 6010B	8120068
Zinc	**1.03**		mg/L	0.0100	0.0500	1	12/09/08 13:36	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:13	SW846 7470A	8121170

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0495-04 (MW-BGC-5B - Water) Sampled: 12/04/08 13:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**86.3**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**88.7**		mg/L	5.00	10.0	1	12/05/08 19:46	SM 2320B	8121074
Bromide	ND		mg/L	0.500	1.00	1	12/06/08 01:32	EPA 300.1	8121037
Chloride	**29.6**		mg/L	5.00	10.0	10	12/07/08 04:19	EPA 300.0	8121037
Fluoride	**0.424**		mg/L	0.0500	0.100	1	12/06/08 01:32	EPA 300.0	8121037
Nitrate as N	ND		mg/L	0.0500	0.100	1	12/06/08 01:32	EPA 300.0	8121037
Phosphorus	**0.137**		mg/L	0.0450	0.100	1	12/18/08 13:13	EPA 365.4	8122438
Sulfate	**120**		mg/L	2.50	5.00	5	12/07/08 04:38	EPA 300.0	8121037
Total Dissolved Solids	**217**		mg/L	5.00	10.0	1	12/05/08 15:07	SM2540 C	8120970
Total Organic Carbon	**2.19**		mg/L	0.500	1.00	1	12/08/08 10:27	SW846 9060A	8120944
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.127**		mg/L	0.0180	0.100	1	12/09/08 13:53	SW846 6010B	8120068
Antimony	**0.00490**	J, B	mg/L	0.00380	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Barium	**0.0224**		mg/L	0.00150	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:53	SW846 6010B	8120068
Boron	**0.0939**	B1	mg/L	0.00200	0.0500	1	12/09/08 13:53	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:53	SW846 6010B	8120068
Calcium	**28.6**		mg/L	0.100	1.00	1	12/09/08 13:53	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 13:53	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 13:53	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Iron	**0.580**		mg/L	0.0280	0.0500	1	12/09/08 13:53	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:53	SW846 6010B	8120068
Magnesium	**10.1**		mg/L	0.100	1.00	1	12/09/08 13:53	SW846 6010B	8120068
Manganese	**0.0549**		mg/L	0.00100	0.0150	1	12/09/08 13:53	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 13:53	SW846 6010B	8120068
Nickel	ND		mg/L	0.00240	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Potassium	**7.35**		mg/L	0.200	1.00	1	12/09/08 13:53	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:53	SW846 6010B	8120068
Sodium	**26.2**		mg/L	0.500	1.00	1	12/09/08 13:53	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:53	SW846 6010B	8120068
Vanadium	ND		mg/L	0.00150	0.0200	1	12/09/08 13:53	SW846 6010B	8120068
Zinc	**0.0119**	J	mg/L	0.0100	0.0500	1	12/09/08 13:53	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/09/08 11:15	SW846 7470A	8121170

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8121170	NRL0495-01	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0495-02	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0495-03	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
SW846 7470A	8121170	NRL0495-04	30.00	30.00	12/08/08 08:14	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0495-04	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010

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	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8120944-BLK1						
Total Organic Carbon	<0.500		mg/L	8120944	8120944-BLK1	12/08/08 10:27
8120970-BLK1						
Total Dissolved Solids	<5.00		mg/L	8120970	8120970-BLK1	12/05/08 15:07
8121037-BLK1						
Bromide	<0.500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Chloride	<0.500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Fluoride	<0.0500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Nitrate as N	<0.0500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
Sulfate	<0.500		mg/L	8121037	8121037-BLK1	12/05/08 19:42
8121074-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8121074	8121074-BLK1	12/05/08 19:46
8121175-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8121175	8121175-BLK1	12/08/08 11:57
8122438-BLK1						
Phosphorus	<0.0450		mg/L	8122438	8122438-BLK1	12/18/08 13:13
8122473-BLK1						
Total Organic Halides	<0.0270		mg/L	8122473	8122473-BLK1	12/18/08 12:27
Total Metals by EPA Method 6010B						
8120068-BLK1						
Aluminum	<0.0180		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Antimony	0.00750	J	mg/L	8120068	8120068-BLK1	12/09/08 12:45
Arsenic	<0.00450		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Barium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Beryllium	<0.00100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Boron	0.00280	J	mg/L	8120068	8120068-BLK1	12/09/08 12:45
Cadmium	<0.000500		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Calcium	<0.100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Chromium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Cobalt	<0.00200		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Copper	<0.00350		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Iron	<0.0280		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Lead	<0.00280		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Magnesium	<0.100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Manganese	<0.00100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Molybdenum	<0.00900		mg/L	8120068	8120068-BLK1	12/09/08 12:45

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8120068-BLK1						
Nickel	<0.00240		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Potassium	<0.200		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Selenium	<0.00430		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Silver	<0.00160		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Sodium	<0.500		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Thallium	<0.00750		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Vanadium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Zinc	<0.0100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Mercury by EPA Methods 7470A/7471A						
8121170-BLK1						
Mercury	<0.000150		mg/L	8121170	8121170-BLK1	12/09/08 10:58

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8120944-DUP1									
Total Organic Carbon	6.62	6.12		mg/L	8	20	8120944	NRL0471-06	12/08/08 10:27
8120944-DUP2									
Total Organic Carbon	5.22	5.08		mg/L	3	20	8120944	NRL0511-04	12/08/08 10:27
8120970-DUP1									
Total Dissolved Solids	387	389		mg/L	0.5	20	8120970	NRL0495-01	12/05/08 15:07
8120970-DUP2									
Total Dissolved Solids	227	207		mg/L	9	20	8120970	NRL0511-01	12/05/08 15:07
8121037-DUP1									
Bromide	ND	<0.500		mg/L		20	8121037	NRL0495-01	12/06/08 00:36
Chloride	82.6	82.9		mg/L	0.3	20	8121037	NRL0495-01	12/07/08 02:10
Fluoride	0.356	0.351		mg/L	1	19	8121037	NRL0495-01	12/06/08 00:36
Nitrate as N	ND	<0.0500		mg/L		20	8121037	NRL0495-01	12/06/08 00:36
Sulfate	90.7	90.5		mg/L	0.2	20	8121037	NRL0495-01	12/07/08 02:10
8121074-DUP1									
Bicarbonate Alkalinity as CaCO3	120	116		mg/L	3	20	8121074	NRL0495-01	12/05/08 19:46
8121175-DUP1									
Alkalinity, Total (CaCO3)	104	106		mg/L	2	20	8121175	NRL0511-04	12/08/08 11:57
8122438-DUP1									
Phosphorus	0.587	0.560		mg/L	5	20	8122438	NRL0511-04	12/18/08 13:13
8122473-DUP1									
Total Organic Halides	0.0325	0.0297	J	mg/L	9	50	8122473	NRL0195-01	12/18/08 12:27
8122473-DUP2									
Total Organic Halides	0.0925	0.0840		mg/L	10	50	8122473	NRL0495-02	12/18/08 12:27

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8120944-BS1								
Total Organic Carbon	200	181		ug/mL	90%	90 - 110	8120944	12/08/08 10:27
8120970-BS1								
Total Dissolved Solids	100	101		ug/mL	101%	90 - 110	8120970	12/05/08 15:07
8121037-BS1								
Bromide	10.0	10.2		mg/L	102%	90 - 110	8121037	12/05/08 20:00
Chloride	3.00	3.08	MNR	mg/L	103%	90 - 110	8121037	12/05/08 20:00
Fluoride	2.00	2.18		mg/L	109%	90 - 110	8121037	12/05/08 20:00
Nitrate as N	3.00	3.12		mg/L	104%	90 - 110	8121037	12/05/08 20:00
Sulfate	15.0	15.2	MNR	mg/L	101%	90 - 110	8121037	12/05/08 20:00
8121175-BS1								
Alkalinity, Total (CaCO3)	100	101		ug/mL	101%	90 - 110	8121175	12/08/08 11:57
8122438-BS1								
Phosphorus	2.00	2.12		mg/L	106%	90 - 110	8122438	12/18/08 13:13
8122473-BS1								
Total Organic Halides	0.250	0.248		mg/L	99%	90 - 130	8122473	12/18/08 12:27
Total Metals by EPA Method 6010B								
8120068-BS1								
Aluminum	2.00	1.92		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Antimony	0.100	0.120		mg/L	120%	80 - 120	8120068	12/09/08 13:01
Arsenic	0.0500	0.0469		mg/L	94%	80 - 120	8120068	12/09/08 13:01
Barium	2.00	2.05		mg/L	102%	80 - 120	8120068	12/09/08 13:01
Beryllium	0.0500	0.0523		mg/L	105%	80 - 120	8120068	12/09/08 13:01
Boron	1.00	0.998		mg/L	100%	80 - 120	8120068	12/09/08 13:01
Cadmium	0.0500	0.0497		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Calcium	5.00	4.84		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Chromium	0.200	0.203		mg/L	102%	80 - 120	8120068	12/09/08 13:01
Cobalt	0.500	0.506		mg/L	101%	80 - 120	8120068	12/09/08 13:01
Copper	0.250	0.244		mg/L	98%	80 - 120	8120068	12/09/08 13:01
Iron	1.00	0.955		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Lead	0.0500	0.0482		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Magnesium	5.00	4.86		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Manganese	0.500	0.496		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Molybdenum	0.500	0.486		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Nickel	0.500	0.485		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Potassium	5.00	4.38		mg/L	88%	80 - 120	8120068	12/09/08 13:01
Selenium	0.0500	0.0495		mg/L	99%	80 - 120	8120068	12/09/08 13:01

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8120068-BS1								
Silver	0.0500	0.0517		mg/L	103%	80 - 120	8120068	12/09/08 13:01
Sodium	5.00	4.57		mg/L	91%	80 - 120	8120068	12/09/08 13:01
Thallium	0.0500	0.0499		mg/L	100%	80 - 120	8120068	12/09/08 13:01
Vanadium	0.500	0.493		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Zinc	0.500	0.481		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Mercury by EPA Methods 7470A/7471A								
8121170-BS1								
Mercury	0.00100	0.00110		mg/L	110%	78 - 124	8121170	12/09/08 11:01

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8122473-BSD1												
Total Organic Halides		0.248		mg/L	0.250	99%	90 - 130	0.2	50	8122473		12/18/08 12:27
Mercury by EPA Methods 7470A/7471A												
8121170-BSD1												
Mercury		0.00108		mg/L	0.00100	108%	78 - 124	2	22	8121170		12/09/08 11:03

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0495
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8120944-MS1										
Total Organic Carbon	2.81	26.9		ug/mL	20.0	121%	79 - 130	8120944	NRL0495-01	12/08/08 10:27
8121037-MS1										
Bromide	ND	9.81		mg/L	10.0	98%	90 - 110	8121037	NRL0414-01	12/05/08 20:37
Fluoride	0.356	2.32		mg/L	2.00	98%	80 - 120	8121037	NRL0414-01	12/05/08 20:37
Nitrate as N	ND	2.93		mg/L	3.00	98%	80 - 120	8121037	NRL0414-01	12/05/08 20:37
8121175-MS1										
Alkalinity, Total (CaCO3)	148	224	M8	ug/mL	100	76%	80 - 120	8121175	NRL0511-01	12/08/08 11:57
8122438-MS1										
Phosphorus	1.03	4.52		mg/L	4.00	87%	76 - 112	8122438	NRL0590-01	12/18/08 13:13
8122473-MS1										
Total Organic Halides	0.0325	0.124		mg/L	0.100	91%	74 - 131	8122473	NRL0195-01	12/18/08 12:27
Total Metals by EPA Method 6010B										
8120068-MS1										
Aluminum	ND	1.91		mg/L	2.00	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Antimony	0.00750	0.118		mg/L	0.100	110%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Arsenic	ND	0.0493		mg/L	0.0500	99%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Barium	0.0611	2.03		mg/L	2.00	99%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Beryllium	ND	0.0504		mg/L	0.0500	101%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Boron	0.0204	0.935		mg/L	1.00	91%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Cadmium	ND	0.0474		mg/L	0.0500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Chromium	0.00300	0.195		mg/L	0.200	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Cobalt	ND	0.482		mg/L	0.500	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Copper	0.0124	0.244		mg/L	0.250	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Iron	ND	0.935		mg/L	1.00	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Lead	ND	0.0485		mg/L	0.0500	97%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Manganese	ND	0.472		mg/L	0.500	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Nickel	ND	0.463		mg/L	0.500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Selenium	0.00520	0.0516		mg/L	0.0500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Silver	0.00190	0.0492		mg/L	0.0500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Thallium	ND	0.0499		mg/L	0.0500	100%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Vanadium	ND	0.473		mg/L	0.500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Zinc	0.0127	0.476		mg/L	0.500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A										
8121170-MS1										
Mercury	ND	0.00114		mg/L	0.00100	114%	63 - 138	8121170	NRL0495-01	12/09/08 11:07

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Attn	Luke Clark	Received:	12/05/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8120944-MSD1												
Total Organic Carbon	2.81	27.0		ug/mL	20.0	121%	79 - 130	0.1	20	8120944	NRL0495-01	12/08/08 10:27
8121037-MSD1												
Bromide	ND	10.0		mg/L	10.0	100%	90 - 110	2	20	8121037	NRL0414-01	12/05/08 20:56
Fluoride	0.356	2.37		mg/L	2.00	101%	80 - 120	2	19	8121037	NRL0414-01	12/05/08 20:56
Nitrate as N	ND	2.98		mg/L	3.00	99%	80 - 120	2	20	8121037	NRL0414-01	12/05/08 20:56
8122438-MSD1												
Phosphorus	1.03	5.53	M7	mg/L	4.00	113%	76 - 112	20	20	8122438	NRL0590-01	12/18/08 13:13
8122473-MSD1												
Total Organic Halides	0.0325	0.115		mg/L	0.100	82%	74 - 131	7	50	8122473	NRL0195-01	12/18/08 12:27
Total Metals by EPA Method 6010B												
8120068-MSD1												
Aluminum	ND	2.03		mg/L	2.00	101%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Antimony	0.00750	0.108		mg/L	0.100	100%	75 - 125	9	20	8120068	NRK2580-04	12/09/08 13:14
Arsenic	ND	0.0478		mg/L	0.0500	96%	75 - 125	3	20	8120068	NRK2580-04	12/09/08 13:14
Barium	0.0611	2.15		mg/L	2.00	105%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Beryllium	ND	0.0524		mg/L	0.0500	105%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Boron	0.0204	1.02		mg/L	1.00	100%	75 - 125	9	20	8120068	NRK2580-04	12/09/08 13:14
Cadmium	ND	0.0494		mg/L	0.0500	99%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Chromium	0.00300	0.202		mg/L	0.200	100%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Cobalt	ND	0.511		mg/L	0.500	102%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Copper	0.0124	0.262		mg/L	0.250	100%	75 - 125	7	20	8120068	NRK2580-04	12/09/08 13:14
Iron	ND	0.968		mg/L	1.00	97%	75 - 125	3	20	8120068	NRK2580-04	12/09/08 13:14
Lead	ND	0.0476		mg/L	0.0500	95%	75 - 125	2	20	8120068	NRK2580-04	12/09/08 13:14
Manganese	ND	0.505		mg/L	0.500	101%	75 - 125	7	20	8120068	NRK2580-04	12/09/08 13:14
Molybdenum	ND	0.495		mg/L	0.500	99%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Nickel	ND	0.492		mg/L	0.500	98%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Selenium	0.00520	0.0528		mg/L	0.0500	95%	75 - 125	2	20	8120068	NRK2580-04	12/09/08 13:14
Silver	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8120068	NRK2580-04	12/09/08 13:14
Thallium	ND	0.0451		mg/L	0.0500	90%	75 - 125	10	20	8120068	NRK2580-04	12/09/08 13:14
Vanadium	ND	0.498		mg/L	0.500	100%	75 - 125	5	20	8120068	NRK2580-04	12/09/08 13:14
Zinc	0.0127	0.514		mg/L	0.500	100%	75 - 125	8	20	8120068	NRK2580-04	12/09/08 13:14
Mercury by EPA Methods 7470A/7471A												
8121170-MSD1												
Mercury	ND	0.00109		mg/L	0.00100	109%	63 - 138	4	22	8121170	NRL0495-01	12/09/08 11:09

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0495
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/05/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

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Attn	Luke Clark	Received:	12/05/08 08:00

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIP

NRL0495

Cooler Received/Opened On 12 / 05/ 08 @ 8:00

1. Tracking # 1186 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 90942856

2. Temperature of rep. sample or temp blank when opened: 0.8 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50613

THE LEADER IN ENVIRONMENTAL TESTING

2900 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 /(615) 726-0177 Fax:(615) 726-3404

NRL0495
12/19/08 23:59

Page ____ of ____

50614

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Ben Grosser
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	Total Antimony				RUSH TAT (Pre Schedule) *
MW-BGC-11A	12/4/08	11:15	6	X					1		1	X	2	X	X						X	X	X	X	X		X	X	X	X	X	X	X	NRL0495			01
MW-BGC-11B	12/4/08	10:15	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X				02
MW-BGC-8A	12/4/08	11:15	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X				03
MW-BGC-5B	12/4/08	13:15	6	X					1		1		2	2	X						X	X	X	X	X		X	X	X	X	X	X	X				04

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn
Antimony Thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	12/4/08	1430						

Shipped Via:
Received for TestAmerica by: Date: 12-5-08 Time: 0900
Temperature Upon Receipt: 0.8c
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)
Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 29, 2008 12:30:43PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRL0195
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 12/03/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-5A	NRL0195-01	12/02/08 09:20
MW-BGC-7A	NRL0195-02	12/02/08 13:10
MW-BGC-7B	NRL0195-03	12/02/08 12:20

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:
This is a Final Report.
At the request of the consultant, dissolved metals were not analyzed for these samples.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

50615

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0195-01 (MW-BGC-5A - Water) Sampled: 12/02/08 09:20									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**102**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**105**		mg/L	5.00	10.0	1	12/03/08 20:20	SM 2320B	8120554
Bromide	**0.738**	J	mg/L	0.500	1.00	1	12/13/08 01:15	EPA 300.1	8120504
Chloride	**65.6**		mg/L	10.0	20.0	20	12/14/08 08:45	EPA 300.0	8120504
Fluoride	**0.329**		mg/L	0.0500	0.100	1	12/13/08 01:15	EPA 300.0	8120504
Nitrate as N	**0.0620**	H2, J	mg/L	0.0500	0.100	1	12/13/08 01:15	EPA 300.0	8122371
Phosphorus	ND		mg/L	0.0450	0.100	1	12/12/08 12:17	EPA 365.4	8121834
Sulfate	**65.6**		mg/L	10.0	20.0	20	12/14/08 08:45	EPA 300.0	8120504
Total Dissolved Solids	**300**		mg/L	10.0	20.0	1	12/03/08 20:27	SM2540 C	8120497
Total Organic Carbon	**3.98**		mg/L	0.500	1.00	1	12/04/08 13:00	SW846 9060A	8120736
Total Organic Halides	**0.0325**		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.225**		mg/L	0.0180	0.100	1	12/09/08 13:17	SW846 6010B	8120068
Antimony	**0.00570**	B, J	mg/L	0.00380	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Barium	**0.0664**		mg/L	0.00150	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:17	SW846 6010B	8120068
Boron	**0.0724**	B1	mg/L	0.00200	0.0500	1	12/09/08 13:17	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:17	SW846 6010B	8120068
Calcium	**53.3**		mg/L	0.100	1.00	1	12/09/08 13:17	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 13:17	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 13:17	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Iron	**4.43**		mg/L	0.0280	0.0500	1	12/09/08 13:17	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:17	SW846 6010B	8120068
Magnesium	**19.2**		mg/L	0.100	1.00	1	12/09/08 13:17	SW846 6010B	8120068
Manganese	**0.285**		mg/L	0.00100	0.0150	1	12/09/08 13:17	SW846 6010B	8120068
Molybdenum	**0.00910**	J	mg/L	0.00900	0.0500	1	12/09/08 13:17	SW846 6010B	8120068
Nickel	**0.00300**	J	mg/L	0.00240	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Potassium	**4.59**		mg/L	0.200	1.00	1	12/09/08 13:17	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Silver	**0.00190**	J	mg/L	0.00160	0.00500	1	12/09/08 13:17	SW846 6010B	8120068
Sodium	**27.7**		mg/L	0.500	1.00	1	12/09/08 13:17	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:17	SW846 6010B	8120068
Vanadium	ND		mg/L	0.00150	0.0200	1	12/09/08 13:17	SW846 6010B	8120068
Zinc	**0.0207**	J	mg/L	0.0100	0.0500	1	12/09/08 13:17	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/04/08 19:07	SW846 7470A	8120683

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0195-02 (MW-BGC-7A - Water) Sampled: 12/02/08 13:10									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**27.7**		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**30.3**		mg/L	5.00	10.0	1	12/03/08 20:20	SM 2320B	8120554
Bromide	ND		mg/L	0.500	1.00	1	12/13/08 02:11	EPA 300.1	8120504
Chloride	**14.4**		mg/L	2.50	5.00	5	12/14/08 09:03	EPA 300.0	8120504
Fluoride	**0.183**		mg/L	0.0500	0.100	1	12/13/08 02:11	EPA 300.0	8120504
Nitrate as N	**0.109**	H2	mg/L	0.0500	0.100	1	12/13/08 02:11	EPA 300.0	8122371
Phosphorus	ND		mg/L	0.0450	0.100	1	12/12/08 12:17	EPA 365.4	8121834
Sulfate	**12.7**		mg/L	0.500	1.00	1	12/13/08 02:11	EPA 300.0	8120504
Total Dissolved Solids	**70.0**		mg/L	10.0	20.0	1	12/03/08 20:27	SM2540 C	8120497
Total Organic Carbon	**2.91**		mg/L	0.500	1.00	1	12/04/08 13:00	SW846 9060A	8120736
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.747**		mg/L	0.0180	0.100	1	12/09/08 13:21	SW846 6010B	8120068
Antimony	**0.00630**	B, J	mg/L	0.00380	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Arsenic	ND		mg/L	0.00450	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Barium	**0.0252**		mg/L	0.00150	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:21	SW846 6010B	8120068
Boron	**0.0218**	B, J	mg/L	0.00200	0.0500	1	12/09/08 13:21	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:21	SW846 6010B	8120068
Calcium	**8.76**		mg/L	0.100	1.00	1	12/09/08 13:21	SW846 6010B	8120068
Chromium	**0.00180**	J	mg/L	0.00150	0.00500	1	12/09/08 13:21	SW846 6010B	8120068
Cobalt	ND		mg/L	0.00200	0.0200	1	12/09/08 13:21	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Iron	**3.69**		mg/L	0.0280	0.0500	1	12/09/08 13:21	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:21	SW846 6010B	8120068
Magnesium	**3.05**		mg/L	0.100	1.00	1	12/09/08 13:21	SW846 6010B	8120068
Manganese	**0.156**		mg/L	0.00100	0.0150	1	12/09/08 13:21	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 13:21	SW846 6010B	8120068
Nickel	**0.00290**	J	mg/L	0.00240	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Potassium	**1.20**		mg/L	0.200	1.00	1	12/09/08 13:21	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:21	SW846 6010B	8120068
Sodium	**12.1**		mg/L	0.500	1.00	1	12/09/08 13:21	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:21	SW846 6010B	8120068
Vanadium	**0.00180**	J	mg/L	0.00150	0.0200	1	12/09/08 13:21	SW846 6010B	8120068
Zinc	**0.0163**	J	mg/L	0.0100	0.0500	1	12/09/08 13:21	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/04/08 19:10	SW846 7470A	8120683

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL0195-03 (MW-BGC-7B - Water) Sampled: 12/02/08 12:20									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/08/08 11:57	SM2320 B	8121175
Bicarbonate Alkalinity as CaCO3	**9.40**	J	mg/L	5.00	10.0	1	12/03/08 20:20	SM 2320B	8120554
Bromide	ND		mg/L	0.500	1.00	1	12/13/08 02:29	EPA 300.1	8120504
Chloride	**14.0**		mg/L	1.00	2.00	2	12/14/08 09:22	EPA 300.0	8120504
Fluoride	**0.0870**	J	mg/L	0.0500	0.100	1	12/13/08 02:29	EPA 300.0	8120504
Nitrate as N	ND	H2	mg/L	0.0500	0.100	1	12/13/08 02:29	EPA 300.0	8122371
Phosphorus	**0.0550**	J	mg/L	0.0450	0.100	1	12/12/08 12:17	EPA 365.4	8121834
Sulfate	**41.8**		mg/L	1.00	2.00	2	12/14/08 09:22	EPA 300.0	8120504
Total Dissolved Solids	**58.0**		mg/L	10.0	20.0	1	12/03/08 20:27	SM2540 C	8120497
Total Organic Carbon	**3.13**		mg/L	0.500	1.00	1	12/04/08 13:00	SW846 9060A	8120736
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/18/08 12:27	SW846 9020B	8122473
Total Metals by EPA Method 6010B									
Aluminum	**0.318**		mg/L	0.0180	0.100	1	12/09/08 13:25	SW846 6010B	8120068
Antimony	**0.00700**	B, J	mg/L	0.00380	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Arsenic	**0.00560**	J	mg/L	0.00450	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Barium	**0.0836**		mg/L	0.00150	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Beryllium	ND		mg/L	0.00100	0.00400	1	12/09/08 13:25	SW846 6010B	8120068
Boron	**0.0233**	B, J	mg/L	0.00200	0.0500	1	12/09/08 13:25	SW846 6010B	8120068
Cadmium	ND		mg/L	0.000500	0.00100	1	12/09/08 13:25	SW846 6010B	8120068
Calcium	**11.4**		mg/L	0.100	1.00	1	12/09/08 13:25	SW846 6010B	8120068
Chromium	ND		mg/L	0.00150	0.00500	1	12/09/08 13:25	SW846 6010B	8120068
Cobalt	**0.00330**	J	mg/L	0.00200	0.0200	1	12/09/08 13:25	SW846 6010B	8120068
Copper	ND		mg/L	0.00350	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Iron	**4.51**		mg/L	0.0280	0.0500	1	12/09/08 13:25	SW846 6010B	8120068
Lead	ND		mg/L	0.00280	0.00500	1	12/09/08 13:25	SW846 6010B	8120068
Magnesium	**2.75**		mg/L	0.100	1.00	1	12/09/08 13:25	SW846 6010B	8120068
Manganese	**0.0282**		mg/L	0.00100	0.0150	1	12/09/08 13:25	SW846 6010B	8120068
Molybdenum	ND		mg/L	0.00900	0.0500	1	12/09/08 13:25	SW846 6010B	8120068
Nickel	**0.00460**	J	mg/L	0.00240	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Potassium	**3.31**		mg/L	0.200	1.00	1	12/09/08 13:25	SW846 6010B	8120068
Selenium	ND		mg/L	0.00430	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Silver	ND		mg/L	0.00160	0.00500	1	12/09/08 13:25	SW846 6010B	8120068
Sodium	**7.73**		mg/L	0.500	1.00	1	12/09/08 13:25	SW846 6010B	8120068
Thallium	ND		mg/L	0.00750	0.0100	1	12/09/08 13:25	SW846 6010B	8120068
Vanadium	**0.00170**	J	mg/L	0.00150	0.0200	1	12/09/08 13:25	SW846 6010B	8120068
Zinc	**0.0184**	J	mg/L	0.0100	0.0500	1	12/09/08 13:25	SW846 6010B	8120068
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/04/08 19:14	SW846 7470A	8120683

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8120683	NRL0195-01	30.00	30.00	12/04/08 09:35	JMR	EPA 7470
SW846 7470A	8120683	NRL0195-02	30.00	30.00	12/04/08 09:35	JMR	EPA 7470
SW846 7470A	8120683	NRL0195-03	30.00	30.00	12/04/08 09:35	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-01	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-02	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010
SW846 6010B	8120068	NRL0195-03	50.00	50.00	12/05/08 13:11	LTB	EPA 3010A / 6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8120497-BLK1						
Total Dissolved Solids	<5.00		mg/L	8120497	8120497-BLK1	12/03/08 20:27
8120504-BLK1						
Bromide	<0.500		mg/L	8120504	8120504-BLK1	12/13/08 00:39
Chloride	<0.500		mg/L	8120504	8120504-BLK1	12/14/08 06:18
Fluoride	<0.0500		mg/L	8120504	8120504-BLK1	12/13/08 00:39
Nitrate as N	<0.0500		mg/L	8120504	8120504-BLK1	12/03/08 15:51
Sulfate	<0.500		mg/L	8120504	8120504-BLK1	12/13/08 00:39
8120554-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8120554	8120554-BLK1	12/03/08 20:20
8120736-BLK1						
Total Organic Carbon	<0.500		mg/L	8120736	8120736-BLK1	12/04/08 13:00
8121175-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8121175	8121175-BLK1	12/08/08 11:57
8121834-BLK1						
Phosphorus	<0.0450		mg/L	8121834	8121834-BLK1	12/12/08 12:17
8122371-BLK1						
Nitrate as N	<0.0500		mg/L	8122371	8122371-BLK1	12/11/08 03:01
8122473-BLK1						
Total Organic Halides	<0.0270		mg/L	8122473	8122473-BLK1	12/18/08 12:27
Total Metals by EPA Method 6010B						
8120068-BLK1						
Aluminum	<0.0180		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Antimony	0.00750	J	mg/L	8120068	8120068-BLK1	12/09/08 12:45
Arsenic	<0.00450		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Barium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Beryllium	<0.00100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Boron	0.00280	J	mg/L	8120068	8120068-BLK1	12/09/08 12:45
Cadmium	<0.000500		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Calcium	<0.100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Chromium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Cobalt	<0.00200		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Copper	<0.00350		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Iron	<0.0280		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Lead	<0.00280		mg/L	8120068	8120068-BLK1	12/09/08 12:45

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8120068-BLK1						
Magnesium	<0.100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Manganese	<0.00100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Molybdenum	<0.00900		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Nickel	<0.00240		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Potassium	<0.200		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Selenium	<0.00430		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Silver	<0.00160		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Sodium	<0.500		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Thallium	<0.00750		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Vanadium	<0.00150		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Zinc	<0.0100		mg/L	8120068	8120068-BLK1	12/09/08 12:45
Mercury by EPA Methods 7470A/7471A						
8120683-BLK1						
Mercury	<0.000150		mg/L	8120683	8120683-BLK1	12/04/08 18:21

TestAmerica
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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0195
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8120497-DUP1									
Total Dissolved Solids	1200	1220		mg/L	2	20	8120497	NRL0175-02	12/03/08 20:27
8120497-DUP2									
Total Dissolved Solids	300	324		mg/L	8	20	8120497	NRL0195-01	12/03/08 20:27
8120504-DUP1									
Bromide	ND	<0.500		mg/L		20	8120504	NRL0195-03	12/13/08 02:47
Chloride	14.0	14.0		mg/L	0.03	20	8120504	NRL0195-03	12/14/08 09:40
Fluoride	0.0870	0.0820	J	mg/L	6	19	8120504	NRL0195-03	12/13/08 02:47
Sulfate	41.8	41.9		mg/L	0.01	20	8120504	NRL0195-03	12/14/08 09:40
8120554-DUP1									
Bicarbonate Alkalinity as CaCO3	105	102		mg/L	3	20	8120554	NRL0195-01	12/03/08 20:20
8120736-DUP1									
Total Organic Carbon	3.13	3.16		mg/L	1	20	8120736	NRL0195-03	12/04/08 13:00
8120736-DUP2									
Total Organic Carbon	7.30	7.23		mg/L	1	20	8120736	NRL0352-05	12/04/08 13:00
8121175-DUP1									
Alkalinity, Total (CaCO3)	104	106		mg/L	2	20	8121175	NRL0511-04	12/08/08 11:57
8121834-DUP1									
Phosphorus	0.0550	<0.0450		mg/L		20	8121834	NRL0195-03	12/12/08 12:17
8122371-DUP1									
Nitrate as N	ND	<0.0500	H2	mg/L		20	8122371	NRL0195-03RE1	12/13/08 02:47
8122473-DUP1									
Total Organic Halides	0.0325	0.0297	J	mg/L	9	50	8122473	NRL0195-01	12/18/08 12:27
8122473-DUP2									
Total Organic Halides	0.0925	0.0840		mg/L	10	50	8122473	NRL0495-02	12/18/08 12:27

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8120497-BS1								
Total Dissolved Solids	100	97.0		ug/mL	97%	90 - 110	8120497	12/03/08 20:27
8120504-BS1								
Bromide	10.0	10.2		mg/L	102%	90 - 110	8120504	12/13/08 00:57
Chloride	3.00	3.01	MNR	mg/L	100%	90 - 110	8120504	12/14/08 06:36
Fluoride	2.00	2.02		mg/L	101%	90 - 110	8120504	12/13/08 00:57
Nitrate as N	3.00	3.05	MNR	mg/L	102%	90 - 110	8120504	12/03/08 16:09
Sulfate	15.0	15.4	MNR	mg/L	103%	90 - 110	8120504	12/13/08 00:57
8120736-BS1								
Total Organic Carbon	200	180		ug/mL	90%	90 - 110	8120736	12/04/08 13:00
8121175-BS1								
Alkalinity, Total (CaCO3)	100	101		ug/mL	101%	90 - 110	8121175	12/08/08 11:57
8121834-BS1								
Phosphorus	2.00	2.17	MNR	mg/L	108%	90 - 110	8121834	12/12/08 12:17
8122371-BS1								
Nitrate as N	3.00	3.18		mg/L	106%	90 - 110	8122371	12/11/08 03:19
8122473-BS1								
Total Organic Halides	0.250	0.248		mg/L	99%	90 - 130	8122473	12/18/08 12:27
Total Metals by EPA Method 6010B								
8120068-BS1								
Aluminum	2.00	1.92		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Antimony	0.100	0.120		mg/L	120%	80 - 120	8120068	12/09/08 13:01
Arsenic	0.0500	0.0469		mg/L	94%	80 - 120	8120068	12/09/08 13:01
Barium	2.00	2.05		mg/L	102%	80 - 120	8120068	12/09/08 13:01
Beryllium	0.0500	0.0523		mg/L	105%	80 - 120	8120068	12/09/08 13:01
Boron	1.00	0.998		mg/L	100%	80 - 120	8120068	12/09/08 13:01
Cadmium	0.0500	0.0497		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Calcium	5.00	4.84		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Chromium	0.200	0.203		mg/L	102%	80 - 120	8120068	12/09/08 13:01
Cobalt	0.500	0.506		mg/L	101%	80 - 120	8120068	12/09/08 13:01
Copper	0.250	0.244		mg/L	98%	80 - 120	8120068	12/09/08 13:01
Iron	1.00	0.955		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Lead	0.0500	0.0482		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Magnesium	5.00	4.86		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Manganese	0.500	0.496		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Molybdenum	0.500	0.486		mg/L	97%	80 - 120	8120068	12/09/08 13:01

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8120068-BS1								
Nickel	0.500	0.485		mg/L	97%	80 - 120	8120068	12/09/08 13:01
Potassium	5.00	4.38		mg/L	88%	80 - 120	8120068	12/09/08 13:01
Selenium	0.0500	0.0495		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Silver	0.0500	0.0517		mg/L	103%	80 - 120	8120068	12/09/08 13:01
Sodium	5.00	4.57		mg/L	91%	80 - 120	8120068	12/09/08 13:01
Thallium	0.0500	0.0499		mg/L	100%	80 - 120	8120068	12/09/08 13:01
Vanadium	0.500	0.493		mg/L	99%	80 - 120	8120068	12/09/08 13:01
Zinc	0.500	0.481		mg/L	96%	80 - 120	8120068	12/09/08 13:01
Mercury by EPA Methods 7470A/7471A								
8120683-BS1								
Mercury	0.00100	0.000968		mg/L	97%	78 - 124	8120683	12/04/08 18:23

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8122473-BSD1												
Total Organic Halides		0.248		mg/L	0.250	99%	90 - 130	0.2	50	8122473		12/18/08 12:27
Mercury by EPA Methods 7470A/7471A												
8120683-BSD1												
Mercury		0.000783		mg/L	0.00100	78%	78 - 124	21	22	8120683		12/04/08 20:10

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRL0195
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8120504-MS1										
Bromide	0.738	10.5		mg/L	10.0	98%	90 - 110	8120504	NRL0195-01	12/13/08 01:34
Fluoride	0.329	2.24		mg/L	2.00	96%	80 - 120	8120504	NRL0195-01	12/13/08 01:34
8120736-MS1										
Total Organic Carbon	3.98	21.6		ug/mL	20.0	88%	79 - 130	8120736	NRL0195-01	12/04/08 13:00
8121175-MS1										
Alkalinity, Total (CaCO3)	148	224	M8	ug/mL	100	76%	80 - 120	8121175	NRL0511-01	12/08/08 11:57
8122371-MS1										
Nitrate as N	0.0620	3.07		mg/L	3.00	100%	80 - 120	8122371	NRL0195-01RE1	12/13/08 01:34
8122473-MS1										
Total Organic Halides	0.0325	0.124		mg/L	0.100	91%	74 - 131	8122473	NRL0195-01	12/18/08 12:27
Total Metals by EPA Method 6010B										
8120068-MS1										
Aluminum	ND	1.91		mg/L	2.00	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Antimony	0.00750	0.118		mg/L	0.100	110%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Arsenic	ND	0.0493		mg/L	0.0500	99%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Barium	0.0611	2.03		mg/L	2.00	99%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Beryllium	ND	0.0504		mg/L	0.0500	101%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Boron	0.0204	0.935		mg/L	1.00	91%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Cadmium	ND	0.0474		mg/L	0.0500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Chromium	0.00300	0.195		mg/L	0.200	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Cobalt	ND	0.482		mg/L	0.500	96%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Copper	0.0124	0.244		mg/L	0.250	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Iron	ND	0.935		mg/L	1.00	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Lead	ND	0.0485		mg/L	0.0500	97%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Manganese	ND	0.472		mg/L	0.500	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Nickel	ND	0.463		mg/L	0.500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Selenium	0.00520	0.0516		mg/L	0.0500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Silver	0.00190	0.0492		mg/L	0.0500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Thallium	ND	0.0499		mg/L	0.0500	100%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Vanadium	ND	0.473		mg/L	0.500	95%	75 - 125	8120068	NRK2580-04	12/09/08 13:10
Zinc	0.0127	0.476		mg/L	0.500	93%	75 - 125	8120068	NRK2580-04	12/09/08 13:10

Mercury by EPA Methods 7470A/7471A

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
8120683-MS1										
Mercury	0.000189	0.00111		mg/L	0.00100	92%	63 - 138	8120683	NRL0036-01	12/04/08 18:57

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8120504-MSD1												
Bromide	0.738	10.6		mg/L	10.0	98%	90 - 110	0.3	20	8120504	NRL0195-01	12/13/08 01:52
Fluoride	0.329	2.25		mg/L	2.00	96%	80 - 120	0.4	19	8120504	NRL0195-01	12/13/08 01:52
8120736-MSD1												
Total Organic Carbon	3.98	21.6		ug/mL	20.0	88%	79 - 130	0.2	20	8120736	NRL0195-01	12/04/08 13:00
8122371-MSD1												
Nitrate as N	0.0620	3.07		mg/L	3.00	100%	80 - 120	0.1	20	8122371	NRL0195-01RE1	12/13/08 01:52
8122473-MSD1												
Total Organic Halides	0.0325	0.115		mg/L	0.100	82%	74 - 131	7	50	8122473	NRL0195-01	12/18/08 12:27
Total Metals by EPA Method 6010B												
8120068-MSD1												
Aluminum	ND	2.03		mg/L	2.00	101%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Antimony	0.00750	0.108		mg/L	0.100	100%	75 - 125	9	20	8120068	NRK2580-04	12/09/08 13:14
Arsenic	ND	0.0478		mg/L	0.0500	96%	75 - 125	3	20	8120068	NRK2580-04	12/09/08 13:14
Barium	0.0611	2.15		mg/L	2.00	105%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Beryllium	ND	0.0524		mg/L	0.0500	105%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Boron	0.0204	1.02		mg/L	1.00	100%	75 - 125	9	20	8120068	NRK2580-04	12/09/08 13:14
Cadmium	ND	0.0494		mg/L	0.0500	99%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Chromium	0.00300	0.202		mg/L	0.200	100%	75 - 125	4	20	8120068	NRK2580-04	12/09/08 13:14
Cobalt	ND	0.511		mg/L	0.500	102%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Copper	0.0124	0.262		mg/L	0.250	100%	75 - 125	7	20	8120068	NRK2580-04	12/09/08 13:14
Iron	ND	0.968		mg/L	1.00	97%	75 - 125	3	20	8120068	NRK2580-04	12/09/08 13:14
Lead	ND	0.0476		mg/L	0.0500	95%	75 - 125	2	20	8120068	NRK2580-04	12/09/08 13:14
Manganese	ND	0.505		mg/L	0.500	101%	75 - 125	7	20	8120068	NRK2580-04	12/09/08 13:14
Molybdenum	ND	0.495		mg/L	0.500	99%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Nickel	ND	0.492		mg/L	0.500	98%	75 - 125	6	20	8120068	NRK2580-04	12/09/08 13:14
Selenium	0.00520	0.0528		mg/L	0.0500	95%	75 - 125	2	20	8120068	NRK2580-04	12/09/08 13:14
Silver	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8120068	NRK2580-04	12/09/08 13:14
Thallium	ND	0.0451		mg/L	0.0500	90%	75 - 125	10	20	8120068	NRK2580-04	12/09/08 13:14
Vanadium	ND	0.498		mg/L	0.500	100%	75 - 125	5	20	8120068	NRK2580-04	12/09/08 13:14
Zinc	0.0127	0.514		mg/L	0.500	100%	75 - 125	8	20	8120068	NRK2580-04	12/09/08 13:14
Mercury by EPA Methods 7470A/7471A												
8120683-MSD1												
Mercury	0.000189	0.00108		mg/L	0.00100	89%	63 - 138	3	22	8120683	NRL0036-01	12/04/08 19:00

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL0195
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

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	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	12/03/08 08:00

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
H2	Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past holding time.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIPT

NRL0195

Cooler Received/Opened On_12/03/08 @ 08:00

1. Tracking #_1175_(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___A01124

2. Temperature of rep. sample or temp blank when opened: 1.2 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-I

End of Form

Revised 9/6/07

50632

TestAmerica INCORPORATED

NRL0195
12/17/08 23:59

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

50633

Client Name: Mactec Client #: _____
Address: 21740 Beaumeade Circle Ste 150
City/State/Zip Code: Ashburn VA 20147
Project Manager: G. Grosl
Telephone Number: 703-729-1416 Fax: 703-858-1858
Sampler Name: (Print Name) Ben Grosser
Sampler Signature: [signature]

Project Name: Battlefield Golf club
Project #: _____
Site/Location ID: _____ State: _____
Report To: _____
Invoice To: _____
Quote #: _____ PO#: _____

TAT: X Standard; ___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other
Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None, Other (Specify)
Analyze For: TDS; Metals (total + 7470A dissolved) 6010B; Alkalinity + SM 2320B bicarbonate Alk.; Anions - bromide, chlor. fluoride, nitrate, nitrite; tot. Phosphorus; TDS 2540C; TOC 9060A

QC Deliverables: ___ None; ___ Level 2; (Batch QC) X Level 3; ___ Level 4; Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered (Y/N)	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	TDS	Metals (total + 7470A dissolved) 6010B	Alkalinity + SM 2320B bicarbonate Alk.	Anions - bromide, chlor. fluoride, nitrate, nitrite	tot. Phosphorus	TDS 2540C	TOC 9060A				REMARKS
MW-BGC-5A	12/9/08	920	G	X	GW	3	1		1		3		X	X	X	X	X	X	X				NRL0195-01
MW-BGC-7A	12/9/08	1310	G	X	GW	3	1		1		2		X	X	X	X	X	X	X				02
MW-BGC-7B	12/9/08	1320	G	X	GW	3	1		1		2		X	X	X	X	X	X	X				03

Special Instructions: Metals: Ag, Al, As, B, Ba, Be, Cd, Cl, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, V, Zn, antimony, thallium, K, Na, Ca

Relinquished By	Date	Time	Received By	Date	Time
[signature]	12/12/08	1700	FedEx		
			[signature]	12-3-08	0830

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 1.2
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment:

TestAmerica
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December 23, 2008 8:25:16AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK2324
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/25/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-6B	NRK2324-01	11/24/08 09:05
MW-BGC-Dup 2	NRK2324-02	11/24/08 09:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments:
This is a Final Report, including the results for Total Organic Halides.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2324-01 (MW-BGC-6B - Ground Water) Sampled: 11/24/08 09:05									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	**7.91**	J, HTI	mg/L	5.00	10.0	1	11/28/08 16:37	SM 2320B	8114317
Bromide	ND		mg/L	0.500	1.00	1	11/25/08 15:22	EPA 300.1	8114270
Chloride	**31.6**		mg/L	5.00	10.0	10	11/25/08 16:54	EPA 300.0	8114270
Fluoride	**0.153**		mg/L	0.0500	0.100	1	12/05/08 10:11	EPA 300.0	8114270
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/25/08 15:22	EPA 300.0	8114270
Phosphorus	**0.331**		mg/L	0.0450	0.100	1	12/08/08 15:22	EPA 365.4	8121159
Sulfate	**79.9**		mg/L	5.00	10.0	10	11/25/08 16:54	EPA 300.0	8114270
Total Dissolved Solids	**218**	B1, L1, B	mg/L	5.00	10.0	1	12/01/08 15:50	SM2540 C	8120051
Total Organic Carbon	**0.954**	J	mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/17/08 07:00	SW846 9020B	8122474
Total Metals by EPA Method 6010B									
Aluminum	**0.526**	B1	mg/L	0.0180	0.100	1	11/28/08 16:36	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Barium	**0.128**		mg/L	0.00150	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Beryllium	**0.00200**	J	mg/L	0.00100	0.00400	1	11/28/08 16:36	SW846 6010B	8114336
Boron	**0.0149**	J	mg/L	0.00200	0.0500	1	11/28/08 16:36	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 16:36	SW846 6010B	8114336
Calcium	**23.7**		mg/L	0.100	1.00	1	11/28/08 16:36	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 16:36	SW846 6010B	8114336
Cobalt	**0.00390**	J	mg/L	0.00200	0.0200	1	11/28/08 16:36	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Iron	**4.65**		mg/L	0.0280	0.0500	1	11/28/08 16:36	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 16:36	SW846 6010B	8114336
Magnesium	**3.98**		mg/L	0.100	1.00	1	11/28/08 16:36	SW846 6010B	8114336
Manganese	**0.142**		mg/L	0.00100	0.0150	1	11/28/08 16:36	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 16:36	SW846 6010B	8114336
Nickel	**0.00780**	J	mg/L	0.00240	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Potassium	**3.22**		mg/L	0.200	1.00	1	11/28/08 16:36	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 16:36	SW846 6010B	8114336
Sodium	**14.5**		mg/L	0.500	1.00	1	11/28/08 16:36	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 16:36	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 16:36	SW846 6010B	8114336
Zinc	**0.0296**	J	mg/L	0.0100	0.0500	1	11/28/08 16:36	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/02/08 12:45	SW846 7470A	8120044

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2324-02 (MW-BGC-Dup 2 - Ground Water) Sampled: 11/24/08 09:30									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	**5.17**	HTI, J	mg/L	5.00	10.0	1	11/28/08 16:37	SM 2320B	8114317
Bromide	ND		mg/L	0.500	1.00	1	11/25/08 16:17	EPA 300.1	8114270
Chloride	**31.8**		mg/L	5.00	10.0	10	11/25/08 17:12	EPA 300.0	8114270
Fluoride	**0.154**		mg/L	0.0500	0.100	1	12/05/08 11:07	EPA 300.0	8114270
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/25/08 16:17	EPA 300.0	8114270
Phosphorus	**0.313**		mg/L	0.0450	0.100	1	12/08/08 15:22	EPA 365.4	8121159
Sulfate	**81.6**		mg/L	5.00	10.0	10	11/25/08 17:12	EPA 300.0	8114270
Total Dissolved Solids	**211**	B1, L1, B	mg/L	5.00	10.0	1	12/01/08 15:50	SM2540 C	8120051
Total Organic Carbon	**1.22**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/17/08 07:00	SW846 9020B	8122474
Total Metals by EPA Method 6010B									
Aluminum	**0.652**	B1	mg/L	0.0180	0.100	1	11/28/08 16:41	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Barium	**0.129**		mg/L	0.00150	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Beryllium	**0.00190**	J	mg/L	0.00100	0.00400	1	11/28/08 16:41	SW846 6010B	8114336
Boron	**0.0146**	J	mg/L	0.00200	0.0500	1	11/28/08 16:41	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 16:41	SW846 6010B	8114336
Calcium	**23.7**		mg/L	0.100	1.00	1	11/28/08 16:41	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 16:41	SW846 6010B	8114336
Cobalt	**0.00380**	J	mg/L	0.00200	0.0200	1	11/28/08 16:41	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Iron	**4.85**		mg/L	0.0280	0.0500	1	11/28/08 16:41	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 16:41	SW846 6010B	8114336
Magnesium	**3.99**		mg/L	0.100	1.00	1	11/28/08 16:41	SW846 6010B	8114336
Manganese	**0.144**		mg/L	0.00100	0.0150	1	11/28/08 16:41	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 16:41	SW846 6010B	8114336
Nickel	**0.00850**	J	mg/L	0.00240	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Potassium	**3.25**		mg/L	0.200	1.00	1	11/28/08 16:41	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 16:41	SW846 6010B	8114336
Sodium	**14.7**		mg/L	0.500	1.00	1	11/28/08 16:41	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 16:41	SW846 6010B	8114336
Vanadium	**0.00170**	J	mg/L	0.00150	0.0200	1	11/28/08 16:41	SW846 6010B	8114336
Zinc	**0.0365**	J	mg/L	0.0100	0.0500	1	11/28/08 16:41	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	12/02/08 12:47	SW846 7470A	8120044

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8120044	NRK2324-01	30.00	30.00	12/01/08 09:35	JMR	EPA 7470
SW846 7470A	8120044	NRK2324-02	30.00	30.00	12/01/08 09:35	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2324-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8114270-BLK1						
Bromide	<0.500		mg/L	8114270	8114270-BLK1	11/25/08 14:45
Chloride	<0.500		mg/L	8114270	8114270-BLK1	11/25/08 14:45
Fluoride	<0.0500		mg/L	8114270	8114270-BLK1	12/05/08 09:16
Nitrate as N	<0.0500		mg/L	8114270	8114270-BLK1	11/25/08 14:45
Sulfate	<0.500		mg/L	8114270	8114270-BLK1	11/25/08 14:45
8114317-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8114317	8114317-BLK1	11/28/08 16:37
8120051-BLK1						
Total Dissolved Solids	15.0	B	mg/L	8120051	8120051-BLK1	12/01/08 15:50
8120196-BLK1						
Total Organic Carbon	<0.500		mg/L	8120196	8120196-BLK1	12/03/08 06:27
8120593-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8120593	8120593-BLK1	12/03/08 20:20
8121159-BLK1						
Phosphorus	<0.0450		mg/L	8121159	8121159-BLK1	12/08/08 15:22
8122474-BLK1						
Total Organic Halides	<0.0270		mg/L	8122474	8122474-BLK1	12/17/08 07:00
Total Metals by EPA Method 6010B						
8114336-BLK1						
Aluminum	0.0205	J	mg/L	8114336	8114336-BLK1	11/28/08 14:42
Antimony	<0.00380		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Arsenic	<0.00450		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Barium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Beryllium	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Boron	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cadmium	<0.000500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Calcium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Chromium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cobalt	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Copper	<0.00350		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Iron	<0.0280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Lead	<0.00280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Magnesium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Manganese	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Molybdenum	<0.00900		mg/L	8114336	8114336-BLK1	11/28/08 14:42

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8114336-BLK1						
Nickel	<0.00240		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Potassium	<0.200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Selenium	<0.00430		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Silver	<0.00160		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Sodium	<0.500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Thallium	<0.00750		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Vanadium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Zinc	<0.0100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Mercury by EPA Methods 7470A/7471A						
8120044-BLK1						
Mercury	<0.000150		mg/L	8120044	8120044-BLK1	12/02/08 12:01

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8114270-DUP1									
Bromide	ND	<0.500		mg/L		20	8114270	NRK2324-02	11/25/08 16:35
Chloride	31.8	32.9		mg/L	3	20	8114270	NRK2324-02	11/25/08 17:30
Fluoride	0.154	0.167		mg/L	8	19	8114270	NRK2324-02	12/05/08 11:25
Nitrate as N	ND	<0.0500		mg/L		20	8114270	NRK2324-02	11/25/08 16:35
Sulfate	81.6	81.8		mg/L	0.2	20	8114270	NRK2324-02	11/25/08 17:30
8114317-DUP1									
Bicarbonate Alkalinity as CaCO3	101	104	HTI	mg/L	3	20	8114317	NRK2333-01	11/28/08 16:37
8120051-DUP1									
Total Dissolved Solids	135000	142000	B	mg/L	5	20	8120051	NRK2458-01	12/01/08 15:50
8120196-DUP1									
Total Organic Carbon	5.27	5.15		mg/L	2	20	8120196	NRK2172-05	12/03/08 06:27
8120196-DUP2									
Total Organic Carbon	1.22	1.16		mg/L	5	20	8120196	NRK2324-02	12/03/08 06:27
8120593-DUP1									
Alkalinity, Total (CaCO3)	33.6	34.4		mg/L	2	20	8120593	NRK2172-02	12/03/08 20:20
8121159-DUP1									
Phosphorus	0.313	0.319		mg/L	2	20	8121159	NRK2324-02	12/08/08 15:22
8122474-DUP1									
Total Organic Halides	0.0822	0.0975		mg/L	17	50	8122474	NRK2064-01	12/17/08 07:00
8122474-DUP2									
Total Organic Halides	0.146	0.173		mg/L	17	50	8122474	NRK2064-03	12/17/08 07:00

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Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8114270-BS1								
Bromide	10.0	10.0		mg/L	100%	90 - 110	8114270	11/25/08 15:03
Chloride	3.00	3.02	MNR	mg/L	101%	90 - 110	8114270	11/25/08 15:03
Fluoride	2.00	2.17		mg/L	109%	90 - 110	8114270	12/05/08 09:35
Nitrate as N	3.00	3.05		mg/L	102%	90 - 110	8114270	11/25/08 15:03
Sulfate	15.0	15.0	MNR	mg/L	100%	90 - 110	8114270	11/25/08 15:03
8120051-BS1								
Total Dissolved Solids	100	122	L1, B	ug/mL	122%	90 - 110	8120051	12/01/08 15:50
8120196-BS1								
Total Organic Carbon	200	185		ug/mL	93%	90 - 110	8120196	12/03/08 06:27
8120593-BS1								
Alkalinity, Total (CaCO3)	100	97.0		ug/mL	97%	90 - 110	8120593	12/03/08 20:20
8121159-BS1								
Phosphorus	2.00	2.11		mg/L	106%	90 - 110	8121159	12/08/08 15:22
8122474-BS1								
Total Organic Halides	0.250	0.256		mg/L	102%	90 - 130	8122474	12/17/08 07:00
Total Metals by EPA Method 6010B								
8114336-BS1								
Aluminum	2.00	2.00		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Antimony	0.100	0.0890		mg/L	89%	80 - 120	8114336	11/28/08 14:46
Arsenic	0.0500	0.0491		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Barium	2.00	2.02		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Beryllium	0.0500	0.0504		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Boron	1.00	0.996		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Cadmium	0.0500	0.0501		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Calcium	5.00	4.62		mg/L	92%	80 - 120	8114336	11/28/08 14:46
Chromium	0.200	0.191		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Cobalt	0.500	0.486		mg/L	97%	80 - 120	8114336	11/28/08 14:46
Copper	0.250	0.237		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Iron	1.00	0.936		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Lead	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Magnesium	5.00	4.89		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Manganese	0.500	0.471		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Molybdenum	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Nickel	0.500	0.494		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Potassium	5.00	4.30		mg/L	86%	80 - 120	8114336	11/28/08 14:46
Selenium	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8114336-BS1								
Silver	0.0500	0.0467		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Sodium	5.00	4.39		mg/L	88%	80 - 120	8114336	11/28/08 14:46
Thallium	0.0500	0.0465		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Vanadium	0.500	0.481		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Zinc	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Mercury by EPA Methods 7470A/7471A								
8120044-BS1								
Mercury	0.00100	0.00104		mg/L	104%	78 - 124	8120044	12/02/08 12:05

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8114270-MS1										
Bromide	ND	9.52		mg/L	10.0	95%	90 - 110	8114270	NRK2324-01	11/25/08 15:40
Fluoride	0.153	2.40		mg/L	2.00	112%	80 - 120	8114270	NRK2324-01	12/05/08 10:30
Nitrate as N	ND	2.86		mg/L	3.00	95%	80 - 120	8114270	NRK2324-01	11/25/08 15:40
8120196-MS1										
Total Organic Carbon	13.8	38.9		ug/mL	20.0	126%	79 - 130	8120196	NRK2172-01	12/03/08 06:27
8120593-MS1										
Alkalinity, Total (CaCO3)	ND	3.48	M8, pH	ug/mL	100	3%	80 - 120	8120593	NRK2172-01	12/03/08 20:20
8121159-MS1										
Phosphorus	4.90	7.95	M1	mg/L	2.00	152%	76 - 112	8121159	NRK2166-02	12/08/08 15:22
8122474-MS1										
Total Organic Halides	ND	0.0756		mg/L	0.100	76%	74 - 131	8122474	NRL0982-01	12/17/08 07:00
Total Metals by EPA Method 6010B										
8114336-MS1										
Aluminum	0.652	2.59		mg/L	2.00	97%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Antimony	ND	0.0897		mg/L	0.100	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Arsenic	ND	0.0457		mg/L	0.0500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Barium	0.129	2.05		mg/L	2.00	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Beryllium	0.00190	0.0489		mg/L	0.0500	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Boron	0.0146	0.964		mg/L	1.00	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cadmium	ND	0.0464		mg/L	0.0500	93%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Chromium	ND	0.180		mg/L	0.200	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cobalt	0.00380	0.464		mg/L	0.500	92%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Copper	ND	0.227		mg/L	0.250	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Iron	4.85	5.78		mg/L	1.00	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Lead	ND	0.0482		mg/L	0.0500	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Manganese	0.144	0.589		mg/L	0.500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Molybdenum	ND	0.448		mg/L	0.500	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Nickel	0.00850	0.482		mg/L	0.500	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Selenium	ND	0.0447		mg/L	0.0500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Silver	ND	0.0434		mg/L	0.0500	87%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Thallium	ND	0.0375		mg/L	0.0500	75%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Vanadium	0.00170	0.456		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Zinc	0.0365	0.493		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A										
8120044-MS1										
Mercury	ND	0.00112		mg/L	0.00100	112%	63 - 138	8120044	NRK2292-01	12/02/08 12:11

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8114270-MSD1												
Bromide	ND	9.48		mg/L	10.0	95%	90 - 110	0.4	20	8114270	NRK2324-01	11/25/08 15:58
Fluoride	0.153	2.36		mg/L	2.00	110%	80 - 120	2	19	8114270	NRK2324-01	12/05/08 10:48
Nitrate as N	ND	2.84		mg/L	3.00	95%	80 - 120	0.5	20	8114270	NRK2324-01	11/25/08 15:58
8120196-MSD1												
Total Organic Carbon	13.8	38.5		ug/mL	20.0	124%	79 - 130	1	20	8120196	NRK2172-01	12/03/08 06:27
8121159-MSD1												
Phosphorus	4.90	7.86	M1	mg/L	2.00	148%	76 - 112	1	20	8121159	NRK2166-02	12/08/08 15:22
8122474-MSD1												
Total Organic Halides	ND	0.0831		mg/L	0.100	83%	74 - 131	9	50	8122474	NRL0982-01	12/17/08 07:00
Total Metals by EPA Method 6010B												
8114336-MSD1												
Aluminum	0.652	2.65		mg/L	2.00	100%	75 - 125	2	20	8114336	NRK2324-02	11/28/08 16:56
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Arsenic	ND	0.0481		mg/L	0.0500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Barium	0.129	2.14		mg/L	2.00	101%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Beryllium	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Boron	0.0146	1.02		mg/L	1.00	101%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Chromium	ND	0.190		mg/L	0.200	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Cobalt	0.00380	0.490		mg/L	0.500	97%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Copper	ND	0.239		mg/L	0.250	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Iron	4.85	5.71		mg/L	1.00	86%	75 - 125	1	20	8114336	NRK2324-02	11/28/08 16:56
Lead	ND	0.0511		mg/L	0.0500	102%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Manganese	0.144	0.609		mg/L	0.500	93%	75 - 125	3	20	8114336	NRK2324-02	11/28/08 16:56
Molybdenum	ND	0.472		mg/L	0.500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Nickel	0.00850	0.511		mg/L	0.500	100%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Selenium	ND	0.0470		mg/L	0.0500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Silver	ND	0.0461		mg/L	0.0500	92%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Thallium	ND	0.0394		mg/L	0.0500	79%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Vanadium	0.00170	0.481		mg/L	0.500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Zinc	0.0365	0.516		mg/L	0.500	96%	75 - 125	4	20	8114336	NRK2324-02	11/28/08 16:56
Mercury by EPA Methods 7470A/7471A												
8120044-MSD1												
Mercury	ND	0.00115		mg/L	0.00100	115%	63 - 138	3	22	8120044	NRK2292-01	12/02/08 12:14

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2324
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/25/08 08:15

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
HTI	The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
pH	pH Was acidic, affecting MS recovery.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION
Nashville, TN

COOLER RECEIPT FORM

NRK2324

Cooler Received/Opened On: 11/25/08 @ 8:15

1. Tracking # 1234 (last 4 digits, FedEx)

   Fed-ex IR Gun ID:95610068

2. Temperature of rep. sample or temp blank when opened: 3.3 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO..NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 1 Front / 1 Back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 4/18/07

50649

THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buck
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A				RUSH TAT (Pre Schedule) *
MW-BGC-6B	11-24-08	905	7						1		1		2	3	X						X	X	X	X	X		X	X	X	X	X	X				
MW-BGC-Dup 2	11-24-08	930	7						1		1		2	3	X						X	X	X	X	X		X	X	X	X	X	X				

NRK2324
12/10/08 23:59

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn
Antimony, Thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	11-24-08	1200	FedEx					
Shipped Via:			Shipped Via:					
Received for TestAmerica by:	Date: 11-25-08	Time: 0815	Temperature Upon Receipt: 3.3	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N			

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

50650

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 09, 2008 2:05:22PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK2202
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/22/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-21	NRK2202-01	11/21/08 09:30
SW-20	NRK2202-02	11/21/08 10:00
SW-BGC-Dup2	NRK2202-03	11/21/08 10:15

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

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All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2202-01 (SW-21 - Water) Sampled: 11/21/08 09:30									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**53.5**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**53.0**		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 21:06	EPA 300.1	8113794
Chloride	**7.80**		mg/L	0.500	1.00	1	11/22/08 21:06	EPA 300.0	8113794
Fluoride	**0.0820**	J	mg/L	0.0500	0.100	1	11/22/08 21:06	EPA 300.0	8113794
Nitrate as N	**0.223**		mg/L	0.0500	0.100	1	11/22/08 21:06	EPA 300.0	8113794
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**24.0**		mg/L	0.500	1.00	1	11/22/08 21:06	EPA 300.0	8113794
Total Organic Carbon	**5.30**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**5.33**		mg/L	0.667	1.33	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**0.481**		mg/L	0.0180	0.100	1	11/28/08 16:13	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Barium	**0.0226**		mg/L	0.00150	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Beryllium	**0.00110**	J	mg/L	0.00100	0.00400	1	11/28/08 16:13	SW846 6010B	8114336
Boron	**0.0226**	J	mg/L	0.00200	0.0500	1	11/28/08 16:13	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 16:13	SW846 6010B	8114336
Calcium	**21.4**		mg/L	0.100	1.00	1	11/28/08 16:13	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 16:13	SW846 6010B	8114336
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 16:13	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Iron	**0.740**		mg/L	0.0280	0.0500	1	11/28/08 16:13	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 16:13	SW846 6010B	8114336
Magnesium	**1.94**		mg/L	0.100	1.00	1	11/28/08 16:13	SW846 6010B	8114336
Manganese	**0.0611**		mg/L	0.00100	0.0150	1	11/28/08 16:13	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 16:13	SW846 6010B	8114336
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Potassium	**3.72**		mg/L	0.200	1.00	1	11/28/08 16:13	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 16:13	SW846 6010B	8114336
Sodium	**5.58**		mg/L	0.500	1.00	1	11/28/08 16:13	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 16:13	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 16:13	SW846 6010B	8114336
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 16:13	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	**0.000197**	J	mg/L	0.000150	0.000200	1	11/25/08 18:21	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2202-02 (SW-20 - Water) Sampled: 11/21/08 10:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 21:24	EPA 300.1	8113794
Chloride	**22.7**		mg/L	1.00	2.00	2	12/04/08 03:48	EPA 300.0	8113794
Fluoride	**0.232**		mg/L	0.0500	0.100	1	11/22/08 21:24	EPA 300.0	8113794
Nitrate as N	**0.123**		mg/L	0.0500	0.100	1	11/22/08 21:24	EPA 300.0	8113794
Phosphorus	**0.274**		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**78.5**		mg/L	1.00	2.00	2	12/04/08 03:48	EPA 300.0	8113794
Total Organic Carbon	**1.27**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**1.87**		mg/L	0.667	1.33	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**0.356**		mg/L	0.0180	0.100	1	11/28/08 16:17	SW846 6010B	8114336
Antimony	**0.00430**	J	mg/L	0.00380	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Barium	**0.0308**		mg/L	0.00150	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Beryllium	**0.00160**	J	mg/L	0.00100	0.00400	1	11/28/08 16:17	SW846 6010B	8114336
Boron	**0.0340**	J	mg/L	0.00200	0.0500	1	11/28/08 16:17	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 16:17	SW846 6010B	8114336
Calcium	**17.0**		mg/L	0.100	1.00	1	11/28/08 16:17	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 16:17	SW846 6010B	8114336
Cobalt	**0.00360**	J	mg/L	0.00200	0.0200	1	11/28/08 16:17	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Iron	**1.05**		mg/L	0.0280	0.0500	1	11/28/08 16:17	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 16:17	SW846 6010B	8114336
Magnesium	**6.42**		mg/L	0.100	1.00	1	11/28/08 16:17	SW846 6010B	8114336
Manganese	**0.264**		mg/L	0.00100	0.0150	1	11/28/08 16:17	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 16:17	SW846 6010B	8114336
Nickel	**0.00900**	J	mg/L	0.00240	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Potassium	**2.58**		mg/L	0.200	1.00	1	11/28/08 16:17	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 16:17	SW846 6010B	8114336
Sodium	**13.9**		mg/L	0.500	1.00	1	11/28/08 16:17	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 16:17	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 16:17	SW846 6010B	8114336
Zinc	**0.0190**	J	mg/L	0.0100	0.0500	1	11/28/08 16:17	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 18:23	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2202-03 (SW-BGC-Dup2 - Water) Sampled: 11/21/08 10:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 21:43	EPA 300.1	8113794
Chloride	**22.1**		mg/L	1.00	2.00	2	12/04/08 04:07	EPA 300.0	8113794
Fluoride	**0.270**		mg/L	0.0500	0.100	1	11/22/08 21:43	EPA 300.0	8113794
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/22/08 21:43	EPA 300.0	8113794
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**79.6**		mg/L	1.00	2.00	2	12/04/08 04:07	EPA 300.0	8113794
Total Organic Carbon	**1.27**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**1.87**		mg/L	0.667	1.33	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**0.354**		mg/L	0.0180	0.100	1	11/28/08 16:22	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Barium	**0.0307**		mg/L	0.00150	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Beryllium	**0.00160**	J	mg/L	0.00100	0.00400	1	11/28/08 16:22	SW846 6010B	8114336
Boron	**0.0336**	J	mg/L	0.00200	0.0500	1	11/28/08 16:22	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 16:22	SW846 6010B	8114336
Calcium	**16.7**		mg/L	0.100	1.00	1	11/28/08 16:22	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 16:22	SW846 6010B	8114336
Cobalt	**0.00390**	J	mg/L	0.00200	0.0200	1	11/28/08 16:22	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Iron	**1.04**		mg/L	0.0280	0.0500	1	11/28/08 16:22	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 16:22	SW846 6010B	8114336
Magnesium	**6.43**		mg/L	0.100	1.00	1	11/28/08 16:22	SW846 6010B	8114336
Manganese	**0.266**		mg/L	0.00100	0.0150	1	11/28/08 16:22	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 16:22	SW846 6010B	8114336
Nickel	**0.00930**	J	mg/L	0.00240	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Potassium	**2.55**		mg/L	0.200	1.00	1	11/28/08 16:22	SW846 6010B	8114336
Selenium	**0.00520**	J	mg/L	0.00430	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 16:22	SW846 6010B	8114336
Sodium	**13.9**		mg/L	0.500	1.00	1	11/28/08 16:22	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 16:22	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 16:22	SW846 6010B	8114336
Zinc	**0.0293**	J	mg/L	0.0100	0.0500	1	11/28/08 16:22	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 18:25	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113969	NRK2202-01	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
SW846 7470A	8113969	NRK2202-02	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
SW846 7470A	8113969	NRK2202-03	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2202-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113794-BLK1						
Bromide	<0.500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Chloride	<0.500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Fluoride	<0.0500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Nitrate as N	<0.0500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Sulfate	<0.500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
8113824-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113824	8113824-BLK1	11/22/08 16:57
8114763-BLK1						
Total Suspended Solids	<0.500		mg/L	8114763	8114763-BLK1	11/28/08 18:15
8120196-BLK1						
Total Organic Carbon	<0.500		mg/L	8120196	8120196-BLK1	12/03/08 06:27
8120198-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8120198	8120198-BLK1	12/02/08 09:19
8120879-BLK1						
Phosphorus	<0.0450		mg/L	8120879	8120879-BLK1	12/08/08 09:16
Total Metals by EPA Method 6010B						
8114336-BLK1						
Aluminum	0.0205	J	mg/L	8114336	8114336-BLK1	11/28/08 14:42
Antimony	<0.00380		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Arsenic	<0.00450		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Barium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Beryllium	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Boron	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cadmium	<0.000500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Calcium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Chromium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cobalt	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Copper	<0.00350		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Iron	<0.0280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Lead	<0.00280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Magnesium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Manganese	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Molybdenum	<0.00900		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Nickel	<0.00240		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Potassium	<0.200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Selenium	<0.00430		mg/L	8114336	8114336-BLK1	11/28/08 14:42

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8114336-BLK1						
Silver	<0.00160		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Sodium	<0.500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Thallium	<0.00750		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Vanadium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Zinc	<0.0100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Mercury by EPA Methods 7470A/7471A						
8113969-BLK1						
Mercury	<0.000150		mg/L	8113969	8113969-BLK1	11/25/08 17:34

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113794-DUP1									
Bromide	ND	<0.500		mg/L		20	8113794	NRK2202-03	11/22/08 22:38
Chloride	22.1	22.3		mg/L	1	20	8113794	NRK2202-03	12/04/08 04:25
Fluoride	0.270	0.300		mg/L	11	19	8113794	NRK2202-03	11/22/08 22:38
Nitrate as N	ND	0.0880	J	mg/L		20	8113794	NRK2202-03	11/22/08 22:38
Sulfate	79.6	79.9		mg/L	0.4	20	8113794	NRK2202-03	12/04/08 04:25
8113824-DUP1									
Bicarbonate Alkalinity as CaCO3	1210	1200		mg/L	0.8	20	8113824	NRK2205-01	11/22/08 16:57
8114763-DUP1									
Total Suspended Solids	84.0	84.0		mg/L	0	20	8114763	NRK2196-01	11/28/08 18:15
8120196-DUP1									
Total Organic Carbon	5.27	5.15		mg/L	2	20	8120196	NRK2172-05	12/03/08 06:27
8120196-DUP2									
Total Organic Carbon	1.22	1.16		mg/L	5	20	8120196	NRK2324-02	12/03/08 06:27
8120198-DUP1									
Alkalinity, Total (CaCO3)	203	200		mg/L	1	20	8120198	NRK1855-04	12/02/08 09:19
8120879-DUP1									
Phosphorus	0.847	0.874		mg/L	3	20	8120879	NRK1874-01	12/08/08 09:16

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113794-BS1								
Bromide	10.0	9.96		mg/L	100%	90 - 110	8113794	11/22/08 18:39
Chloride	3.00	2.97	MNR	mg/L	99%	90 - 110	8113794	11/22/08 18:39
Fluoride	2.00	2.16		mg/L	108%	90 - 110	8113794	11/22/08 18:39
Nitrate as N	3.00	3.01		mg/L	100%	90 - 110	8113794	11/22/08 18:39
Sulfate	15.0	14.7	MNR	mg/L	98%	90 - 110	8113794	11/22/08 18:39
8114763-BS1								
Total Suspended Solids	100	99.0		ug/mL	99%	90 - 110	8114763	11/28/08 18:15
8120196-BS1								
Total Organic Carbon	200	185		ug/mL	93%	90 - 110	8120196	12/03/08 06:27
8120198-BS1								
Alkalinity, Total (CaCO3)	100	103		ug/mL	103%	90 - 110	8120198	12/02/08 09:19
8120879-BS1								
Phosphorus	2.00	2.14		mg/L	107%	90 - 110	8120879	12/08/08 09:16
Total Metals by EPA Method 6010B								
8114336-BS1								
Aluminum	2.00	2.00		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Antimony	0.100	0.0890		mg/L	89%	80 - 120	8114336	11/28/08 14:46
Arsenic	0.0500	0.0491		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Barium	2.00	2.02		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Beryllium	0.0500	0.0504		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Boron	1.00	0.996		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Cadmium	0.0500	0.0501		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Calcium	5.00	4.62		mg/L	92%	80 - 120	8114336	11/28/08 14:46
Chromium	0.200	0.191		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Cobalt	0.500	0.486		mg/L	97%	80 - 120	8114336	11/28/08 14:46
Copper	0.250	0.237		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Iron	1.00	0.936		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Lead	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Magnesium	5.00	4.89		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Manganese	0.500	0.471		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Molybdenum	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Nickel	0.500	0.494		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Potassium	5.00	4.30		mg/L	86%	80 - 120	8114336	11/28/08 14:46
Selenium	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Silver	0.0500	0.0467		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Sodium	5.00	4.39		mg/L	88%	80 - 120	8114336	11/28/08 14:46
Thallium	0.0500	0.0465		mg/L	93%	80 - 120	8114336	11/28/08 14:46

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8114336-BS1								
Vanadium	0.500	0.481		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Zinc	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Mercury by EPA Methods 7470A/7471A								
8113969-BS1								
Mercury	0.00100	0.00106		mg/L	106%	78 - 124	8113969	11/25/08 17:36

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK2202
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113794-MS1										
Bromide	ND	9.64		mg/L	10.0	96%	90 - 110	8113794	NRK2172-01	11/22/08 19:15
Fluoride	0.662	2.57		mg/L	2.00	96%	80 - 120	8113794	NRK2172-01	11/22/08 19:15
Nitrate as N	0.519	3.41		mg/L	3.00	96%	80 - 120	8113794	NRK2172-01	11/22/08 19:15
8120196-MS1										
Total Organic Carbon	13.8	38.9		ug/mL	20.0	126%	79 - 130	8120196	NRK2172-01	12/03/08 06:27
8120198-MS1										
Alkalinity, Total (CaCO3)	25.9	113		ug/mL	100	87%	80 - 120	8120198	NRK1860-01	12/02/08 09:19
8120879-MS1										
Phosphorus	0.500	2.52		mg/L	2.00	101%	76 - 112	8120879	NRK2108-02	12/08/08 09:16
Total Metals by EPA Method 6010B										
8114336-MS1										
Aluminum	0.652	2.59		mg/L	2.00	97%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Antimony	ND	0.0897		mg/L	0.100	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Arsenic	ND	0.0457		mg/L	0.0500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Barium	0.129	2.05		mg/L	2.00	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Beryllium	0.00190	0.0489		mg/L	0.0500	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Boron	0.0146	0.964		mg/L	1.00	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cadmium	ND	0.0464		mg/L	0.0500	93%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Chromium	ND	0.180		mg/L	0.200	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cobalt	0.00380	0.464		mg/L	0.500	92%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Copper	ND	0.227		mg/L	0.250	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Iron	4.85	5.78		mg/L	1.00	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Lead	ND	0.0482		mg/L	0.0500	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Manganese	0.144	0.589		mg/L	0.500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Molybdenum	ND	0.448		mg/L	0.500	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Nickel	0.00850	0.482		mg/L	0.500	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Selenium	ND	0.0447		mg/L	0.0500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Silver	ND	0.0434		mg/L	0.0500	87%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Thallium	ND	0.0375		mg/L	0.0500	75%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Vanadium	0.00170	0.456		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Zinc	0.0365	0.493		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Mercury by EPA Methods 7470A/7471A										
8113969-MS1										
Mercury	ND	0.00122		mg/L	0.00100	122%	63 - 138	8113969	NRK2045-03	11/25/08 17:41

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time

Mercury by EPA Methods 7470A/7471A

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113794-MSD1												
Bromide	ND	9.70		mg/L	10.0	97%	90 - 110	0.6	20	8113794	NRK2172-01	11/22/08 18:57
Fluoride	0.662	2.59		mg/L	2.00	96%	80 - 120	0.6	19	8113794	NRK2172-01	11/22/08 19:34
Nitrate as N	0.519	3.42		mg/L	3.00	97%	80 - 120	0.3	20	8113794	NRK2172-01	11/22/08 19:34
8120196-MSD1												
Total Organic Carbon	13.8	38.5		ug/mL	20.0	124%	79 - 130	1	20	8120196	NRK2172-01	12/03/08 06:27
8120879-MSD1												
Phosphorus	0.500	2.65		mg/L	2.00	107%	76 - 112	5	20	8120879	NRK2108-02	12/08/08 09:16
Total Metals by EPA Method 6010B												
8114336-MSD1												
Aluminum	0.652	2.65		mg/L	2.00	100%	75 - 125	2	20	8114336	NRK2324-02	11/28/08 16:56
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Arsenic	ND	0.0481		mg/L	0.0500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Barium	0.129	2.14		mg/L	2.00	101%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Beryllium	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Boron	0.0146	1.02		mg/L	1.00	101%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Chromium	ND	0.190		mg/L	0.200	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Cobalt	0.00380	0.490		mg/L	0.500	97%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Copper	ND	0.239		mg/L	0.250	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Iron	4.85	5.71		mg/L	1.00	86%	75 - 125	1	20	8114336	NRK2324-02	11/28/08 16:56
Lead	ND	0.0511		mg/L	0.0500	102%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Manganese	0.144	0.609		mg/L	0.500	93%	75 - 125	3	20	8114336	NRK2324-02	11/28/08 16:56
Molybdenum	ND	0.472		mg/L	0.500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Nickel	0.00850	0.511		mg/L	0.500	100%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Selenium	ND	0.0470		mg/L	0.0500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Silver	ND	0.0461		mg/L	0.0500	92%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Thallium	ND	0.0394		mg/L	0.0500	79%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Vanadium	0.00170	0.481		mg/L	0.500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Zinc	0.0365	0.516		mg/L	0.500	96%	75 - 125	4	20	8114336	NRK2324-02	11/28/08 16:56
Mercury by EPA Methods 7470A/7471A												
8113969-MSD1												
Mercury	ND	0.00107		mg/L	0.00100	107%	63 - 138	13	22	8113969	NRK2045-03	11/25/08 17:43

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2202
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
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Attn	Luke Clark	Received:	11/22/08 08:45

DATA QUALIFIERS AND DEFINITIONS

J Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.

MNR No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.

ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER REC

NRK2202

Cooler Received/Opened On_11/22/08 @ 08:45

1. Tracking #_1212_____(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___A01124

2. Temperature of rep. sample or temp blank when opened: 0.4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES (NO)..NA

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1-FRONT

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? Bubblewrap (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? (YES)...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...(NO)..NA

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES)..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...(NO)...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES..(NO) Was a PIPE generated? YES..(NO)..#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50667

THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Page 1 of 1

PO #:

TA Account #: 63036

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joseph Burk
SamplerSignature:

Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Surface Water (Specify) Other	Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	Total Suspended Solids SM 2540 C TSS			RUSH TAT (Pre Schedule) *
SW-21	11-21-08	930	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			
SW-20	11-21-08	1000	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			
SW-BOC-Dup 2	11-21-08	1015	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			

NRK2202
12/09/08 23:59

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn
Antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	11-21-08	1700	FedEx					
Shipped Via:			Shipped Via:					
Received for TestAmerica by:	Date: 11-22-08	Time: 0845	Temperature Upon Receipt: 0.4	Sample Containers Intact? Y N VOCs Free of Headspace? Y N		QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)		Date Due of Report:

50668

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 09, 2008 11:27:43AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK2172
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/22/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-22	NRK2172-01	11/21/08 10:40
SW-23	NRK2172-02	11/21/08 11:15
SW-24	NRK2172-03	11/21/08 11:30
SW-25	NRK2172-04	11/21/08 11:50
SG-18	NRK2172-05	11/21/08 12:45

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2172-01 (SW-22 - Water) Sampled: 11/21/08 10:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND	M8	mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 18:57	EPA 300.1	8113794
Chloride	**21.2**		mg/L	10.0	20.0	20	12/04/08 00:07	EPA 300.0	8113794
Fluoride	**0.662**		mg/L	0.0500	0.100	1	11/22/08 18:57	EPA 300.0	8113794
Nitrate as N	**0.519**		mg/L	0.0500	0.100	1	11/22/08 18:57	EPA 300.0	8113794
Phosphorus	**0.0780**	J	mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**438**		mg/L	10.0	20.0	20	12/04/08 00:07	EPA 300.0	8113794
Total Organic Carbon	**13.8**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**7.60**		mg/L	2.00	4.00	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**15.6**		mg/L	0.0180	0.100	1	11/28/08 15:18	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Barium	**0.0492**		mg/L	0.00150	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Beryllium	**0.0119**		mg/L	0.00100	0.00400	1	11/28/08 15:18	SW846 6010B	8114336
Boron	**0.0285**	J	mg/L	0.00200	0.0500	1	11/28/08 15:18	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 15:18	SW846 6010B	8114336
Calcium	**46.6**		mg/L	0.100	1.00	1	11/28/08 15:18	SW846 6010B	8114336
Chromium	**0.00160**	J	mg/L	0.00150	0.00500	1	11/28/08 15:18	SW846 6010B	8114336
Cobalt	**0.0836**		mg/L	0.00200	0.0200	1	11/28/08 15:18	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Iron	**12.0**		mg/L	0.0280	0.0500	1	11/28/08 15:18	SW846 6010B	8114336
Lead	**0.00950**		mg/L	0.00280	0.00500	1	11/28/08 15:18	SW846 6010B	8114336
Magnesium	**16.3**		mg/L	0.100	1.00	1	11/28/08 15:18	SW846 6010B	8114336
Manganese	**0.621**		mg/L	0.00100	0.0150	1	11/28/08 15:18	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 15:18	SW846 6010B	8114336
Nickel	**0.0934**		mg/L	0.00240	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Potassium	**6.71**		mg/L	0.200	1.00	1	11/28/08 15:18	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 15:18	SW846 6010B	8114336
Sodium	**14.1**		mg/L	0.500	1.00	1	11/28/08 15:18	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 15:18	SW846 6010B	8114336
Vanadium	**0.00180**	J	mg/L	0.00150	0.0200	1	11/28/08 15:18	SW846 6010B	8114336
Zinc	**0.235**		mg/L	0.0100	0.0500	1	11/28/08 15:18	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 18:06	SW846 7470A	8113969

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2172-02 (SW-23 - Water) Sampled: 11/21/08 11:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**33.6**		mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	**35.8**		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 19:52	EPA 300.1	8113794
Chloride	**21.9**		mg/L	1.00	2.00	2	12/04/08 01:21	EPA 300.0	8113794
Fluoride	**0.325**		mg/L	0.0500	0.100	1	11/22/08 19:52	EPA 300.0	8113794
Nitrate as N	**1.51**		mg/L	0.0500	0.100	1	11/22/08 19:52	EPA 300.0	8113794
Phosphorus	**0.651**		mg/L	0.0450	0.100	1	12/08/08 15:22	EPA 365.4	8121159
Sulfate	**64.1**		mg/L	1.00	2.00	2	12/04/08 01:21	EPA 300.0	8113794
Total Organic Carbon	**32.1**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**10.8**		mg/L	2.00	4.00	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**0.416**		mg/L	0.0180	0.100	1	11/28/08 15:28	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Barium	**0.0278**		mg/L	0.00150	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 15:28	SW846 6010B	8114336
Boron	**0.0267**	J	mg/L	0.00200	0.0500	1	11/28/08 15:28	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 15:28	SW846 6010B	8114336
Calcium	**18.8**		mg/L	0.100	1.00	1	11/28/08 15:28	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 15:28	SW846 6010B	8114336
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 15:28	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Iron	**2.82**		mg/L	0.0280	0.0500	1	11/28/08 15:28	SW846 6010B	8114336
Lead	**0.00330**	J	mg/L	0.00280	0.00500	1	11/28/08 15:28	SW846 6010B	8114336
Magnesium	**8.24**		mg/L	0.100	1.00	1	11/28/08 15:28	SW846 6010B	8114336
Manganese	**0.111**		mg/L	0.00100	0.0150	1	11/28/08 15:28	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 15:28	SW846 6010B	8114336
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Potassium	**4.67**		mg/L	0.200	1.00	1	11/28/08 15:28	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 15:28	SW846 6010B	8114336
Sodium	**19.2**		mg/L	0.500	1.00	1	11/28/08 15:28	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 15:28	SW846 6010B	8114336
Vanadium	**0.00150**	J	mg/L	0.00150	0.0200	1	11/28/08 15:28	SW846 6010B	8114336
Zinc	**0.0217**	J	mg/L	0.0100	0.0500	1	11/28/08 15:28	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	**0.000188**	J	mg/L	0.000150	0.000200	1	11/25/08 18:08	SW846 7470A	8113969

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2172-03 (SW-24 - Water) Sampled: 11/21/08 11:30									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**31.2**		mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	**33.2**		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 20:11	EPA 300.1	8113794
Chloride	**32.5**		mg/L	2.50	5.00	5	12/04/08 01:58	EPA 300.0	8113794
Fluoride	**0.290**		mg/L	0.0500	0.100	1	11/22/08 20:11	EPA 300.0	8113794
Nitrate as N	**1.22**		mg/L	0.0500	0.100	1	11/22/08 20:11	EPA 300.0	8113794
Phosphorus	**0.367**		mg/L	0.0450	0.100	1	12/08/08 15:22	EPA 365.4	8121159
Sulfate	**78.9**		mg/L	2.50	5.00	5	12/04/08 01:58	EPA 300.0	8113794
Total Organic Carbon	**9.36**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**6.40**		mg/L	2.00	4.00	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**1.19**		mg/L	0.0180	0.100	1	11/28/08 15:32	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Barium	**0.0713**		mg/L	0.00150	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Beryllium	**0.00120**	J	mg/L	0.00100	0.00400	1	11/28/08 15:32	SW846 6010B	8114336
Boron	**0.0152**	J	mg/L	0.00200	0.0500	1	11/28/08 15:32	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 15:32	SW846 6010B	8114336
Calcium	**25.8**		mg/L	0.100	1.00	1	11/28/08 15:32	SW846 6010B	8114336
Chromium	**0.00200**	J	mg/L	0.00150	0.00500	1	11/28/08 15:32	SW846 6010B	8114336
Cobalt	**0.00220**	J	mg/L	0.00200	0.0200	1	11/28/08 15:32	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Iron	**0.850**		mg/L	0.0280	0.0500	1	11/28/08 15:32	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 15:32	SW846 6010B	8114336
Magnesium	**12.2**		mg/L	0.100	1.00	1	11/28/08 15:32	SW846 6010B	8114336
Manganese	**0.112**		mg/L	0.00100	0.0150	1	11/28/08 15:32	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 15:32	SW846 6010B	8114336
Nickel	**0.00780**	J	mg/L	0.00240	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Potassium	**7.24**		mg/L	0.200	1.00	1	11/28/08 15:32	SW846 6010B	8114336
Selenium	**0.00590**	J	mg/L	0.00430	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 15:32	SW846 6010B	8114336
Sodium	**14.0**		mg/L	0.500	1.00	1	11/28/08 15:32	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 15:32	SW846 6010B	8114336
Vanadium	**0.00190**	J	mg/L	0.00150	0.0200	1	11/28/08 15:32	SW846 6010B	8114336
Zinc	**0.0305**	J	mg/L	0.0100	0.0500	1	11/28/08 15:32	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 18:10	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2172-04 (SW-25 - Water) Sampled: 11/21/08 11:50									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**35.7**		mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	**36.4**		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 20:29	EPA 300.1	8113794
Chloride	**87.9**		mg/L	5.00	10.0	10	12/04/08 02:35	EPA 300.0	8113794
Fluoride	**0.255**		mg/L	0.0500	0.100	1	11/22/08 20:29	EPA 300.0	8113794
Nitrate as N	**2.17**		mg/L	0.0500	0.100	1	11/22/08 20:29	EPA 300.0	8113794
Phosphorus	**0.408**		mg/L	0.0450	0.100	1	12/08/08 15:22	EPA 365.4	8121159
Sulfate	**132**		mg/L	5.00	10.0	10	12/04/08 02:35	EPA 300.0	8113794
Total Organic Carbon	**7.89**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**18.4**		mg/L	2.00	4.00	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**0.250**		mg/L	0.0180	0.100	1	11/28/08 15:36	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Barium	**0.0787**		mg/L	0.00150	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 15:36	SW846 6010B	8114336
Boron	**0.0227**	J	mg/L	0.00200	0.0500	1	11/28/08 15:36	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 15:36	SW846 6010B	8114336
Calcium	**43.7**		mg/L	0.100	1.00	1	11/28/08 15:36	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 15:36	SW846 6010B	8114336
Cobalt	**0.00520**	J	mg/L	0.00200	0.0200	1	11/28/08 15:36	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Iron	**3.44**		mg/L	0.0280	0.0500	1	11/28/08 15:36	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 15:36	SW846 6010B	8114336
Magnesium	**18.5**		mg/L	0.100	1.00	1	11/28/08 15:36	SW846 6010B	8114336
Manganese	**0.182**		mg/L	0.00100	0.0150	1	11/28/08 15:36	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 15:36	SW846 6010B	8114336
Nickel	**0.00810**	J	mg/L	0.00240	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Potassium	**10.4**		mg/L	0.200	1.00	1	11/28/08 15:36	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 15:36	SW846 6010B	8114336
Sodium	**41.0**		mg/L	0.500	1.00	1	11/28/08 15:36	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 15:36	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 15:36	SW846 6010B	8114336
Zinc	**0.0238**	J	mg/L	0.0100	0.0500	1	11/28/08 15:36	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 18:16	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2172-05 (SG-18 - Water) Sampled: 11/21/08 12:45									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**23.4**		mg/L	5.00	10.0	1	12/03/08 20:20	SM2320 B	8120593
Bicarbonate Alkalinity as CaCO3	**25.2**		mg/L	5.00	10.0	1	11/22/08 16:57	SM 2320B	8113824
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 20:47	EPA 300.1	8113794
Chloride	**6.62**		mg/L	1.00	2.00	2	12/04/08 02:53	EPA 300.0	8113794
Fluoride	**0.331**		mg/L	0.0500	0.100	1	11/22/08 20:47	EPA 300.0	8113794
Nitrate as N	**0.172**		mg/L	0.0500	0.100	1	11/22/08 20:47	EPA 300.0	8113794
Phosphorus	**0.366**		mg/L	0.0450	0.100	1	12/08/08 15:22	EPA 365.4	8121159
Sulfate	**17.9**		mg/L	0.500	1.00	1	11/22/08 20:47	EPA 300.0	8113794
Total Organic Carbon	**5.27**		mg/L	0.500	1.00	1	12/03/08 06:27	SW846 9060A	8120196
Total Suspended Solids	**16.4**		mg/L	2.00	4.00	1	11/28/08 18:15	SM2540 D	8114763
Total Metals by EPA Method 6010B									
Aluminum	**2.52**		mg/L	0.0180	0.100	1	11/28/08 16:08	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Barium	**0.0402**		mg/L	0.00150	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Beryllium	**0.00110**	J	mg/L	0.00100	0.00400	1	11/28/08 16:08	SW846 6010B	8114336
Boron	**0.0348**	J	mg/L	0.00200	0.0500	1	11/28/08 16:08	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 16:08	SW846 6010B	8114336
Calcium	**11.0**		mg/L	0.100	1.00	1	11/28/08 16:08	SW846 6010B	8114336
Chromium	**0.00420**	J	mg/L	0.00150	0.00500	1	11/28/08 16:08	SW846 6010B	8114336
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 16:08	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Iron	**1.84**		mg/L	0.0280	0.0500	1	11/28/08 16:08	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 16:08	SW846 6010B	8114336
Magnesium	**3.75**		mg/L	0.100	1.00	1	11/28/08 16:08	SW846 6010B	8114336
Manganese	**0.0175**		mg/L	0.00100	0.0150	1	11/28/08 16:08	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 16:08	SW846 6010B	8114336
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Potassium	**4.46**		mg/L	0.200	1.00	1	11/28/08 16:08	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 16:08	SW846 6010B	8114336
Sodium	**6.65**		mg/L	0.500	1.00	1	11/28/08 16:08	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 16:08	SW846 6010B	8114336
Vanadium	**0.00450**	J	mg/L	0.00150	0.0200	1	11/28/08 16:08	SW846 6010B	8114336
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 16:08	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 18:18	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113969	NRK2172-01	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
SW846 7470A	8113969	NRK2172-02	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
SW846 7470A	8113969	NRK2172-03	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
SW846 7470A	8113969	NRK2172-04	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
SW846 7470A	8113969	NRK2172-05	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK2172
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2172-05	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113794-BLK1						
Bromide	<0.500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Chloride	<0.500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Fluoride	<0.0500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Nitrate as N	<0.0500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
Sulfate	<0.500		mg/L	8113794	8113794-BLK1	11/22/08 18:20
8113824-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113824	8113824-BLK1	11/22/08 16:57
8114763-BLK1						
Total Suspended Solids	<0.500		mg/L	8114763	8114763-BLK1	11/28/08 18:15
8120196-BLK1						
Total Organic Carbon	<0.500		mg/L	8120196	8120196-BLK1	12/03/08 06:27
8120593-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8120593	8120593-BLK1	12/03/08 20:20
8120879-BLK1						
Phosphorus	<0.0450		mg/L	8120879	8120879-BLK1	12/08/08 09:16
8121159-BLK1						
Phosphorus	<0.0450		mg/L	8121159	8121159-BLK1	12/08/08 15:22
Total Metals by EPA Method 6010B						
8114336-BLK1						
Aluminum	0.0205	J	mg/L	8114336	8114336-BLK1	11/28/08 14:42
Antimony	<0.00380		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Arsenic	<0.00450		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Barium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Beryllium	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Boron	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cadmium	<0.000500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Calcium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Chromium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cobalt	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Copper	<0.00350		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Iron	<0.0280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Lead	<0.00280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Magnesium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Manganese	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Molybdenum	<0.00900		mg/L	8114336	8114336-BLK1	11/28/08 14:42

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8114336-BLK1						
Nickel	<0.00240		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Potassium	<0.200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Selenium	<0.00430		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Silver	<0.00160		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Sodium	<0.500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Thallium	<0.00750		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Vanadium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Zinc	<0.0100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Mercury by EPA Methods 7470A/7471A						
8113969-BLK1						
Mercury	<0.000150		mg/L	8113969	8113969-BLK1	11/25/08 17:34

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113794-DUP1									
Bromide	ND	<0.500		mg/L		20	8113794	NRK2202-03	11/22/08 22:38
Chloride	22.1	22.3		mg/L	1	20	8113794	NRK2202-03	12/04/08 04:25
Fluoride	0.270	0.300		mg/L	11	19	8113794	NRK2202-03	11/22/08 22:38
Nitrate as N	ND	0.0880	J	mg/L		20	8113794	NRK2202-03	11/22/08 22:38
Sulfate	79.6	79.9		mg/L	0.4	20	8113794	NRK2202-03	12/04/08 04:25
8113824-DUP1									
Bicarbonate Alkalinity as CaCO3	1210	1200		mg/L	0.8	20	8113824	NRK2205-01	11/22/08 16:57
8114763-DUP1									
Total Suspended Solids	84.0	84.0		mg/L	0	20	8114763	NRK2196-01	11/28/08 18:15
8120196-DUP1									
Total Organic Carbon	5.27	5.15		mg/L	2	20	8120196	NRK2172-05	12/03/08 06:27
8120196-DUP2									
Total Organic Carbon	1.22	1.16		mg/L	5	20	8120196	NRK2324-02	12/03/08 06:27
8120593-DUP1									
Alkalinity, Total (CaCO3)	33.6	34.4		mg/L	2	20	8120593	NRK2172-02	12/03/08 20:20
8120879-DUP1									
Phosphorus	0.847	0.874		mg/L	3	20	8120879	NRK1874-01	12/08/08 09:16
8121159-DUP1									
Phosphorus	0.313	0.319		mg/L	2	20	8121159	NRK2324-02	12/08/08 15:22

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113794-BS1								
Bromide	10.0	9.96		mg/L	100%	90 - 110	8113794	11/22/08 18:39
Chloride	3.00	2.97	MNR	mg/L	99%	90 - 110	8113794	11/22/08 18:39
Fluoride	2.00	2.16		mg/L	108%	90 - 110	8113794	11/22/08 18:39
Nitrate as N	3.00	3.01		mg/L	100%	90 - 110	8113794	11/22/08 18:39
Sulfate	15.0	14.7	MNR	mg/L	98%	90 - 110	8113794	11/22/08 18:39
8114763-BS1								
Total Suspended Solids	100	99.0		ug/mL	99%	90 - 110	8114763	11/28/08 18:15
8120196-BS1								
Total Organic Carbon	200	185		ug/mL	93%	90 - 110	8120196	12/03/08 06:27
8120593-BS1								
Alkalinity, Total (CaCO3)	100	97.0		ug/mL	97%	90 - 110	8120593	12/03/08 20:20
8120879-BS1								
Phosphorus	2.00	2.14		mg/L	107%	90 - 110	8120879	12/08/08 09:16
8121159-BS1								
Phosphorus	2.00	2.11		mg/L	106%	90 - 110	8121159	12/08/08 15:22
Total Metals by EPA Method 6010B								
8114336-BS1								
Aluminum	2.00	2.00		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Antimony	0.100	0.0890		mg/L	89%	80 - 120	8114336	11/28/08 14:46
Arsenic	0.0500	0.0491		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Barium	2.00	2.02		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Beryllium	0.0500	0.0504		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Boron	1.00	0.996		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Cadmium	0.0500	0.0501		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Calcium	5.00	4.62		mg/L	92%	80 - 120	8114336	11/28/08 14:46
Chromium	0.200	0.191		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Cobalt	0.500	0.486		mg/L	97%	80 - 120	8114336	11/28/08 14:46
Copper	0.250	0.237		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Iron	1.00	0.936		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Lead	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Magnesium	5.00	4.89		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Manganese	0.500	0.471		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Molybdenum	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Nickel	0.500	0.494		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Potassium	5.00	4.30		mg/L	86%	80 - 120	8114336	11/28/08 14:46
Selenium	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8114336-BS1								
Silver	0.0500	0.0467		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Sodium	5.00	4.39		mg/L	88%	80 - 120	8114336	11/28/08 14:46
Thallium	0.0500	0.0465		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Vanadium	0.500	0.481		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Zinc	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Mercury by EPA Methods 7470A/7471A								
8113969-BS1								
Mercury	0.00100	0.00106		mg/L	106%	78 - 124	8113969	11/25/08 17:36

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK2172
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113794-MS1										
Bromide	ND	9.64		mg/L	10.0	96%	90 - 110	8113794	NRK2172-01	11/22/08 19:15
Fluoride	0.662	2.57		mg/L	2.00	96%	80 - 120	8113794	NRK2172-01	11/22/08 19:15
Nitrate as N	0.519	3.41		mg/L	3.00	96%	80 - 120	8113794	NRK2172-01	11/22/08 19:15
8120196-MS1										
Total Organic Carbon	13.8	38.9		ug/mL	20.0	126%	79 - 130	8120196	NRK2172-01	12/03/08 06:27
8120593-MS1										
Alkalinity, Total (CaCO3)	ND	3.48	A-01,	ug/mL	100	3%	80 - 120	8120593	NRK2172-01	12/03/08 20:20
8120879-MS1										
Phosphorus	0.500	2.52		mg/L	2.00	101%	76 - 112	8120879	NRK2108-02	12/08/08 09:16
8121159-MS1										
Phosphorus	4.90	7.95	M1	mg/L	2.00	152%	76 - 112	8121159	NRK2166-02	12/08/08 15:22
Total Metals by EPA Method 6010B										
8114336-MS1										
Aluminum	0.652	2.59		mg/L	2.00	97%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Antimony	ND	0.0897		mg/L	0.100	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Arsenic	ND	0.0457		mg/L	0.0500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Barium	0.129	2.05		mg/L	2.00	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Beryllium	0.00190	0.0489		mg/L	0.0500	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Boron	0.0146	0.964		mg/L	1.00	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cadmium	ND	0.0464		mg/L	0.0500	93%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Chromium	ND	0.180		mg/L	0.200	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cobalt	0.00380	0.464		mg/L	0.500	92%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Copper	ND	0.227		mg/L	0.250	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Iron	4.85	5.78		mg/L	1.00	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Lead	ND	0.0482		mg/L	0.0500	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Manganese	0.144	0.589		mg/L	0.500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Molybdenum	ND	0.448		mg/L	0.500	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Nickel	0.00850	0.482		mg/L	0.500	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Selenium	ND	0.0447		mg/L	0.0500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Silver	ND	0.0434		mg/L	0.0500	87%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Thallium	ND	0.0375		mg/L	0.0500	75%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Vanadium	0.00170	0.456		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Zinc	0.0365	0.493		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A										
8113969-MS1										
Mercury	ND	0.00122		mg/L	0.00100	122%	63 - 138	8113969	NRK2045-03	11/25/08 17:41

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113794-MSD1												
Bromide	ND	9.70		mg/L	10.0	97%	90 - 110	0.6	20	8113794	NRK2172-01	11/22/08 18:57
Fluoride	0.662	2.59		mg/L	2.00	96%	80 - 120	0.6	19	8113794	NRK2172-01	11/22/08 19:34
Nitrate as N	0.519	3.42		mg/L	3.00	97%	80 - 120	0.3	20	8113794	NRK2172-01	11/22/08 19:34
8120196-MSD1												
Total Organic Carbon	13.8	38.5		ug/mL	20.0	124%	79 - 130	1	20	8120196	NRK2172-01	12/03/08 06:27
8120879-MSD1												
Phosphorus	0.500	2.65		mg/L	2.00	107%	76 - 112	5	20	8120879	NRK2108-02	12/08/08 09:16
8121159-MSD1												
Phosphorus	4.90	7.86	M1	mg/L	2.00	148%	76 - 112	1	20	8121159	NRK2166-02	12/08/08 15:22
Total Metals by EPA Method 6010B												
8114336-MSD1												
Aluminum	0.652	2.65		mg/L	2.00	100%	75 - 125	2	20	8114336	NRK2324-02	11/28/08 16:56
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Arsenic	ND	0.0481		mg/L	0.0500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Barium	0.129	2.14		mg/L	2.00	101%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Beryllium	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Boron	0.0146	1.02		mg/L	1.00	101%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Chromium	ND	0.190		mg/L	0.200	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Cobalt	0.00380	0.490		mg/L	0.500	97%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Copper	ND	0.239		mg/L	0.250	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Iron	4.85	5.71		mg/L	1.00	86%	75 - 125	1	20	8114336	NRK2324-02	11/28/08 16:56
Lead	ND	0.0511		mg/L	0.0500	102%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Manganese	0.144	0.609		mg/L	0.500	93%	75 - 125	3	20	8114336	NRK2324-02	11/28/08 16:56
Molybdenum	ND	0.472		mg/L	0.500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Nickel	0.00850	0.511		mg/L	0.500	100%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Selenium	ND	0.0470		mg/L	0.0500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Silver	ND	0.0461		mg/L	0.0500	92%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Thallium	ND	0.0394		mg/L	0.0500	79%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Vanadium	0.00170	0.481		mg/L	0.500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Zinc	0.0365	0.516		mg/L	0.500	96%	75 - 125	4	20	8114336	NRK2324-02	11/28/08 16:56
Mercury by EPA Methods 7470A/7471A												
8113969-MSD1												
Mercury	ND	0.00107		mg/L	0.00100	107%	63 - 138	13	22	8113969	NRK2045-03	11/25/08 17:43

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2172
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/22/08 08:45

DATA QUALIFIERS AND DEFINITIONS

A-01	Sample used as MS was acidic, affecting MS recovery
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEI

NRK2172

Cooler Received/Opened On 11 / 22/ 08 @ 8:45

1. Tracking # 1484 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 90942856

2. Temperature of rep. sample or temp blank when opened: 2-4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50688

THE LEADER IN ENVIRONMENTAL TESTING

2900 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Page 1 of 1

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buchy
SamplerSignature:

TA Account #: 63036
PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip:
Regulatory District (CA): Virginia

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (Specify) Surface Water	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	Total Suspended Solids SM2540C TSS			RUSH TAT (Pre Schedule) *
SW-22	11-21-08	1040	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			
SW-23	11-21-08	1115	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			
SW-24	11-21-08	1130	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			
SW-25	11-21-08	1150	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			
SG-18	11-21-08	1745	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X		X	X	X			

NRK2172
12/09/08 23:59

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn
antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	11-21-08	1700	FEX					

Shipped Via:

Received for TestAmerica by: Date: 11-22-08 Time: 0800

Temperature Upon Receipt: 2.4
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

506889

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 17, 2008 9:10:54AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK2045
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552081210
P/O Nbr: 200821634
Date Received: 11/21/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-KH-1	NRK2045-01	11/20/08 10:35
SW-BGC-Rinse 1	NRK2045-02	11/20/08 14:00
MW-BGC-6A	NRK2045-03	11/20/08 13:40

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments:
Although not requested on the COC, the consultant asked that Total Organic Halides be analyzed for samples NRK2045-01 and -03. This is a partial Final Report without the results for Total Organic Halides.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2045-01 (MW-KH-1 - Ground Water) Sampled: 11/20/08 10:35									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**10.6**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**13.6**		mg/L	5.00	10.0	1	11/21/08 18:10	SM 2320B	8113637
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 00:44	EPA 300.1	8113612
Chloride	**10.9**		mg/L	1.00	2.00	2	12/03/08 06:41	EPA 300.0	8113612
Fluoride	**0.277**	B	mg/L	0.0500	0.100	1	11/22/08 00:44	EPA 300.0	8113612
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/22/08 00:44	EPA 300.0	8113612
Phosphorus	**0.0860**	J	mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**51.4**		mg/L	1.00	2.00	2	12/03/08 06:41	EPA 300.0	8113612
Total Dissolved Solids	**234**		mg/L	5.00	10.0	1	11/22/08 23:59	SM2540 C	8113835
Total Organic Carbon	**3.19**		mg/L	0.500	1.00	1	12/01/08 12:00	SW846 9060A	8120098
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.587**	B1	mg/L	0.0180	0.100	1	11/28/08 14:57	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Barium	**0.0373**		mg/L	0.00150	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 14:57	SW846 6010B	8114336
Boron	**0.0132**	J	mg/L	0.00200	0.0500	1	11/28/08 14:57	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 14:57	SW846 6010B	8114336
Calcium	**18.5**		mg/L	0.100	1.00	1	11/28/08 14:57	SW846 6010B	8114336
Chromium	**0.00170**	J	mg/L	0.00150	0.00500	1	11/28/08 14:57	SW846 6010B	8114336
Cobalt	**0.0139**	J	mg/L	0.00200	0.0200	1	11/28/08 14:57	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Iron	**3.30**		mg/L	0.0280	0.0500	1	11/28/08 14:57	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 14:57	SW846 6010B	8114336
Magnesium	**15.8**		mg/L	0.100	1.00	1	11/28/08 14:57	SW846 6010B	8114336
Manganese	**0.135**		mg/L	0.00100	0.0150	1	11/28/08 14:57	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 14:57	SW846 6010B	8114336
Nickel	**0.0257**		mg/L	0.00240	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Potassium	**1.20**		mg/L	0.200	1.00	1	11/28/08 14:57	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 14:57	SW846 6010B	8114336
Sodium	**9.90**		mg/L	0.500	1.00	1	11/28/08 14:57	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 14:57	SW846 6010B	8114336
Vanadium	**0.00190**	J	mg/L	0.00150	0.0200	1	11/28/08 14:57	SW846 6010B	8114336
Zinc	**0.0926**		mg/L	0.0100	0.0500	1	11/28/08 14:57	SW846 6010B	8114336
Dissolved Metals by EPA Method 6010B									
Aluminum	**0.0902**	J, B	mg/L	0.0180	0.100	1	11/28/08 13:57	SW846 6010B	8114356
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Barium	**0.0334**		mg/L	0.00150	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Beryllium	**0.00100**	J	mg/L	0.00100	0.00400	1	11/28/08 13:57	SW846 6010B	8114356
Boron	**0.0116**	J	mg/L	0.00200	0.0500	1	11/28/08 13:57	SW846 6010B	8114356

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2045-01 (MW-KH-1 - Ground Water) - cont. Sampled: 11/20/08 10:35									
Dissolved Metals by EPA Method 6010B - cont.									
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 13:57	SW846 6010B	8114356
Calcium	**20.4**		mg/L	0.100	1.00	1	11/28/08 13:57	SW846 6010B	8114356
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 13:57	SW846 6010B	8114356
Cobalt	**0.0143**	J	mg/L	0.00200	0.0200	1	11/28/08 13:57	SW846 6010B	8114356
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Iron	**2.72**		mg/L	0.0280	0.0500	1	11/28/08 13:57	SW846 6010B	8114356
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 13:57	SW846 6010B	8114356
Magnesium	**16.2**		mg/L	0.100	1.00	1	11/28/08 13:57	SW846 6010B	8114356
Manganese	**0.130**		mg/L	0.00100	0.0150	1	11/28/08 13:57	SW846 6010B	8114356
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 13:57	SW846 6010B	8114356
Nickel	**0.0280**		mg/L	0.00240	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Potassium	**1.03**		mg/L	0.200	1.00	1	11/28/08 13:57	SW846 6010B	8114356
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 13:57	SW846 6010B	8114356
Sodium	**10.1**		mg/L	0.500	1.00	1	11/28/08 13:57	SW846 6010B	8114356
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 13:57	SW846 6010B	8114356
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 13:57	SW846 6010B	8114356
Zinc	**0.0982**		mg/L	0.0100	0.0500	1	11/28/08 13:57	SW846 6010B	8114356
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:29	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/26/08 15:57	SW846 7470A	8114421
Sample ID: NRK2045-02 (SW-BGC-Rinse 1 - Water) Sampled: 11/20/08 14:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**34.7**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/21/08 18:10	SM 2320B	8113637
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 01:40	EPA 300.1	8113612
Chloride	ND		mg/L	0.500	1.00	1	11/22/08 01:40	EPA 300.0	8113612
Fluoride	ND		mg/L	0.0500	0.100	1	11/22/08 01:40	EPA 300.0	8113612
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/22/08 01:40	EPA 300.0	8113612
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	ND		mg/L	0.500	1.00	1	11/22/08 01:40	EPA 300.0	8113612
Total Organic Carbon	**0.614**	J	mg/L	0.500	1.00	1	12/01/08 12:00	SW846 9060A	8120098
Total Suspended Solids	ND		mg/L	1.00	2.00	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.0352**	J, B	mg/L	0.0180	0.100	1	11/28/08 15:04	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Barium	ND		mg/L	0.00150	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 15:04	SW846 6010B	8114336
Boron	ND		mg/L	0.00200	0.0500	1	11/28/08 15:04	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 15:04	SW846 6010B	8114336

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2045-02 (SW-BGC-Rinse 1 - Water) - cont. Sampled: 11/20/08 14:00									
Total Metals by EPA Method 6010B - cont.									
Calcium	ND		mg/L	0.100	1.00	1	11/28/08 15:04	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 15:04	SW846 6010B	8114336
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 15:04	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Iron	ND		mg/L	0.0280	0.0500	1	11/28/08 15:04	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 15:04	SW846 6010B	8114336
Magnesium	ND		mg/L	0.100	1.00	1	11/28/08 15:04	SW846 6010B	8114336
Manganese	ND		mg/L	0.00100	0.0150	1	11/28/08 15:04	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 15:04	SW846 6010B	8114336
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Potassium	ND		mg/L	0.200	1.00	1	11/28/08 15:04	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 15:04	SW846 6010B	8114336
Sodium	ND		mg/L	0.500	1.00	1	11/28/08 15:04	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 15:04	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 15:04	SW846 6010B	8114336
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 15:04	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:32	SW846 7470A	8113965
Sample ID: NRK2045-03 (MW-BGC-6A - Ground Water) Sampled: 11/20/08 13:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**157**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**157**		mg/L	5.00	10.0	1	11/21/08 18:10	SM 2320B	8113637
Bromide	ND		mg/L	0.500	1.00	1	11/22/08 02:35	EPA 300.1	8113612
Chloride	**11.0**		mg/L	0.500	1.00	1	11/22/08 02:35	EPA 300.0	8113612
Fluoride	**0.0720**	J	mg/L	0.0500	0.100	1	11/22/08 02:35	EPA 300.0	8113612
Nitrate as N	**1.74**		mg/L	0.0500	0.100	1	11/22/08 02:35	EPA 300.0	8113612
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**51.5**		mg/L	1.00	2.00	2	12/03/08 07:36	EPA 300.0	8113612
Total Dissolved Solids	**240**		mg/L	5.00	10.0	1	11/22/08 23:59	SM2540 C	8113835
Total Organic Carbon	**6.90**		mg/L	0.500	1.00	1	12/01/08 12:00	SW846 9060A	8120098
Total Organic Halides	**0.207**		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.269**	B1	mg/L	0.0180	0.100	1	11/28/08 15:13	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Barium	**0.0663**		mg/L	0.00150	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 15:13	SW846 6010B	8114336
Boron	**0.0239**	J	mg/L	0.00200	0.0500	1	11/28/08 15:13	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 15:13	SW846 6010B	8114336
Calcium	**59.0**		mg/L	0.100	1.00	1	11/28/08 15:13	SW846 6010B	8114336
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 15:13	SW846 6010B	8114336

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK2045-03 (MW-BGC-6A - Ground Water) - cont. Sampled: 11/20/08 13:40									
Total Metals by EPA Method 6010B - cont.									
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 15:13	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Iron	**0.0628**		mg/L	0.0280	0.0500	1	11/28/08 15:13	SW846 6010B	8114336
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 15:13	SW846 6010B	8114336
Magnesium	**7.52**		mg/L	0.100	1.00	1	11/28/08 15:13	SW846 6010B	8114336
Manganese	**0.0934**		mg/L	0.00100	0.0150	1	11/28/08 15:13	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 15:13	SW846 6010B	8114336
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Potassium	**2.20**		mg/L	0.200	1.00	1	11/28/08 15:13	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 15:13	SW846 6010B	8114336
Sodium	**15.0**		mg/L	0.500	1.00	1	11/28/08 15:13	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 15:13	SW846 6010B	8114336
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 15:13	SW846 6010B	8114336
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 15:13	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:39	SW846 7470A	8113969

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Dissolved Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8114421	NRK2045-01	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
Dissolved Metals by EPA Method 6010B							
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113965	NRK2045-01	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK2045-02	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113969	NRK2045-03	30.00	30.00	11/24/08 09:47	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK2045-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113612-BLK1						
Bromide	<0.500		mg/L	8113612	8113612-BLK1	11/21/08 19:50
Chloride	<0.500		mg/L	8113612	8113612-BLK1	11/21/08 19:20
Fluoride	0.0540	J	mg/L	8113612	8113612-BLK1	11/21/08 19:50
Nitrate as N	<0.0500		mg/L	8113612	8113612-BLK1	11/21/08 19:50
Sulfate	<0.500		mg/L	8113612	8113612-BLK1	11/21/08 19:50
8113637-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113637	8113637-BLK1	11/21/08 18:10
8113658-BLK1						
Total Suspended Solids	<0.500		mg/L	8113658	8113658-BLK1	11/22/08 18:12
8113835-BLK1						
Total Dissolved Solids	5.00	J	mg/L	8113835	8113835-BLK1	11/22/08 23:59
8120098-BLK1						
Total Organic Carbon	<0.500		mg/L	8120098	8120098-BLK1	12/01/08 12:00
8120198-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8120198	8120198-BLK1	12/02/08 09:19
8120879-BLK1						
Phosphorus	<0.0450		mg/L	8120879	8120879-BLK1	12/08/08 09:16
8121432-BLK1						
Total Organic Halides	<0.0270		mg/L	8121432	8121432-BLK1	12/11/08 13:41
Total Metals by EPA Method 6010B						
8114336-BLK1						
Aluminum	0.0205	J	mg/L	8114336	8114336-BLK1	11/28/08 14:42
Antimony	<0.00380		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Arsenic	<0.00450		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Barium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Beryllium	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Boron	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cadmium	<0.000500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Calcium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Chromium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cobalt	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Copper	<0.00350		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Iron	<0.0280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Lead	<0.00280		mg/L	8114336	8114336-BLK1	11/28/08 14:42

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8114336-BLK1						
Magnesium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Manganese	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Molybdenum	<0.00900		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Nickel	<0.00240		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Potassium	<0.200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Selenium	<0.00430		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Silver	<0.00160		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Sodium	<0.500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Thallium	<0.00750		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Vanadium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Zinc	<0.0100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Dissolved Metals by EPA Method 6010B						
8114356-BLK1						
Aluminum	0.0349	J	mg/L	8114356	8114356-BLK1	11/28/08 12:36
Antimony	<0.00380		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Arsenic	<0.00450		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Barium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Beryllium	<0.00100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Boron	<0.00200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Cadmium	<0.000500		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Calcium	<0.100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Chromium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Cobalt	<0.00200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Copper	<0.00350		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Iron	<0.0280		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Lead	<0.00280		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Magnesium	<0.100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Manganese	<0.00100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Molybdenum	<0.00900		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Nickel	<0.00240		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Potassium	<0.200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Selenium	<0.00430		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Silver	<0.00160		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Sodium	<0.500		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Thallium	<0.00750		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Vanadium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Zinc	<0.0100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK2045
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						
Mercury	<0.000150		mg/L	8113965	8113965-BLK1	11/25/08 16:34
8113969-BLK1						
Mercury	<0.000150		mg/L	8113969	8113969-BLK1	11/25/08 17:34
Dissolved Mercury by EPA Methods 7470A/7471A						
8114421-BLK1						
Mercury	<0.000150		mg/L	8114421	8114421-BLK1	11/26/08 15:28

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113612-DUP1									
Bromide	ND	<0.500		mg/L		20	8113612	NRK2047-05	11/22/08 00:26
Chloride	20.6	20.7		mg/L	0.4	20	8113612	NRK2047-05	12/03/08 06:04
Fluoride	0.192	0.193		mg/L	0.5	19	8113612	NRK2047-05	11/22/08 00:26
Nitrate as N	ND	<0.0500		mg/L		20	8113612	NRK2047-05	11/22/08 00:26
Sulfate	2.22	2.13		mg/L	4	20	8113612	NRK2047-05	11/22/08 00:26
8113637-DUP1									
Bicarbonate Alkalinity as CaCO3	587	584		mg/L	0.5	20	8113637	NRK2055-01	11/21/08 18:10
8113658-DUP1									
Total Suspended Solids	39.3	34.0		mg/L	14	20	8113658	NRK1860-04	11/22/08 18:12
8113658-DUP2									
Total Suspended Solids	28.2	23.5		mg/L	18	20	8113658	NRK1875-04	11/22/08 18:12
8113835-DUP1									
Total Dissolved Solids	ND	<5.00		mg/L		20	8113835	NRK1864-03	11/22/08 23:59
8120098-DUP1									
Total Organic Carbon	6.90	7.03		mg/L	2	20	8120098	NRK2045-03	12/01/08 12:00
8120198-DUP1									
Alkalinity, Total (CaCO3)	203	200		mg/L	1	20	8120198	NRK1855-04	12/02/08 09:19
8120879-DUP1									
Phosphorus	0.847	0.874		mg/L	3	20	8120879	NRK1874-01	12/08/08 09:16
8121432-DUP1									
Total Organic Halides	0.0542	0.0512		mg/L	6	50	8121432	NRK1848-02	12/11/08 13:41

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Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK2045
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113612-BS1								
Bromide	10.0	10.2		mg/L	102%	90 - 110	8113612	11/21/08 20:08
Chloride	3.00	3.09		mg/L	103%	90 - 110	8113612	11/21/08 20:08
Fluoride	2.00	2.17		mg/L	108%	90 - 110	8113612	11/21/08 20:08
Nitrate as N	3.00	3.08		mg/L	103%	90 - 110	8113612	11/21/08 20:08
Sulfate	15.0	15.2	MNR	mg/L	102%	90 - 110	8113612	11/21/08 20:08
8113658-BS1								
Total Suspended Solids	100	99.0		ug/mL	99%	90 - 110	8113658	11/22/08 18:12
8113835-BS1								
Total Dissolved Solids	100	109		ug/mL	109%	90 - 110	8113835	11/22/08 23:59
8120098-BS1								
Total Organic Carbon	200	184		ug/mL	92%	90 - 110	8120098	12/01/08 12:00
8120198-BS1								
Alkalinity, Total (CaCO3)	100	103		ug/mL	103%	90 - 110	8120198	12/02/08 09:19
8120879-BS1								
Phosphorus	2.00	2.14		mg/L	107%	90 - 110	8120879	12/08/08 09:16
8121432-BS1								
Total Organic Halides	0.250	0.258		mg/L	103%	90 - 130	8121432	12/11/08 13:41
Total Metals by EPA Method 6010B								
8114336-BS1								
Aluminum	2.00	2.00		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Antimony	0.100	0.0890		mg/L	89%	80 - 120	8114336	11/28/08 14:46
Arsenic	0.0500	0.0491		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Barium	2.00	2.02		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Beryllium	0.0500	0.0504		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Boron	1.00	0.996		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Cadmium	0.0500	0.0501		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Calcium	5.00	4.62		mg/L	92%	80 - 120	8114336	11/28/08 14:46
Chromium	0.200	0.191		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Cobalt	0.500	0.486		mg/L	97%	80 - 120	8114336	11/28/08 14:46
Copper	0.250	0.237		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Iron	1.00	0.936		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Lead	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Magnesium	5.00	4.89		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Manganese	0.500	0.471		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Molybdenum	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46

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	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8114336-BS1								
Nickel	0.500	0.494		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Potassium	5.00	4.30		mg/L	86%	80 - 120	8114336	11/28/08 14:46
Selenium	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Silver	0.0500	0.0467		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Sodium	5.00	4.39		mg/L	88%	80 - 120	8114336	11/28/08 14:46
Thallium	0.0500	0.0465		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Vanadium	0.500	0.481		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Zinc	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Dissolved Metals by EPA Method 6010B								
8114356-BS1								
Aluminum	2.00	2.06		mg/L	103%	80 - 120	8114356	11/28/08 12:41
Antimony	0.100	0.0951		mg/L	95%	80 - 120	8114356	11/28/08 12:41
Arsenic	0.0500	0.0469		mg/L	94%	80 - 120	8114356	11/28/08 12:41
Barium	2.00	2.04		mg/L	102%	80 - 120	8114356	11/28/08 12:41
Beryllium	0.0500	0.0533		mg/L	107%	80 - 120	8114356	11/28/08 12:41
Boron	1.00	1.02		mg/L	102%	80 - 120	8114356	11/28/08 12:41
Cadmium	0.0500	0.0504		mg/L	101%	80 - 120	8114356	11/28/08 12:41
Calcium	5.00	4.80		mg/L	96%	80 - 120	8114356	11/28/08 12:41
Chromium	0.200	0.198		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Cobalt	0.500	0.504		mg/L	101%	80 - 120	8114356	11/28/08 12:41
Copper	0.250	0.246		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Iron	1.00	0.980		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Lead	0.0500	0.0497		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Magnesium	5.00	4.99		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Manganese	0.500	0.491		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Molybdenum	0.500	0.489		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Nickel	0.500	0.500		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Potassium	5.00	4.33		mg/L	87%	80 - 120	8114356	11/28/08 12:41
Selenium	0.0500	0.0499		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Silver	0.0500	0.0496		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Sodium	5.00	4.61		mg/L	92%	80 - 120	8114356	11/28/08 12:41
Thallium	0.0500	0.0459		mg/L	92%	80 - 120	8114356	11/28/08 12:41
Vanadium	0.500	0.496		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Zinc	0.500	0.485		mg/L	97%	80 - 120	8114356	11/28/08 12:41
Mercury by EPA Methods 7470A/7471A								
8113965-BS1								
Mercury	0.00100	0.000950		mg/L	95%	78 - 124	8113965	11/25/08 16:36
8113969-BS1								

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK2045
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A								
8113969-BS1								
Mercury	0.00100	0.00106		mg/L	106%	78 - 124	8113969	11/25/08 17:36
Dissolved Mercury by EPA Methods 7470A/7471A								
8114421-BS1								
Mercury	0.00100	0.00110		mg/L	110%	78 - 124	8114421	11/26/08 16:30

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PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113612-MS1										
Bromide	ND	10.3		mg/L	10.0	103%	90 - 110	8113612	NRK2045-01	11/22/08 01:03
Chloride	10.9	16.2	A-01a	mg/L	3.00	174%	80 - 120	8113612	NRK2045-01	12/03/08 07:00
Fluoride	0.277	2.52		mg/L	2.00	112%	80 - 120	8113612	NRK2045-01	11/22/08 01:03
Nitrate as N	ND	3.12		mg/L	3.00	104%	80 - 120	8113612	NRK2045-01	11/22/08 01:03
8120098-MS1										
Total Organic Carbon	5.50	27.8		ug/mL	20.0	111%	79 - 130	8120098	NRK1860-03	12/01/08 12:00
8120198-MS1										
Alkalinity, Total (CaCO3)	25.9	113		ug/mL	100	87%	80 - 120	8120198	NRK1860-01	12/02/08 09:19
8120879-MS1										
Phosphorus	0.500	2.52		mg/L	2.00	101%	76 - 112	8120879	NRK2108-02	12/08/08 09:16
8121432-MS1										
Total Organic Halides	ND	0.207	M7	mg/L	0.100	207%	74 - 131	8121432	NRK1410-04	12/11/08 13:41
Total Metals by EPA Method 6010B										
8114336-MS1										
Aluminum	0.652	2.59		mg/L	2.00	97%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Antimony	ND	0.0897		mg/L	0.100	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Arsenic	ND	0.0457		mg/L	0.0500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Barium	0.129	2.05		mg/L	2.00	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Beryllium	0.00190	0.0489		mg/L	0.0500	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Boron	0.0146	0.964		mg/L	1.00	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cadmium	ND	0.0464		mg/L	0.0500	93%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Chromium	ND	0.180		mg/L	0.200	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cobalt	0.00380	0.464		mg/L	0.500	92%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Copper	ND	0.227		mg/L	0.250	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Iron	4.85	5.78		mg/L	1.00	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Lead	ND	0.0482		mg/L	0.0500	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Manganese	0.144	0.589		mg/L	0.500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Molybdenum	ND	0.448		mg/L	0.500	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Nickel	0.00850	0.482		mg/L	0.500	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Selenium	ND	0.0447		mg/L	0.0500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Silver	ND	0.0434		mg/L	0.0500	87%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Thallium	ND	0.0375		mg/L	0.0500	75%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Vanadium	0.00170	0.456		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Zinc	0.0365	0.493		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49

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	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
Dissolved Metals by EPA Method 6010B										
8114356-MS1										
Aluminum	0.0661	2.12		mg/L	2.00	103%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Arsenic	ND	0.0501		mg/L	0.0500	100%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Barium	0.0180	2.04		mg/L	2.00	101%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Beryllium	0.00100	0.0522		mg/L	0.0500	102%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Boron	0.0503	1.09		mg/L	1.00	104%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Chromium	ND	0.194		mg/L	0.200	97%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Cobalt	ND	0.497		mg/L	0.500	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Copper	ND	0.249		mg/L	0.250	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Iron	4.60	5.58		mg/L	1.00	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Lead	0.00360	0.0517		mg/L	0.0500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Manganese	0.222	0.702		mg/L	0.500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Molybdenum	ND	0.473		mg/L	0.500	95%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Nickel	ND	0.496		mg/L	0.500	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Selenium	ND	0.0519		mg/L	0.0500	104%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Silver	ND	0.0487		mg/L	0.0500	97%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Thallium	ND	0.0386		mg/L	0.0500	77%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Vanadium	ND	0.489		mg/L	0.500	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Zinc	ND	0.479		mg/L	0.500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Mercury by EPA Methods 7470A/7471A										
8113965-MS1										
Mercury	ND	0.000908		mg/L	0.00100	91%	63 - 138	8113965	NRK1831-01	11/25/08 16:40
8113969-MS1										
Mercury	ND	0.00122		mg/L	0.00100	122%	63 - 138	8113969	NRK2045-03	11/25/08 17:41
Dissolved Mercury by EPA Methods 7470A/7471A										
8114421-MS1										
Mercury	ND	0.00103		mg/L	0.00100	103%	63 - 138	8114421	NRK1848-02	11/26/08 15:40

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	Ashburn, VA 20147	Project Number:	3552081210
Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113612-MSD1												
Bromide	ND	10.3		mg/L	10.0	103%	90 - 110	0.2	20	8113612	NRK2045-01	11/22/08 01:21
Chloride	10.9	16.0	A-01	mg/L	3.00	171%	80 - 120	0.7	20	8113612	NRK2045-01	12/03/08 07:18
Fluoride	0.277	2.50		mg/L	2.00	111%	80 - 120	0.9	19	8113612	NRK2045-01	11/22/08 01:21
Nitrate as N	ND	3.12		mg/L	3.00	104%	80 - 120	0.1	20	8113612	NRK2045-01	11/22/08 01:21
8120098-MSD1												
Total Organic Carbon	5.50	27.8		ug/mL	20.0	112%	79 - 130	0.2	20	8120098	NRK1860-03	12/01/08 12:00
8120879-MSD1												
Phosphorus	0.500	2.65		mg/L	2.00	107%	76 - 112	5	20	8120879	NRK2108-02	12/08/08 09:16
8121432-MSD1												
Total Organic Halides	ND	0.237	M7	mg/L	0.100	237%	74 - 131	14	50	8121432	NRK1410-04	12/11/08 13:41
Total Metals by EPA Method 6010B												
8114336-MSD1												
Aluminum	0.652	2.65		mg/L	2.00	100%	75 - 125	2	20	8114336	NRK2324-02	11/28/08 16:56
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Arsenic	ND	0.0481		mg/L	0.0500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Barium	0.129	2.14		mg/L	2.00	101%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Beryllium	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Boron	0.0146	1.02		mg/L	1.00	101%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Chromium	ND	0.190		mg/L	0.200	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Cobalt	0.00380	0.490		mg/L	0.500	97%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Copper	ND	0.239		mg/L	0.250	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Iron	4.85	5.71		mg/L	1.00	86%	75 - 125	1	20	8114336	NRK2324-02	11/28/08 16:56
Lead	ND	0.0511		mg/L	0.0500	102%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Manganese	0.144	0.609		mg/L	0.500	93%	75 - 125	3	20	8114336	NRK2324-02	11/28/08 16:56
Molybdenum	ND	0.472		mg/L	0.500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Nickel	0.00850	0.511		mg/L	0.500	100%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Selenium	ND	0.0470		mg/L	0.0500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Silver	ND	0.0461		mg/L	0.0500	92%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Thallium	ND	0.0394		mg/L	0.0500	79%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Vanadium	0.00170	0.481		mg/L	0.500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Zinc	0.0365	0.516		mg/L	0.500	96%	75 - 125	4	20	8114336	NRK2324-02	11/28/08 16:56
Dissolved Metals by EPA Method 6010B												
8114356-MSD1												
Aluminum	0.0661	2.12		mg/L	2.00	103%	75 - 125	0.05	20	8114356	NRK1848-01	11/28/08 13:29
Antimony	ND	0.0974		mg/L	0.100	97%	75 - 125	3	20	8114356	NRK1848-01	11/28/08 13:29

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Attn	Luke Clark	Received:	11/21/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Dissolved Metals by EPA Method 6010B												
8114356-MSD1												
Arsenic	ND	0.0492		mg/L	0.0500	98%	75 - 125	2	20	8114356	NRK1848-01	11/28/08 13:29
Barium	0.0180	2.04		mg/L	2.00	101%	75 - 125	0.2	20	8114356	NRK1848-01	11/28/08 13:29
Beryllium	0.00100	0.0518		mg/L	0.0500	102%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Boron	0.0503	1.08		mg/L	1.00	103%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Cadmium	ND	0.0490		mg/L	0.0500	98%	75 - 125	0.4	20	8114356	NRK1848-01	11/28/08 13:29
Chromium	ND	0.192		mg/L	0.200	96%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Cobalt	ND	0.492		mg/L	0.500	98%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Copper	ND	0.248		mg/L	0.250	99%	75 - 125	0.08	20	8114356	NRK1848-01	11/28/08 13:29
Iron	4.60	5.52		mg/L	1.00	92%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Lead	0.00360	0.0503		mg/L	0.0500	93%	75 - 125	3	20	8114356	NRK1848-01	11/28/08 13:29
Manganese	0.222	0.696		mg/L	0.500	95%	75 - 125	0.9	20	8114356	NRK1848-01	11/28/08 13:29
Molybdenum	ND	0.476		mg/L	0.500	95%	75 - 125	0.6	20	8114356	NRK1848-01	11/28/08 13:29
Nickel	ND	0.492		mg/L	0.500	98%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Selenium	ND	0.0532		mg/L	0.0500	106%	75 - 125	2	20	8114356	NRK1848-01	11/28/08 13:29
Silver	ND	0.0483		mg/L	0.0500	97%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Thallium	ND	0.0329	M2	mg/L	0.0500	66%	75 - 125	16	20	8114356	NRK1848-01	11/28/08 13:29
Vanadium	ND	0.485		mg/L	0.500	97%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Zinc	ND	0.476		mg/L	0.500	95%	75 - 125	0.7	20	8114356	NRK1848-01	11/28/08 13:29
Mercury by EPA Methods 7470A/7471A												
8113965-MSD1												
Mercury	ND	0.00118	R3	mg/L	0.00100	118%	63 - 138	26	22	8113965	NRK1831-01	11/25/08 16:42
8113969-MSD1												
Mercury	ND	0.00107		mg/L	0.00100	107%	63 - 138	13	22	8113969	NRK2045-03	11/25/08 17:43
Dissolved Mercury by EPA Methods 7470A/7471A												
8114421-MSD1												
Mercury	ND	0.00113		mg/L	0.00100	113%	63 - 138	9	22	8114421	NRK1848-02	11/26/08 15:42

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CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

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DATA QUALIFIERS AND DEFINITIONS

A-01	The spiked recovery at a 2x dilution is 85%.
A-01a	The spiked recovery at a 2x dilution is 87%.
B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION
Nashville, TN

COOLER RECEIPT FORM

NRK2045

Cooler Received/Opened On: 11/21/08 @ 8:00

1. Tracking # 1473 (last 4 digits, FedEx)

   Fed-ex IR Gun ID:95610068

2. Temperature of rep. sample or temp blank when opened: 19 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: Front / Back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# 51441

BIS = Broken in shipment

THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Bulthy
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other Surface water Rinse Blank	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A				RUSH TAT (Pre Schedule) *	
MW-KH-1	11-20-08	1035	8	x		1			1			1	3	3	X						X	X	X	X	X	X	X	X	X	X	X						-1
SW-BGC-Rinse1	11/20/08	1400	6	x					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X					-2
MW-BGC-6A	11-20-08	1340	7	x					1			1	2	3	X						X	X	X	X	X		X	X	X	X	X	X					-3

NRK2045
12/08/08 23:59

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	11-20-08	1700	Fed Ex					
Shipped Via:			Shipped Via:					
Received for TestAmerica by:	Date: 11-21-08	Time: 0800	Temperature Upon Receipt: 1.0	Sample Containers Intact? Y N VOCs Free of Headspace? Y N		QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)		Date Due of Report:

50712

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 08, 2008 6:15:27PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK1875
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/20/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-BGC-SG3	NRK1875-01	11/19/08 13:15
SW-BGC-SG11	NRK1875-02	11/19/08 15:15
SW-BGC-SG12	NRK1875-03	11/19/08 15:35
SW-BGC-SG19	NRK1875-04	11/19/08 16:05

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:
The test for TDS was inadvertently requested for these samples. At the request of the consultant, the test for TSS was analyzed instead of TDS.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa Headley

Senior Project Manager

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1875-01 (SW-BGC-SG3 - Water) Sampled: 11/19/08 13:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**24.9**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**27.4**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND	M7	mg/L	0.500	1.00	1	11/30/08 21:14	EPA 300.1	8113336
Chloride	**16.7**	M8	mg/L	1.00	2.00	2	11/30/08 16:01	EPA 300.0	8113336
Fluoride	**0.412**	M7	mg/L	0.0500	0.100	1	11/30/08 21:14	EPA 300.0	8113336
Nitrate as N	**0.172**		mg/L	0.0500	0.100	1	11/21/08 10:58	EPA 300.0	8113336
Phosphorus	**0.0710**	J	mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**18.3**		mg/L	0.500	1.00	1	11/30/08 21:14	EPA 300.0	8113336
Total Organic Carbon	**5.54**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Suspended Solids	**13.4**		mg/L	1.00	2.00	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**3.28**		mg/L	0.0180	0.100	1	11/28/08 10:56	SW846 6010B	8113920
Antimony	**0.00490**	J	mg/L	0.00380	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Barium	**0.0462**		mg/L	0.00150	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Beryllium	**0.00120**	J	mg/L	0.00100	0.00400	1	11/28/08 10:56	SW846 6010B	8113920
Boron	**0.0363**	J	mg/L	0.00200	0.0500	1	11/28/08 10:56	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:56	SW846 6010B	8113920
Calcium	**11.8**		mg/L	0.100	1.00	1	11/28/08 10:56	SW846 6010B	8113920
Chromium	**0.00470**	J	mg/L	0.00150	0.00500	1	11/28/08 10:56	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:56	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Iron	**2.26**		mg/L	0.0280	0.0500	1	11/28/08 10:56	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:56	SW846 6010B	8113920
Magnesium	**3.86**		mg/L	0.100	1.00	1	11/28/08 10:56	SW846 6010B	8113920
Manganese	**0.0180**		mg/L	0.00100	0.0150	1	11/28/08 10:56	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:56	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Potassium	**4.44**		mg/L	0.200	1.00	1	11/28/08 10:56	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:56	SW846 6010B	8113920
Sodium	**7.00**		mg/L	0.500	1.00	1	11/28/08 10:56	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:56	SW846 6010B	8113920
Vanadium	**0.00590**	J	mg/L	0.00150	0.0200	1	11/28/08 10:56	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:56	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:16	SW846 7470A	8113965

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1875-02 (SW-BGC-SG11 - Water) Sampled: 11/19/08 15:15									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	**1.03**		mg/L	0.500	1.00	1	11/30/08 22:09	EPA 300.1	8113336
Chloride	**178**		mg/L	10.0	20.0	20	11/30/08 17:33	EPA 300.0	8113336
Fluoride	**0.190**		mg/L	0.0500	0.100	1	11/30/08 22:09	EPA 300.0	8113336
Nitrate as N	**0.0730**	J	mg/L	0.0500	0.100	1	11/21/08 12:30	EPA 300.0	8113336
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**70.0**		mg/L	2.50	5.00	5	11/30/08 17:52	EPA 300.0	8113336
Total Organic Carbon	**4.67**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Suspended Solids	**8.86**		mg/L	1.43	2.86	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.653**		mg/L	0.0180	0.100	1	11/28/08 11:01	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Barium	**0.0575**		mg/L	0.00150	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Beryllium	**0.00150**	J	mg/L	0.00100	0.00400	1	11/28/08 11:01	SW846 6010B	8113920
Boron	**0.0449**	J	mg/L	0.00200	0.0500	1	11/28/08 11:01	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 11:01	SW846 6010B	8113920
Calcium	**28.4**		mg/L	0.100	1.00	1	11/28/08 11:01	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 11:01	SW846 6010B	8113920
Cobalt	**0.00500**	J	mg/L	0.00200	0.0200	1	11/28/08 11:01	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Iron	**1.80**		mg/L	0.0280	0.0500	1	11/28/08 11:01	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 11:01	SW846 6010B	8113920
Magnesium	**6.08**		mg/L	0.100	1.00	1	11/28/08 11:01	SW846 6010B	8113920
Manganese	**0.166**		mg/L	0.00100	0.0150	1	11/28/08 11:01	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 11:01	SW846 6010B	8113920
Nickel	**0.00520**	J	mg/L	0.00240	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Potassium	**20.7**		mg/L	0.200	1.00	1	11/28/08 11:01	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 11:01	SW846 6010B	8113920
Sodium	**81.6**		mg/L	5.00	10.0	10	11/28/08 11:58	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 11:01	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 11:01	SW846 6010B	8113920
Zinc	**0.0223**	J	mg/L	0.0100	0.0500	1	11/28/08 11:01	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:18	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1875-03 (SW-BGC-SG12 - Water) Sampled: 11/19/08 15:35									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**32.6**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	**1.22**		mg/L	0.500	1.00	1	11/30/08 22:28	EPA 300.1	8113336
Chloride	**241**		mg/L	10.0	20.0	20	11/30/08 18:10	EPA 300.0	8113336
Fluoride	**0.290**		mg/L	0.0500	0.100	1	11/30/08 22:28	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 12:48	EPA 300.0	8113336
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**163**		mg/L	10.0	20.0	20	11/30/08 18:10	EPA 300.0	8113336
Total Organic Carbon	**2.45**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Suspended Solids	**2.53**		mg/L	0.667	1.33	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**5.00**		mg/L	0.0180	0.100	1	11/28/08 11:05	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Barium	**0.0839**		mg/L	0.00150	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Beryllium	**0.00270**	J	mg/L	0.00100	0.00400	1	11/28/08 11:05	SW846 6010B	8113920
Boron	**0.0403**	J	mg/L	0.00200	0.0500	1	11/28/08 11:05	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 11:05	SW846 6010B	8113920
Calcium	**41.0**		mg/L	0.100	1.00	1	11/28/08 11:05	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 11:05	SW846 6010B	8113920
Cobalt	**0.0377**		mg/L	0.00200	0.0200	1	11/28/08 11:05	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Iron	**4.03**		mg/L	0.0280	0.0500	1	11/28/08 11:05	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 11:05	SW846 6010B	8113920
Magnesium	**8.98**		mg/L	0.100	1.00	1	11/28/08 11:05	SW846 6010B	8113920
Manganese	**0.337**		mg/L	0.00100	0.0150	1	11/28/08 11:05	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 11:05	SW846 6010B	8113920
Nickel	**0.0383**		mg/L	0.00240	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Potassium	**24.0**		mg/L	0.200	1.00	1	11/28/08 11:05	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 11:05	SW846 6010B	8113920
Sodium	**103**		mg/L	5.00	10.0	10	11/28/08 12:03	SW846 6010B	8113920
Thallium	ND	M2	mg/L	0.00750	0.0100	1	11/28/08 11:05	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 11:05	SW846 6010B	8113920
Zinc	**0.0806**		mg/L	0.0100	0.0500	1	11/28/08 11:05	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:25	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1875-04 (SW-BGC-SG19 - Water) Sampled: 11/19/08 16:05									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**14.4**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**15.9**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 22:46	EPA 300.1	8113336
Chloride	**20.8**		mg/L	1.00	2.00	2	11/30/08 18:29	EPA 300.0	8113336
Fluoride	**0.302**		mg/L	0.0500	0.100	1	11/30/08 22:46	EPA 300.0	8113336
Nitrate as N	**0.0650**	J	mg/L	0.0500	0.100	1	11/21/08 13:06	EPA 300.0	8113336
Phosphorus	**0.0650**	J	mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	**12.6**		mg/L	0.500	1.00	1	11/30/08 22:46	EPA 300.0	8113336
Total Organic Carbon	**5.31**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Suspended Solids	**28.2**		mg/L	1.25	2.50	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**3.21**		mg/L	0.0180	0.100	1	11/28/08 14:53	SW846 6010B	8114336
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Barium	**0.0508**		mg/L	0.00150	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 14:53	SW846 6010B	8114336
Boron	**0.0458**	J	mg/L	0.00200	0.0500	1	11/28/08 14:53	SW846 6010B	8114336
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 14:53	SW846 6010B	8114336
Calcium	**9.67**		mg/L	0.100	1.00	1	11/28/08 14:53	SW846 6010B	8114336
Chromium	**0.00410**	J	mg/L	0.00150	0.00500	1	11/28/08 14:53	SW846 6010B	8114336
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 14:53	SW846 6010B	8114336
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Iron	**2.10**		mg/L	0.0280	0.0500	1	11/28/08 14:53	SW846 6010B	8114336
Lead	**0.00390**	J	mg/L	0.00280	0.00500	1	11/28/08 14:53	SW846 6010B	8114336
Magnesium	**2.24**		mg/L	0.100	1.00	1	11/28/08 14:53	SW846 6010B	8114336
Manganese	**0.00970**	J	mg/L	0.00100	0.0150	1	11/28/08 14:53	SW846 6010B	8114336
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 14:53	SW846 6010B	8114336
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Potassium	**4.80**		mg/L	0.200	1.00	1	11/28/08 14:53	SW846 6010B	8114336
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 14:53	SW846 6010B	8114336
Sodium	**7.93**		mg/L	0.500	1.00	1	11/28/08 14:53	SW846 6010B	8114336
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 14:53	SW846 6010B	8114336
Vanadium	**0.00600**	J	mg/L	0.00150	0.0200	1	11/28/08 14:53	SW846 6010B	8114336
Zinc	**0.0135**	J	mg/L	0.0100	0.0500	1	11/28/08 14:53	SW846 6010B	8114336
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:27	SW846 7470A	8113965

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113965	NRK1875-01	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1875-02	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1875-03	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1875-04	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1875-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8114336	NRK1875-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113336-BLK1						
Bromide	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Chloride	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Fluoride	<0.0500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Nitrate as N	<0.0500		mg/L	8113336	8113336-BLK1	11/21/08 07:54
Sulfate	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
8113403-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113403	8113403-BLK1	11/20/08 16:29
8113447-BLK1						
Total Organic Carbon	<0.500		mg/L	8113447	8113447-BLK1	11/21/08 12:46
8113658-BLK1						
Total Suspended Solids	<0.500		mg/L	8113658	8113658-BLK1	11/22/08 18:12
8120198-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8120198	8120198-BLK1	12/02/08 09:19
8120879-BLK1						
Phosphorus	<0.0450		mg/L	8120879	8120879-BLK1	12/08/08 09:16
Total Metals by EPA Method 6010B						
8113920-BLK1						
Aluminum	<0.0180		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Antimony	<0.00380		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Arsenic	<0.00450		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Barium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Beryllium	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Boron	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cadmium	<0.000500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Calcium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Chromium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cobalt	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Copper	<0.00350		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Iron	<0.0280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Lead	<0.00280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Magnesium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Manganese	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Molybdenum	<0.00900		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Nickel	<0.00240		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Potassium	<0.200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Selenium	<0.00430		mg/L	8113920	8113920-BLK1	11/28/08 09:05

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8113920-BLK1						
Silver	<0.00160		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Sodium	<0.500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Thallium	<0.00750		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Vanadium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Zinc	<0.0100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
8114336-BLK1						
Aluminum	0.0205	J	mg/L	8114336	8114336-BLK1	11/28/08 14:42
Antimony	<0.00380		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Arsenic	<0.00450		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Barium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Beryllium	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Boron	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cadmium	<0.000500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Calcium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Chromium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Cobalt	<0.00200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Copper	<0.00350		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Iron	<0.0280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Lead	<0.00280		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Magnesium	<0.100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Manganese	<0.00100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Molybdenum	<0.00900		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Nickel	<0.00240		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Potassium	<0.200		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Selenium	<0.00430		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Silver	<0.00160		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Sodium	<0.500		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Thallium	<0.00750		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Vanadium	<0.00150		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Zinc	<0.0100		mg/L	8114336	8114336-BLK1	11/28/08 14:42
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						
Mercury	<0.000150		mg/L	8113965	8113965-BLK1	11/25/08 16:34

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113336-DUP1									
Bromide	ND	<0.500		mg/L		20	8113336	NRK1875-04	11/30/08 23:05
Chloride	20.8	20.9		mg/L	0.1	20	8113336	NRK1875-04	11/30/08 18:47
Fluoride	0.302	0.301		mg/L	0.3	19	8113336	NRK1875-04	11/30/08 23:05
Nitrate as N	0.0650	0.0660	J	mg/L	2	20	8113336	NRK1875-04	11/21/08 13:25
Sulfate	12.6	12.5		mg/L	1	20	8113336	NRK1875-04	11/30/08 23:05
8113403-DUP1									
Bicarbonate Alkalinity as CaCO3	15.9	15.1		mg/L	5	20	8113403	NRK1875-04	11/20/08 16:29
8113447-DUP1									
Total Organic Carbon	5.31	5.24		mg/L	1	20	8113447	NRK1875-04	11/21/08 12:46
8113658-DUP1									
Total Suspended Solids	39.3	34.0		mg/L	14	20	8113658	NRK1860-04	11/22/08 18:12
8113658-DUP2									
Total Suspended Solids	28.2	23.5		mg/L	18	20	8113658	NRK1875-04	11/22/08 18:12
8120198-DUP1									
Alkalinity, Total (CaCO3)	203	200		mg/L	1	20	8120198	NRK1855-04	12/02/08 09:19
8120879-DUP1									
Phosphorus	0.847	0.874		mg/L	3	20	8120879	NRK1874-01	12/08/08 09:16

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113336-BS1								
Bromide	10.0	9.82		mg/L	98%	90 - 110	8113336	11/30/08 13:16
Chloride	3.00	2.99		mg/L	100%	90 - 110	8113336	11/30/08 13:16
Fluoride	2.00	2.20		mg/L	110%	90 - 110	8113336	11/30/08 13:16
Nitrate as N	3.00	3.28		mg/L	109%	90 - 110	8113336	11/21/08 08:31
Sulfate	15.0	14.8		mg/L	98%	90 - 110	8113336	11/30/08 13:16
8113447-BS1								
Total Organic Carbon	10.0	10.4		ug/mL	104%	90 - 110	8113447	11/21/08 12:46
8113658-BS1								
Total Suspended Solids	100	99.0		ug/mL	99%	90 - 110	8113658	11/22/08 18:12
8120198-BS1								
Alkalinity, Total (CaCO3)	100	103		ug/mL	103%	90 - 110	8120198	12/02/08 09:19
8120879-BS1								
Phosphorus	2.00	2.14		mg/L	107%	90 - 110	8120879	12/08/08 09:16
Total Metals by EPA Method 6010B								
8113920-BS1								
Aluminum	2.00	1.99		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Antimony	0.100	0.0914		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Arsenic	0.0500	0.0486		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Barium	2.00	1.98		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8113920	11/28/08 09:15
Boron	1.00	0.982		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Cadmium	0.0500	0.0496		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Calcium	5.00	4.87		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Chromium	0.200	0.199		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Cobalt	0.500	0.508		mg/L	102%	80 - 120	8113920	11/28/08 09:15
Copper	0.250	0.245		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Iron	1.00	0.994		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Lead	0.0500	0.0494		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Magnesium	5.00	4.92		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Manganese	0.500	0.498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Molybdenum	0.500	0.483		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Nickel	0.500	0.488		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Potassium	5.00	4.16		mg/L	83%	80 - 120	8113920	11/28/08 09:15
Selenium	0.0500	0.0518		mg/L	104%	80 - 120	8113920	11/28/08 09:15
Silver	0.0500	0.0504		mg/L	101%	80 - 120	8113920	11/28/08 09:15
Sodium	5.00	4.56		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Thallium	0.0500	0.0498		mg/L	100%	80 - 120	8113920	11/28/08 09:15

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8113920-BS1								
Vanadium	0.500	0.495		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Zinc	0.500	0.481		mg/L	96%	80 - 120	8113920	11/28/08 09:15
8114336-BS1								
Aluminum	2.00	2.00		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Antimony	0.100	0.0890		mg/L	89%	80 - 120	8114336	11/28/08 14:46
Arsenic	0.0500	0.0491		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Barium	2.00	2.02		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Beryllium	0.0500	0.0504		mg/L	101%	80 - 120	8114336	11/28/08 14:46
Boron	1.00	0.996		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Cadmium	0.0500	0.0501		mg/L	100%	80 - 120	8114336	11/28/08 14:46
Calcium	5.00	4.62		mg/L	92%	80 - 120	8114336	11/28/08 14:46
Chromium	0.200	0.191		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Cobalt	0.500	0.486		mg/L	97%	80 - 120	8114336	11/28/08 14:46
Copper	0.250	0.237		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Iron	1.00	0.936		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Lead	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Magnesium	5.00	4.89		mg/L	98%	80 - 120	8114336	11/28/08 14:46
Manganese	0.500	0.471		mg/L	94%	80 - 120	8114336	11/28/08 14:46
Molybdenum	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Nickel	0.500	0.494		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Potassium	5.00	4.30		mg/L	86%	80 - 120	8114336	11/28/08 14:46
Selenium	0.0500	0.0496		mg/L	99%	80 - 120	8114336	11/28/08 14:46
Silver	0.0500	0.0467		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Sodium	5.00	4.39		mg/L	88%	80 - 120	8114336	11/28/08 14:46
Thallium	0.0500	0.0465		mg/L	93%	80 - 120	8114336	11/28/08 14:46
Vanadium	0.500	0.481		mg/L	96%	80 - 120	8114336	11/28/08 14:46
Zinc	0.500	0.474		mg/L	95%	80 - 120	8114336	11/28/08 14:46
Mercury by EPA Methods 7470A/7471A								
8113965-BS1								
Mercury	0.00100	0.000950		mg/L	95%	78 - 124	8113965	11/25/08 16:36

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK1875
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113336-MS1										
Bromide	ND	11.1	M7	mg/L	10.0	111%	90 - 110	8113336	NRK1875-01	11/30/08 21:33
Chloride	16.7	21.0	A-01a,	mg/L	3.00	145%	80 - 120	8113336	NRK1875-01	11/30/08 16:20
Fluoride	0.412	2.84	M7	mg/L	2.00	121%	80 - 120	8113336	NRK1875-01	11/30/08 21:33
Nitrate as N	0.172	3.44		mg/L	3.00	109%	80 - 120	8113336	NRK1875-01	11/21/08 11:16
Sulfate	18.3	31.7		mg/L	15.0	90%	80 - 120	8113336	NRK1875-01	11/30/08 21:33
8113447-MS1										
Total Organic Carbon	3.88	26.4		ug/mL	20.0	112%	79 - 130	8113447	NRK1864-01	11/21/08 12:46
8120198-MS1										
Alkalinity, Total (CaCO3)	25.9	113		ug/mL	100	87%	80 - 120	8120198	NRK1860-01	12/02/08 09:19
8120879-MS1										
Phosphorus	0.500	2.52		mg/L	2.00	101%	76 - 112	8120879	NRK2108-02	12/08/08 09:16
Total Metals by EPA Method 6010B										
8113920-MS1										
Aluminum	5.00	7.14		mg/L	2.00	107%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Antimony	ND	0.0966		mg/L	0.100	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Arsenic	ND	0.0500		mg/L	0.0500	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Barium	0.0839	2.09		mg/L	2.00	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Beryllium	0.00270	0.0558		mg/L	0.0500	106%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Boron	0.0403	1.08		mg/L	1.00	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cadmium	ND	0.0503		mg/L	0.0500	101%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Chromium	ND	0.198		mg/L	0.200	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cobalt	0.0377	0.556		mg/L	0.500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Copper	ND	0.259		mg/L	0.250	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Iron	4.03	4.97		mg/L	1.00	94%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Lead	ND	0.0545		mg/L	0.0500	109%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Manganese	0.337	0.826		mg/L	0.500	98%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Molybdenum	ND	0.485		mg/L	0.500	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Nickel	0.0383	0.535		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Selenium	ND	0.0511		mg/L	0.0500	102%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Silver	ND	0.0518		mg/L	0.0500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Thallium	ND	0.0411		mg/L	0.0500	82%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Vanadium	ND	0.496		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Zinc	0.0806	0.576		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
8114336-MS1										

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8114336-MS1										
Aluminum	0.652	2.59		mg/L	2.00	97%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Antimony	ND	0.0897		mg/L	0.100	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Arsenic	ND	0.0457		mg/L	0.0500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Barium	0.129	2.05		mg/L	2.00	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Beryllium	0.00190	0.0489		mg/L	0.0500	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Boron	0.0146	0.964		mg/L	1.00	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cadmium	ND	0.0464		mg/L	0.0500	93%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Chromium	ND	0.180		mg/L	0.200	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Cobalt	0.00380	0.464		mg/L	0.500	92%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Copper	ND	0.227		mg/L	0.250	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Iron	4.85	5.78		mg/L	1.00	94%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Lead	ND	0.0482		mg/L	0.0500	96%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Manganese	0.144	0.589		mg/L	0.500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Molybdenum	ND	0.448		mg/L	0.500	90%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Nickel	0.00850	0.482		mg/L	0.500	95%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Selenium	ND	0.0447		mg/L	0.0500	89%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Silver	ND	0.0434		mg/L	0.0500	87%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Thallium	ND	0.0375		mg/L	0.0500	75%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Vanadium	0.00170	0.456		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Zinc	0.0365	0.493		mg/L	0.500	91%	75 - 125	8114336	NRK2324-02	11/28/08 16:49
Mercury by EPA Methods 7470A/7471A										
8113965-MS1										
Mercury	ND	0.000908		mg/L	0.00100	91%	63 - 138	8113965	NRK1831-01	11/25/08 16:40

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113336-MSD1												
Bromide	ND	11.8	M7	mg/L	10.0	118%	90 - 110	7	20	8113336	NRK1875-01	11/30/08 21:51
Chloride	16.7	20.3	A-01,	mg/L	3.00	121%	80 - 120	3	20	8113336	NRK1875-01	11/30/08 17:15
Fluoride	0.412	2.99	M7	mg/L	2.00	129%	80 - 120	5	19	8113336	NRK1875-01	11/30/08 21:51
Nitrate as N	0.172	3.50		mg/L	3.00	111%	80 - 120	2	20	8113336	NRK1875-01	11/21/08 11:34
Sulfate	18.3	34.1		mg/L	15.0	106%	80 - 120	7	20	8113336	NRK1875-01	11/30/08 21:51
8113447-MSD1												
Total Organic Carbon	3.88	26.6		ug/mL	20.0	113%	79 - 130	0.7	20	8113447	NRK1864-01	11/21/08 12:46
8120879-MSD1												
Phosphorus	0.500	2.65		mg/L	2.00	107%	76 - 112	5	20	8120879	NRK2108-02	12/08/08 09:16
Total Metals by EPA Method 6010B												
8113920-MSD1												
Aluminum	5.00	6.95		mg/L	2.00	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Antimony	ND	0.0928		mg/L	0.100	93%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Arsenic	ND	0.0453		mg/L	0.0500	91%	75 - 125	10	20	8113920	NRK1875-03	11/28/08 11:49
Barium	0.0839	2.03		mg/L	2.00	97%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Beryllium	0.00270	0.0528		mg/L	0.0500	100%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Boron	0.0403	1.03		mg/L	1.00	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cadmium	ND	0.0489		mg/L	0.0500	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Chromium	ND	0.191		mg/L	0.200	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cobalt	0.0377	0.533		mg/L	0.500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Copper	ND	0.250		mg/L	0.250	100%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Iron	4.03	4.85		mg/L	1.00	82%	75 - 125	2	20	8113920	NRK1875-03	11/28/08 11:49
Lead	ND	0.0512		mg/L	0.0500	102%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Manganese	0.337	0.797		mg/L	0.500	92%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Nickel	0.0383	0.515		mg/L	0.500	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Selenium	ND	0.0514		mg/L	0.0500	103%	75 - 125	0.6	20	8113920	NRK1875-03	11/28/08 11:49
Silver	ND	0.0496		mg/L	0.0500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Thallium	ND	0.0348	M2	mg/L	0.0500	70%	75 - 125	17	20	8113920	NRK1875-03	11/28/08 11:49
Vanadium	ND	0.478		mg/L	0.500	96%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Zinc	0.0806	0.545		mg/L	0.500	93%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
8114336-MSD1												
Aluminum	0.652	2.65		mg/L	2.00	100%	75 - 125	2	20	8114336	NRK2324-02	11/28/08 16:56
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Arsenic	ND	0.0481		mg/L	0.0500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Barium	0.129	2.14		mg/L	2.00	101%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Beryllium	0.00190	0.0515		mg/L	0.0500	99%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA Method 6010B												
8114336-MSD1												
Boron	0.0146	1.02		mg/L	1.00	101%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Chromium	ND	0.190		mg/L	0.200	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Cobalt	0.00380	0.490		mg/L	0.500	97%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Copper	ND	0.239		mg/L	0.250	95%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Iron	4.85	5.71		mg/L	1.00	86%	75 - 125	1	20	8114336	NRK2324-02	11/28/08 16:56
Lead	ND	0.0511		mg/L	0.0500	102%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Manganese	0.144	0.609		mg/L	0.500	93%	75 - 125	3	20	8114336	NRK2324-02	11/28/08 16:56
Molybdenum	ND	0.472		mg/L	0.500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Nickel	0.00850	0.511		mg/L	0.500	100%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Selenium	ND	0.0470		mg/L	0.0500	94%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Silver	ND	0.0461		mg/L	0.0500	92%	75 - 125	6	20	8114336	NRK2324-02	11/28/08 16:56
Thallium	ND	0.0394		mg/L	0.0500	79%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Vanadium	0.00170	0.481		mg/L	0.500	96%	75 - 125	5	20	8114336	NRK2324-02	11/28/08 16:56
Zinc	0.0365	0.516		mg/L	0.500	96%	75 - 125	4	20	8114336	NRK2324-02	11/28/08 16:56
Mercury by EPA Methods 7470A/7471A												
8113965-MSD1												
Mercury	ND	0.00118	R3	mg/L	0.00100	118%	63 - 138	26	22	8113965	NRK1831-01	11/25/08 16:42

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1875
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

DATA QUALIFIERS AND DEFINITIONS

A-01	The spiked recovery at a 2x dilution is 61%.
A-01a	The spiked recovery at a 2x dilution is 73%.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIP

NRK1875

Cooler Received/Opened On 11/20/2008 @ 0800

1. Tracking # 0197 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 0.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 2 front/back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) D

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA @ 11-20-08

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50732

THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Drive • Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NRK1875
12/05/08 23:59

Page 1 of 1

50733

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print)
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Project # ~~Facility ID~~: [none] 3552-08-1210
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	Plastic (Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Surface Water (specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.0	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see SOC	METALS - TOTAL - see SOC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A					RUSH TAT (Pre Scheduled) *
SW-BGC-SG3	11/19/08	1315	6	X					1		1	1	1	3						X	X	X	X	X	X		X	X	X	X	X	X	NRK1875				01
SW-BGC-SG11	11/19/08	1515	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X					02
SW-BGC-SG12	11/19/08	1535	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X					03
SW-BGC-SG19	11/19/08	1605	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X					04

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
[signature]	11/19/08	1620	[signature]	11/19/08	1620	[signature]	11/19/08	1700

Shipped Via:	Received for TestAmerica by:	Date:	Time:
FedEx	[signature]	11-20-08	0800

Shipped Via:
Temperature Upon Receipt: 0°C
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 17, 2008 8:58:21AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK1864
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/20/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-KH-3	NRK1864-01	11/19/08 13:10
MW-KH-2	NRK1864-02	11/19/08 16:00
Rinse Blank	NRK1864-03	11/19/08 16:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1864-01 (MW-KH-3 - Water) Sampled: 11/19/08 13:10									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**51.4**		mg/L	5.00	10.0	1	11/29/08 10:23	SM2320 B	8114801
Bicarbonate Alkalinity as CaCO3	**52.3**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 07:08	EPA 300.1	8113325
Chloride	**50.0**		mg/L	10.0	20.0	20	11/30/08 06:49	EPA 300.0	8113325
Fluoride	**0.855**		mg/L	0.0500	0.100	1	11/30/08 07:08	EPA 300.0	8113325
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 05:45	EPA 300.0	8113325
Phosphorus	**0.329**		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**153**		mg/L	10.0	20.0	20	11/30/08 06:49	EPA 300.0	8113325
Total Dissolved Solids	**244**		mg/L	10.0	20.0	1	11/22/08 23:59	SM2540 C	8113835
Total Organic Carbon	**3.88**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.688**		mg/L	0.0180	0.100	1	11/28/08 10:42	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Barium	**0.0268**		mg/L	0.00150	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Beryllium	**0.00120**	J	mg/L	0.00100	0.00400	1	11/28/08 10:42	SW846 6010B	8113920
Boron	**0.0271**	J	mg/L	0.00200	0.0500	1	11/28/08 10:42	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:42	SW846 6010B	8113920
Calcium	**43.9**		mg/L	0.100	1.00	1	11/28/08 10:42	SW846 6010B	8113920
Chromium	**0.00160**	J	mg/L	0.00150	0.00500	1	11/28/08 10:42	SW846 6010B	8113920
Cobalt	**0.00970**	J	mg/L	0.00200	0.0200	1	11/28/08 10:42	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Iron	**6.99**		mg/L	0.0280	0.0500	1	11/28/08 10:42	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:42	SW846 6010B	8113920
Magnesium	**20.6**		mg/L	0.100	1.00	1	11/28/08 10:42	SW846 6010B	8113920
Manganese	**0.195**		mg/L	0.00100	0.0150	1	11/28/08 10:42	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:42	SW846 6010B	8113920
Nickel	**0.0203**		mg/L	0.00240	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Potassium	**2.58**		mg/L	0.200	1.00	1	11/28/08 10:42	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:42	SW846 6010B	8113920
Sodium	**22.8**		mg/L	0.500	1.00	1	11/28/08 10:42	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:42	SW846 6010B	8113920
Vanadium	**0.00220**	J	mg/L	0.00150	0.0200	1	11/28/08 10:42	SW846 6010B	8113920
Zinc	**0.0585**		mg/L	0.0100	0.0500	1	11/28/08 10:42	SW846 6010B	8113920
Dissolved Metals by EPA Method 6010B									
Aluminum	**0.0886**	J, B	mg/L	0.0180	0.100	1	11/28/08 13:43	SW846 6010B	8114356
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Barium	**0.0249**		mg/L	0.00150	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 13:43	SW846 6010B	8114356
Boron	**0.0263**	J	mg/L	0.00200	0.0500	1	11/28/08 13:43	SW846 6010B	8114356

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1864-01 (MW-KH-3 - Water) - cont. Sampled: 11/19/08 13:10									
Dissolved Metals by EPA Method 6010B - cont.									
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 13:43	SW846 6010B	8114356
Calcium	**42.4**		mg/L	0.100	1.00	1	11/28/08 13:43	SW846 6010B	8114356
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 13:43	SW846 6010B	8114356
Cobalt	**0.00850**	J	mg/L	0.00200	0.0200	1	11/28/08 13:43	SW846 6010B	8114356
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Iron	**5.71**		mg/L	0.0280	0.0500	1	11/28/08 13:43	SW846 6010B	8114356
Lead	**0.00300**	J	mg/L	0.00280	0.00500	1	11/28/08 13:43	SW846 6010B	8114356
Magnesium	**20.2**		mg/L	0.100	1.00	1	11/28/08 13:43	SW846 6010B	8114356
Manganese	**0.182**		mg/L	0.00100	0.0150	1	11/28/08 13:43	SW846 6010B	8114356
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 13:43	SW846 6010B	8114356
Nickel	**0.0185**		mg/L	0.00240	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Potassium	**2.54**		mg/L	0.200	1.00	1	11/28/08 13:43	SW846 6010B	8114356
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 13:43	SW846 6010B	8114356
Sodium	**22.4**		mg/L	0.500	1.00	1	11/28/08 13:43	SW846 6010B	8114356
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 13:43	SW846 6010B	8114356
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 13:43	SW846 6010B	8114356
Zinc	**0.0523**		mg/L	0.0100	0.0500	1	11/28/08 13:43	SW846 6010B	8114356
Mercury by EPA Methods 7470A/7471A									
Mercury	**0.000200**		mg/L	0.000150	0.000200	1	11/25/08 17:09	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	**0.000156**	J	mg/L	0.000150	0.000200	1	11/26/08 15:46	SW846 7470A	8114421
Sample ID: NRK1864-02 (MW-KH-2 - Water) Sampled: 11/19/08 16:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**94.9**		mg/L	5.00	10.0	1	11/29/08 10:23	SM2320 B	8114801
Bicarbonate Alkalinity as CaCO3	**95.3**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 08:21	EPA 300.1	8113325
Chloride	**75.9**		mg/L	10.0	20.0	20	11/30/08 08:03	EPA 300.0	8113325
Fluoride	**0.410**		mg/L	0.0500	0.100	1	11/30/08 08:21	EPA 300.0	8113325
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 06:40	EPA 300.0	8113325
Phosphorus	ND		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**172**		mg/L	10.0	20.0	20	11/30/08 08:03	EPA 300.0	8113325
Total Dissolved Solids	**457**		mg/L	5.00	10.0	1	11/22/08 23:59	SM2540 C	8113835
Total Organic Carbon	**6.75**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Organic Halides	**0.0488**		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.230**		mg/L	0.0180	0.100	1	11/28/08 10:47	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Arsenic	**0.00560**	J	mg/L	0.00450	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Barium	**0.0560**		mg/L	0.00150	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Beryllium	**0.00100**	J	mg/L	0.00100	0.00400	1	11/28/08 10:47	SW846 6010B	8113920
Boron	**0.118**		mg/L	0.00200	0.0500	1	11/28/08 10:47	SW846 6010B	8113920

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1864-02 (MW-KH-2 - Water) - cont. Sampled: 11/19/08 16:00									
Total Metals by EPA Method 6010B - cont.									
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:47	SW846 6010B	8113920
Calcium	**65.4**		mg/L	0.100	1.00	1	11/28/08 10:47	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 10:47	SW846 6010B	8113920
Cobalt	**0.00520**	J	mg/L	0.00200	0.0200	1	11/28/08 10:47	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Iron	**2.36**		mg/L	0.0280	0.0500	1	11/28/08 10:47	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:47	SW846 6010B	8113920
Magnesium	**21.0**		mg/L	0.100	1.00	1	11/28/08 10:47	SW846 6010B	8113920
Manganese	**0.270**		mg/L	0.00100	0.0150	1	11/28/08 10:47	SW846 6010B	8113920
Molybdenum	**0.00960**	J	mg/L	0.00900	0.0500	1	11/28/08 10:47	SW846 6010B	8113920
Nickel	**0.0135**		mg/L	0.00240	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Potassium	**6.48**		mg/L	0.200	1.00	1	11/28/08 10:47	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:47	SW846 6010B	8113920
Sodium	**36.2**		mg/L	0.500	1.00	1	11/28/08 10:47	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:47	SW846 6010B	8113920
Vanadium	**0.00160**	J	mg/L	0.00150	0.0200	1	11/28/08 10:47	SW846 6010B	8113920
Zinc	**1.33**		mg/L	0.0100	0.0500	1	11/28/08 10:47	SW846 6010B	8113920
Dissolved Metals by EPA Method 6010B									
Aluminum	**0.0589**	J, B	mg/L	0.0180	0.100	1	11/28/08 13:47	SW846 6010B	8114356
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Arsenic	**0.00600**	J	mg/L	0.00450	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Barium	**0.0565**		mg/L	0.00150	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 13:47	SW846 6010B	8114356
Boron	**0.120**		mg/L	0.00200	0.0500	1	11/28/08 13:47	SW846 6010B	8114356
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 13:47	SW846 6010B	8114356
Calcium	**63.4**		mg/L	0.100	1.00	1	11/28/08 13:47	SW846 6010B	8114356
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 13:47	SW846 6010B	8114356
Cobalt	**0.00440**	J	mg/L	0.00200	0.0200	1	11/28/08 13:47	SW846 6010B	8114356
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Iron	**1.71**		mg/L	0.0280	0.0500	1	11/28/08 13:47	SW846 6010B	8114356
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 13:47	SW846 6010B	8114356
Magnesium	**20.8**		mg/L	0.100	1.00	1	11/28/08 13:47	SW846 6010B	8114356
Manganese	**0.258**		mg/L	0.00100	0.0150	1	11/28/08 13:47	SW846 6010B	8114356
Molybdenum	**0.00940**	J	mg/L	0.00900	0.0500	1	11/28/08 13:47	SW846 6010B	8114356
Nickel	**0.0131**		mg/L	0.00240	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Potassium	**6.66**		mg/L	0.200	1.00	1	11/28/08 13:47	SW846 6010B	8114356
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 13:47	SW846 6010B	8114356
Sodium	**36.0**		mg/L	0.500	1.00	1	11/28/08 13:47	SW846 6010B	8114356
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 13:47	SW846 6010B	8114356
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 13:47	SW846 6010B	8114356
Zinc	**1.29**		mg/L	0.0100	0.0500	1	11/28/08 13:47	SW846 6010B	8114356

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1864-02 (MW-KH-2 - Water) - cont. Sampled: 11/19/08 16:00									
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:12	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/26/08 15:53	SW846 7470A	8114421
Sample ID: NRK1864-03 (Rinse Blank - Water) Sampled: 11/19/08 16:30									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	11/29/08 10:23	SM2320 B	8114801
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 08:40	EPA 300.1	8113325
Chloride	ND		mg/L	0.500	1.00	1	11/30/08 08:40	EPA 300.0	8113325
Fluoride	ND		mg/L	0.0500	0.100	1	11/30/08 08:40	EPA 300.0	8113325
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 06:59	EPA 300.0	8113325
Phosphorus	ND		mg/L	0.0450	0.100	1	12/08/08 09:16	EPA 365.4	8120879
Sulfate	ND		mg/L	0.500	1.00	1	11/30/08 08:40	EPA 300.0	8113325
Total Dissolved Solids	ND		mg/L	5.00	10.0	1	11/22/08 23:59	SM2540 C	8113835
Total Organic Carbon	**0.960**	J	mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.0541**	J	mg/L	0.0180	0.100	1	11/28/08 10:51	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Barium	ND		mg/L	0.00150	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 10:51	SW846 6010B	8113920
Boron	ND		mg/L	0.00200	0.0500	1	11/28/08 10:51	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:51	SW846 6010B	8113920
Calcium	**0.102**	J	mg/L	0.100	1.00	1	11/28/08 10:51	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 10:51	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:51	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Iron	ND		mg/L	0.0280	0.0500	1	11/28/08 10:51	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:51	SW846 6010B	8113920
Magnesium	ND		mg/L	0.100	1.00	1	11/28/08 10:51	SW846 6010B	8113920
Manganese	ND		mg/L	0.00100	0.0150	1	11/28/08 10:51	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:51	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Potassium	ND		mg/L	0.200	1.00	1	11/28/08 10:51	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:51	SW846 6010B	8113920
Sodium	ND		mg/L	0.500	1.00	1	11/28/08 10:51	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:51	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 10:51	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:51	SW846 6010B	8113920
Dissolved Metals by EPA Method 6010B									

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Sample ID: NRK1864-03 (Rinse Blank - Water) - cont. Sampled: 11/19/08 16:30

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Dissolved Metals by EPA Method 6010B - cont.									
Aluminum	**0.0282**	J, B	mg/L	0.0180	0.100	1	11/28/08 13:52	SW846 6010B	8114356
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Barium	ND		mg/L	0.00150	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 13:52	SW846 6010B	8114356
Boron	ND		mg/L	0.00200	0.0500	1	11/28/08 13:52	SW846 6010B	8114356
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 13:52	SW846 6010B	8114356
Calcium	**0.204**	J	mg/L	0.100	1.00	1	11/28/08 13:52	SW846 6010B	8114356
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 13:52	SW846 6010B	8114356
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 13:52	SW846 6010B	8114356
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Iron	ND		mg/L	0.0280	0.0500	1	11/28/08 13:52	SW846 6010B	8114356
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 13:52	SW846 6010B	8114356
Magnesium	ND		mg/L	0.100	1.00	1	11/28/08 13:52	SW846 6010B	8114356
Manganese	ND		mg/L	0.00100	0.0150	1	11/28/08 13:52	SW846 6010B	8114356
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 13:52	SW846 6010B	8114356
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Potassium	ND		mg/L	0.200	1.00	1	11/28/08 13:52	SW846 6010B	8114356
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 13:52	SW846 6010B	8114356
Sodium	ND		mg/L	0.500	1.00	1	11/28/08 13:52	SW846 6010B	8114356
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 13:52	SW846 6010B	8114356
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 13:52	SW846 6010B	8114356
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 13:52	SW846 6010B	8114356
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:14	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/26/08 15:55	SW846 7470A	8114421

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Dissolved Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8114421	NRK1864-01	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
SW846 7470A	8114421	NRK1864-02	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
SW846 7470A	8114421	NRK1864-03	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
Dissolved Metals by EPA Method 6010B							
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113965	NRK1864-01	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1864-02	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1864-03	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1864-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

TestAmerica
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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113325-BLK1						
Bromide	<0.500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
Chloride	<0.500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
Fluoride	<0.0500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
Nitrate as N	<0.0500		mg/L	8113325	8113325-BLK1	11/20/08 14:43
Sulfate	<0.500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
8113403-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113403	8113403-BLK1	11/20/08 16:29
8113447-BLK1						
Total Organic Carbon	<0.500		mg/L	8113447	8113447-BLK1	11/21/08 12:46
8113835-BLK1						
Total Dissolved Solids	5.00	J	mg/L	8113835	8113835-BLK1	11/22/08 23:59
8114801-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8114801	8114801-BLK1	11/29/08 10:23
8120622-BLK1						
Phosphorus	<0.0450		mg/L	8120622	8120622-BLK1	12/05/08 12:36
8120879-BLK1						
Phosphorus	<0.0450		mg/L	8120879	8120879-BLK1	12/08/08 09:16
8121432-BLK1						
Total Organic Halides	<0.0270		mg/L	8121432	8121432-BLK1	12/11/08 13:41
Total Metals by EPA Method 6010B						
8113920-BLK1						
Aluminum	<0.0180		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Antimony	<0.00380		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Arsenic	<0.00450		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Barium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Beryllium	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Boron	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cadmium	<0.000500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Calcium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Chromium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cobalt	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Copper	<0.00350		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Iron	<0.0280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Lead	<0.00280		mg/L	8113920	8113920-BLK1	11/28/08 09:05

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8113920-BLK1						
Magnesium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Manganese	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Molybdenum	<0.00900		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Nickel	<0.00240		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Potassium	<0.200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Selenium	<0.00430		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Silver	<0.00160		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Sodium	<0.500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Thallium	<0.00750		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Vanadium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Zinc	<0.0100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Dissolved Metals by EPA Method 6010B						
8114356-BLK1						
Aluminum	0.0349	J	mg/L	8114356	8114356-BLK1	11/28/08 12:36
Antimony	<0.00380		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Arsenic	<0.00450		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Barium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Beryllium	<0.00100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Boron	<0.00200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Cadmium	<0.000500		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Calcium	<0.100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Chromium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Cobalt	<0.00200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Copper	<0.00350		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Iron	<0.0280		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Lead	<0.00280		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Magnesium	<0.100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Manganese	<0.00100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Molybdenum	<0.00900		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Nickel	<0.00240		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Potassium	<0.200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Selenium	<0.00430		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Silver	<0.00160		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Sodium	<0.500		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Thallium	<0.00750		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Vanadium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Zinc	<0.0100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						
Mercury	<0.000150		mg/L	8113965	8113965-BLK1	11/25/08 16:34
Dissolved Mercury by EPA Methods 7470A/7471A						
8114421-BLK1						
Mercury	<0.000150		mg/L	8114421	8114421-BLK1	11/26/08 15:28

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113325-DUP1									
Bromide	ND	<0.500		mg/L		20	8113325	NRK1831-04	11/30/08 03:09
Chloride	30.0	30.8		mg/L	2	20	8113325	NRK1831-04	11/30/08 03:45
Fluoride	0.315	0.204	R2	mg/L	43	19	8113325	NRK1831-04	11/30/08 03:09
Nitrate as N	0.471	0.455		mg/L	3	20	8113325	NRK1831-04	11/20/08 15:39
Sulfate	88.2	89.8		mg/L	2	20	8113325	NRK1831-04	11/30/08 03:45
8113403-DUP1									
Bicarbonate Alkalinity as CaCO3	15.9	15.1		mg/L	5	20	8113403	NRK1875-04	11/20/08 16:29
8113447-DUP1									
Total Organic Carbon	5.31	5.24		mg/L	1	20	8113447	NRK1875-04	11/21/08 12:46
8113835-DUP1									
Total Dissolved Solids	ND	<5.00		mg/L		20	8113835	NRK1864-03	11/22/08 23:59
8114801-DUP1									
Alkalinity, Total (CaCO3)	ND	<5.00		mg/L		20	8114801	NRK1864-03	11/29/08 10:23
8120622-DUP1									
Phosphorus	ND	<0.0450		mg/L		20	8120622	NRK1697-13	12/05/08 12:36
8120879-DUP1									
Phosphorus	0.847	0.874		mg/L	3	20	8120879	NRK1874-01	12/08/08 09:16
8121432-DUP1									
Total Organic Halides	0.0542	0.0512		mg/L	6	50	8121432	NRK1848-02	12/11/08 13:41

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113325-BS1								
Bromide	10.0	10.2		mg/L	102%	90 - 110	8113325	11/30/08 02:32
Chloride	3.00	3.09	MNR	mg/L	103%	90 - 110	8113325	11/30/08 02:32
Fluoride	2.00	2.20		mg/L	110%	90 - 110	8113325	11/30/08 02:32
Nitrate as N	3.00	3.16		mg/L	105%	90 - 110	8113325	11/20/08 15:02
Sulfate	15.0	15.2	MNR	mg/L	102%	90 - 110	8113325	11/30/08 02:32
8113447-BS1								
Total Organic Carbon	10.0	10.4		ug/mL	104%	90 - 110	8113447	11/21/08 12:46
8113835-BS1								
Total Dissolved Solids	100	109		ug/mL	109%	90 - 110	8113835	11/22/08 23:59
8114801-BS1								
Alkalinity, Total (CaCO3)	100	101		ug/mL	101%	90 - 110	8114801	11/29/08 10:23
8120622-BS1								
Phosphorus	2.00	2.13		mg/L	107%	90 - 110	8120622	12/05/08 12:36
8120879-BS1								
Phosphorus	2.00	2.14		mg/L	107%	90 - 110	8120879	12/08/08 09:16
8121432-BS1								
Total Organic Halides	0.250	0.258		mg/L	103%	90 - 130	8121432	12/11/08 13:41
Total Metals by EPA Method 6010B								
8113920-BS1								
Aluminum	2.00	1.99		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Antimony	0.100	0.0914		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Arsenic	0.0500	0.0486		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Barium	2.00	1.98		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8113920	11/28/08 09:15
Boron	1.00	0.982		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Cadmium	0.0500	0.0496		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Calcium	5.00	4.87		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Chromium	0.200	0.199		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Cobalt	0.500	0.508		mg/L	102%	80 - 120	8113920	11/28/08 09:15
Copper	0.250	0.245		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Iron	1.00	0.994		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Lead	0.0500	0.0494		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Magnesium	5.00	4.92		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Manganese	0.500	0.498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Molybdenum	0.500	0.483		mg/L	97%	80 - 120	8113920	11/28/08 09:15

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8113920-BS1								
Nickel	0.500	0.488		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Potassium	5.00	4.16		mg/L	83%	80 - 120	8113920	11/28/08 09:15
Selenium	0.0500	0.0518		mg/L	104%	80 - 120	8113920	11/28/08 09:15
Silver	0.0500	0.0504		mg/L	101%	80 - 120	8113920	11/28/08 09:15
Sodium	5.00	4.56		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Thallium	0.0500	0.0498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Vanadium	0.500	0.495		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Zinc	0.500	0.481		mg/L	96%	80 - 120	8113920	11/28/08 09:15
Dissolved Metals by EPA Method 6010B								
8114356-BS1								
Aluminum	2.00	2.06		mg/L	103%	80 - 120	8114356	11/28/08 12:41
Antimony	0.100	0.0951		mg/L	95%	80 - 120	8114356	11/28/08 12:41
Arsenic	0.0500	0.0469		mg/L	94%	80 - 120	8114356	11/28/08 12:41
Barium	2.00	2.04		mg/L	102%	80 - 120	8114356	11/28/08 12:41
Beryllium	0.0500	0.0533		mg/L	107%	80 - 120	8114356	11/28/08 12:41
Boron	1.00	1.02		mg/L	102%	80 - 120	8114356	11/28/08 12:41
Cadmium	0.0500	0.0504		mg/L	101%	80 - 120	8114356	11/28/08 12:41
Calcium	5.00	4.80		mg/L	96%	80 - 120	8114356	11/28/08 12:41
Chromium	0.200	0.198		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Cobalt	0.500	0.504		mg/L	101%	80 - 120	8114356	11/28/08 12:41
Copper	0.250	0.246		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Iron	1.00	0.980		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Lead	0.0500	0.0497		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Magnesium	5.00	4.99		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Manganese	0.500	0.491		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Molybdenum	0.500	0.489		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Nickel	0.500	0.500		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Potassium	5.00	4.33		mg/L	87%	80 - 120	8114356	11/28/08 12:41
Selenium	0.0500	0.0499		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Silver	0.0500	0.0496		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Sodium	5.00	4.61		mg/L	92%	80 - 120	8114356	11/28/08 12:41
Thallium	0.0500	0.0459		mg/L	92%	80 - 120	8114356	11/28/08 12:41
Vanadium	0.500	0.496		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Zinc	0.500	0.485		mg/L	97%	80 - 120	8114356	11/28/08 12:41
Mercury by EPA Methods 7470A/7471A								
8113965-BS1								
Mercury	0.00100	0.000950		mg/L	95%	78 - 124	8113965	11/25/08 16:36
Dissolved Mercury by EPA Methods 7470A/7471A								

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Dissolved Mercury by EPA Methods 7470A/7471A								
8114421-BS1								
Mercury	0.00100	0.00110		mg/L	110%	78 - 124	8114421	11/26/08 16:30

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113325-MS1										
Bromide	ND	11.0		mg/L	10.0	110%	90 - 110	8113325	NRK1864-01	11/30/08 07:26
Fluoride	0.855	3.07		mg/L	2.00	111%	80 - 120	8113325	NRK1864-01	11/30/08 07:26
Nitrate as N	ND	3.19		mg/L	3.00	106%	80 - 120	8113325	NRK1864-01	11/21/08 06:03
8113447-MS1										
Total Organic Carbon	3.88	26.4		ug/mL	20.0	112%	79 - 130	8113447	NRK1864-01	11/21/08 12:46
8114801-MS1										
Alkalinity, Total (CaCO3)	13.1	107		ug/mL	100	94%	80 - 120	8114801	NRK1883-01	11/29/08 10:23
8120622-MS1										
Phosphorus	ND	2.13		mg/L	2.00	107%	76 - 112	8120622	NRK1697-08	12/05/08 12:36
8120879-MS1										
Phosphorus	0.500	2.52		mg/L	2.00	101%	76 - 112	8120879	NRK2108-02	12/08/08 09:16
8121432-MS1										
Total Organic Halides	ND	0.207	M7	mg/L	0.100	207%	74 - 131	8121432	NRK1410-04	12/11/08 13:41
Total Metals by EPA Method 6010B										
8113920-MS1										
Aluminum	5.00	7.14		mg/L	2.00	107%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Antimony	ND	0.0966		mg/L	0.100	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Arsenic	ND	0.0500		mg/L	0.0500	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Barium	0.0839	2.09		mg/L	2.00	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Beryllium	0.00270	0.0558		mg/L	0.0500	106%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Boron	0.0403	1.08		mg/L	1.00	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cadmium	ND	0.0503		mg/L	0.0500	101%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Chromium	ND	0.198		mg/L	0.200	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cobalt	0.0377	0.556		mg/L	0.500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Copper	ND	0.259		mg/L	0.250	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Iron	4.03	4.97		mg/L	1.00	94%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Lead	ND	0.0545		mg/L	0.0500	109%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Manganese	0.337	0.826		mg/L	0.500	98%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Molybdenum	ND	0.485		mg/L	0.500	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Nickel	0.0383	0.535		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Selenium	ND	0.0511		mg/L	0.0500	102%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Silver	ND	0.0518		mg/L	0.0500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Thallium	ND	0.0411		mg/L	0.0500	82%	75 - 125	8113920	NRK1875-03	11/28/08 11:10

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8113920-MS1										
Vanadium	ND	0.496		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Zinc	0.0806	0.576		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Dissolved Metals by EPA Method 6010B										
8114356-MS1										
Aluminum	0.0661	2.12		mg/L	2.00	103%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Arsenic	ND	0.0501		mg/L	0.0500	100%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Barium	0.0180	2.04		mg/L	2.00	101%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Beryllium	0.00100	0.0522		mg/L	0.0500	102%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Boron	0.0503	1.09		mg/L	1.00	104%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Chromium	ND	0.194		mg/L	0.200	97%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Cobalt	ND	0.497		mg/L	0.500	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Copper	ND	0.249		mg/L	0.250	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Iron	4.60	5.58		mg/L	1.00	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Lead	0.00360	0.0517		mg/L	0.0500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Manganese	0.222	0.702		mg/L	0.500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Molybdenum	ND	0.473		mg/L	0.500	95%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Nickel	ND	0.496		mg/L	0.500	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Selenium	ND	0.0519		mg/L	0.0500	104%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Silver	ND	0.0487		mg/L	0.0500	97%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Thallium	ND	0.0386		mg/L	0.0500	77%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Vanadium	ND	0.489		mg/L	0.500	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Zinc	ND	0.479		mg/L	0.500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Mercury by EPA Methods 7470A/7471A										
8113965-MS1										
Mercury	ND	0.000908		mg/L	0.00100	91%	63 - 138	8113965	NRK1831-01	11/25/08 16:40
Dissolved Mercury by EPA Methods 7470A/7471A										
8114421-MS1										
Mercury	ND	0.00103		mg/L	0.00100	103%	63 - 138	8114421	NRK1848-02	11/26/08 15:40

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113325-MSD1												
Bromide	ND	11.0		mg/L	10.0	110%	90 - 110	0.05	20	8113325	NRK1864-01	11/30/08 07:45
Fluoride	0.855	3.10		mg/L	2.00	112%	80 - 120	1	19	8113325	NRK1864-01	11/30/08 07:45
Nitrate as N	ND	3.25		mg/L	3.00	108%	80 - 120	2	20	8113325	NRK1864-01	11/21/08 06:22
8113447-MSD1												
Total Organic Carbon	3.88	26.6		ug/mL	20.0	113%	79 - 130	0.7	20	8113447	NRK1864-01	11/21/08 12:46
8120622-MSD1												
Phosphorus	ND	2.18		mg/L	2.00	109%	76 - 112	2	20	8120622	NRK1697-08	12/05/08 12:36
8120879-MSD1												
Phosphorus	0.500	2.65		mg/L	2.00	107%	76 - 112	5	20	8120879	NRK2108-02	12/08/08 09:16
8121432-MSD1												
Total Organic Halides	ND	0.237	M7	mg/L	0.100	237%	74 - 131	14	50	8121432	NRK1410-04	12/11/08 13:41
Total Metals by EPA Method 6010B												
8113920-MSD1												
Aluminum	5.00	6.95		mg/L	2.00	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Antimony	ND	0.0928		mg/L	0.100	93%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Arsenic	ND	0.0453		mg/L	0.0500	91%	75 - 125	10	20	8113920	NRK1875-03	11/28/08 11:49
Barium	0.0839	2.03		mg/L	2.00	97%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Beryllium	0.00270	0.0528		mg/L	0.0500	100%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Boron	0.0403	1.03		mg/L	1.00	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cadmium	ND	0.0489		mg/L	0.0500	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Chromium	ND	0.191		mg/L	0.200	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cobalt	0.0377	0.533		mg/L	0.500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Copper	ND	0.250		mg/L	0.250	100%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Iron	4.03	4.85		mg/L	1.00	82%	75 - 125	2	20	8113920	NRK1875-03	11/28/08 11:49
Lead	ND	0.0512		mg/L	0.0500	102%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Manganese	0.337	0.797		mg/L	0.500	92%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Nickel	0.0383	0.515		mg/L	0.500	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Selenium	ND	0.0514		mg/L	0.0500	103%	75 - 125	0.6	20	8113920	NRK1875-03	11/28/08 11:49
Silver	ND	0.0496		mg/L	0.0500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Thallium	ND	0.0348	M2	mg/L	0.0500	70%	75 - 125	17	20	8113920	NRK1875-03	11/28/08 11:49
Vanadium	ND	0.478		mg/L	0.500	96%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Zinc	0.0806	0.545		mg/L	0.500	93%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Dissolved Metals by EPA Method 6010B												
8114356-MSD1												
Aluminum	0.0661	2.12		mg/L	2.00	103%	75 - 125	0.05	20	8114356	NRK1848-01	11/28/08 13:29

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Dissolved Metals by EPA Method 6010B												
8114356-MSD1												
Antimony	ND	0.0974		mg/L	0.100	97%	75 - 125	3	20	8114356	NRK1848-01	11/28/08 13:29
Arsenic	ND	0.0492		mg/L	0.0500	98%	75 - 125	2	20	8114356	NRK1848-01	11/28/08 13:29
Barium	0.0180	2.04		mg/L	2.00	101%	75 - 125	0.2	20	8114356	NRK1848-01	11/28/08 13:29
Beryllium	0.00100	0.0518		mg/L	0.0500	102%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Boron	0.0503	1.08		mg/L	1.00	103%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Cadmium	ND	0.0490		mg/L	0.0500	98%	75 - 125	0.4	20	8114356	NRK1848-01	11/28/08 13:29
Chromium	ND	0.192		mg/L	0.200	96%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Cobalt	ND	0.492		mg/L	0.500	98%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Copper	ND	0.248		mg/L	0.250	99%	75 - 125	0.08	20	8114356	NRK1848-01	11/28/08 13:29
Iron	4.60	5.52		mg/L	1.00	92%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Lead	0.00360	0.0503		mg/L	0.0500	93%	75 - 125	3	20	8114356	NRK1848-01	11/28/08 13:29
Manganese	0.222	0.696		mg/L	0.500	95%	75 - 125	0.9	20	8114356	NRK1848-01	11/28/08 13:29
Molybdenum	ND	0.476		mg/L	0.500	95%	75 - 125	0.6	20	8114356	NRK1848-01	11/28/08 13:29
Nickel	ND	0.492		mg/L	0.500	98%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Selenium	ND	0.0532		mg/L	0.0500	106%	75 - 125	2	20	8114356	NRK1848-01	11/28/08 13:29
Silver	ND	0.0483		mg/L	0.0500	97%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Thallium	ND	0.0329	M2	mg/L	0.0500	66%	75 - 125	16	20	8114356	NRK1848-01	11/28/08 13:29
Vanadium	ND	0.485		mg/L	0.500	97%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Zinc	ND	0.476		mg/L	0.500	95%	75 - 125	0.7	20	8114356	NRK1848-01	11/28/08 13:29
Mercury by EPA Methods 7470A/7471A												
8113965-MSD1												
Mercury	ND	0.00118	R3	mg/L	0.00100	118%	63 - 138	26	22	8113965	NRK1831-01	11/25/08 16:42
Dissolved Mercury by EPA Methods 7470A/7471A												
8114421-MSD1												
Mercury	ND	0.00113		mg/L	0.00100	113%	63 - 138	9	22	8114421	NRK1848-02	11/26/08 15:42

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1864
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
R2	The RPD exceeded the acceptance limit.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECE

NRK1864

Cooler Received/Opened On_11/20/08 @ 08:00

1. Tracking #_15000_____(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___A01124

2. Temperature of rep. sample or temp blank when opened: 0.1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES (NO)..NA

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1-BACK ; 1-FRONT

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES (NO) and Intact YES...NO..(NA)

Were these signed and dated correctly? YES...NO..(NA)

8. Packing mat'l used? (Bubblewrap) (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)..NO...NA

12. Did all container labels and tags agree with custody papers? (YES)..NO...NA

13a. Were VOA vials received? YES..(NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO..(NA)

14. Was there a Trip Blank in this cooler? YES..(NO)..NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES)..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used (YES)..NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES..(NO)..NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? (YES)..NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)..NO...NA

19. Were correct containers used for the analysis requested? (YES)..NO...NA

20. Was sufficient amount of sample sent in each container? (YES)..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES..(NO) Was a PIPE generated? YES..(NO)..#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50757

THE LEADER IN ENVIRONMENTAL TESTING

2900 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NRK1864
12/05/08 23:59

Page 1 of 1

50758

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buchy
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.0	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	8260B				RUSH TAT (Pre Schedule) *
MW-KH-3	11-19-08	1310	8			1			1			1	3	3	X						X	X	X	X	X	X	X	X	X	X	X	X					
MW-KH-2	11-19-08	1600	8			1			1			1	3	3	X						X	X	X	X	X	X	X	X	X	X	X	X					
Rinse Blank	11-19-08	1630	8			1			1			1	3	3	X					X	X	X	X	X	X	X	X	X	X	X	X	X					

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 11856*
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn
Ag, antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished By:	Date:	Time:
	11-19-08	1625		11/19/08	1630		11/19/08	1700

Shipped Via: Fed Ex
Shipped Via:
Received for TestAmerica by: Date: Time:
Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)
Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 08, 2008 10:06:58AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK1860
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/20/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-BGC-SG16	NRK1860-01	11/19/08 11:40
SW-BGC-SG10	NRK1860-02	11/19/08 12:10
SW-BGC-SG9	NRK1860-03	11/19/08 12:40
SW-BGC-SG8	NRK1860-04	11/19/08 13:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments:
The test for TDS was inadvertently requested for these samples. At the request of the consultant, the test for TSS was analyzed instead of TDS.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1860-01 (SW-BGC-SG16 - Water) Sampled: 11/19/08 11:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**25.9**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**24.3**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 20:01	EPA 300.1	8113336
Chloride	**59.6**		mg/L	10.0	20.0	20	11/30/08 14:11	EPA 300.0	8113336
Fluoride	**0.183**		mg/L	0.0500	0.100	1	11/30/08 20:01	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 09:44	EPA 300.0	8113336
Phosphorus	**0.0570**	J	mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**24.4**		mg/L	0.500	1.00	1	11/30/08 20:01	EPA 300.0	8113336
Total Organic Carbon	**1.38**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Suspended Solids	**17.0**		mg/L	1.25	2.50	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.666**		mg/L	0.0180	0.100	1	11/28/08 10:07	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Barium	**0.0566**		mg/L	0.00150	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 10:07	SW846 6010B	8113920
Boron	**0.0459**	J	mg/L	0.00200	0.0500	1	11/28/08 10:07	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:07	SW846 6010B	8113920
Calcium	**20.1**		mg/L	0.100	1.00	1	11/28/08 10:07	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 10:07	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:07	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Iron	**0.654**		mg/L	0.0280	0.0500	1	11/28/08 10:07	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:07	SW846 6010B	8113920
Magnesium	**3.80**		mg/L	0.100	1.00	1	11/28/08 10:07	SW846 6010B	8113920
Manganese	**0.0191**		mg/L	0.00100	0.0150	1	11/28/08 10:07	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:07	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Potassium	**7.70**		mg/L	0.200	1.00	1	11/28/08 10:07	SW846 6010B	8113920
Selenium	**0.00490**	J	mg/L	0.00430	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:07	SW846 6010B	8113920
Sodium	**23.7**		mg/L	0.500	1.00	1	11/28/08 10:07	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:07	SW846 6010B	8113920
Vanadium	**0.00150**	J	mg/L	0.00150	0.0200	1	11/28/08 10:07	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:07	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:01	SW846 7470A	8113965

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1860-02 (SW-BGC-SG10 - Water) Sampled: 11/19/08 12:10									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**34.2**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**32.8**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	12/02/08 08:31	EPA 300.1	8113336
Chloride	**48.4**		mg/L	2.50	5.00	5	11/30/08 15:06	EPA 300.0	8113336
Fluoride	**0.391**		mg/L	0.0500	0.100	1	12/02/08 08:31	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 10:03	EPA 300.0	8113336
Phosphorus	ND		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**35.6**		mg/L	0.500	1.00	1	12/02/08 08:31	EPA 300.0	8113336
Total Organic Carbon	**1.52**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Suspended Solids	**8.33**		mg/L	0.833	1.67	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.464**		mg/L	0.0180	0.100	1	11/28/08 10:28	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Barium	**0.0514**		mg/L	0.00150	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 10:28	SW846 6010B	8113920
Boron	**0.0446**	J	mg/L	0.00200	0.0500	1	11/28/08 10:28	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:28	SW846 6010B	8113920
Calcium	**25.0**		mg/L	0.100	1.00	1	11/28/08 10:28	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 10:28	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:28	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Iron	**0.458**		mg/L	0.0280	0.0500	1	11/28/08 10:28	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:28	SW846 6010B	8113920
Magnesium	**6.06**		mg/L	0.100	1.00	1	11/28/08 10:28	SW846 6010B	8113920
Manganese	**0.0135**	J	mg/L	0.00100	0.0150	1	11/28/08 10:28	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:28	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Potassium	**5.95**		mg/L	0.200	1.00	1	11/28/08 10:28	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:28	SW846 6010B	8113920
Sodium	**20.9**		mg/L	0.500	1.00	1	11/28/08 10:28	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:28	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 10:28	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:28	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:03	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1860-03 (SW-BGC-SG9 - Water) Sampled: 11/19/08 12:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**32.4**		mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**33.6**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	1.00	2.00	2	11/30/08 15:25	EPA 300.1	8113336
Chloride	**26.3**		mg/L	2.50	5.00	5	12/02/08 07:54	EPA 300.0	8113336
Fluoride	**0.364**		mg/L	0.100	0.200	2	11/30/08 15:25	EPA 300.0	8113336
Nitrate as N	**0.150**		mg/L	0.0500	0.100	1	11/21/08 10:21	EPA 300.0	8113336
Phosphorus	ND		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**31.8**		mg/L	1.00	2.00	2	11/30/08 15:25	EPA 300.0	8113336
Total Organic Carbon	**5.50**		mg/L	0.500	1.00	1	12/01/08 12:00	SW846 9060A	8120098
Total Suspended Solids	**28.9**		mg/L	1.43	2.86	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**1.55**		mg/L	0.0180	0.100	1	11/28/08 10:33	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Barium	**0.0515**		mg/L	0.00150	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 10:33	SW846 6010B	8113920
Boron	**0.0410**	J	mg/L	0.00200	0.0500	1	11/28/08 10:33	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:33	SW846 6010B	8113920
Calcium	**19.1**		mg/L	0.100	1.00	1	11/28/08 10:33	SW846 6010B	8113920
Chromium	**0.00220**	J	mg/L	0.00150	0.00500	1	11/28/08 10:33	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:33	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Iron	**1.23**		mg/L	0.0280	0.0500	1	11/28/08 10:33	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:33	SW846 6010B	8113920
Magnesium	**4.95**		mg/L	0.100	1.00	1	11/28/08 10:33	SW846 6010B	8113920
Manganese	**0.0246**		mg/L	0.00100	0.0150	1	11/28/08 10:33	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:33	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Potassium	**4.30**		mg/L	0.200	1.00	1	11/28/08 10:33	SW846 6010B	8113920
Selenium	**0.00550**	J	mg/L	0.00430	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:33	SW846 6010B	8113920
Sodium	**10.0**		mg/L	0.500	1.00	1	11/28/08 10:33	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:33	SW846 6010B	8113920
Vanadium	**0.00270**	J	mg/L	0.00150	0.0200	1	11/28/08 10:33	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:33	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:05	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1860-04 (SW-BGC-SG8 - Water) Sampled: 11/19/08 13:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**8.90**	J	mg/L	5.00	10.0	1	12/02/08 09:19	SM2320 B	8120198
Bicarbonate Alkalinity as CaCO3	**9.68**	J	mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 20:56	EPA 300.1	8113336
Chloride	**11.9**		mg/L	1.00	2.00	2	11/30/08 15:43	EPA 300.0	8113336
Fluoride	**0.165**		mg/L	0.0500	0.100	1	11/30/08 20:56	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 10:39	EPA 300.0	8113336
Phosphorus	**0.165**		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**5.88**		mg/L	0.500	1.00	1	11/30/08 20:56	EPA 300.0	8113336
Total Organic Carbon	**6.85**		mg/L	0.500	1.00	1	11/21/08 12:46	SW846 9060A	8113447
Total Suspended Solids	**39.3**		mg/L	1.11	2.22	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**5.58**		mg/L	0.0180	0.100	1	11/28/08 10:37	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Barium	**0.0471**		mg/L	0.00150	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Beryllium	**0.00100**	J	mg/L	0.00100	0.00400	1	11/28/08 10:37	SW846 6010B	8113920
Boron	**0.0303**	J	mg/L	0.00200	0.0500	1	11/28/08 10:37	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:37	SW846 6010B	8113920
Calcium	**5.38**		mg/L	0.100	1.00	1	11/28/08 10:37	SW846 6010B	8113920
Chromium	**0.00790**		mg/L	0.00150	0.00500	1	11/28/08 10:37	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:37	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Iron	**3.28**		mg/L	0.0280	0.0500	1	11/28/08 10:37	SW846 6010B	8113920
Lead	**0.00420**	J	mg/L	0.00280	0.00500	1	11/28/08 10:37	SW846 6010B	8113920
Magnesium	**1.70**		mg/L	0.100	1.00	1	11/28/08 10:37	SW846 6010B	8113920
Manganese	**0.0171**		mg/L	0.00100	0.0150	1	11/28/08 10:37	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:37	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Potassium	**3.70**		mg/L	0.200	1.00	1	11/28/08 10:37	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:37	SW846 6010B	8113920
Sodium	**4.15**		mg/L	0.500	1.00	1	11/28/08 10:37	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:37	SW846 6010B	8113920
Vanadium	**0.00910**	J	mg/L	0.00150	0.0200	1	11/28/08 10:37	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:37	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 17:07	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113965	NRK1860-01	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1860-02	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1860-03	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1860-04	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1860-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113336-BLK1						
Bromide	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Chloride	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Fluoride	<0.0500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Nitrate as N	<0.0500		mg/L	8113336	8113336-BLK1	11/21/08 07:54
Sulfate	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
8113351-BLK1						
Total Organic Carbon	<0.500		mg/L	8113351	8113351-BLK1	11/20/08 15:00
8113403-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113403	8113403-BLK1	11/20/08 16:29
8113447-BLK1						
Total Organic Carbon	<0.500		mg/L	8113447	8113447-BLK1	11/21/08 12:46
8113658-BLK1						
Total Suspended Solids	<0.500		mg/L	8113658	8113658-BLK1	11/22/08 18:12
8120098-BLK1						
Total Organic Carbon	<0.500		mg/L	8120098	8120098-BLK1	12/01/08 12:00
8120198-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8120198	8120198-BLK1	12/02/08 09:19
8120622-BLK1						
Phosphorus	<0.0450		mg/L	8120622	8120622-BLK1	12/05/08 12:36
Total Metals by EPA Method 6010B						
8113920-BLK1						
Aluminum	<0.0180		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Antimony	<0.00380		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Arsenic	<0.00450		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Barium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Beryllium	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Boron	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cadmium	<0.000500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Calcium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Chromium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cobalt	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Copper	<0.00350		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Iron	<0.0280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Lead	<0.00280		mg/L	8113920	8113920-BLK1	11/28/08 09:05

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8113920-BLK1						
Magnesium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Manganese	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Molybdenum	<0.00900		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Nickel	<0.00240		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Potassium	<0.200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Selenium	<0.00430		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Silver	<0.00160		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Sodium	<0.500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Thallium	<0.00750		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Vanadium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Zinc	<0.0100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						
Mercury	<0.000150		mg/L	8113965	8113965-BLK1	11/25/08 16:34

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113336-DUP1									
Bromide	ND	<0.500		mg/L		20	8113336	NRK1875-04	11/30/08 23:05
Chloride	20.8	20.9		mg/L	0.1	20	8113336	NRK1875-04	11/30/08 18:47
Fluoride	0.302	0.301		mg/L	0.3	19	8113336	NRK1875-04	11/30/08 23:05
Nitrate as N	0.0650	0.0660	J	mg/L	2	20	8113336	NRK1875-04	11/21/08 13:25
Sulfate	12.6	12.5		mg/L	1	20	8113336	NRK1875-04	11/30/08 23:05
8113351-DUP1									
Total Organic Carbon	6.21	6.13		mg/L	1	20	8113351	NRK1831-02	11/20/08 15:00
8113403-DUP1									
Bicarbonate Alkalinity as CaCO3	15.9	15.1		mg/L	5	20	8113403	NRK1875-04	11/20/08 16:29
8113447-DUP1									
Total Organic Carbon	5.31	5.24		mg/L	1	20	8113447	NRK1875-04	11/21/08 12:46
8113658-DUP1									
Total Suspended Solids	39.3	34.0		mg/L	14	20	8113658	NRK1860-04	11/22/08 18:12
8113658-DUP2									
Total Suspended Solids	28.2	23.5		mg/L	18	20	8113658	NRK1875-04	11/22/08 18:12
8120098-DUP1									
Total Organic Carbon	6.90	7.03		mg/L	2	20	8120098	NRK2045-03	12/01/08 12:00
8120198-DUP1									
Alkalinity, Total (CaCO3)	203	200		mg/L	1	20	8120198	NRK1855-04	12/02/08 09:19
8120622-DUP1									
Phosphorus	ND	<0.0450		mg/L		20	8120622	NRK1697-13	12/05/08 12:36

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113336-BS1								
Bromide	10.0	9.82		mg/L	98%	90 - 110	8113336	11/30/08 13:16
Chloride	3.00	2.99		mg/L	100%	90 - 110	8113336	11/30/08 13:16
Fluoride	2.00	2.20		mg/L	110%	90 - 110	8113336	11/30/08 13:16
Nitrate as N	3.00	3.28		mg/L	109%	90 - 110	8113336	11/21/08 08:31
Sulfate	15.0	14.8		mg/L	98%	90 - 110	8113336	11/30/08 13:16
8113351-BS1								
Total Organic Carbon	10.0	10.2		ug/mL	102%	90 - 110	8113351	11/20/08 15:00
8113447-BS1								
Total Organic Carbon	10.0	10.4		ug/mL	104%	90 - 110	8113447	11/21/08 12:46
8113658-BS1								
Total Suspended Solids	100	99.0		ug/mL	99%	90 - 110	8113658	11/22/08 18:12
8120098-BS1								
Total Organic Carbon	200	184		ug/mL	92%	90 - 110	8120098	12/01/08 12:00
8120198-BS1								
Alkalinity, Total (CaCO3)	100	103		ug/mL	103%	90 - 110	8120198	12/02/08 09:19
8120622-BS1								
Phosphorus	2.00	2.13		mg/L	107%	90 - 110	8120622	12/05/08 12:36
Total Metals by EPA Method 6010B								
8113920-BS1								
Aluminum	2.00	1.99		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Antimony	0.100	0.0914		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Arsenic	0.0500	0.0486		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Barium	2.00	1.98		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8113920	11/28/08 09:15
Boron	1.00	0.982		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Cadmium	0.0500	0.0496		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Calcium	5.00	4.87		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Chromium	0.200	0.199		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Cobalt	0.500	0.508		mg/L	102%	80 - 120	8113920	11/28/08 09:15
Copper	0.250	0.245		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Iron	1.00	0.994		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Lead	0.0500	0.0494		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Magnesium	5.00	4.92		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Manganese	0.500	0.498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Molybdenum	0.500	0.483		mg/L	97%	80 - 120	8113920	11/28/08 09:15

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8113920-BS1								
Nickel	0.500	0.488		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Potassium	5.00	4.16		mg/L	83%	80 - 120	8113920	11/28/08 09:15
Selenium	0.0500	0.0518		mg/L	104%	80 - 120	8113920	11/28/08 09:15
Silver	0.0500	0.0504		mg/L	101%	80 - 120	8113920	11/28/08 09:15
Sodium	5.00	4.56		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Thallium	0.0500	0.0498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Vanadium	0.500	0.495		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Zinc	0.500	0.481		mg/L	96%	80 - 120	8113920	11/28/08 09:15
Mercury by EPA Methods 7470A/7471A								
8113965-BS1								
Mercury	0.00100	0.000950		mg/L	95%	78 - 124	8113965	11/25/08 16:36

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Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK1860
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113336-MS1										
Bromide	ND	11.1	M7	mg/L	10.0	111%	90 - 110	8113336	NRK1875-01	11/30/08 21:33
Chloride	16.7	21.0	A-01a,	mg/L	3.00	145%	80 - 120	8113336	NRK1875-01	11/30/08 16:20
Fluoride	0.412	2.84	M7	mg/L	2.00	121%	80 - 120	8113336	NRK1875-01	11/30/08 21:33
Nitrate as N	0.172	3.44		mg/L	3.00	109%	80 - 120	8113336	NRK1875-01	11/21/08 11:16
Sulfate	18.3	31.7		mg/L	15.0	90%	80 - 120	8113336	NRK1875-01	11/30/08 21:33
8113351-MS1										
Total Organic Carbon	3.15	25.8		ug/mL	20.0	113%	79 - 130	8113351	NRK1831-01	11/20/08 15:00
8113447-MS1										
Total Organic Carbon	3.88	26.4		ug/mL	20.0	112%	79 - 130	8113447	NRK1864-01	11/21/08 12:46
8120098-MS1										
Total Organic Carbon	5.50	27.8		ug/mL	20.0	111%	79 - 130	8120098	NRK1860-03	12/01/08 12:00
8120198-MS1										
Alkalinity, Total (CaCO3)	25.9	113		ug/mL	100	87%	80 - 120	8120198	NRK1860-01	12/02/08 09:19
8120622-MS1										
Phosphorus	ND	2.13		mg/L	2.00	107%	76 - 112	8120622	NRK1697-08	12/05/08 12:36
Total Metals by EPA Method 6010B										
8113920-MS1										
Aluminum	5.00	7.14		mg/L	2.00	107%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Antimony	ND	0.0966		mg/L	0.100	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Arsenic	ND	0.0500		mg/L	0.0500	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Barium	0.0839	2.09		mg/L	2.00	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Beryllium	0.00270	0.0558		mg/L	0.0500	106%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Boron	0.0403	1.08		mg/L	1.00	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cadmium	ND	0.0503		mg/L	0.0500	101%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Chromium	ND	0.198		mg/L	0.200	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cobalt	0.0377	0.556		mg/L	0.500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Copper	ND	0.259		mg/L	0.250	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Iron	4.03	4.97		mg/L	1.00	94%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Lead	ND	0.0545		mg/L	0.0500	109%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Manganese	0.337	0.826		mg/L	0.500	98%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Molybdenum	ND	0.485		mg/L	0.500	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Nickel	0.0383	0.535		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Selenium	ND	0.0511		mg/L	0.0500	102%	75 - 125	8113920	NRK1875-03	11/28/08 11:10

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8113920-MS1										
Silver	ND	0.0518		mg/L	0.0500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Thallium	ND	0.0411		mg/L	0.0500	82%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Vanadium	ND	0.496		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Zinc	0.0806	0.576		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Mercury by EPA Methods 7470A/7471A										
8113965-MS1										
Mercury	ND	0.000908		mg/L	0.00100	91%	63 - 138	8113965	NRK1831-01	11/25/08 16:40

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK1860
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113336-MSD1												
Bromide	ND	11.8	M7	mg/L	10.0	118%	90 - 110	7	20	8113336	NRK1875-01	11/30/08 21:51
Chloride	16.7	20.3	A-01,	mg/L	3.00	121%	80 - 120	3	20	8113336	NRK1875-01	11/30/08 17:15
Fluoride	0.412	2.99	M7	mg/L	2.00	129%	80 - 120	5	19	8113336	NRK1875-01	11/30/08 21:51
Nitrate as N	0.172	3.50		mg/L	3.00	111%	80 - 120	2	20	8113336	NRK1875-01	11/21/08 11:34
Sulfate	18.3	34.1		mg/L	15.0	106%	80 - 120	7	20	8113336	NRK1875-01	11/30/08 21:51
8113351-MSD1												
Total Organic Carbon	3.15	26.0		ug/mL	20.0	114%	79 - 130	0.7	20	8113351	NRK1831-01	11/20/08 15:00
8113447-MSD1												
Total Organic Carbon	3.88	26.6		ug/mL	20.0	113%	79 - 130	0.7	20	8113447	NRK1864-01	11/21/08 12:46
8120098-MSD1												
Total Organic Carbon	5.50	27.8		ug/mL	20.0	112%	79 - 130	0.2	20	8120098	NRK1860-03	12/01/08 12:00
8120622-MSD1												
Phosphorus	ND	2.18		mg/L	2.00	109%	76 - 112	2	20	8120622	NRK1697-08	12/05/08 12:36
Total Metals by EPA Method 6010B												
8113920-MSD1												
Aluminum	5.00	6.95		mg/L	2.00	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Antimony	ND	0.0928		mg/L	0.100	93%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Arsenic	ND	0.0453		mg/L	0.0500	91%	75 - 125	10	20	8113920	NRK1875-03	11/28/08 11:49
Barium	0.0839	2.03		mg/L	2.00	97%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Beryllium	0.00270	0.0528		mg/L	0.0500	100%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Boron	0.0403	1.03		mg/L	1.00	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cadmium	ND	0.0489		mg/L	0.0500	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Chromium	ND	0.191		mg/L	0.200	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cobalt	0.0377	0.533		mg/L	0.500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Copper	ND	0.250		mg/L	0.250	100%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Iron	4.03	4.85		mg/L	1.00	82%	75 - 125	2	20	8113920	NRK1875-03	11/28/08 11:49
Lead	ND	0.0512		mg/L	0.0500	102%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Manganese	0.337	0.797		mg/L	0.500	92%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Nickel	0.0383	0.515		mg/L	0.500	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Selenium	ND	0.0514		mg/L	0.0500	103%	75 - 125	0.6	20	8113920	NRK1875-03	11/28/08 11:49
Silver	ND	0.0496		mg/L	0.0500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Thallium	ND	0.0348	M2	mg/L	0.0500	70%	75 - 125	17	20	8113920	NRK1875-03	11/28/08 11:49
Vanadium	ND	0.478		mg/L	0.500	96%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Zinc	0.0806	0.545		mg/L	0.500	93%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49

Mercury by EPA Methods 7470A/7471A

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
8113965-MSD1												
Mercury	ND	0.00118	R3	mg/L	0.00100	118%	63 - 138	26	22	8113965	NRK1831-01	11/25/08 16:42

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1860
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

DATA QUALIFIERS AND DEFINITIONS

A-01	The spiked recovery at a 2x dilution is 61%.
A-01a	The spiked recovery at a 2x dilution is 73%.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIPT

NRK1860

Cooler Received/Opened On_11/20/08 @ 08:00

1. Tracking #_1495_(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___A01124

2. Temperature of rep. sample or temp blank when opened: 1.1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES ...NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 2-FRONT & BACK

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES ...NO... and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA 11-20-08

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO... Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50778

THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Drive - Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NRK1860
12/05/08 23:59

Page 1 of 1

50779

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print)
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
~~Facility ID~~ Proj-# [none] 3552-08-1210
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	Plastic (Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Surface Water (specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A					RUSH TAT (Pre Schedule) *
SW-BGC-SG16	11/19/08	1140	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X	NRK1860			01	
SW-BGC-SG10	11/19/08	1210	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X				02	
SW-BGC-SG9	11/19/08	1240	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X				03	
SW-BGC-SG8	11/19/08	1300	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X				04	

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 11856*
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
Antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
[signature]	11/19/08	1500	[signature]	11/19/08	1500	[signature]	11/19/08	1700
Shipped Via: Fed Ex			Shipped Via:					
Received for TestAmerica by: [signature]	Date: 11-20-08	Time: 0800	Temperature Upon Receipt: 1.2	Sample Containers Intact? Y N VOCs Free of Headspace? Y N		QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)		Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 17, 2008 8:45:22AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Luke Clark

Work Order: NRK1848
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 11/20/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-URS-2	NRK1848-01	11/19/08 10:20
MW-DUP-1	NRK1848-02	11/19/08 11:00
Field Blank	NRK1848-03	11/19/08 11:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1848-01 (MW-URS-2 - Ground Water) Sampled: 11/19/08 10:20									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**56.7**		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	**70.7**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 19:05	EPA 300.1	8113336
Chloride	**45.2**		mg/L	5.00	10.0	10	11/30/08 13:34	EPA 300.0	8113336
Fluoride	**0.294**		mg/L	0.0500	0.100	1	11/30/08 19:05	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 08:49	EPA 300.0	8113336
Phosphorus	**0.130**		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**99.5**		mg/L	5.00	10.0	10	11/30/08 13:34	EPA 300.0	8113336
Total Dissolved Solids	**294**		mg/L	10.0	20.0	1	11/20/08 23:59	SM2540 C	8113390
Total Organic Carbon	**4.15**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.158**		mg/L	0.0180	0.100	1	11/28/08 09:53	SW846 6010B	8113920
Antimony	**0.00430**	J	mg/L	0.00380	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Barium	**0.0182**		mg/L	0.00150	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 09:53	SW846 6010B	8113920
Boron	**0.0498**	J	mg/L	0.00200	0.0500	1	11/28/08 09:53	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 09:53	SW846 6010B	8113920
Calcium	**32.2**		mg/L	0.100	1.00	1	11/28/08 09:53	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 09:53	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 09:53	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Iron	**5.37**		mg/L	0.0280	0.0500	1	11/28/08 09:53	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 09:53	SW846 6010B	8113920
Magnesium	**17.9**		mg/L	0.100	1.00	1	11/28/08 09:53	SW846 6010B	8113920
Manganese	**0.235**		mg/L	0.00100	0.0150	1	11/28/08 09:53	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 09:53	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Potassium	**6.35**		mg/L	0.200	1.00	1	11/28/08 09:53	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 09:53	SW846 6010B	8113920
Sodium	**37.6**		mg/L	0.500	1.00	1	11/28/08 09:53	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 09:53	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 09:53	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 09:53	SW846 6010B	8113920
Dissolved Metals by EPA Method 6010B									
Aluminum	**0.0661**	B, J	mg/L	0.0180	0.100	1	11/28/08 12:51	SW846 6010B	8114356
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Barium	**0.0180**		mg/L	0.00150	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Beryllium	**0.00100**	J	mg/L	0.00100	0.00400	1	11/28/08 12:51	SW846 6010B	8114356
Boron	**0.0503**		mg/L	0.00200	0.0500	1	11/28/08 12:51	SW846 6010B	8114356

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1848-01 (MW-URS-2 - Ground Water) - cont. Sampled: 11/19/08 10:20									
Dissolved Metals by EPA Method 6010B - cont.									
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 12:51	SW846 6010B	8114356
Calcium	**30.9**		mg/L	0.100	1.00	1	11/28/08 12:51	SW846 6010B	8114356
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 12:51	SW846 6010B	8114356
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 12:51	SW846 6010B	8114356
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Iron	**4.60**		mg/L	0.0280	0.0500	1	11/28/08 12:51	SW846 6010B	8114356
Lead	**0.00360**	J	mg/L	0.00280	0.00500	1	11/28/08 12:51	SW846 6010B	8114356
Magnesium	**17.7**		mg/L	0.100	1.00	1	11/28/08 12:51	SW846 6010B	8114356
Manganese	**0.222**		mg/L	0.00100	0.0150	1	11/28/08 12:51	SW846 6010B	8114356
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 12:51	SW846 6010B	8114356
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Potassium	**6.48**		mg/L	0.200	1.00	1	11/28/08 12:51	SW846 6010B	8114356
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 12:51	SW846 6010B	8114356
Sodium	**37.0**		mg/L	0.500	1.00	1	11/28/08 12:51	SW846 6010B	8114356
Thallium	ND	M2	mg/L	0.00750	0.0100	1	11/28/08 12:51	SW846 6010B	8114356
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 12:51	SW846 6010B	8114356
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 12:51	SW846 6010B	8114356
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:50	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/26/08 15:36	SW846 7470A	8114421
Sample ID: NRK1848-02 (MW-DUP-1 - Ground Water) Sampled: 11/19/08 11:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**65.6**		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	**71.1**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 19:24	EPA 300.1	8113336
Chloride	**50.7**		mg/L	5.00	10.0	10	11/30/08 13:53	EPA 300.0	8113336
Fluoride	**0.218**		mg/L	0.0500	0.100	1	11/30/08 19:24	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 09:07	EPA 300.0	8113336
Phosphorus	**0.190**		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**104**		mg/L	5.00	10.0	10	11/30/08 13:53	EPA 300.0	8113336
Total Dissolved Solids	**296**		mg/L	10.0	20.0	1	11/20/08 23:59	SM2540 C	8113390
Total Organic Carbon	**3.67**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Organic Halides	**0.0542**		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.147**		mg/L	0.0180	0.100	1	11/28/08 09:58	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Barium	**0.0185**		mg/L	0.00150	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 09:58	SW846 6010B	8113920
Boron	**0.0532**		mg/L	0.00200	0.0500	1	11/28/08 09:58	SW846 6010B	8113920

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1848-02 (MW-DUP-1 - Ground Water) - cont. Sampled: 11/19/08 11:00									
Total Metals by EPA Method 6010B - cont.									
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 09:58	SW846 6010B	8113920
Calcium	**32.1**		mg/L	0.100	1.00	1	11/28/08 09:58	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 09:58	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 09:58	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Iron	**5.21**		mg/L	0.0280	0.0500	1	11/28/08 09:58	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 09:58	SW846 6010B	8113920
Magnesium	**17.9**		mg/L	0.100	1.00	1	11/28/08 09:58	SW846 6010B	8113920
Manganese	**0.228**		mg/L	0.00100	0.0150	1	11/28/08 09:58	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 09:58	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Potassium	**6.69**		mg/L	0.200	1.00	1	11/28/08 09:58	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 09:58	SW846 6010B	8113920
Sodium	**38.8**		mg/L	0.500	1.00	1	11/28/08 09:58	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 09:58	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 09:58	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 09:58	SW846 6010B	8113920
Dissolved Metals by EPA Method 6010B									
Aluminum	**0.0511**	B, J	mg/L	0.0180	0.100	1	11/28/08 13:33	SW846 6010B	8114356
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Barium	**0.0181**		mg/L	0.00150	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 13:33	SW846 6010B	8114356
Boron	**0.0535**		mg/L	0.00200	0.0500	1	11/28/08 13:33	SW846 6010B	8114356
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 13:33	SW846 6010B	8114356
Calcium	**30.5**		mg/L	0.100	1.00	1	11/28/08 13:33	SW846 6010B	8114356
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 13:33	SW846 6010B	8114356
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 13:33	SW846 6010B	8114356
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Iron	**4.18**		mg/L	0.0280	0.0500	1	11/28/08 13:33	SW846 6010B	8114356
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 13:33	SW846 6010B	8114356
Magnesium	**17.6**		mg/L	0.100	1.00	1	11/28/08 13:33	SW846 6010B	8114356
Manganese	**0.219**		mg/L	0.00100	0.0150	1	11/28/08 13:33	SW846 6010B	8114356
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 13:33	SW846 6010B	8114356
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Potassium	**6.48**		mg/L	0.200	1.00	1	11/28/08 13:33	SW846 6010B	8114356
Selenium	**0.00590**	J	mg/L	0.00430	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 13:33	SW846 6010B	8114356
Sodium	**36.8**		mg/L	0.500	1.00	1	11/28/08 13:33	SW846 6010B	8114356
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 13:33	SW846 6010B	8114356
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 13:33	SW846 6010B	8114356
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 13:33	SW846 6010B	8114356

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1848-02 (MW-DUP-1 - Ground Water) - cont. Sampled: 11/19/08 11:00									
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:52	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/26/08 15:38	SW846 7470A	8114421
Sample ID: NRK1848-03 (Field Blank - Ground Water) Sampled: 11/19/08 11:30									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 19:42	EPA 300.1	8113336
Chloride	ND		mg/L	0.500	1.00	1	11/30/08 19:42	EPA 300.0	8113336
Fluoride	**0.0580**	J	mg/L	0.0500	0.100	1	11/30/08 19:42	EPA 300.0	8113336
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/21/08 09:26	EPA 300.0	8113336
Phosphorus	ND		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	ND		mg/L	0.500	1.00	1	11/30/08 19:42	EPA 300.0	8113336
Total Dissolved Solids	ND		mg/L	6.67	13.3	1	11/20/08 23:59	SM2540 C	8113390
Total Organic Carbon	**1.72**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Organic Halides	ND		mg/L	0.0270	0.0300	1	12/11/08 13:41	SW846 9020B	8121432
Total Metals by EPA Method 6010B									
Aluminum	**0.0438**	J	mg/L	0.0180	0.100	1	11/28/08 10:03	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Barium	ND		mg/L	0.00150	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 10:03	SW846 6010B	8113920
Boron	ND		mg/L	0.00200	0.0500	1	11/28/08 10:03	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 10:03	SW846 6010B	8113920
Calcium	ND		mg/L	0.100	1.00	1	11/28/08 10:03	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 10:03	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 10:03	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Iron	ND		mg/L	0.0280	0.0500	1	11/28/08 10:03	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 10:03	SW846 6010B	8113920
Magnesium	ND		mg/L	0.100	1.00	1	11/28/08 10:03	SW846 6010B	8113920
Manganese	ND		mg/L	0.00100	0.0150	1	11/28/08 10:03	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 10:03	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Potassium	ND		mg/L	0.200	1.00	1	11/28/08 10:03	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 10:03	SW846 6010B	8113920
Sodium	ND		mg/L	0.500	1.00	1	11/28/08 10:03	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 10:03	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 10:03	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 10:03	SW846 6010B	8113920
Dissolved Metals by EPA Method 6010B									

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1848-03 (Field Blank - Ground Water) - cont. Sampled: 11/19/08 11:30									
Dissolved Metals by EPA Method 6010B - cont.									
Aluminum	**0.0255**	P7, B, J	mg/L	0.0180	0.100	1	11/28/08 13:38	SW846 6010B	8114356
Antimony	ND	P7	mg/L	0.00380	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Arsenic	ND	P7	mg/L	0.00450	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Barium	ND	P7	mg/L	0.00150	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Beryllium	ND	P7	mg/L	0.00100	0.00400	1	11/28/08 13:38	SW846 6010B	8114356
Boron	ND	P7	mg/L	0.00200	0.0500	1	11/28/08 13:38	SW846 6010B	8114356
Cadmium	ND	P7	mg/L	0.000500	0.00100	1	11/28/08 13:38	SW846 6010B	8114356
Calcium	ND	P7	mg/L	0.100	1.00	1	11/28/08 13:38	SW846 6010B	8114356
Chromium	ND	P7	mg/L	0.00150	0.00500	1	11/28/08 13:38	SW846 6010B	8114356
Cobalt	ND	P7	mg/L	0.00200	0.0200	1	11/28/08 13:38	SW846 6010B	8114356
Copper	ND	P7	mg/L	0.00350	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Iron	ND	P7	mg/L	0.0280	0.0500	1	11/28/08 13:38	SW846 6010B	8114356
Lead	ND	P7	mg/L	0.00280	0.00500	1	11/28/08 13:38	SW846 6010B	8114356
Magnesium	ND	P7	mg/L	0.100	1.00	1	11/28/08 13:38	SW846 6010B	8114356
Manganese	ND	P7	mg/L	0.00100	0.0150	1	11/28/08 13:38	SW846 6010B	8114356
Molybdenum	ND	P7	mg/L	0.00900	0.0500	1	11/28/08 13:38	SW846 6010B	8114356
Nickel	ND	P7	mg/L	0.00240	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Potassium	ND	P7	mg/L	0.200	1.00	1	11/28/08 13:38	SW846 6010B	8114356
Selenium	ND	P7	mg/L	0.00430	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Silver	ND	P7	mg/L	0.00160	0.00500	1	11/28/08 13:38	SW846 6010B	8114356
Sodium	ND	P7	mg/L	0.500	1.00	1	11/28/08 13:38	SW846 6010B	8114356
Thallium	ND	P7	mg/L	0.00750	0.0100	1	11/28/08 13:38	SW846 6010B	8114356
Vanadium	ND	P7	mg/L	0.00150	0.0200	1	11/28/08 13:38	SW846 6010B	8114356
Zinc	ND	P7	mg/L	0.0100	0.0500	1	11/28/08 13:38	SW846 6010B	8114356
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:58	SW846 7470A	8113965
Dissolved Mercury by EPA Methods 7470A/7471A									
Mercury	ND	P7	mg/L	0.000150	0.000200	1	11/26/08 15:44	SW846 7470A	8114421

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Dissolved Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8114421	NRK1848-01	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
SW846 7470A	8114421	NRK1848-02	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
SW846 7470A	8114421	NRK1848-03	30.00	30.00	11/26/08 08:53	JMR	EPA 7470
Dissolved Metals by EPA Method 6010B							
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
SW846 6010B	8114356	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010 D
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113965	NRK1848-01	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1848-02	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1848-03	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1848-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113336-BLK1						
Bromide	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Chloride	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Fluoride	<0.0500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
Nitrate as N	<0.0500		mg/L	8113336	8113336-BLK1	11/21/08 07:54
Sulfate	<0.500		mg/L	8113336	8113336-BLK1	11/30/08 12:57
8113351-BLK1						
Total Organic Carbon	<0.500		mg/L	8113351	8113351-BLK1	11/20/08 15:00
8113390-BLK1						
Total Dissolved Solids	<5.00		mg/L	8113390	8113390-BLK1	11/20/08 23:59
8113403-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113403	8113403-BLK1	11/20/08 16:29
8114816-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8114816	8114816-BLK1	11/29/08 13:47
8120622-BLK1						
Phosphorus	<0.0450		mg/L	8120622	8120622-BLK1	12/05/08 12:36
8121432-BLK1						
Total Organic Halides	<0.0270		mg/L	8121432	8121432-BLK1	12/11/08 13:41
Total Metals by EPA Method 6010B						
8113920-BLK1						
Aluminum	<0.0180		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Antimony	<0.00380		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Arsenic	<0.00450		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Barium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Beryllium	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Boron	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cadmium	<0.000500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Calcium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Chromium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cobalt	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Copper	<0.00350		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Iron	<0.0280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Lead	<0.00280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Magnesium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Manganese	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Molybdenum	<0.00900		mg/L	8113920	8113920-BLK1	11/28/08 09:05

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8113920-BLK1						
Nickel	<0.00240		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Potassium	<0.200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Selenium	<0.00430		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Silver	<0.00160		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Sodium	<0.500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Thallium	<0.00750		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Vanadium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Zinc	<0.0100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Dissolved Metals by EPA Method 6010B						
8114356-BLK1						
Aluminum	0.0349	J	mg/L	8114356	8114356-BLK1	11/28/08 12:36
Antimony	<0.00380		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Arsenic	<0.00450		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Barium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Beryllium	<0.00100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Boron	<0.00200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Cadmium	<0.000500		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Calcium	<0.100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Chromium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Cobalt	<0.00200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Copper	<0.00350		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Iron	<0.0280		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Lead	<0.00280		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Magnesium	<0.100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Manganese	<0.00100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Molybdenum	<0.00900		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Nickel	<0.00240		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Potassium	<0.200		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Selenium	<0.00430		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Silver	<0.00160		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Sodium	<0.500		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Thallium	<0.00750		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Vanadium	<0.00150		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Zinc	<0.0100		mg/L	8114356	8114356-BLK1	11/28/08 12:36
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						
Mercury	<0.000150		mg/L	8113965	8113965-BLK1	11/25/08 16:34
Dissolved Mercury by EPA Methods 7470A/7471A						

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Dissolved Mercury by EPA Methods 7470A/7471A						
8114421-BLK1						
Mercury	<0.000150		mg/L	8114421	8114421-BLK1	11/26/08 15:28

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113336-DUP1									
Bromide	ND	<0.500		mg/L		20	8113336	NRK1875-04	11/30/08 23:05
Chloride	20.8	20.9		mg/L	0.1	20	8113336	NRK1875-04	11/30/08 18:47
Fluoride	0.302	0.301		mg/L	0.3	19	8113336	NRK1875-04	11/30/08 23:05
Nitrate as N	0.0650	0.0660	J	mg/L	2	20	8113336	NRK1875-04	11/21/08 13:25
Sulfate	12.6	12.5		mg/L	1	20	8113336	NRK1875-04	11/30/08 23:05
8113351-DUP1									
Total Organic Carbon	6.21	6.13		mg/L	1	20	8113351	NRK1831-02	11/20/08 15:00
8113390-DUP1									
Total Dissolved Solids	ND	<6.67		mg/L		20	8113390	NRK1848-03	11/20/08 23:59
8113403-DUP1									
Bicarbonate Alkalinity as CaCO3	15.9	15.1		mg/L	5	20	8113403	NRK1875-04	11/20/08 16:29
8114816-DUP1									
Alkalinity, Total (CaCO3)	ND	<5.00		mg/L		20	8114816	NRK1848-03	11/29/08 13:47
8120622-DUP1									
Phosphorus	ND	<0.0450		mg/L		20	8120622	NRK1697-13	12/05/08 12:36
8121432-DUP1									
Total Organic Halides	0.0542	0.0512		mg/L	6	50	8121432	NRK1848-02	12/11/08 13:41

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113336-BS1								
Bromide	10.0	9.82		mg/L	98%	90 - 110	8113336	11/30/08 13:16
Chloride	3.00	2.99		mg/L	100%	90 - 110	8113336	11/30/08 13:16
Fluoride	2.00	2.20		mg/L	110%	90 - 110	8113336	11/30/08 13:16
Nitrate as N	3.00	3.28		mg/L	109%	90 - 110	8113336	11/21/08 08:31
Sulfate	15.0	14.8		mg/L	98%	90 - 110	8113336	11/30/08 13:16
8113351-BS1								
Total Organic Carbon	10.0	10.2		ug/mL	102%	90 - 110	8113351	11/20/08 15:00
8113390-BS1								
Total Dissolved Solids	100	99.0		ug/mL	99%	90 - 110	8113390	11/20/08 23:59
8114816-BS1								
Alkalinity, Total (CaCO3)	100	100		ug/mL	100%	90 - 110	8114816	11/29/08 13:47
8120622-BS1								
Phosphorus	2.00	2.13		mg/L	107%	90 - 110	8120622	12/05/08 12:36
8121432-BS1								
Total Organic Halides	0.250	0.258		mg/L	103%	90 - 130	8121432	12/11/08 13:41
Total Metals by EPA Method 6010B								
8113920-BS1								
Aluminum	2.00	1.99		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Antimony	0.100	0.0914		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Arsenic	0.0500	0.0486		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Barium	2.00	1.98		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8113920	11/28/08 09:15
Boron	1.00	0.982		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Cadmium	0.0500	0.0496		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Calcium	5.00	4.87		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Chromium	0.200	0.199		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Cobalt	0.500	0.508		mg/L	102%	80 - 120	8113920	11/28/08 09:15
Copper	0.250	0.245		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Iron	1.00	0.994		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Lead	0.0500	0.0494		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Magnesium	5.00	4.92		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Manganese	0.500	0.498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Molybdenum	0.500	0.483		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Nickel	0.500	0.488		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Potassium	5.00	4.16		mg/L	83%	80 - 120	8113920	11/28/08 09:15
Selenium	0.0500	0.0518		mg/L	104%	80 - 120	8113920	11/28/08 09:15

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8113920-BS1								
Silver	0.0500	0.0504		mg/L	101%	80 - 120	8113920	11/28/08 09:15
Sodium	5.00	4.56		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Thallium	0.0500	0.0498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Vanadium	0.500	0.495		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Zinc	0.500	0.481		mg/L	96%	80 - 120	8113920	11/28/08 09:15
Dissolved Metals by EPA Method 6010B								
8114356-BS1								
Aluminum	2.00	2.06		mg/L	103%	80 - 120	8114356	11/28/08 12:41
Antimony	0.100	0.0951		mg/L	95%	80 - 120	8114356	11/28/08 12:41
Arsenic	0.0500	0.0469		mg/L	94%	80 - 120	8114356	11/28/08 12:41
Barium	2.00	2.04		mg/L	102%	80 - 120	8114356	11/28/08 12:41
Beryllium	0.0500	0.0533		mg/L	107%	80 - 120	8114356	11/28/08 12:41
Boron	1.00	1.02		mg/L	102%	80 - 120	8114356	11/28/08 12:41
Cadmium	0.0500	0.0504		mg/L	101%	80 - 120	8114356	11/28/08 12:41
Calcium	5.00	4.80		mg/L	96%	80 - 120	8114356	11/28/08 12:41
Chromium	0.200	0.198		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Cobalt	0.500	0.504		mg/L	101%	80 - 120	8114356	11/28/08 12:41
Copper	0.250	0.246		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Iron	1.00	0.980		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Lead	0.0500	0.0497		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Magnesium	5.00	4.99		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Manganese	0.500	0.491		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Molybdenum	0.500	0.489		mg/L	98%	80 - 120	8114356	11/28/08 12:41
Nickel	0.500	0.500		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Potassium	5.00	4.33		mg/L	87%	80 - 120	8114356	11/28/08 12:41
Selenium	0.0500	0.0499		mg/L	100%	80 - 120	8114356	11/28/08 12:41
Silver	0.0500	0.0496		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Sodium	5.00	4.61		mg/L	92%	80 - 120	8114356	11/28/08 12:41
Thallium	0.0500	0.0459		mg/L	92%	80 - 120	8114356	11/28/08 12:41
Vanadium	0.500	0.496		mg/L	99%	80 - 120	8114356	11/28/08 12:41
Zinc	0.500	0.485		mg/L	97%	80 - 120	8114356	11/28/08 12:41
Mercury by EPA Methods 7470A/7471A								
8113965-BS1								
Mercury	0.00100	0.000950		mg/L	95%	78 - 124	8113965	11/25/08 16:36
Dissolved Mercury by EPA Methods 7470A/7471A								
8114421-BS1								
Mercury	0.00100	0.00110		mg/L	110%	78 - 124	8114421	11/26/08 16:30

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NRK1848
		Project Name:	Chesapeake, VA, Battlefield Golf Club
		Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113336-MS1										
Bromide	ND	11.1	M7	mg/L	10.0	111%	90 - 110	8113336	NRK1875-01	11/30/08 21:33
Chloride	16.7	21.0	A-01a,	mg/L	3.00	145%	80 - 120	8113336	NRK1875-01	11/30/08 16:20
Fluoride	0.412	2.84	M7	mg/L	2.00	121%	80 - 120	8113336	NRK1875-01	11/30/08 21:33
Nitrate as N	0.172	3.44		mg/L	3.00	109%	80 - 120	8113336	NRK1875-01	11/21/08 11:16
Sulfate	18.3	31.7		mg/L	15.0	90%	80 - 120	8113336	NRK1875-01	11/30/08 21:33
8113351-MS1										
Total Organic Carbon	3.15	25.8		ug/mL	20.0	113%	79 - 130	8113351	NRK1831-01	11/20/08 15:00
8114816-MS1										
Alkalinity, Total (CaCO3)	32.8	117		ug/mL	100	84%	80 - 120	8114816	NRK1697-01	11/29/08 13:47
8120622-MS1										
Phosphorus	ND	2.13		mg/L	2.00	107%	76 - 112	8120622	NRK1697-08	12/05/08 12:36
8121432-MS1										
Total Organic Halides	ND	0.207	M7	mg/L	0.100	207%	74 - 131	8121432	NRK1410-04	12/11/08 13:41
Total Metals by EPA Method 6010B										
8113920-MS1										
Aluminum	5.00	7.14		mg/L	2.00	107%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Antimony	ND	0.0966		mg/L	0.100	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Arsenic	ND	0.0500		mg/L	0.0500	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Barium	0.0839	2.09		mg/L	2.00	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Beryllium	0.00270	0.0558		mg/L	0.0500	106%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Boron	0.0403	1.08		mg/L	1.00	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cadmium	ND	0.0503		mg/L	0.0500	101%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Chromium	ND	0.198		mg/L	0.200	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cobalt	0.0377	0.556		mg/L	0.500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Copper	ND	0.259		mg/L	0.250	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Iron	4.03	4.97		mg/L	1.00	94%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Lead	ND	0.0545		mg/L	0.0500	109%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Manganese	0.337	0.826		mg/L	0.500	98%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Molybdenum	ND	0.485		mg/L	0.500	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Nickel	0.0383	0.535		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Selenium	ND	0.0511		mg/L	0.0500	102%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Silver	ND	0.0518		mg/L	0.0500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Thallium	ND	0.0411		mg/L	0.0500	82%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Vanadium	ND	0.496		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
8113920-MS1										
Zinc	0.0806	0.576		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Dissolved Metals by EPA Method 6010B										
8114356-MS1										
Aluminum	0.0661	2.12		mg/L	2.00	103%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Antimony	ND	0.0942		mg/L	0.100	94%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Arsenic	ND	0.0501		mg/L	0.0500	100%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Barium	0.0180	2.04		mg/L	2.00	101%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Beryllium	0.00100	0.0522		mg/L	0.0500	102%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Boron	0.0503	1.09		mg/L	1.00	104%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Cadmium	ND	0.0492		mg/L	0.0500	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Chromium	ND	0.194		mg/L	0.200	97%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Cobalt	ND	0.497		mg/L	0.500	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Copper	ND	0.249		mg/L	0.250	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Iron	4.60	5.58		mg/L	1.00	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Lead	0.00360	0.0517		mg/L	0.0500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Manganese	0.222	0.702		mg/L	0.500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Molybdenum	ND	0.473		mg/L	0.500	95%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Nickel	ND	0.496		mg/L	0.500	99%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Selenium	ND	0.0519		mg/L	0.0500	104%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Silver	ND	0.0487		mg/L	0.0500	97%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Thallium	ND	0.0386		mg/L	0.0500	77%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Vanadium	ND	0.489		mg/L	0.500	98%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Zinc	ND	0.479		mg/L	0.500	96%	75 - 125	8114356	NRK1848-01	11/28/08 13:24
Mercury by EPA Methods 7470A/7471A										
8113965-MS1										
Mercury	ND	0.000908		mg/L	0.00100	91%	63 - 138	8113965	NRK1831-01	11/25/08 16:40
Dissolved Mercury by EPA Methods 7470A/7471A										
8114421-MS1										
Mercury	ND	0.00103		mg/L	0.00100	103%	63 - 138	8114421	NRK1848-02	11/26/08 15:40

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113336-MSD1												
Bromide	ND	11.8	M7	mg/L	10.0	118%	90 - 110	7	20	8113336	NRK1875-01	11/30/08 21:51
Chloride	16.7	20.3	A-01,	mg/L	3.00	121%	80 - 120	3	20	8113336	NRK1875-01	11/30/08 17:15
Fluoride	0.412	2.99	M7	mg/L	2.00	129%	80 - 120	5	19	8113336	NRK1875-01	11/30/08 21:51
Nitrate as N	0.172	3.50		mg/L	3.00	111%	80 - 120	2	20	8113336	NRK1875-01	11/21/08 11:34
Sulfate	18.3	34.1		mg/L	15.0	106%	80 - 120	7	20	8113336	NRK1875-01	11/30/08 21:51
8113351-MSD1												
Total Organic Carbon	3.15	26.0		ug/mL	20.0	114%	79 - 130	0.7	20	8113351	NRK1831-01	11/20/08 15:00
8120622-MSD1												
Phosphorus	ND	2.18		mg/L	2.00	109%	76 - 112	2	20	8120622	NRK1697-08	12/05/08 12:36
8121432-MSD1												
Total Organic Halides	ND	0.237	M7	mg/L	0.100	237%	74 - 131	14	50	8121432	NRK1410-04	12/11/08 13:41
Total Metals by EPA Method 6010B												
8113920-MSD1												
Aluminum	5.00	6.95		mg/L	2.00	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Antimony	ND	0.0928		mg/L	0.100	93%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Arsenic	ND	0.0453		mg/L	0.0500	91%	75 - 125	10	20	8113920	NRK1875-03	11/28/08 11:49
Barium	0.0839	2.03		mg/L	2.00	97%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Beryllium	0.00270	0.0528		mg/L	0.0500	100%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Boron	0.0403	1.03		mg/L	1.00	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cadmium	ND	0.0489		mg/L	0.0500	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Chromium	ND	0.191		mg/L	0.200	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cobalt	0.0377	0.533		mg/L	0.500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Copper	ND	0.250		mg/L	0.250	100%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Iron	4.03	4.85		mg/L	1.00	82%	75 - 125	2	20	8113920	NRK1875-03	11/28/08 11:49
Lead	ND	0.0512		mg/L	0.0500	102%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Manganese	0.337	0.797		mg/L	0.500	92%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Nickel	0.0383	0.515		mg/L	0.500	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Selenium	ND	0.0514		mg/L	0.0500	103%	75 - 125	0.6	20	8113920	NRK1875-03	11/28/08 11:49
Silver	ND	0.0496		mg/L	0.0500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Thallium	ND	0.0348	M2	mg/L	0.0500	70%	75 - 125	17	20	8113920	NRK1875-03	11/28/08 11:49
Vanadium	ND	0.478		mg/L	0.500	96%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Zinc	0.0806	0.545		mg/L	0.500	93%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Dissolved Metals by EPA Method 6010B												
8114356-MSD1												
Aluminum	0.0661	2.12		mg/L	2.00	103%	75 - 125	0.05	20	8114356	NRK1848-01	11/28/08 13:29

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Dissolved Metals by EPA Method 6010B												
8114356-MSD1												
Antimony	ND	0.0974		mg/L	0.100	97%	75 - 125	3	20	8114356	NRK1848-01	11/28/08 13:29
Arsenic	ND	0.0492		mg/L	0.0500	98%	75 - 125	2	20	8114356	NRK1848-01	11/28/08 13:29
Barium	0.0180	2.04		mg/L	2.00	101%	75 - 125	0.2	20	8114356	NRK1848-01	11/28/08 13:29
Beryllium	0.00100	0.0518		mg/L	0.0500	102%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Boron	0.0503	1.08		mg/L	1.00	103%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Cadmium	ND	0.0490		mg/L	0.0500	98%	75 - 125	0.4	20	8114356	NRK1848-01	11/28/08 13:29
Chromium	ND	0.192		mg/L	0.200	96%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Cobalt	ND	0.492		mg/L	0.500	98%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Copper	ND	0.248		mg/L	0.250	99%	75 - 125	0.08	20	8114356	NRK1848-01	11/28/08 13:29
Iron	4.60	5.52		mg/L	1.00	92%	75 - 125	1	20	8114356	NRK1848-01	11/28/08 13:29
Lead	0.00360	0.0503		mg/L	0.0500	93%	75 - 125	3	20	8114356	NRK1848-01	11/28/08 13:29
Manganese	0.222	0.696		mg/L	0.500	95%	75 - 125	0.9	20	8114356	NRK1848-01	11/28/08 13:29
Molybdenum	ND	0.476		mg/L	0.500	95%	75 - 125	0.6	20	8114356	NRK1848-01	11/28/08 13:29
Nickel	ND	0.492		mg/L	0.500	98%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Selenium	ND	0.0532		mg/L	0.0500	106%	75 - 125	2	20	8114356	NRK1848-01	11/28/08 13:29
Silver	ND	0.0483		mg/L	0.0500	97%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Thallium	ND	0.0329	M2	mg/L	0.0500	66%	75 - 125	16	20	8114356	NRK1848-01	11/28/08 13:29
Vanadium	ND	0.485		mg/L	0.500	97%	75 - 125	0.8	20	8114356	NRK1848-01	11/28/08 13:29
Zinc	ND	0.476		mg/L	0.500	95%	75 - 125	0.7	20	8114356	NRK1848-01	11/28/08 13:29
Mercury by EPA Methods 7470A/7471A												
8113965-MSD1												
Mercury	ND	0.00118	R3	mg/L	0.00100	118%	63 - 138	26	22	8113965	NRK1831-01	11/25/08 16:42
Dissolved Mercury by EPA Methods 7470A/7471A												
8114421-MSD1												
Mercury	ND	0.00113		mg/L	0.00100	113%	63 - 138	9	22	8114421	NRK1848-02	11/26/08 15:42

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9020B	Water	N/A	X	N/A
SW846 9060A	Water			

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1848
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

DATA QUALIFIERS AND DEFINITIONS

A-01	The spiked recovery at a 2x dilution is 61%.
A-01a	The spiked recovery at a 2x dilution is 73%.
B	Analyte was detected in the associated Method Blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
P7	Sample filtered in lab.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECE

NRK1848

Cooler Received/Opened On 11 / 20/ 08 @ 8:00

1. Tracking # 0986 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 90942856

2. Temperature of rep. sample or temp blank when opened: 0.4 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: \ front \ back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES..NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50802

THE LEADER IN ENVIRONMENTAL TESTING

2900 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax: (615) 726-3404

Page 1 of 1

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buchy
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Facility ID: [none]
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see COC	METALS - TOTAL - see COC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A	~~8260 S 8260~~ VOC				RUSH TAT (Pre Schedule) *
MW-UKS-2	11-19-08	1020	8			1			1			1	3	3	X						X	X	X	X	X	X	X	X	X	X	X	X	X				-1
MW-Dup-1	11-19-08	1100	8			1			1			1	3	3	X						X	X	X	X	X	X	X	X	X	X	X	X	X				-2
Field Blank	11-19-08	1130	8						1			1	3	3	X						X	X	X	X	X	X	X	X	X	X	X	X	X				-3

NRK1848
12/05/08 23:59

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856
METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn
Antimony, thallium, Ag

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
				11/19/08	1630		11/19/08	1700

Shipped Via: Fed Ex

Received for TestAmerica by:	Date:	Time:	Shipped Via:	Temperature Upon Receipt: 0.4	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N	QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
	11-20-08	0200						

50803

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 18, 2008 11:05:04AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NRL1146
Project Name: Chesapeake, VA, Battlefield Golf Club
Project Nbr: 3552-08-1210
P/O Nbr: 200821634
Date Received: 12/11/08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
ASH-BGC-TP2	NRL1146-01	12/10/08 14:00
ASH-BGC-TP3	NRL1146-02	12/10/08 14:30
ASH-BGC-TP1	NRL1146-03	12/10/08 15:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRL1146-01 (ASH-BGC-TP2 - Soil) Sampled: 12/10/08 14:00									
General Chemistry Parameters									
pH	**8.30**		pH Units	0.100	0.100	1	12/15/08 18:01	SW846 9045D	8122056
Temperature of pH determination	**22.2**		Deg C	NA	NA	1	12/15/08 18:01	EPA 170.1	8122056
TCLP Metals by 6000/7000 Series Methods									
Arsenic	ND		mg/L	0.0500	0.100	1	12/17/08 12:52	SW846 1311/6010E	8122041
Barium	**0.342**		mg/L	0.0150	0.100	1	12/17/08 12:52	SW846 1311/6010E	8122041
Cadmium	**0.00600**	J	mg/L	0.00500	0.0100	1	12/17/08 12:52	SW846 1311/6010E	8122041
Chromium	**0.0230**	J	mg/L	0.0150	0.0500	1	12/17/08 12:52	SW846 1311/6010E	8122041
Lead	ND		mg/L	0.0280	0.0500	1	12/17/08 12:52	SW846 1311/6010E	8122041
Selenium	**0.158**		mg/L	0.0430	0.100	1	12/17/08 12:52	SW846 1311/6010E	8122041
Silver	ND		mg/L	0.0160	0.0500	1	12/17/08 12:52	SW846 1311/6010E	8122041
Mercury	ND		mg/L	0.00150	0.0100	1	12/12/08 15:16	SW846 1311/7470A	8121553
Sample ID: NRL1146-02 (ASH-BGC-TP3 - Soil) Sampled: 12/10/08 14:30									
General Chemistry Parameters									
pH	**9.40**		pH Units	0.100	0.100	1	12/15/08 18:01	SW846 9045D	8122056
Temperature of pH determination	**22.2**		Deg C	NA	NA	1	12/15/08 18:01	EPA 170.1	8122056
TCLP Metals by 6000/7000 Series Methods									
Arsenic	ND		mg/L	0.0500	0.100	1	12/17/08 13:05	SW846 1311/6010E	8122041
Barium	**0.825**		mg/L	0.0150	0.100	1	12/17/08 13:05	SW846 1311/6010E	8122041
Cadmium	ND		mg/L	0.00500	0.0100	1	12/17/08 13:05	SW846 1311/6010E	8122041
Chromium	**0.0430**	J	mg/L	0.0150	0.0500	1	12/17/08 13:05	SW846 1311/6010E	8122041
Lead	**0.0320**	J	mg/L	0.0280	0.0500	1	12/17/08 13:05	SW846 1311/6010E	8122041
Selenium	**0.140**		mg/L	0.0430	0.100	1	12/17/08 13:05	SW846 1311/6010E	8122041
Silver	ND		mg/L	0.0160	0.0500	1	12/17/08 13:05	SW846 1311/6010E	8122041
Mercury	ND		mg/L	0.00150	0.0100	1	12/12/08 15:18	SW846 1311/7470A	8121553
Sample ID: NRL1146-03 (ASH-BGC-TP1 - Soil) Sampled: 12/10/08 15:00									
General Chemistry Parameters									
pH	**10.7**		pH Units	0.100	0.100	1	12/15/08 18:01	SW846 9045D	8122056
Temperature of pH determination	**22.2**		Deg C	NA	NA	1	12/15/08 18:01	EPA 170.1	8122056
TCLP Metals by 6000/7000 Series Methods									
Arsenic	ND		mg/L	0.0500	0.100	1	12/17/08 13:14	SW846 1311/6010E	8122041
Barium	**0.243**		mg/L	0.0150	0.100	1	12/17/08 13:14	SW846 1311/6010E	8122041
Cadmium	ND		mg/L	0.00500	0.0100	1	12/17/08 13:14	SW846 1311/6010E	8122041
Chromium	**0.0710**		mg/L	0.0150	0.0500	1	12/17/08 13:14	SW846 1311/6010E	8122041
Lead	ND		mg/L	0.0280	0.0500	1	12/17/08 13:14	SW846 1311/6010E	8122041
Selenium	**0.106**		mg/L	0.0430	0.100	1	12/17/08 13:14	SW846 1311/6010E	8122041
Silver	ND		mg/L	0.0160	0.0500	1	12/17/08 13:14	SW846 1311/6010E	8122041
Mercury	ND		mg/L	0.00150	0.0100	1	12/12/08 15:25	SW846 1311/7470A	8121553

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
TCLP Extraction by EPA 1311							
SW846 1311	8121821	NRL1146-01	100.00	2000.00	12/11/08 16:00	SLW	EPA 1311
SW846 1311	8121821	NRL1146-02	100.00	2000.00	12/11/08 16:00	SLW	EPA 1311
SW846 1311	8121821	NRL1146-03	100.00	2000.00	12/11/08 16:00	SLW	EPA 1311
TCLP Metals by 6000/7000 Series Methods							
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-01	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8121821	NRL1146-01	100.00	2000.00	12/11/08 16:00	SLW	EPA 1311
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8121821	NRL1146-02	100.00	2000.00	12/11/08 16:00	SLW	EPA 1311
SW846 1311/6010B	8122041	NRL1146-02	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8121821	NRL1146-03	100.00	2000.00	12/11/08 16:00	SLW	EPA 1311
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/6010B	8122041	NRL1146-03	5.00	50.00	12/15/08 03:15	JLS	EPA 3015
SW846 1311/7470A	8121553	NRL1146-01	3.00	30.00	12/12/08 11:30	JMR	EPA 7470
SW846 1311/7470A	8121553	NRL1146-02	3.00	30.00	12/12/08 11:30	JMR	EPA 7470
SW846 1311/7470A	8121553	NRL1146-03	3.00	30.00	12/12/08 11:30	JMR	EPA 7470

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
TCLP Metals by 6000/7000 Series Methods						
8121553-BLK1						
Mercury	<0.00150		mg/L	8121553	8121553-BLK1	12/12/08 14:42
8122041-BLK1						
Arsenic	<0.0500		mg/L	8122041	8122041-BLK1	12/17/08 12:41
Barium	<0.0150		mg/L	8122041	8122041-BLK1	12/17/08 12:41
Cadmium	<0.00500		mg/L	8122041	8122041-BLK1	12/17/08 12:41
Chromium	<0.0150		mg/L	8122041	8122041-BLK1	12/17/08 12:41
Lead	<0.0280		mg/L	8122041	8122041-BLK1	12/17/08 12:41
Selenium	<0.0430		mg/L	8122041	8122041-BLK1	12/17/08 12:41
Silver	<0.0160		mg/L	8122041	8122041-BLK1	12/17/08 12:41

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8122056-DUP1									
pH	7.60	7.60		pH Units	0	200	8122056	NRL1094-01	12/15/08 11:46
Temperature of pH determination	23.1	23.1		Deg C	0	200	8122056	NRL1094-01	12/15/08 11:46

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8122056-BS1								
pH	7.00	6.99		pH Units	100%	0 - 200	8122056	12/15/08 11:46
TCLP Metals by 6000/7000 Series Methods								
8121553-BS1								
Mercury	0.0200	0.0164		mg/L	82%	78 - 124	8121553	12/12/08 14:46
8122041-BS1								
Arsenic	10.0	9.46		mg/L	95%	80 - 120	8122041	12/17/08 12:49
Barium	100	98.2		mg/L	98%	80 - 120	8122041	12/17/08 12:49
Cadmium	10.0	9.95		mg/L	99%	80 - 120	8122041	12/17/08 12:49
Chromium	50.0	50.0		mg/L	100%	80 - 120	8122041	12/17/08 12:49
Lead	50.0	45.9		mg/L	92%	80 - 120	8122041	12/17/08 12:49
Selenium	10.0	9.22		mg/L	92%	80 - 120	8122041	12/17/08 12:49
Silver	10.0	9.20		mg/L	92%	80 - 120	8122041	12/17/08 12:49

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8122056-BSD1												
pH		6.97		pH Units	7.00	100%	0 - 200	0.3	200	8122056		12/15/08 11:46
TCLP Metals by 6000/7000 Series Methods												
8121553-BSD1												
Mercury		0.0184		mg/L	0.0200	92%	78 - 124	11	22	8121553		12/12/08 14:48

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
TCLP Metals by 6000/7000 Series Methods										
8121553-MS1										
Mercury	ND	0.0213		mg/L	0.0200	106%	63 - 138	8121553	NRL0845-01	12/12/08 14:58
8122041-MS1										
Arsenic	ND	9.83		mg/L	10.0	98%	75 - 125	8122041	NRL1146-01	12/17/08 12:56
Barium	0.342	99.5		mg/L	100	99%	75 - 125	8122041	NRL1146-01	12/17/08 12:56
Cadmium	0.00600	10.2		mg/L	10.0	102%	75 - 125	8122041	NRL1146-01	12/17/08 12:56
Chromium	0.0230	50.5		mg/L	50.0	101%	75 - 125	8122041	NRL1146-01	12/17/08 12:56
Lead	ND	50.2		mg/L	50.0	100%	75 - 125	8122041	NRL1146-01	12/17/08 12:56
Selenium	0.158	9.90		mg/L	10.0	97%	75 - 125	8122041	NRL1146-01	12/17/08 12:56
Silver	ND	9.74		mg/L	10.0	97%	75 - 125	8122041	NRL1146-01	12/17/08 12:56

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
TCLP Metals by 6000/7000 Series Methods												
8121553-MSD1												
Mercury	ND	0.0215		mg/L	0.0200	108%	63 - 138	0.9	22	8121553	NRL0845-01	12/12/08 15:00
8122041-MSD1												
Arsenic	ND	9.79		mg/L	10.0	98%	75 - 125	0.4	20	8122041	NRL1146-01	12/17/08 13:00
Barium	0.342	98.6		mg/L	100	98%	75 - 125	0.9	20	8122041	NRL1146-01	12/17/08 13:00
Cadmium	0.00600	10.2		mg/L	10.0	101%	75 - 125	0.6	20	8122041	NRL1146-01	12/17/08 13:00
Chromium	0.0230	50.2		mg/L	50.0	100%	75 - 125	0.6	20	8122041	NRL1146-01	12/17/08 13:00
Lead	ND	50.1		mg/L	50.0	100%	75 - 125	0.3	20	8122041	NRL1146-01	12/17/08 13:00
Selenium	0.158	9.83		mg/L	10.0	97%	75 - 125	0.7	20	8122041	NRL1146-01	12/17/08 13:00
Silver	ND	9.67		mg/L	10.0	97%	75 - 125	0.7	20	8122041	NRL1146-01	12/17/08 13:00

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
SW846 1311/6010B	Soil	N/A	X	N/A
SW846 1311/7470A	Soil	N/A	X	N/A
SW846 1311	Soil	N/A	X	N/A
SW846 9045D	Soil			

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

TCLP REGULATORY LIMITS

Analyte	Regulatory Limit
Arsenic	5
Barium	100
Cadmium	1
Chromium	5
Lead	5
Mercury	0.2
Selenium	1
Silver	5

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRL1146
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Greg Grose	Received:	12/11/08 08:45

DATA QUALIFIERS AND DEFINITIONS

J Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.

ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION
Nashville, TN

COOLER RECEIPT FORM

NRI 1146

Cooler Received/Opened On: 12/11/08 @ 8:45

1. Tracking # 1164 (last 4 digits, FedEx)

   Fed-ex 95610068

2. Temperature of rep. sample or temp blank when opened: 2.8 *Degrees Celsius*
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: IF. ant
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 4/18/07

50816

TestAmerica
INCORPORATED

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: MACTEC Engineering Client #: _____
Address: 21740 Beaumeed Circle, Ste 150
City/State/Zip Code: Ashburn, VA 20147
Project Manager: Greg Grose
Telephone Number: 571-252-2566 Fax: _____
Sampler Name: (Print Name) Gregory B. Grose
Sampler Signature: [signature]

Project Name: Battlefield Golf Club
Project #: 3552-08-1210
Site/Location ID: Chesapeake State: VA
Report To: Greg Grose, Ben Grosser, Joe Bucny
Invoice To: Accounts Payable
Quote #: _____ PO#: _____

TAT
X Standard
___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N

Matrix: SL - Sludge DW - Drinking Water; GW - Groundwater S - Soil/Solid; WW - Wastewater Specify Other

Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None 4oz jars, Other (Specify) 8oz jar

Analyze For: TCLP Metals, pH

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None 4oz jars	Other (Specify) 8oz jar	TCLP Metals	pH	REMARKS
ASH-BGC-TP2	12-10-08	1400	X		X						2		X	X	-1
ASH-BGC-TP3	↓	1430	X		X							1	X	X	-2
ASH-BGC-TP1	↓	1500	X		X						2		X	X	-3

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

NRL1146
12/26/08 23:59

Special Instructions:

Relinquished By	Date	Time	Received By	Date	Time
[signature]	12/10/08				
			[signature]	12-11-08	0845

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 2.8
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment:

50817

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1831-01 (SW-BGC-SG4 - Water) Sampled: 11/19/08 09:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	**9.40**	J	mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 04:22	EPA 300.1	8113325
Chloride	**30.0**		mg/L	2.50	5.00	5	11/30/08 04:04	EPA 300.0	8113325
Fluoride	**0.319**		mg/L	0.0500	0.100	1	11/30/08 04:22	EPA 300.0	8113325
Nitrate as N	**0.450**		mg/L	0.0500	0.100	1	11/20/08 16:34	EPA 300.0	8113325
Phosphorus	ND		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**88.2**		mg/L	2.50	5.00	5	11/30/08 04:04	EPA 300.0	8113325
Total Organic Carbon	**3.15**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Suspended Solids	**8.20**		mg/L	1.00	2.00	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.578**		mg/L	0.0180	0.100	1	11/28/08 09:34	SW846 6010B	8113920
Antimony	**0.00510**	J	mg/L	0.00380	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Barium	**0.0397**		mg/L	0.00150	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Beryllium	**0.00100**	J	mg/L	0.00100	0.00400	1	11/28/08 09:34	SW846 6010B	8113920
Boron	**0.0364**	J	mg/L	0.00200	0.0500	1	11/28/08 09:34	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 09:34	SW846 6010B	8113920
Calcium	**22.9**		mg/L	0.100	1.00	1	11/28/08 09:34	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 09:34	SW846 6010B	8113920
Cobalt	**0.00620**	J	mg/L	0.00200	0.0200	1	11/28/08 09:34	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Iron	**2.15**		mg/L	0.0280	0.0500	1	11/28/08 09:34	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 09:34	SW846 6010B	8113920
Magnesium	**8.31**		mg/L	0.100	1.00	1	11/28/08 09:34	SW846 6010B	8113920
Manganese	**0.266**		mg/L	0.00100	0.0150	1	11/28/08 09:34	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 09:34	SW846 6010B	8113920
Nickel	**0.0134**		mg/L	0.00240	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Potassium	**4.05**		mg/L	0.200	1.00	1	11/28/08 09:34	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 09:34	SW846 6010B	8113920
Sodium	**17.6**		mg/L	0.500	1.00	1	11/28/08 09:34	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 09:34	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 09:34	SW846 6010B	8113920
Zinc	**0.0353**	J	mg/L	0.0100	0.0500	1	11/28/08 09:34	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:38	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1831-02 (SW-BGC-SG6 - Water) Sampled: 11/19/08 10:40									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**13.6**		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	**14.3**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 06:31	EPA 300.1	8113325
Chloride	**10.2**		mg/L	0.500	1.00	1	11/30/08 06:31	EPA 300.0	8113325
Fluoride	**0.293**		mg/L	0.0500	0.100	1	11/30/08 06:31	EPA 300.0	8113325
Nitrate as N	**0.0570**	J	mg/L	0.0500	0.100	1	11/20/08 17:29	EPA 300.0	8113325
Phosphorus	**0.207**		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**10.5**		mg/L	0.500	1.00	1	11/30/08 06:31	EPA 300.0	8113325
Total Organic Carbon	**6.21**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Suspended Solids	**26.0**		mg/L	2.00	4.00	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**6.95**		mg/L	0.0180	0.100	1	11/28/08 09:39	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Barium	**0.0546**		mg/L	0.00150	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 09:39	SW846 6010B	8113920
Boron	**0.0373**	J	mg/L	0.00200	0.0500	1	11/28/08 09:39	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 09:39	SW846 6010B	8113920
Calcium	**6.99**		mg/L	0.100	1.00	1	11/28/08 09:39	SW846 6010B	8113920
Chromium	**0.00990**		mg/L	0.00150	0.00500	1	11/28/08 09:39	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 09:39	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Iron	**4.19**		mg/L	0.0280	0.0500	1	11/28/08 09:39	SW846 6010B	8113920
Lead	**0.00390**	J	mg/L	0.00280	0.00500	1	11/28/08 09:39	SW846 6010B	8113920
Magnesium	**2.43**		mg/L	0.100	1.00	1	11/28/08 09:39	SW846 6010B	8113920
Manganese	**0.0134**	J	mg/L	0.00100	0.0150	1	11/28/08 09:39	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 09:39	SW846 6010B	8113920
Nickel	**0.00440**	J	mg/L	0.00240	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Potassium	**4.16**		mg/L	0.200	1.00	1	11/28/08 09:39	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 09:39	SW846 6010B	8113920
Sodium	**3.44**		mg/L	0.500	1.00	1	11/28/08 09:39	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 09:39	SW846 6010B	8113920
Vanadium	**0.0101**	J	mg/L	0.00150	0.0200	1	11/28/08 09:39	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 09:39	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:44	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1831-03 (SW-BGC-SG7 - Water) Sampled: 11/19/08 11:00									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	**32.5**		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	**33.6**		mg/L	5.00	10.0	1	11/20/08 16:29	SM 2320B	8113403
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 05:36	EPA 300.1	8113325
Chloride	**20.9**		mg/L	1.00	2.00	2	11/30/08 05:17	EPA 300.0	8113325
Fluoride	**0.330**		mg/L	0.0500	0.100	1	11/30/08 05:36	EPA 300.0	8113325
Nitrate as N	ND		mg/L	0.0500	0.100	1	11/20/08 17:47	EPA 300.0	8113325
Phosphorus	**0.0510**	J	mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**57.2**		mg/L	1.00	2.00	2	11/30/08 05:17	EPA 300.0	8113325
Total Organic Carbon	**6.13**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Suspended Solids	**4.67**		mg/L	0.667	1.33	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.637**		mg/L	0.0180	0.100	1	11/28/08 09:44	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Barium	**0.0410**		mg/L	0.00150	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Beryllium	ND		mg/L	0.00100	0.00400	1	11/28/08 09:44	SW846 6010B	8113920
Boron	**0.0314**	J	mg/L	0.00200	0.0500	1	11/28/08 09:44	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 09:44	SW846 6010B	8113920
Calcium	**24.0**		mg/L	0.100	1.00	1	11/28/08 09:44	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 09:44	SW846 6010B	8113920
Cobalt	ND		mg/L	0.00200	0.0200	1	11/28/08 09:44	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Iron	**0.440**		mg/L	0.0280	0.0500	1	11/28/08 09:44	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 09:44	SW846 6010B	8113920
Magnesium	**8.43**		mg/L	0.100	1.00	1	11/28/08 09:44	SW846 6010B	8113920
Manganese	**0.00560**	J	mg/L	0.00100	0.0150	1	11/28/08 09:44	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 09:44	SW846 6010B	8113920
Nickel	ND		mg/L	0.00240	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Potassium	**4.53**		mg/L	0.200	1.00	1	11/28/08 09:44	SW846 6010B	8113920
Selenium	**0.00460**	J	mg/L	0.00430	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 09:44	SW846 6010B	8113920
Sodium	**9.26**		mg/L	0.500	1.00	1	11/28/08 09:44	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 09:44	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 09:44	SW846 6010B	8113920
Zinc	ND		mg/L	0.0100	0.0500	1	11/28/08 09:44	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:46	SW846 7470A	8113965

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NRK1831-04 (SW-BGC-DUP1 - Water) Sampled: 11/19/08 00:01									
General Chemistry Parameters									
Alkalinity, Total (CaCO3)	ND		mg/L	5.00	10.0	1	11/29/08 13:47	SM2320 B	8114816
Bicarbonate Alkalinity as CaCO3	**7.52**	J	mg/L	5.00	10.0	1	11/21/08 18:10	SM 2320B	8113637
Bromide	ND		mg/L	0.500	1.00	1	11/30/08 02:50	EPA 300.1	8113325
Chloride	**30.0**		mg/L	2.50	5.00	5	11/30/08 03:27	EPA 300.0	8113325
Fluoride	**0.315**		mg/L	0.0500	0.100	1	11/30/08 02:50	EPA 300.0	8113325
Nitrate as N	**0.471**		mg/L	0.0500	0.100	1	11/20/08 15:20	EPA 300.0	8113325
Phosphorus	ND		mg/L	0.0450	0.100	1	12/05/08 12:36	EPA 365.4	8120622
Sulfate	**88.2**		mg/L	2.50	5.00	5	11/30/08 03:27	EPA 300.0	8113325
Total Organic Carbon	**9.20**		mg/L	0.500	1.00	1	11/20/08 15:00	SW846 9060A	8113351
Total Suspended Solids	**7.80**		mg/L	1.00	2.00	1	11/22/08 18:12	SM2540 D	8113658
Total Metals by EPA Method 6010B									
Aluminum	**0.574**		mg/L	0.0180	0.100	1	11/28/08 09:49	SW846 6010B	8113920
Antimony	ND		mg/L	0.00380	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Arsenic	ND		mg/L	0.00450	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Barium	**0.0377**		mg/L	0.00150	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Beryllium	**0.00110**	J	mg/L	0.00100	0.00400	1	11/28/08 09:49	SW846 6010B	8113920
Boron	**0.0320**	J	mg/L	0.00200	0.0500	1	11/28/08 09:49	SW846 6010B	8113920
Cadmium	ND		mg/L	0.000500	0.00100	1	11/28/08 09:49	SW846 6010B	8113920
Calcium	**22.3**		mg/L	0.100	1.00	1	11/28/08 09:49	SW846 6010B	8113920
Chromium	ND		mg/L	0.00150	0.00500	1	11/28/08 09:49	SW846 6010B	8113920
Cobalt	**0.00620**	J	mg/L	0.00200	0.0200	1	11/28/08 09:49	SW846 6010B	8113920
Copper	ND		mg/L	0.00350	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Iron	**2.07**		mg/L	0.0280	0.0500	1	11/28/08 09:49	SW846 6010B	8113920
Lead	ND		mg/L	0.00280	0.00500	1	11/28/08 09:49	SW846 6010B	8113920
Magnesium	**8.03**		mg/L	0.100	1.00	1	11/28/08 09:49	SW846 6010B	8113920
Manganese	**0.258**		mg/L	0.00100	0.0150	1	11/28/08 09:49	SW846 6010B	8113920
Molybdenum	ND		mg/L	0.00900	0.0500	1	11/28/08 09:49	SW846 6010B	8113920
Nickel	**0.0130**		mg/L	0.00240	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Potassium	**3.90**		mg/L	0.200	1.00	1	11/28/08 09:49	SW846 6010B	8113920
Selenium	ND		mg/L	0.00430	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Silver	ND		mg/L	0.00160	0.00500	1	11/28/08 09:49	SW846 6010B	8113920
Sodium	**17.1**		mg/L	0.500	1.00	1	11/28/08 09:49	SW846 6010B	8113920
Thallium	ND		mg/L	0.00750	0.0100	1	11/28/08 09:49	SW846 6010B	8113920
Vanadium	ND		mg/L	0.00150	0.0200	1	11/28/08 09:49	SW846 6010B	8113920
Zinc	**0.0244**	J	mg/L	0.0100	0.0500	1	11/28/08 09:49	SW846 6010B	8113920
Mercury by EPA Methods 7470A/7471A									
Mercury	ND		mg/L	0.000150	0.000200	1	11/25/08 16:48	SW846 7470A	8113965

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	8113965	NRK1831-01	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1831-02	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1831-03	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
SW846 7470A	8113965	NRK1831-04	30.00	30.00	11/24/08 09:43	JMR	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-01	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-02	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-03	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010
SW846 6010B	8113920	NRK1831-04	50.00	50.00	11/26/08 09:25	JLS	EPA 3010A / 6010

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
8113325-BLK1						
Bromide	<0.500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
Chloride	<0.500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
Fluoride	<0.0500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
Nitrate as N	<0.0500		mg/L	8113325	8113325-BLK1	11/20/08 14:43
Sulfate	<0.500		mg/L	8113325	8113325-BLK1	11/30/08 02:13
8113351-BLK1						
Total Organic Carbon	<0.500		mg/L	8113351	8113351-BLK1	11/20/08 15:00
8113403-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113403	8113403-BLK1	11/20/08 16:29
8113637-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	8113637	8113637-BLK1	11/21/08 18:10
8113658-BLK1						
Total Suspended Solids	<0.500		mg/L	8113658	8113658-BLK1	11/22/08 18:12
8114816-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	8114816	8114816-BLK1	11/29/08 13:47
8120622-BLK1						
Phosphorus	<0.0450		mg/L	8120622	8120622-BLK1	12/05/08 12:36
Total Metals by EPA Method 6010B						
8113920-BLK1						
Aluminum	<0.0180		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Antimony	<0.00380		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Arsenic	<0.00450		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Barium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Beryllium	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Boron	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cadmium	<0.000500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Calcium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Chromium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Cobalt	<0.00200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Copper	<0.00350		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Iron	<0.0280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Lead	<0.00280		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Magnesium	<0.100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Manganese	<0.00100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Molybdenum	<0.00900		mg/L	8113920	8113920-BLK1	11/28/08 09:05

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
8113920-BLK1						
Nickel	<0.00240		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Potassium	<0.200		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Selenium	<0.00430		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Silver	<0.00160		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Sodium	<0.500		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Thallium	<0.00750		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Vanadium	<0.00150		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Zinc	<0.0100		mg/L	8113920	8113920-BLK1	11/28/08 09:05
Mercury by EPA Methods 7470A/7471A						
8113965-BLK1						
Mercury	<0.000150		mg/L	8113965	8113965-BLK1	11/25/08 16:34

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters									
8113325-DUP1									
Bromide	ND	<0.500		mg/L		20	8113325	NRK1831-04	11/30/08 03:09
Chloride	30.0	30.8		mg/L	2	20	8113325	NRK1831-04	11/30/08 03:45
Fluoride	0.315	0.204	R2	mg/L	43	19	8113325	NRK1831-04	11/30/08 03:09
Nitrate as N	0.471	0.455		mg/L	3	20	8113325	NRK1831-04	11/20/08 15:39
Sulfate	88.2	89.8		mg/L	2	20	8113325	NRK1831-04	11/30/08 03:45
8113351-DUP1									
Total Organic Carbon	6.21	6.13		mg/L	1	20	8113351	NRK1831-02	11/20/08 15:00
8113403-DUP1									
Bicarbonate Alkalinity as CaCO3	15.9	15.1		mg/L	5	20	8113403	NRK1875-04	11/20/08 16:29
8113637-DUP1									
Bicarbonate Alkalinity as CaCO3	587	584		mg/L	0.5	20	8113637	NRK2055-01	11/21/08 18:10
8113658-DUP1									
Total Suspended Solids	39.3	34.0		mg/L	14	20	8113658	NRK1860-04	11/22/08 18:12
8113658-DUP2									
Total Suspended Solids	28.2	23.5		mg/L	18	20	8113658	NRK1875-04	11/22/08 18:12
8114816-DUP1									
Alkalinity, Total (CaCO3)	ND	<5.00		mg/L		20	8114816	NRK1848-03	11/29/08 13:47
8120622-DUP1									
Phosphorus	ND	<0.0450		mg/L		20	8120622	NRK1697-13	12/05/08 12:36

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	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
8113325-BS1								
Bromide	10.0	10.2		mg/L	102%	90 - 110	8113325	11/30/08 02:32
Chloride	3.00	3.09	MNR	mg/L	103%	90 - 110	8113325	11/30/08 02:32
Fluoride	2.00	2.20		mg/L	110%	90 - 110	8113325	11/30/08 02:32
Nitrate as N	3.00	3.16		mg/L	105%	90 - 110	8113325	11/20/08 15:02
Sulfate	15.0	15.2	MNR	mg/L	102%	90 - 110	8113325	11/30/08 02:32
8113351-BS1								
Total Organic Carbon	10.0	10.2		ug/mL	102%	90 - 110	8113351	11/20/08 15:00
8113658-BS1								
Total Suspended Solids	100	99.0		ug/mL	99%	90 - 110	8113658	11/22/08 18:12
8114816-BS1								
Alkalinity, Total (CaCO3)	100	100		ug/mL	100%	90 - 110	8114816	11/29/08 13:47
8120622-BS1								
Phosphorus	2.00	2.13		mg/L	107%	90 - 110	8120622	12/05/08 12:36
Total Metals by EPA Method 6010B								
8113920-BS1								
Aluminum	2.00	1.99		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Antimony	0.100	0.0914		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Arsenic	0.0500	0.0486		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Barium	2.00	1.98		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Beryllium	0.0500	0.0534		mg/L	107%	80 - 120	8113920	11/28/08 09:15
Boron	1.00	0.982		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Cadmium	0.0500	0.0496		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Calcium	5.00	4.87		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Chromium	0.200	0.199		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Cobalt	0.500	0.508		mg/L	102%	80 - 120	8113920	11/28/08 09:15
Copper	0.250	0.245		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Iron	1.00	0.994		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Lead	0.0500	0.0494		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Magnesium	5.00	4.92		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Manganese	0.500	0.498		mg/L	100%	80 - 120	8113920	11/28/08 09:15
Molybdenum	0.500	0.483		mg/L	97%	80 - 120	8113920	11/28/08 09:15
Nickel	0.500	0.488		mg/L	98%	80 - 120	8113920	11/28/08 09:15
Potassium	5.00	4.16		mg/L	83%	80 - 120	8113920	11/28/08 09:15
Selenium	0.0500	0.0518		mg/L	104%	80 - 120	8113920	11/28/08 09:15
Silver	0.0500	0.0504		mg/L	101%	80 - 120	8113920	11/28/08 09:15
Sodium	5.00	4.56		mg/L	91%	80 - 120	8113920	11/28/08 09:15
Thallium	0.0500	0.0498		mg/L	100%	80 - 120	8113920	11/28/08 09:15

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
8113920-BS1								
Vanadium	0.500	0.495		mg/L	99%	80 - 120	8113920	11/28/08 09:15
Zinc	0.500	0.481		mg/L	96%	80 - 120	8113920	11/28/08 09:15
Mercury by EPA Methods 7470A/7471A								
8113965-BS1								
Mercury	0.00100	0.000950		mg/L	95%	78 - 124	8113965	11/25/08 16:36

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	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
8113325-MS1										
Bromide	ND	11.0		mg/L	10.0	110%	90 - 110	8113325	NRK1864-01	11/30/08 07:26
Fluoride	0.855	3.07		mg/L	2.00	111%	80 - 120	8113325	NRK1864-01	11/30/08 07:26
Nitrate as N	ND	3.19		mg/L	3.00	106%	80 - 120	8113325	NRK1864-01	11/21/08 06:03
8113351-MS1										
Total Organic Carbon	3.15	25.8		ug/mL	20.0	113%	79 - 130	8113351	NRK1831-01	11/20/08 15:00
8114816-MS1										
Alkalinity, Total (CaCO3)	32.8	117		ug/mL	100	84%	80 - 120	8114816	NRK1697-01	11/29/08 13:47
8120622-MS1										
Phosphorus	ND	2.13		mg/L	2.00	107%	76 - 112	8120622	NRK1697-08	12/05/08 12:36
Total Metals by EPA Method 6010B										
8113920-MS1										
Aluminum	5.00	7.14		mg/L	2.00	107%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Antimony	ND	0.0966		mg/L	0.100	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Arsenic	ND	0.0500		mg/L	0.0500	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Barium	0.0839	2.09		mg/L	2.00	100%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Beryllium	0.00270	0.0558		mg/L	0.0500	106%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Boron	0.0403	1.08		mg/L	1.00	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cadmium	ND	0.0503		mg/L	0.0500	101%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Chromium	ND	0.198		mg/L	0.200	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Cobalt	0.0377	0.556		mg/L	0.500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Copper	ND	0.259		mg/L	0.250	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Iron	4.03	4.97		mg/L	1.00	94%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Lead	ND	0.0545		mg/L	0.0500	109%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Manganese	0.337	0.826		mg/L	0.500	98%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Molybdenum	ND	0.485		mg/L	0.500	97%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Nickel	0.0383	0.535		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Selenium	ND	0.0511		mg/L	0.0500	102%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Silver	ND	0.0518		mg/L	0.0500	104%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Thallium	ND	0.0411		mg/L	0.0500	82%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Vanadium	ND	0.496		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Zinc	0.0806	0.576		mg/L	0.500	99%	75 - 125	8113920	NRK1875-03	11/28/08 11:10
Mercury by EPA Methods 7470A/7471A										
8113965-MS1										
Mercury	ND	0.000908		mg/L	0.00100	91%	63 - 138	8113965	NRK1831-01	11/25/08 16:40

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time

Mercury by EPA Methods 7470A/7471A

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
8113325-MSD1												
Bromide	ND	11.0		mg/L	10.0	110%	90 - 110	0.05	20	8113325	NRK1864-01	11/30/08 07:45
Fluoride	0.855	3.10		mg/L	2.00	112%	80 - 120	1	19	8113325	NRK1864-01	11/30/08 07:45
Nitrate as N	ND	3.25		mg/L	3.00	108%	80 - 120	2	20	8113325	NRK1864-01	11/21/08 06:22
8113351-MSD1												
Total Organic Carbon	3.15	26.0		ug/mL	20.0	114%	79 - 130	0.7	20	8113351	NRK1831-01	11/20/08 15:00
8120622-MSD1												
Phosphorus	ND	2.18		mg/L	2.00	109%	76 - 112	2	20	8120622	NRK1697-08	12/05/08 12:36
Total Metals by EPA Method 6010B												
8113920-MSD1												
Aluminum	5.00	6.95		mg/L	2.00	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Antimony	ND	0.0928		mg/L	0.100	93%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Arsenic	ND	0.0453		mg/L	0.0500	91%	75 - 125	10	20	8113920	NRK1875-03	11/28/08 11:49
Barium	0.0839	2.03		mg/L	2.00	97%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Beryllium	0.00270	0.0528		mg/L	0.0500	100%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Boron	0.0403	1.03		mg/L	1.00	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cadmium	ND	0.0489		mg/L	0.0500	98%	75 - 125	3	20	8113920	NRK1875-03	11/28/08 11:49
Chromium	ND	0.191		mg/L	0.200	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Cobalt	0.0377	0.533		mg/L	0.500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Copper	ND	0.250		mg/L	0.250	100%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Iron	4.03	4.85		mg/L	1.00	82%	75 - 125	2	20	8113920	NRK1875-03	11/28/08 11:49
Lead	ND	0.0512		mg/L	0.0500	102%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Manganese	0.337	0.797		mg/L	0.500	92%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Molybdenum	ND	0.468		mg/L	0.500	94%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Nickel	0.0383	0.515		mg/L	0.500	95%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Selenium	ND	0.0514		mg/L	0.0500	103%	75 - 125	0.6	20	8113920	NRK1875-03	11/28/08 11:49
Silver	ND	0.0496		mg/L	0.0500	99%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Thallium	ND	0.0348	M2	mg/L	0.0500	70%	75 - 125	17	20	8113920	NRK1875-03	11/28/08 11:49
Vanadium	ND	0.478		mg/L	0.500	96%	75 - 125	4	20	8113920	NRK1875-03	11/28/08 11:49
Zinc	0.0806	0.545		mg/L	0.500	93%	75 - 125	6	20	8113920	NRK1875-03	11/28/08 11:49
Mercury by EPA Methods 7470A/7471A												
8113965-MSD1												
Mercury	ND	0.00118	R3	mg/L	0.00100	118%	63 - 138	26	22	8113965	NRK1831-01	11/25/08 16:42

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NRK1831
	21740 Beaumeade Circle, Suite 150	Project Name:	Chesapeake, VA, Battlefield Golf Club
	Ashburn, VA 20147	Project Number:	3552-08-1210
Attn	Luke Clark	Received:	11/20/08 08:00

DATA QUALIFIERS AND DEFINITIONS

J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
R2	The RPD exceeded the acceptance limit.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEI]

NRK1831

Cooler Received/Opened On_11/20/08 @ 08:00

1. Tracking #_1510_____(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___A01124

2. Temperature of rep. sample or temp blank when opened: 2.6 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES ...NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 2-FRONT, BACK

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50835

THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NRK1831

12/05/08 23:59

Page 1 of ____

50836

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Susan Klein
Client Project Mgr: Luke Clark
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print)
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting, Inc. (3740)
Report to: Luke Clark
Project Name: Chesapeake, VA
Site/Project Facility ID: [none] 3552-08-1210
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	Plastic (Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Surface Water (specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - DISSOLVED - see SOC	METALS - TOTAL - see SOC	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	TOC 9060A					RUSH TAT (Pre Schedule) *
SW-BGC-SG4	11/19/08	0940	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X	X	NRK1831			01
SW-BGC-SG6	11/19/08	1040	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X	X				02
SW-BGC-SG7	11/19/08	1100	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X	X				03
SW-BGC-DUP1	11/19/08	Blind #1	6	X					1		1		1	3						X	X	X	X	X	X		X	X	X	X	X	X	X				04

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.

* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.

There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 11856

METALS = Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, K, Se, Ag, Na, ~~Tl~~, V, Zn

Antimony, thallium

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	11/19/08	1500		11/19/08	1500		11/19/08	1800

Shipped Via: Fed EX

Shipped Via:

Received for TestAmerica by: Date: 11/20/08 Time: 0800

Temperature Upon Receipt: 2.4c

Sample Containers Intact? Y N

VOCs Free of Headspace? Y N

QC Deliverables (Please Circle One) :
Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

July 02, 2009 5:36:22PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF1724
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/18/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-7A	NSF1724-01	06/17/09 09:25
MW-BGC-7B	NSF1724-02	06/17/09 09:25
MW-BGC-9B	NSF1724-03	06/17/09 11:05
MW-BGC-9A	NSF1724-04	06/17/09 11:30
MW-BGC-10A	NSF1724-05	06/17/09 12:55
MW-BGC-10B	NSF1724-06	06/17/09 13:00
MW-BGC-11B	NSF1724-07	06/17/09 14:25
MW-BGC-11A	NSF1724-08	06/17/09 14:55

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:
This is a partial Final Report without results for TOC.

Report was revised on 07/02/09 to add the TOC results to the final report. This final report replaces the partial final report generated on 07/02/09 @12:47 p.m. DML.
Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Debbie LaValle

Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-01 (MW-BGC-7A - Ground Water) Sampled: 06/17/09 09:25								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**13.4**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**13.4**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 01:39	EPA 300.1	9063112
Chloride	**11.7**		mg/L	2.00	2	06/29/09 02:08	EPA 300.0	9063112
Fluoride	ND		mg/L	0.100	1	06/19/09 01:39	EPA 300.0	9063112
Nitrate as N	**0.115**		mg/L	0.100	1	06/19/09 01:39	EPA 300.0	9063112
Phosphorus	ND	M8	mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**41.1**		mg/L	2.00	2	06/29/09 02:08	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**105**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	**1.85**		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	**0.126**		mg/L	0.100	1	06/24/09 17:53	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Barium	**0.0798**		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 17:53	SW846 6010B	9063072
Boron	ND		mg/L	0.0500	1	06/24/09 17:53	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 17:53	SW846 6010B	9063072
Calcium	**11.9**		mg/L	1.00	1	06/24/09 17:53	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 17:53	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 17:53	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Iron	**3.31**		mg/L	0.0500	1	06/24/09 17:53	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 17:53	SW846 6010B	9063072
Magnesium	**2.82**		mg/L	1.00	1	06/24/09 17:53	SW846 6010B	9063072
Manganese	**0.0241**		mg/L	0.0150	1	06/24/09 17:53	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 17:53	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Potassium	**3.00**		mg/L	1.00	1	06/24/09 17:53	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 17:53	SW846 6010B	9063072
Sodium	**7.00**		mg/L	1.00	1	06/24/09 17:53	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 17:53	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 17:53	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 17:53	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:16	SW846 7470A	9063194

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-02 (MW-BGC-7B - Ground Water) Sampled: 06/17/09 09:25								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**36.0**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**36.0**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 02:35	EPA 300.1	9063112
Chloride	**15.7**		mg/L	2.00	2	06/29/09 03:04	EPA 300.0	9063112
Fluoride	**0.102**		mg/L	0.100	1	06/19/09 02:35	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 02:35	EPA 300.0	9063112
Phosphorus	**0.147**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**11.2**		mg/L	1.00	1	06/19/09 02:35	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**108**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	ND		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	**0.227**		mg/L	0.100	1	06/24/09 17:58	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Barium	**0.0146**		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 17:58	SW846 6010B	9063072
Boron	ND		mg/L	0.0500	1	06/24/09 17:58	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 17:58	SW846 6010B	9063072
Calcium	**6.72**		mg/L	1.00	1	06/24/09 17:58	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 17:58	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 17:58	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Iron	**6.17**		mg/L	0.0500	1	06/24/09 17:58	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 17:58	SW846 6010B	9063072
Magnesium	**2.79**		mg/L	1.00	1	06/24/09 17:58	SW846 6010B	9063072
Manganese	**0.153**		mg/L	0.0150	1	06/24/09 17:58	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 17:58	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Potassium	ND		mg/L	1.00	1	06/24/09 17:58	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 17:58	SW846 6010B	9063072
Sodium	**10.1**		mg/L	1.00	1	06/24/09 17:58	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 17:58	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 17:58	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 17:58	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:18	SW846 7470A	9063194

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-03 (MW-BGC-9B - Ground Water) Sampled: 06/17/09 11:05								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**159**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**159**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 02:53	EPA 300.1	9063112
Chloride	**36.2**		mg/L	5.00	5	06/29/09 03:22	EPA 300.0	9063112
Fluoride	**0.310**		mg/L	0.100	1	06/19/09 02:53	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 02:53	EPA 300.0	9063112
Phosphorus	**0.222**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**12.1**		mg/L	1.00	1	06/19/09 02:53	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**243**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	ND		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	**0.163**		mg/L	0.100	1	06/24/09 18:03	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Barium	**0.0151**		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 18:03	SW846 6010B	9063072
Boron	**0.109**		mg/L	0.0500	1	06/24/09 18:03	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 18:03	SW846 6010B	9063072
Calcium	**28.9**		mg/L	1.00	1	06/24/09 18:03	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 18:03	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 18:03	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Iron	**0.467**		mg/L	0.0500	1	06/24/09 18:03	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 18:03	SW846 6010B	9063072
Magnesium	**12.9**		mg/L	1.00	1	06/24/09 18:03	SW846 6010B	9063072
Manganese	**0.0722**		mg/L	0.0150	1	06/24/09 18:03	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 18:03	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Potassium	**10.8**		mg/L	1.00	1	06/24/09 18:03	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 18:03	SW846 6010B	9063072
Sodium	**27.4**		mg/L	1.00	1	06/24/09 18:03	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 18:03	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 18:03	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 18:03	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:21	SW846 7470A	9063194

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-04 (MW-BGC-9A - Ground Water) Sampled: 06/17/09 11:30								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**113**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**113**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 03:11	EPA 300.1	9063112
Chloride	**24.1**		mg/L	5.00	5	06/29/09 03:40	EPA 300.0	9063112
Fluoride	**0.248**		mg/L	0.100	1	06/19/09 03:11	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 03:11	EPA 300.0	9063112
Phosphorus	**0.110**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**60.3**		mg/L	5.00	5	06/29/09 03:40	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**276**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	**1.04**		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 18:08	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Barium	**0.0337**		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 18:08	SW846 6010B	9063072
Boron	**0.0648**		mg/L	0.0500	1	06/24/09 18:08	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 18:08	SW846 6010B	9063072
Calcium	**37.7**		mg/L	1.00	1	06/24/09 18:08	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 18:08	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 18:08	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Iron	**3.41**		mg/L	0.0500	1	06/24/09 18:08	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 18:08	SW846 6010B	9063072
Magnesium	**13.8**		mg/L	1.00	1	06/24/09 18:08	SW846 6010B	9063072
Manganese	**0.177**		mg/L	0.0150	1	06/24/09 18:08	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 18:08	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Potassium	**7.63**		mg/L	1.00	1	06/24/09 18:08	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 18:08	SW846 6010B	9063072
Sodium	**14.6**		mg/L	1.00	1	06/24/09 18:08	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 18:08	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 18:08	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 18:08	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:23	SW846 7470A	9063194

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-05 (MW-BGC-10A - Ground Water) Sampled: 06/17/09 12:55								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**84.5**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**84.5**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 03:30	EPA 300.1	9063112
Chloride	**29.9**		mg/L	5.00	5	06/29/09 03:59	EPA 300.0	9063112
Fluoride	**0.505**		mg/L	0.100	1	06/19/09 03:30	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 03:30	EPA 300.0	9063112
Phosphorus	**0.210**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**147**		mg/L	5.00	5	06/29/09 03:59	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**372**		mg/L	40.0	1	06/22/09 16:45	SM2540 C	9063540
Total Organic Carbon	**1.96**		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 18:13	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Barium	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 18:13	SW846 6010B	9063072
Boron	ND		mg/L	0.0500	1	06/24/09 18:13	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 18:13	SW846 6010B	9063072
Calcium	**62.8**		mg/L	1.00	1	06/24/09 18:13	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 18:13	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 18:13	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Iron	**7.69**		mg/L	0.0500	1	06/24/09 18:13	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 18:13	SW846 6010B	9063072
Magnesium	**14.0**		mg/L	1.00	1	06/24/09 18:13	SW846 6010B	9063072
Manganese	**0.188**		mg/L	0.0150	1	06/24/09 18:13	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 18:13	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Potassium	**3.95**		mg/L	1.00	1	06/24/09 18:13	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 18:13	SW846 6010B	9063072
Sodium	**14.2**		mg/L	1.00	1	06/24/09 18:13	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 18:13	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 18:13	SW846 6010B	9063072
Zinc	**0.0693**		mg/L	0.0500	1	06/24/09 18:13	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:30	SW846 7470A	9063194

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-06 (MW-BGC-10B - Ground Water) Sampled: 06/17/09 13:00								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**175**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**175**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 03:48	EPA 300.1	9063112
Chloride	**56.1**		mg/L	10.0	10	06/29/09 04:17	EPA 300.0	9063112
Fluoride	**0.281**		mg/L	0.100	1	06/19/09 03:48	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 03:48	EPA 300.0	9063112
Phosphorus	**0.195**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**55.1**		mg/L	10.0	10	06/29/09 04:17	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**348**		mg/L	10.0	1	06/22/09 16:45	SM2540 C	9063540
Total Organic Carbon	**1.32**		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 18:17	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Barium	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 18:17	SW846 6010B	9063072
Boron	**0.135**		mg/L	0.0500	1	06/24/09 18:17	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 18:17	SW846 6010B	9063072
Calcium	**42.2**		mg/L	1.00	1	06/24/09 18:17	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 18:17	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 18:17	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Iron	**0.375**		mg/L	0.0500	1	06/24/09 18:17	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 18:17	SW846 6010B	9063072
Magnesium	**19.3**		mg/L	1.00	1	06/24/09 18:17	SW846 6010B	9063072
Manganese	**0.0729**		mg/L	0.0150	1	06/24/09 18:17	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 18:17	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Potassium	**15.5**		mg/L	1.00	1	06/24/09 18:17	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 18:17	SW846 6010B	9063072
Sodium	**40.0**		mg/L	1.00	1	06/24/09 18:17	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 18:17	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 18:17	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 18:17	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:32	SW846 7470A	9063194

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-07 (MW-BGC-11B - Ground Water) Sampled: 06/17/09 14:25								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**143**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**143**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 04:07	EPA 300.1	9063112
Chloride	**130**		mg/L	20.0	20	06/29/09 04:36	EPA 300.0	9063112
Fluoride	**0.238**		mg/L	0.100	1	06/19/09 04:07	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 04:07	EPA 300.0	9063112
Phosphorus	**0.212**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**96.2**		mg/L	20.0	20	06/29/09 04:36	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**522**		mg/L	10.0	1	06/22/09 16:45	SM2540 C	9063540
Total Organic Carbon	**1.13**		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	**0.138**		mg/L	0.100	1	06/24/09 18:22	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Barium	**0.0301**		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 18:22	SW846 6010B	9063072
Boron	**0.0691**		mg/L	0.0500	1	06/24/09 18:22	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 18:22	SW846 6010B	9063072
Calcium	**61.0**		mg/L	1.00	1	06/24/09 18:22	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 18:22	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 18:22	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Iron	**4.30**		mg/L	0.0500	1	06/24/09 18:22	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 18:22	SW846 6010B	9063072
Magnesium	**22.3**		mg/L	1.00	1	06/24/09 18:22	SW846 6010B	9063072
Manganese	**0.270**		mg/L	0.0150	1	06/24/09 18:22	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 18:22	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Potassium	**13.4**		mg/L	1.00	1	06/24/09 18:22	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 18:22	SW846 6010B	9063072
Sodium	**64.8**		mg/L	1.00	1	06/24/09 18:22	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 18:22	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 18:22	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 18:22	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:35	SW846 7470A	9063194

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1724-08 (MW-BGC-11A - Ground Water) Sampled: 06/17/09 14:55								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**125**		mg/L	10.0	1	06/19/09 00:42	SM2320 B	9063187
Bicarbonate Alkalinity as CaCO3	**125**		mg/L	10.0	1	06/19/09 00:42	SM 2320B	9063185
Bromide	ND		mg/L	1.00	1	06/19/09 04:25	EPA 300.1	9063112
Chloride	**60.1**		mg/L	10.0	10	06/29/09 04:54	EPA 300.0	9063112
Fluoride	**0.319**		mg/L	0.100	1	06/19/09 04:25	EPA 300.0	9063112
Nitrate as N	ND		mg/L	0.100	1	06/19/09 04:25	EPA 300.0	9063112
Phosphorus	**0.198**		mg/L	0.100	1	06/30/09 11:24	EPA 365.4	9064268
Sulfate	**62.2**		mg/L	10.0	10	06/29/09 04:54	EPA 300.0	9063112
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**336**		mg/L	10.0	1	06/22/09 16:45	SM2540 C	9063540
Total Organic Carbon	ND		mg/L	1.00	1	07/02/09 06:12	SW846 9060A	9064883
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 18:27	SW846 6010B	9063072
Antimony	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Arsenic	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Barium	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Beryllium	ND		mg/L	0.00400	1	06/24/09 18:27	SW846 6010B	9063072
Boron	ND		mg/L	0.0500	1	06/24/09 18:27	SW846 6010B	9063072
Cadmium	ND		mg/L	0.00100	1	06/24/09 18:27	SW846 6010B	9063072
Calcium	**47.3**		mg/L	1.00	1	06/24/09 18:27	SW846 6010B	9063072
Chromium	ND		mg/L	0.00500	1	06/24/09 18:27	SW846 6010B	9063072
Cobalt	ND		mg/L	0.0200	1	06/24/09 18:27	SW846 6010B	9063072
Copper	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Iron	**3.57**		mg/L	0.0500	1	06/24/09 18:27	SW846 6010B	9063072
Lead	ND		mg/L	0.00500	1	06/24/09 18:27	SW846 6010B	9063072
Magnesium	**20.4**		mg/L	1.00	1	06/24/09 18:27	SW846 6010B	9063072
Manganese	**0.0633**		mg/L	0.0150	1	06/24/09 18:27	SW846 6010B	9063072
Molybdenum	ND		mg/L	0.0500	1	06/24/09 18:27	SW846 6010B	9063072
Nickel	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Potassium	**2.58**		mg/L	1.00	1	06/24/09 18:27	SW846 6010B	9063072
Selenium	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Silver	ND		mg/L	0.00500	1	06/24/09 18:27	SW846 6010B	9063072
Sodium	**21.0**		mg/L	1.00	1	06/24/09 18:27	SW846 6010B	9063072
Thallium	ND		mg/L	0.0100	1	06/24/09 18:27	SW846 6010B	9063072
Vanadium	ND		mg/L	0.0200	1	06/24/09 18:27	SW846 6010B	9063072
Zinc	ND		mg/L	0.0500	1	06/24/09 18:27	SW846 6010B	9063072
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/23/09 15:37	SW846 7470A	9063194

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	9063194	NSF1724-01	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-02	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-03	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-04	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-05	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-06	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-07	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
SW846 7470A	9063194	NSF1724-08	30.00	30.00	06/22/09 08:30	KKK	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-01	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-02	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-03	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-04	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-05	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-06	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-07	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010
SW846 6010B	9063072	NSF1724-08	50.00	50.00	06/24/09 09:00	BTS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9063112-BLK1						
Bromide	<0.500		mg/L	9063112	9063112-BLK1	06/19/09 01:03
Chloride	<0.500		mg/L	9063112	9063112-BLK1	06/29/09 01:32
Fluoride	<0.0500		mg/L	9063112	9063112-BLK1	06/19/09 01:03
Nitrate as N	<0.0500		mg/L	9063112	9063112-BLK1	06/19/09 01:03
Sulfate	<0.500		mg/L	9063112	9063112-BLK1	06/19/09 01:03
9063185-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	9063185	9063185-BLK1	06/19/09 00:42
9063187-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9063187	9063187-BLK1	06/19/09 00:42
9063371-BLK1						
Total Dissolved Solids	<5.00		mg/L	9063371	9063371-BLK1	06/20/09 18:17
9063540-BLK1						
Total Dissolved Solids	<5.00		mg/L	9063540	9063540-BLK1	06/22/09 16:45
9063999-BLK1						
Sulfide	<0.170		mg/L	9063999	9063999-BLK1	06/24/09 17:02
9064268-BLK1						
Phosphorus	0.0740		mg/L	9064268	9064268-BLK1	06/30/09 11:24
9064883-BLK1						
Total Organic Carbon	<0.500		mg/L	9064883	9064883-BLK1	07/02/09 06:12
Total Metals by EPA Method 6010B						
9063072-BLK1						
Aluminum	<0.0540		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Antimony	0.00390		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Arsenic	<0.00360		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Barium	<0.00100		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Beryllium	0.00210		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Boron	<0.00500		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Cadmium	<0.000600		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Calcium	<0.100		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Chromium	<0.00260		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Cobalt	<0.00500		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Copper	<0.00210		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Iron	<0.0490		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Lead	<0.00210		mg/L	9063072	9063072-BLK1	06/24/09 17:20

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
9063072-BLK1						
Magnesium	<0.0660		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Manganese	<0.00100		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Molybdenum	<0.00500		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Nickel	<0.00230		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Potassium	<0.100		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Selenium	<0.00390		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Silver	<0.00280		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Sodium	<0.820		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Thallium	<0.00630		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Vanadium	<0.00500		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Zinc	<0.00500		mg/L	9063072	9063072-BLK1	06/24/09 17:20
Mercury by EPA Methods 7470A/7471A						
9063194-BLK1						
Mercury	<0.000100		mg/L	9063194	9063194-BLK1	06/23/09 15:03

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9063112-DUP1										
Bromide	ND	ND		mg/L		20	9063112	NSF1724-08		06/19/09 05:20
Chloride	60.1	58.1		mg/L	3	20	9063112	NSF1724-08		06/29/09 05:12
Fluoride	0.319	0.277		mg/L	14	19	9063112	NSF1724-08		06/19/09 05:20
Nitrate as N	ND	ND		mg/L		20	9063112	NSF1724-08		06/19/09 05:20
Sulfate	62.2	61.8		mg/L	0.7	20	9063112	NSF1724-08		06/29/09 05:12
9063185-DUP1										
Bicarbonate Alkalinity as CaCO3	36.0	35.5		mg/L	1	20	9063185	NSF1724-02		06/19/09 00:42
9063187-DUP1										
Alkalinity, Total (CaCO3)	36.0	35.5		mg/L	1	20	9063187	NSF1724-02		06/19/09 00:42
9063371-DUP1										
Total Dissolved Solids	105	104		mg/L	1	20	9063371	NSF1724-01		06/20/09 18:17
9063371-DUP2										
Total Dissolved Solids	175	185		mg/L	6	20	9063371	NSF1864-04		06/20/09 18:17
9063540-DUP1										
Total Dissolved Solids	336	342		mg/L	2	20	9063540	NSF1724-08		06/22/09 16:45
9063999-DUP1										
Sulfide	ND	ND		mg/L		10	9063999	NSF1706-10		06/24/09 17:02
9064268-DUP1										
Phosphorus	1.58	1.65		mg/L	4	37	9064268	NSF1789-03		06/30/09 11:24
9064883-DUP1										
Total Organic Carbon	0.648	0.725		mg/L	11	20	9064883	NSF1724-08		07/02/09 06:12

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9063112-BS1								
Bromide	10.0	9.92		mg/L	99%	90 - 110	9063112	06/19/09 01:21
Chloride	3.00	3.07		mg/L	102%	90 - 110	9063112	06/29/09 01:50
Fluoride	2.00	2.11		mg/L	105%	90 - 110	9063112	06/19/09 01:21
Nitrate as N	3.00	3.03		mg/L	101%	90 - 110	9063112	06/19/09 01:21
Sulfate	15.0	15.7		mg/L	105%	90 - 110	9063112	06/19/09 01:21
9063187-BS1								
Alkalinity, Total (CaCO3)	100	102		ug/mL	102%	90 - 110	9063187	06/19/09 00:42
9063371-BS1								
Total Dissolved Solids	100	105		ug/mL	105%	90 - 110	9063371	06/20/09 18:17
9063540-BS1								
Total Dissolved Solids	100	97.0		ug/mL	97%	90 - 110	9063540	06/22/09 16:45
9063999-BS1								
Sulfide	20.0	20.5		mg/L	102%	90 - 110	9063999	06/24/09 17:02
9064268-BS1								
Phosphorus	2.00	2.04		mg/L	102%	90 - 110	9064268	06/30/09 11:24
9064883-BS1								
Total Organic Carbon	200	200		ug/mL	100%	90 - 110	9064883	07/02/09 06:12
Total Metals by EPA Method 6010B								
9063072-BS1								
Aluminum	2.00	2.02		mg/L	101%	80 - 120	9063072	06/24/09 17:25
Antimony	0.100	0.100		mg/L	100%	80 - 120	9063072	06/24/09 17:25
Arsenic	0.0500	0.0476		mg/L	95%	80 - 120	9063072	06/24/09 17:25
Barium	2.00	2.07		mg/L	104%	80 - 120	9063072	06/24/09 17:25
Beryllium	0.0500	0.0529		mg/L	106%	80 - 120	9063072	06/24/09 17:25
Boron	1.00	0.992		mg/L	99%	80 - 120	9063072	06/24/09 17:25
Cadmium	0.0500	0.0501		mg/L	100%	80 - 120	9063072	06/24/09 17:25
Calcium	5.00	4.86		mg/L	97%	80 - 120	9063072	06/24/09 17:25
Chromium	0.200	0.207		mg/L	103%	80 - 120	9063072	06/24/09 17:25
Cobalt	0.500	0.474		mg/L	95%	80 - 120	9063072	06/24/09 17:25
Copper	0.250	0.247		mg/L	99%	80 - 120	9063072	06/24/09 17:25
Iron	1.00	0.989		mg/L	99%	80 - 120	9063072	06/24/09 17:25
Lead	0.0500	0.0493		mg/L	99%	80 - 120	9063072	06/24/09 17:25
Magnesium	5.00	4.90		mg/L	98%	80 - 120	9063072	06/24/09 17:25
Manganese	0.500	0.494		mg/L	99%	80 - 120	9063072	06/24/09 17:25
Molybdenum	0.500	0.494		mg/L	99%	80 - 120	9063072	06/24/09 17:25

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
9063072-BS1								
Nickel	0.500	0.496		mg/L	99%	80 - 120	9063072	06/24/09 17:25
Potassium	5.00	4.37		mg/L	87%	80 - 120	9063072	06/24/09 17:25
Selenium	0.0500	0.0479		mg/L	96%	80 - 120	9063072	06/24/09 17:25
Silver	0.0500	0.0509		mg/L	102%	80 - 120	9063072	06/24/09 17:25
Sodium	5.00	4.88		mg/L	98%	80 - 120	9063072	06/24/09 17:25
Thallium	0.0500	0.0445		mg/L	89%	80 - 120	9063072	06/24/09 17:25
Vanadium	0.500	0.499		mg/L	100%	80 - 120	9063072	06/24/09 17:25
Zinc	0.500	0.483		mg/L	97%	80 - 120	9063072	06/24/09 17:25
Mercury by EPA Methods 7470A/7471A								
9063194-BS1								
Mercury	0.00100	0.00103		mg/L	103%	80 - 120	9063194	06/23/09 15:05

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9064268-BSD1												
Phosphorus		1.96		mg/L	2.00	98%	90 - 110	4	37	9064268		06/30/09 11:24

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Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSF1724
		Project Name:	BGC - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9063112-MS1										
Bromide	ND	9.81		mg/L	10.0	98%	90 - 110	9063112	NSF1724-01	06/19/09 01:58
Chloride	11.7	16.9	A-01b	mg/L	3.00	173%	80 - 120	9063112	NSF1724-01	06/29/09 02:27
Fluoride	ND	2.18		mg/L	2.00	109%	80 - 120	9063112	NSF1724-01	06/19/09 01:58
Nitrate as N	0.115	3.10		mg/L	3.00	100%	80 - 120	9063112	NSF1724-01	06/19/09 01:58
Sulfate	41.1	72.3	A-01	mg/L	15.0	208%	80 - 120	9063112	NSF1724-01	06/29/09 02:27
9063187-MS1										
Alkalinity, Total (CaCO3)	2.39	114		ug/mL	100	112%	80 - 120	9063187	NSF1027-12	06/19/09 00:42
9063999-MS1										
Sulfide	ND	20.6		mg/L	20.0	103%	70 - 130	9063999	NSF1724-01	06/24/09 17:02
9064268-MS1										
Phosphorus	0.0810	0.529	M8	mg/L	2.00	22%	66 - 121	9064268	NSF1724-01	06/30/09 11:24
9064883-MS1										
Total Organic Carbon	10.9	33.5		ug/mL	20.0	113%	66 - 135	9064883	NSF1780-01	07/02/09 06:12
Total Metals by EPA Method 6010B										
9063072-MS1										
Aluminum	0.922	2.83		mg/L	2.00	95%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Antimony	0.00450	0.103		mg/L	0.100	99%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Arsenic	ND	0.0475		mg/L	0.0500	95%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Barium	0.0341	2.09		mg/L	2.00	103%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Beryllium	ND	0.0498		mg/L	0.0500	100%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Boron	0.0460	1.05		mg/L	1.00	100%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Cadmium	0.00420	0.0535		mg/L	0.0500	99%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Calcium	70.3	73.7	M8	mg/L	5.00	69%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Chromium	ND	0.201		mg/L	0.200	100%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Cobalt	0.00870	0.473		mg/L	0.500	93%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Copper	0.00440	0.257		mg/L	0.250	101%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Iron	0.886	1.75		mg/L	1.00	87%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Lead	0.160	0.209		mg/L	0.0500	96%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Magnesium	23.6	28.0		mg/L	5.00	88%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Manganese	0.116	0.598		mg/L	0.500	96%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Molybdenum	ND	0.490		mg/L	0.500	98%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Nickel	0.0150	0.497		mg/L	0.500	96%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Potassium	2.70	7.86		mg/L	5.00	103%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Selenium	ND	0.0486		mg/L	0.0500	97%	75 - 125	9063072	NSF1732-05	06/24/09 19:13

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9063072-MS1										
Silver	ND	0.0509		mg/L	0.0500	102%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Sodium	2.37	7.71		mg/L	5.00	107%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Thallium	ND	0.0441		mg/L	0.0500	88%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Vanadium	ND	0.490		mg/L	0.500	98%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Zinc	1.37	1.73	M8	mg/L	0.500	72%	75 - 125	9063072	NSF1732-05	06/24/09 19:13
Mercury by EPA Methods 7470A/7471A										
9063194-MS1										
Mercury	ND	0.00108		mg/L	0.00100	108%	75 - 125	9063194	NSF1714-01	06/23/09 15:10

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9063112-MSD1												
Bromide	ND	9.79		mg/L	10.0	98%	90 - 110	0.2	20	9063112	NSF1724-01	06/19/09 02:16
Chloride	11.7	17.4	A-01c	mg/L	3.00	189%	80 - 120	3	20	9063112	NSF1724-01	06/29/09 02:45
Fluoride	ND	2.17		mg/L	2.00	108%	80 - 120	0.3	19	9063112	NSF1724-01	06/19/09 02:16
Nitrate as N	0.115	3.09		mg/L	3.00	99%	80 - 120	0.4	20	9063112	NSF1724-01	06/19/09 02:16
Sulfate	41.1	72.8	A-01a	mg/L	15.0	211%	80 - 120	0.7	20	9063112	NSF1724-01	06/29/09 02:45
9063999-MSD1												
Sulfide	ND	20.5		mg/L	20.0	102%	70 - 130	0.5	10	9063999	NSF1724-01	06/24/09 17:02
9064268-MSD1												
Phosphorus	0.0810	0.508	M8	mg/L	2.00	21%	66 - 121	4	37	9064268	NSF1724-01	06/30/09 11:24
9064883-MSD1												
Total Organic Carbon	10.9	32.8		ug/mL	20.0	109%	66 - 135	2	20	9064883	NSF1780-01	07/02/09 06:12
Total Metals by EPA Method 6010B												
9063072-MSD1												
Aluminum	0.922	2.88		mg/L	2.00	98%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Antimony	0.00450	0.104		mg/L	0.100	100%	75 - 125	0.9	20	9063072	NSF1732-05	06/24/09 19:18
Arsenic	ND	0.0478		mg/L	0.0500	96%	75 - 125	0.6	20	9063072	NSF1732-05	06/24/09 19:18
Barium	0.0341	2.13		mg/L	2.00	105%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Beryllium	ND	0.0510		mg/L	0.0500	102%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Boron	0.0460	1.07		mg/L	1.00	102%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Cadmium	0.00420	0.0547		mg/L	0.0500	101%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Calcium	70.3	75.7	M8	mg/L	5.00	109%	75 - 125	3	20	9063072	NSF1732-05	06/24/09 19:18
Chromium	ND	0.205		mg/L	0.200	103%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Cobalt	0.00870	0.483		mg/L	0.500	95%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Copper	0.00440	0.262		mg/L	0.250	103%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Iron	0.886	1.78		mg/L	1.00	89%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Lead	0.160	0.214		mg/L	0.0500	108%	75 - 125	3	20	9063072	NSF1732-05	06/24/09 19:18
Magnesium	23.6	28.7		mg/L	5.00	103%	75 - 125	3	20	9063072	NSF1732-05	06/24/09 19:18
Manganese	0.116	0.609		mg/L	0.500	99%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Molybdenum	ND	0.503		mg/L	0.500	101%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Nickel	0.0150	0.509		mg/L	0.500	99%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Potassium	2.70	8.04		mg/L	5.00	107%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Selenium	ND	0.0468		mg/L	0.0500	94%	75 - 125	4	20	9063072	NSF1732-05	06/24/09 19:18
Silver	ND	0.0524		mg/L	0.0500	105%	75 - 125	3	20	9063072	NSF1732-05	06/24/09 19:18
Sodium	2.37	7.94		mg/L	5.00	112%	75 - 125	3	20	9063072	NSF1732-05	06/24/09 19:18
Thallium	ND	0.0451		mg/L	0.0500	90%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Vanadium	ND	0.499		mg/L	0.500	100%	75 - 125	2	20	9063072	NSF1732-05	06/24/09 19:18
Zinc	1.37	1.78	M8	mg/L	0.500	81%	75 - 125	3	20	9063072	NSF1732-05	06/24/09 19:18

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A												
9063194-MSD1												
Mercury	ND	0.00102		mg/L	0.00100	102%	75 - 125	6	20	9063194	NSF1714-01	06/23/09 15:12

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1724
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SM4500-S2 F	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/18/09 08:00

DATA QUALIFIERS AND DEFINITIONS

A-01	The spiked recovery at a 2x dilution is 104%.
A-01a	The spiked recovery at a 2x dilution is 105%.
A-01b	The spiked recovery at a 2x dilution is 86%.
A-01c	The spiked recovery at a 2x dilution is 95%.
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEII

NSF1724

Cooler Received/Opened On 6/18/09 @ 08:00

1. Tracking # 7923 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 97310166

2. Temperature of rep. sample or temp blank when opened: 4.0 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1-BACK & 1-FRONT

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# _____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50863

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSF1724
07/02/09 23:59

50864

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Bucky
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - SEE LIST	Metals, RCRA Water ICP 6010B	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	Sulfide SM4500-S2 D	TOC 9060A			RUSH TAT (Pre Schedule) *	
MW-BGC-7A	6-17-09	925	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X			NSF 1724	01
MW-BGC-7B	6-17-09	925	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				02
MW-BGC-9B	6-17-09	1105	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				03
MW-BGC-9A	6-17-09	1130	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				04
MW-BGC-10A	6-17-09	1255	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				05
MW-BGC-10B	6-17-09	1300	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				06
MW-BGC-11B	6-17-09	1425	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				07
MW-BGC-11A	6-17-09	1455	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				08

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 14989*
TASK 6.0 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	6-17-09	1700	FedEx					

Shipped Via:	Received for TestAmerica by:	Date:	Time:	Temperature Upon Receipt: 4°C	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N	QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
		6-18-09	0800					

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

July 07, 2009 12:30:29PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF1557
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/17/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-5B	NSF1557-01	06/16/09 10:35
MW-BGC-5A	NSF1557-02	06/16/09 11:10
MW-BGC-8B	NSF1557-03	06/16/09 13:05
MW-BGC-8A	NSF1557-04	06/16/09 13:15
MW-BGC-6A	NSF1557-05	06/16/09 15:00
MW-BGC-6B	NSF1557-06	06/16/09 15:05
MW-BGC-DUP03	NSF1557-07	06/16/09 00:01
MW-BGC-RB03	NSF1557-08	06/16/09 15:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa Headley

Senior Project Manager

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-01 (MW-BGC-5B - Water) Sampled: 06/16/09 10:35								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**88.3**		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	**88.3**		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 18:52	EPA 300.1	9062991
Chloride	**31.3**		mg/L	5.00	5	06/26/09 10:00	EPA 300.0	9062991
Fluoride	**0.245**		mg/L	0.100	1	06/17/09 18:52	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 18:52	EPA 300.0	9062991
Phosphorus	**0.151**		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**56.8**		mg/L	5.00	5	06/26/09 10:00	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**227**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	ND		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/19/09 09:59	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Arsenic	ND		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Barium	**0.0130**		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Beryllium	ND		mg/L	0.00400	1	06/19/09 09:59	SW846 6010B	9062825
Boron	**0.0835**		mg/L	0.0500	1	06/19/09 09:59	SW846 6010B	9062825
Cadmium	ND		mg/L	0.00100	1	06/19/09 09:59	SW846 6010B	9062825
Calcium	**31.7**		mg/L	1.00	1	06/19/09 09:59	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 09:59	SW846 6010B	9062825
Cobalt	ND		mg/L	0.0200	1	06/19/09 09:59	SW846 6010B	9062825
Copper	**0.0122**		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Iron	**0.647**		mg/L	0.0500	1	06/19/09 09:59	SW846 6010B	9062825
Lead	ND		mg/L	0.00500	1	06/19/09 09:59	SW846 6010B	9062825
Magnesium	**10.6**		mg/L	1.00	1	06/19/09 09:59	SW846 6010B	9062825
Manganese	**0.0490**		mg/L	0.0150	1	06/19/09 09:59	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 09:59	SW846 6010B	9062825
Nickel	ND		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Potassium	**6.47**		mg/L	1.00	1	06/19/09 09:59	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 09:59	SW846 6010B	9062825
Sodium	**23.7**	MHA	mg/L	1.00	1	06/19/09 09:59	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 09:59	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 09:59	SW846 6010B	9062825
Zinc	ND		mg/L	0.0500	1	06/19/09 09:59	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-02 (MW-BGC-5A - Water) Sampled: 06/16/09 11:10								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**63.5**		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	**63.5**		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 19:47	EPA 300.1	9062991
Chloride	**66.5**		mg/L	20.0	20	06/26/09 10:19	EPA 300.0	9062991
Fluoride	**0.337**		mg/L	0.100	1	06/17/09 19:47	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 19:47	EPA 300.0	9062991
Phosphorus	ND		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**113**		mg/L	5.00	5	06/26/09 10:37	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**316**		mg/L	20.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	**3.17**		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/19/09 10:09	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Arsenic	ND		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Barium	**0.0287**		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Beryllium	ND		mg/L	0.00400	1	06/19/09 10:09	SW846 6010B	9062825
Boron	**0.0803**		mg/L	0.0500	1	06/19/09 10:09	SW846 6010B	9062825
Cadmium	ND		mg/L	0.00100	1	06/19/09 10:09	SW846 6010B	9062825
Calcium	**46.7**		mg/L	1.00	1	06/19/09 10:09	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:09	SW846 6010B	9062825
Cobalt	ND		mg/L	0.0200	1	06/19/09 10:09	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Iron	**8.39**		mg/L	0.0500	1	06/19/09 10:09	SW846 6010B	9062825
Lead	ND		mg/L	0.00500	1	06/19/09 10:09	SW846 6010B	9062825
Magnesium	**17.5**		mg/L	1.00	1	06/19/09 10:09	SW846 6010B	9062825
Manganese	**0.303**		mg/L	0.0150	1	06/19/09 10:09	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:09	SW846 6010B	9062825
Nickel	**0.0111**		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Potassium	**4.36**		mg/L	1.00	1	06/19/09 10:09	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:09	SW846 6010B	9062825
Sodium	**26.5**		mg/L	1.00	1	06/19/09 10:09	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:09	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:09	SW846 6010B	9062825
Zinc	**0.0691**		mg/L	0.0500	1	06/19/09 10:09	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-03 (MW-BGC-8B - Water) Sampled: 06/16/09 13:05								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**117**		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	**117**		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 20:06	EPA 300.1	9062991
Chloride	**13.0**		mg/L	2.00	2	06/26/09 10:55	EPA 300.0	9062991
Fluoride	**0.180**		mg/L	0.100	1	06/17/09 20:06	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 20:06	EPA 300.0	9062991
Phosphorus	ND		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**19.0**		mg/L	1.00	1	06/17/09 20:06	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**178**		mg/L	20.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	**1.27**		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/19/09 10:12	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Arsenic	ND		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Barium	**0.0159**		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Beryllium	ND		mg/L	0.00400	1	06/19/09 10:12	SW846 6010B	9062825
Boron	**0.0520**		mg/L	0.0500	1	06/19/09 10:12	SW846 6010B	9062825
Cadmium	ND		mg/L	0.00100	1	06/19/09 10:12	SW846 6010B	9062825
Calcium	**27.5**		mg/L	1.00	1	06/19/09 10:12	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:12	SW846 6010B	9062825
Cobalt	ND		mg/L	0.0200	1	06/19/09 10:12	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Iron	**6.84**		mg/L	0.0500	1	06/19/09 10:12	SW846 6010B	9062825
Lead	ND		mg/L	0.00500	1	06/19/09 10:12	SW846 6010B	9062825
Magnesium	**9.82**		mg/L	1.00	1	06/19/09 10:12	SW846 6010B	9062825
Manganese	**0.234**		mg/L	0.0150	1	06/19/09 10:12	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:12	SW846 6010B	9062825
Nickel	ND		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Potassium	**4.56**		mg/L	1.00	1	06/19/09 10:12	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:12	SW846 6010B	9062825
Sodium	**13.2**		mg/L	1.00	1	06/19/09 10:12	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:12	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:12	SW846 6010B	9062825
Zinc	ND		mg/L	0.0500	1	06/19/09 10:12	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-04 (MW-BGC-8A - Water) Sampled: 06/16/09 13:15								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 20:24	EPA 300.1	9062991
Chloride	**12.5**		mg/L	2.00	2	06/26/09 11:32	EPA 300.0	9062991
Fluoride	**1.32**		mg/L	0.100	1	06/17/09 20:24	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 20:24	EPA 300.0	9062991
Phosphorus	**0.101**		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**885**		mg/L	50.0	50	06/26/09 14:03	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**1080**		mg/L	20.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	**6.39**		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	**42.5**		mg/L	0.100	1	06/19/09 10:29	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Arsenic	**0.0239**		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Barium	**0.0156**		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Beryllium	**0.00780**		mg/L	0.00400	1	06/19/09 10:29	SW846 6010B	9062825
Boron	ND		mg/L	0.0500	1	06/19/09 10:29	SW846 6010B	9062825
Cadmium	**0.00110**		mg/L	0.00100	1	06/19/09 10:29	SW846 6010B	9062825
Calcium	**65.4**		mg/L	1.00	1	06/19/09 10:29	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:29	SW846 6010B	9062825
Cobalt	**0.256**		mg/L	0.0200	1	06/19/09 10:29	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Iron	**64.5**		mg/L	0.0500	1	06/19/09 10:29	SW846 6010B	9062825
Lead	**0.00780**		mg/L	0.00500	1	06/19/09 10:29	SW846 6010B	9062825
Magnesium	**16.2**		mg/L	1.00	1	06/19/09 10:29	SW846 6010B	9062825
Manganese	**1.51**		mg/L	0.0150	1	06/19/09 10:29	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:29	SW846 6010B	9062825
Nickel	**0.383**		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Potassium	**5.08**		mg/L	1.00	1	06/19/09 10:29	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:29	SW846 6010B	9062825
Sodium	**9.82**		mg/L	1.00	1	06/19/09 10:29	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:29	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:29	SW846 6010B	9062825
Zinc	**0.211**		mg/L	0.0500	1	06/19/09 10:29	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-05 (MW-BGC-6A - Water) Sampled: 06/16/09 15:00								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**176**		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	**176**		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 20:42	EPA 300.1	9062991
Chloride	**7.66**		mg/L	1.00	1	06/17/09 20:42	EPA 300.0	9062991
Fluoride	ND		mg/L	0.100	1	06/17/09 20:42	EPA 300.0	9062991
Nitrate as N	**1.51**		mg/L	0.100	1	06/17/09 20:42	EPA 300.0	9062991
Phosphorus	ND		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**61.7**		mg/L	2.00	2	06/26/09 11:51	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**284**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	**9.43**		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/19/09 10:32	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Arsenic	ND		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Barium	**0.0396**		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Beryllium	ND		mg/L	0.00400	1	06/19/09 10:32	SW846 6010B	9062825
Boron	ND		mg/L	0.0500	1	06/19/09 10:32	SW846 6010B	9062825
Cadmium	ND		mg/L	0.00100	1	06/19/09 10:32	SW846 6010B	9062825
Calcium	**65.6**		mg/L	1.00	1	06/19/09 10:32	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:32	SW846 6010B	9062825
Cobalt	ND		mg/L	0.0200	1	06/19/09 10:32	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Iron	ND		mg/L	0.0500	1	06/19/09 10:32	SW846 6010B	9062825
Lead	ND		mg/L	0.00500	1	06/19/09 10:32	SW846 6010B	9062825
Magnesium	**7.72**		mg/L	1.00	1	06/19/09 10:32	SW846 6010B	9062825
Manganese	**0.130**		mg/L	0.0150	1	06/19/09 10:32	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:32	SW846 6010B	9062825
Nickel	ND		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Potassium	**2.08**		mg/L	1.00	1	06/19/09 10:32	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:32	SW846 6010B	9062825
Sodium	**19.4**		mg/L	1.00	1	06/19/09 10:32	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:32	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:32	SW846 6010B	9062825
Zinc	ND		mg/L	0.0500	1	06/19/09 10:32	SW846 6010B	9062825

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-06 (MW-BGC-6B - Water) Sampled: 06/16/09 15:05								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 21:01	EPA 300.1	9062991
Chloride	**28.1**		mg/L	5.00	5	06/26/09 12:24	EPA 300.0	9062991
Fluoride	ND		mg/L	0.100	1	06/17/09 21:01	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 21:01	EPA 300.0	9062991
Phosphorus	ND		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**79.7**		mg/L	5.00	5	06/26/09 12:24	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**169**		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	ND		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	**0.300**		mg/L	0.100	1	06/19/09 10:35	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Arsenic	ND		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Barium	**0.0845**		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Beryllium	ND		mg/L	0.00400	1	06/19/09 10:35	SW846 6010B	9062825
Boron	ND		mg/L	0.0500	1	06/19/09 10:35	SW846 6010B	9062825
Cadmium	ND		mg/L	0.00100	1	06/19/09 10:35	SW846 6010B	9062825
Calcium	**22.8**		mg/L	1.00	1	06/19/09 10:35	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:35	SW846 6010B	9062825
Cobalt	ND		mg/L	0.0200	1	06/19/09 10:35	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Iron	**4.49**		mg/L	0.0500	1	06/19/09 10:35	SW846 6010B	9062825
Lead	ND		mg/L	0.00500	1	06/19/09 10:35	SW846 6010B	9062825
Magnesium	**3.95**		mg/L	1.00	1	06/19/09 10:35	SW846 6010B	9062825
Manganese	**0.133**		mg/L	0.0150	1	06/19/09 10:35	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:35	SW846 6010B	9062825
Nickel	**0.0127**		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Potassium	**2.88**		mg/L	1.00	1	06/19/09 10:35	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:35	SW846 6010B	9062825
Sodium	**13.1**		mg/L	1.00	1	06/19/09 10:35	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:35	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:35	SW846 6010B	9062825
Zinc	ND		mg/L	0.0500	1	06/19/09 10:35	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-07 (MW-BGC-DUP03 - Water) Sampled: 06/16/09 00:01								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 18:34	EPA 300.1	9062991
Chloride	**13.1**		mg/L	2.00	2	06/26/09 09:42	EPA 300.0	9062991
Fluoride	**1.07**		mg/L	0.100	1	06/17/09 18:34	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 18:34	EPA 300.0	9062991
Phosphorus	ND		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	**809**		mg/L	50.0	50	06/26/09 09:23	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	**1100**		mg/L	20.0	1	06/18/09 23:47	SM2540 C	9063186
Total Organic Carbon	**6.66**		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	**42.0**		mg/L	0.100	1	06/19/09 10:39	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Arsenic	**0.0251**		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Barium	**0.0165**		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Beryllium	**0.00780**		mg/L	0.00400	1	06/19/09 10:39	SW846 6010B	9062825
Boron	ND		mg/L	0.0500	1	06/19/09 10:39	SW846 6010B	9062825
Cadmium	**0.00120**		mg/L	0.00100	1	06/19/09 10:39	SW846 6010B	9062825
Calcium	**63.6**		mg/L	1.00	1	06/19/09 10:39	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:39	SW846 6010B	9062825
Cobalt	**0.262**		mg/L	0.0200	1	06/19/09 10:39	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Iron	**67.6**		mg/L	0.0500	1	06/19/09 10:39	SW846 6010B	9062825
Lead	**0.00760**		mg/L	0.00500	1	06/19/09 10:39	SW846 6010B	9062825
Magnesium	**16.1**		mg/L	1.00	1	06/19/09 10:39	SW846 6010B	9062825
Manganese	**1.47**		mg/L	0.0150	1	06/19/09 10:39	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:39	SW846 6010B	9062825
Nickel	**0.383**		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Potassium	**5.14**		mg/L	1.00	1	06/19/09 10:39	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:39	SW846 6010B	9062825
Sodium	**9.98**		mg/L	1.00	1	06/19/09 10:39	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:39	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:39	SW846 6010B	9062825
Zinc	**0.248**		mg/L	0.0500	1	06/19/09 10:39	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1557-08 (MW-BGC-RB03 - Water) Sampled: 06/16/09 15:30								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/17/09 20:14	SM2320 B	9062940
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/17/09 20:14	SM 2320B	9062877
Bromide	ND		mg/L	1.00	1	06/17/09 21:19	EPA 300.1	9062991
Chloride	ND		mg/L	1.00	1	06/26/09 13:24	EPA 300.0	9062991
Fluoride	ND		mg/L	0.100	1	06/17/09 21:19	EPA 300.0	9062991
Nitrate as N	ND		mg/L	0.100	1	06/17/09 21:19	EPA 300.0	9062991
Phosphorus	ND		mg/L	0.100	1	06/25/09 12:55	EPA 365.4	9064063
Sulfate	ND		mg/L	1.00	1	06/26/09 13:24	EPA 300.0	9062991
Sulfide	ND		mg/L	1.00	1	06/22/09 09:50	SM4500-S2 F	9063604
Total Dissolved Solids	ND		mg/L	10.0	1	06/20/09 18:17	SM2540 C	9063371
Total Organic Carbon	ND		mg/L	1.00	1	07/02/09 15:03	SW846 9060A	9064882
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/19/09 10:42	SW846 6010B	9062825
Antimony	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Arsenic	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Barium	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Beryllium	ND		mg/L	0.00400	1	06/19/09 10:42	SW846 6010B	9062825
Boron	ND		mg/L	0.0500	1	06/19/09 10:42	SW846 6010B	9062825
Cadmium	ND		mg/L	0.00100	1	06/19/09 10:42	SW846 6010B	9062825
Calcium	ND		mg/L	1.00	1	06/19/09 10:42	SW846 6010B	9062825
Chromium	ND		mg/L	0.00500	1	06/19/09 10:42	SW846 6010B	9062825
Cobalt	ND		mg/L	0.0200	1	06/19/09 10:42	SW846 6010B	9062825
Copper	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Iron	ND		mg/L	0.0500	1	06/19/09 10:42	SW846 6010B	9062825
Lead	ND		mg/L	0.00500	1	06/19/09 10:42	SW846 6010B	9062825
Magnesium	ND		mg/L	1.00	1	06/19/09 10:42	SW846 6010B	9062825
Manganese	ND		mg/L	0.0150	1	06/19/09 10:42	SW846 6010B	9062825
Molybdenum	ND		mg/L	0.0500	1	06/19/09 10:42	SW846 6010B	9062825
Nickel	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Potassium	ND		mg/L	1.00	1	06/19/09 10:42	SW846 6010B	9062825
Selenium	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Silver	ND		mg/L	0.00500	1	06/19/09 10:42	SW846 6010B	9062825
Sodium	ND		mg/L	1.00	1	06/19/09 10:42	SW846 6010B	9062825
Thallium	ND		mg/L	0.0100	1	06/19/09 10:42	SW846 6010B	9062825
Vanadium	ND		mg/L	0.0200	1	06/19/09 10:42	SW846 6010B	9062825
Zinc	ND		mg/L	0.0500	1	06/19/09 10:42	SW846 6010B	9062825

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Total Metals by EPA Method 6010B							
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-01	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-02	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-03	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-04	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-05	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-06	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-07	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9062825	NSF1557-08	50.00	50.00	06/18/09 12:45	BTS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9062877-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	9062877	9062877-BLK1	06/17/09 20:14
9062940-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9062940	9062940-BLK1	06/17/09 20:14
9062991-BLK1						
Bromide	<0.500		mg/L	9062991	9062991-BLK1	06/17/09 17:57
Chloride	<0.500		mg/L	9062991	9062991-BLK1	06/17/09 17:57
Fluoride	<0.0500		mg/L	9062991	9062991-BLK1	06/17/09 17:57
Nitrate as N	<0.0500		mg/L	9062991	9062991-BLK1	06/17/09 17:57
Sulfate	<0.500		mg/L	9062991	9062991-BLK1	06/17/09 17:57
9063186-BLK1						
Total Dissolved Solids	<5.00		mg/L	9063186	9063186-BLK1	06/18/09 23:47
9063371-BLK1						
Total Dissolved Solids	<5.00		mg/L	9063371	9063371-BLK1	06/20/09 18:17
9063604-BLK1						
Sulfide	<0.170		mg/L	9063604	9063604-BLK1	06/22/09 09:50
9064063-BLK1						
Phosphorus	<0.0500		mg/L	9064063	9064063-BLK1	06/25/09 12:55
9064882-BLK1						
Total Organic Carbon	0.840		mg/L	9064882	9064882-BLK1	07/02/09 15:03
Total Metals by EPA Method 6010B						
9062825-BLK1						
Aluminum	<0.0540		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Antimony	<0.00210		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Arsenic	<0.00360		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Barium	<0.00100		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Beryllium	<0.00100		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Boron	<0.00500		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Cadmium	<0.000600		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Calcium	<0.100		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Chromium	<0.00260		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Cobalt	<0.00500		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Copper	<0.00210		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Iron	<0.0490		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Lead	<0.00210		mg/L	9062825	9062825-BLK1	06/19/09 09:53

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
9062825-BLK1						
Magnesium	<0.0660		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Manganese	<0.00100		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Molybdenum	<0.00500		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Nickel	<0.00230		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Potassium	<0.100		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Selenium	<0.00390		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Silver	<0.00280		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Sodium	<0.820		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Thallium	<0.00630		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Vanadium	<0.00500		mg/L	9062825	9062825-BLK1	06/19/09 09:53
Zinc	<0.00500		mg/L	9062825	9062825-BLK1	06/19/09 09:53

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9062877-DUP1										
Bicarbonate Alkalinity as CaCO3	784	784		mg/L	0.07	20	9062877	NSF1476-02		06/17/09 20:14
9062940-DUP1										
Alkalinity, Total (CaCO3)	1020	1020		mg/L	0.2	20	9062940	NSF1476-02		06/17/09 20:14
9062991-DUP1										
Bromide	ND	ND		mg/L		20	9062991	NSF1557-08		06/18/09 09:17
Chloride	ND	ND		mg/L		20	9062991	NSF1557-08		06/26/09 13:43
Fluoride	ND	ND		mg/L		19	9062991	NSF1557-08		06/18/09 09:17
Nitrate as N	ND	ND		mg/L		20	9062991	NSF1557-08		06/18/09 09:17
Sulfate	0.558	ND		mg/L		20	9062991	NSF1557-08		06/26/09 13:43
9063186-DUP1										
Total Dissolved Solids	172	180		mg/L	5	20	9063186	NSF1747-04		06/18/09 23:47
9063186-DUP2										
Total Dissolved Solids	180	177		mg/L	2	20	9063186	NSF1760-04		06/18/09 23:47
9063371-DUP1										
Total Dissolved Solids	105	104		mg/L	1	20	9063371	NSF1724-01		06/20/09 18:17
9063371-DUP2										
Total Dissolved Solids	175	185		mg/L	6	20	9063371	NSF1864-04		06/20/09 18:17
9063604-DUP1										
Sulfide	ND	ND		mg/L		10	9063604	NSF1557-08		06/22/09 09:50
9064063-DUP1										
Phosphorus	ND	ND		mg/L		37	9064063	NSF1557-08		06/25/09 12:55
9064882-DUP1										
Total Organic Carbon	ND	ND		mg/L		20	9064882	NSF1557-08		07/02/09 15:03

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9062940-BS1								
Alkalinity, Total (CaCO3)	100	102		ug/mL	102%	90 - 110	9062940	06/17/09 20:14
9062991-BS1								
Bromide	10.0	10.0		mg/L	100%	90 - 110	9062991	06/17/09 18:15
Chloride	3.00	3.06	MNR	mg/L	102%	90 - 110	9062991	06/17/09 18:15
Fluoride	2.00	2.14		mg/L	107%	90 - 110	9062991	06/17/09 18:15
Nitrate as N	3.00	3.09		mg/L	103%	90 - 110	9062991	06/17/09 18:15
Sulfate	15.0	16.0	MNR	mg/L	107%	90 - 110	9062991	06/17/09 18:15
9063186-BS1								
Total Dissolved Solids	100	106		ug/mL	106%	90 - 110	9063186	06/18/09 23:47
9063371-BS1								
Total Dissolved Solids	100	105		ug/mL	105%	90 - 110	9063371	06/20/09 18:17
9063604-BS1								
Sulfide	20.0	19.5		mg/L	98%	90 - 110	9063604	06/22/09 09:50
9064063-BS1								
Phosphorus	2.00	2.13		mg/L	107%	90 - 110	9064063	06/25/09 12:55
9064882-BS1								
Total Organic Carbon	200	199		ug/mL	100%	90 - 110	9064882	07/02/09 15:03
Total Metals by EPA Method 6010B								
9062825-BS1								
Aluminum	2.00	2.19		mg/L	109%	80 - 120	9062825	06/19/09 09:56
Antimony	0.100	0.0950		mg/L	95%	80 - 120	9062825	06/19/09 09:56
Arsenic	0.0500	0.0522		mg/L	104%	80 - 120	9062825	06/19/09 09:56
Barium	2.00	2.04		mg/L	102%	80 - 120	9062825	06/19/09 09:56
Beryllium	0.0500	0.0502		mg/L	100%	80 - 120	9062825	06/19/09 09:56
Boron	1.00	1.04		mg/L	104%	80 - 120	9062825	06/19/09 09:56
Cadmium	0.0500	0.0490		mg/L	98%	80 - 120	9062825	06/19/09 09:56
Calcium	5.00	5.01		mg/L	100%	80 - 120	9062825	06/19/09 09:56
Chromium	0.200	0.203		mg/L	102%	80 - 120	9062825	06/19/09 09:56
Cobalt	0.500	0.489		mg/L	98%	80 - 120	9062825	06/19/09 09:56
Copper	0.250	0.254		mg/L	102%	80 - 120	9062825	06/19/09 09:56
Iron	1.00	1.04		mg/L	104%	80 - 120	9062825	06/19/09 09:56
Lead	0.0500	0.0484		mg/L	97%	80 - 120	9062825	06/19/09 09:56
Magnesium	5.00	5.24		mg/L	105%	80 - 120	9062825	06/19/09 09:56
Manganese	0.500	0.499		mg/L	100%	80 - 120	9062825	06/19/09 09:56
Molybdenum	0.500	0.507		mg/L	101%	80 - 120	9062825	06/19/09 09:56

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
9062825-BS1								
Nickel	0.500	0.527		mg/L	105%	80 - 120	9062825	06/19/09 09:56
Potassium	5.00	5.12		mg/L	102%	80 - 120	9062825	06/19/09 09:56
Selenium	0.0500	0.0529		mg/L	106%	80 - 120	9062825	06/19/09 09:56
Silver	0.0500	0.0458		mg/L	92%	80 - 120	9062825	06/19/09 09:56
Sodium	5.00	5.14		mg/L	103%	80 - 120	9062825	06/19/09 09:56
Thallium	0.0500	0.0505		mg/L	101%	80 - 120	9062825	06/19/09 09:56
Vanadium	0.500	0.515		mg/L	103%	80 - 120	9062825	06/19/09 09:56
Zinc	0.500	0.494		mg/L	99%	80 - 120	9062825	06/19/09 09:56

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9064882-BSD1												
Total Organic Carbon		202		ug/mL	200	101%	90 - 110	2	20	9064882		07/02/09 15:03

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9062940-MS1										
Alkalinity, Total (CaCO3)	106	184	M8	ug/mL	100	78%	80 - 120	9062940	NSF1367-02	06/17/09 20:14
9062991-MS1										
Bromide	ND	9.82		mg/L	10.0	98%	90 - 110	9062991	NSF1557-01	06/17/09 19:10
Fluoride	0.245	2.33		mg/L	2.00	104%	80 - 120	9062991	NSF1557-01	06/17/09 19:10
Nitrate as N	ND	3.00		mg/L	3.00	100%	80 - 120	9062991	NSF1557-01	06/17/09 19:10
9063604-MS1										
Sulfide	ND	19.1		mg/L	20.0	96%	70 - 130	9063604	NSF1557-01	06/22/09 09:50
9064063-MS1										
Phosphorus	2.56	4.35		mg/L	2.00	89%	66 - 121	9064063	NSF1556-02	06/25/09 12:55
9064882-MS1										
Total Organic Carbon	48.2	83.8	M7	ug/mL	20.0	178%	66 - 135	9064882	NSF1658-01	07/02/09 15:03
Total Metals by EPA Method 6010B										
9062825-MS1										
Aluminum	ND	2.20		mg/L	2.00	110%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Antimony	ND	0.0953		mg/L	0.100	95%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Arsenic	ND	0.0531		mg/L	0.0500	106%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Barium	0.0130	2.02		mg/L	2.00	101%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Beryllium	ND	0.0507		mg/L	0.0500	101%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Boron	0.0835	1.14		mg/L	1.00	106%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Cadmium	ND	0.0500		mg/L	0.0500	100%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Calcium	31.7	37.0		mg/L	5.00	108%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Chromium	ND	0.202		mg/L	0.200	101%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Cobalt	ND	0.494		mg/L	0.500	99%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Copper	0.0122	0.264		mg/L	0.250	101%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Iron	0.647	1.69		mg/L	1.00	104%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Lead	ND	0.0509		mg/L	0.0500	102%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Magnesium	10.6	15.9		mg/L	5.00	105%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Manganese	0.0490	0.542		mg/L	0.500	99%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Molybdenum	ND	0.504		mg/L	0.500	101%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Nickel	0.00770	0.536		mg/L	0.500	106%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Potassium	6.47	11.6		mg/L	5.00	102%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Selenium	ND	0.0556		mg/L	0.0500	111%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Silver	ND	0.0456		mg/L	0.0500	91%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Sodium	23.7	26.3	MHA	mg/L	5.00	51%	75 - 125	9062825	NSF1557-01	06/19/09 10:02

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9062825-MS1										
Thallium	ND	0.0495		mg/L	0.0500	99%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Vanadium	0.00930	0.516		mg/L	0.500	101%	75 - 125	9062825	NSF1557-01	06/19/09 10:02
Zinc	ND	0.500		mg/L	0.500	100%	75 - 125	9062825	NSF1557-01	06/19/09 10:02

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9062991-MSD1												
Bromide	ND	9.59		mg/L	10.0	96%	90 - 110	2	20	9062991	NSF1557-01	06/17/09 19:29
Fluoride	0.245	2.27		mg/L	2.00	101%	80 - 120	3	19	9062991	NSF1557-01	06/17/09 19:29
Nitrate as N	ND	2.90		mg/L	3.00	97%	80 - 120	3	20	9062991	NSF1557-01	06/17/09 19:29
9063604-MSD1												
Sulfide	ND	19.1		mg/L	20.0	96%	70 - 130	0	10	9063604	NSF1557-01	06/22/09 09:50
9064063-MSD1												
Phosphorus	2.56	4.26		mg/L	2.00	85%	66 - 121	2	37	9064063	NSF1556-02	06/25/09 12:55
9064882-MSD1												
Total Organic Carbon	48.2	81.2	M7	ug/mL	20.0	165%	66 - 135	3	20	9064882	NSF1658-01	07/02/09 15:03
Total Metals by EPA Method 6010B												
9062825-MSD1												
Aluminum	ND	2.19		mg/L	2.00	109%	75 - 125	0.3	20	9062825	NSF1557-01	06/19/09 10:06
Antimony	ND	0.0959		mg/L	0.100	96%	75 - 125	0.6	20	9062825	NSF1557-01	06/19/09 10:06
Arsenic	ND	0.0531		mg/L	0.0500	106%	75 - 125	0	20	9062825	NSF1557-01	06/19/09 10:06
Barium	0.0130	2.04		mg/L	2.00	101%	75 - 125	0.7	20	9062825	NSF1557-01	06/19/09 10:06
Beryllium	ND	0.0509		mg/L	0.0500	102%	75 - 125	0.4	20	9062825	NSF1557-01	06/19/09 10:06
Boron	0.0835	1.14		mg/L	1.00	106%	75 - 125	0.4	20	9062825	NSF1557-01	06/19/09 10:06
Cadmium	ND	0.0505		mg/L	0.0500	101%	75 - 125	1	20	9062825	NSF1557-01	06/19/09 10:06
Calcium	31.7	37.0		mg/L	5.00	107%	75 - 125	0.1	20	9062825	NSF1557-01	06/19/09 10:06
Chromium	ND	0.204		mg/L	0.200	102%	75 - 125	1	20	9062825	NSF1557-01	06/19/09 10:06
Cobalt	ND	0.498		mg/L	0.500	100%	75 - 125	0.9	20	9062825	NSF1557-01	06/19/09 10:06
Copper	0.0122	0.266		mg/L	0.250	102%	75 - 125	0.8	20	9062825	NSF1557-01	06/19/09 10:06
Iron	0.647	1.69		mg/L	1.00	104%	75 - 125	0.2	20	9062825	NSF1557-01	06/19/09 10:06
Lead	ND	0.0510		mg/L	0.0500	102%	75 - 125	0.2	20	9062825	NSF1557-01	06/19/09 10:06
Magnesium	10.6	15.9		mg/L	5.00	106%	75 - 125	0.2	20	9062825	NSF1557-01	06/19/09 10:06
Manganese	0.0490	0.544		mg/L	0.500	99%	75 - 125	0.3	20	9062825	NSF1557-01	06/19/09 10:06
Molybdenum	ND	0.509		mg/L	0.500	102%	75 - 125	0.9	20	9062825	NSF1557-01	06/19/09 10:06
Nickel	0.00770	0.542		mg/L	0.500	107%	75 - 125	1	20	9062825	NSF1557-01	06/19/09 10:06
Potassium	6.47	11.6		mg/L	5.00	102%	75 - 125	0.3	20	9062825	NSF1557-01	06/19/09 10:06
Selenium	ND	0.0546		mg/L	0.0500	109%	75 - 125	2	20	9062825	NSF1557-01	06/19/09 10:06
Silver	ND	0.0459		mg/L	0.0500	92%	75 - 125	0.7	20	9062825	NSF1557-01	06/19/09 10:06
Sodium	23.7	26.9	MHA	mg/L	5.00	63%	75 - 125	2	20	9062825	NSF1557-01	06/19/09 10:06
Thallium	ND	0.0504		mg/L	0.0500	101%	75 - 125	2	20	9062825	NSF1557-01	06/19/09 10:06
Vanadium	0.00930	0.520		mg/L	0.500	102%	75 - 125	0.8	20	9062825	NSF1557-01	06/19/09 10:06
Zinc	ND	0.505		mg/L	0.500	101%	75 - 125	1	20	9062825	NSF1557-01	06/19/09 10:06

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1557
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SM4500-S2 F	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 9060A	Water			

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/17/09 08:00

DATA QUALIFIERS AND DEFINITIONS

M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIPT

NSF1557

Cooler Received/Opened On 6 / 17 / 09 @ 8:00

1. Tracking # 7912 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 5.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4 Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 front 1 back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO... Was a PIPE generated? YES...NO... # 53696

6/17/09

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50890

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THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

50891

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print)
SamplerSignature:

TA Account #: 63036
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip:
Regulatory District (CA): Virginia

Page 1 of 1

NSF1557
07/01/09 23:59

	Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - SEE LIST	Metals, RCRA Water ICP 6010B	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	Sulfide SM4500-S2 D	TOC 9060A				RUSH TAT (Pre Schedule) *
01	MW-BGC-5B	6-19-09	1035	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
02	MW-BGC-5A	6-19-09	1110	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
03	MW-BGC-8B	6-19-09	1305	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
04	MW-BGC-8A	6-19-09	1315	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
05	MW-DGC-6A	6-19-09	1520	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
06	MW-BGC-6B	6-19-09	1505	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
07	MW-BGC-Dup03	6-19-09	—	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				
08	MW-BGC-RB03	6-19-09	1530	6						1	1		1	1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 14989
TASK 6.0 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	6-16-9	1800	FedEx					

Shipped Via:

Received for TestAmerica by:	Date:	Time:	Shipped Via:	Temperature Upon Receipt: 5.1°C	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N	QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
	6/17	8:00						

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

July 10, 2009 7:55:17AM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF1870
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/19/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-12A	NSF1870-01	06/18/09 13:35
MW-BGC-12B	NSF1870-02	06/18/09 13:40
MW-BGC-13	NSF1870-03	06/18/09 14:55
MW-BGC-15	NSF1870-04	06/18/09 15:20
MW-BGC-14	NSF1870-05	06/18/09 16:30
MW-BGC-Dup 04	NSF1870-06	06/18/09 00:01
MW-BGC-RB 04	NSF1870-07	06/18/09 17:15

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa Headley

Senior Project Manager

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-01 (MW-BGC-12A - Ground Water) Sampled: 06/18/09 13:35								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**27.6**		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bicarbonate Alkalinity as CaCO3	**27.6**		mg/L	10.0	1	06/19/09 23:16	SM 2320B	9063364
Bromide	ND		mg/L	1.00	1	06/19/09 17:23	EPA 300.1	9063329
Chloride	**39.1**		mg/L	5.00	5	06/29/09 19:00	EPA 300.0	9063329
Fluoride	**0.173**		mg/L	0.100	1	06/19/09 17:23	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 17:23	EPA 300.0	9063329
Phosphorus	**0.113**		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	**155**		mg/L	5.00	5	06/29/09 19:00	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**311**		mg/L	10.0	1	06/25/09 17:29	SM2540 C	9064051
Total Organic Carbon	**1.53**		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 13:22	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Arsenic	ND		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Barium	**0.0297**		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Beryllium	ND		mg/L	0.00400	1	06/24/09 13:22	SW846 6010B	9063484
Boron	ND		mg/L	0.0500	1	06/24/09 13:22	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:22	SW846 6010B	9063484
Calcium	**37.4**		mg/L	1.00	1	06/24/09 13:22	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:22	SW846 6010B	9063484
Cobalt	ND		mg/L	0.0200	1	06/24/09 13:22	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Iron	**6.26**		mg/L	0.0500	1	06/24/09 13:22	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:22	SW846 6010B	9063484
Magnesium	**22.5**		mg/L	1.00	1	06/24/09 13:22	SW846 6010B	9063484
Manganese	**0.132**		mg/L	0.0150	1	06/24/09 13:22	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:22	SW846 6010B	9063484
Nickel	**0.0117**		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Potassium	**1.33**		mg/L	1.00	1	06/24/09 13:22	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:22	SW846 6010B	9063484
Sodium	**15.3**		mg/L	1.00	1	06/24/09 13:22	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:22	SW846 6010B	9063484
Vanadium	ND		mg/L	0.0200	1	06/24/09 13:22	SW846 6010B	9063484
Zinc	ND		mg/L	0.0500	1	06/24/09 13:22	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:38	SW846 7470A	9063496

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-02 (MW-BGC-12B - Ground Water) Sampled: 06/18/09 13:40								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**55.2**		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bicarbonate Alkalinity as CaCO3	**55.2**		mg/L	10.0	1	06/19/09 23:16	SM 2320B	9063364
Bromide	ND		mg/L	1.00	1	06/19/09 18:18	EPA 300.1	9063329
Chloride	**34.8**		mg/L	5.00	5	06/29/09 19:19	EPA 300.0	9063329
Fluoride	**0.460**		mg/L	0.100	1	06/19/09 18:18	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 18:18	EPA 300.0	9063329
Phosphorus	**0.319**		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	**113**		mg/L	5.00	5	06/29/09 19:19	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**285**		mg/L	10.0	1	06/25/09 17:29	SM2540 C	9064051
Total Organic Carbon	**1.71**		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 13:39	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Arsenic	ND		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Barium	**0.0150**		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Beryllium	ND		mg/L	0.00400	1	06/24/09 13:39	SW846 6010B	9063484
Boron	ND		mg/L	0.0500	1	06/24/09 13:39	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:39	SW846 6010B	9063484
Calcium	**39.5**		mg/L	1.00	1	06/24/09 13:39	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:39	SW846 6010B	9063484
Cobalt	ND		mg/L	0.0200	1	06/24/09 13:39	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Iron	**7.27**		mg/L	0.0500	1	06/24/09 13:39	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:39	SW846 6010B	9063484
Magnesium	**17.9**		mg/L	1.00	1	06/24/09 13:39	SW846 6010B	9063484
Manganese	**0.160**		mg/L	0.0150	1	06/24/09 13:39	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:39	SW846 6010B	9063484
Nickel	ND		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Potassium	**2.14**		mg/L	1.00	1	06/24/09 13:39	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:39	SW846 6010B	9063484
Sodium	**16.4**		mg/L	1.00	1	06/24/09 13:39	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:39	SW846 6010B	9063484
Vanadium	ND		mg/L	0.0200	1	06/24/09 13:39	SW846 6010B	9063484
Zinc	**0.0839**		mg/L	0.0500	1	06/24/09 13:39	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:46	SW846 7470A	9063496

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-03 (MW-BGC-13 - Ground Water) Sampled: 06/18/09 14:55								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bromide	ND		mg/L	1.00	1	06/19/09 18:36	EPA 300.1	9063329
Chloride	**30.1**		mg/L	5.00	5	06/29/09 19:56	EPA 300.0	9063329
Fluoride	**0.817**		mg/L	0.100	1	06/19/09 18:36	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 18:36	EPA 300.0	9063329
Phosphorus	ND		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	**550**		mg/L	20.0	20	06/29/09 19:37	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 18:20	SM4500-S2 F	9064053
Total Dissolved Solids	**828**		mg/L	10.0	1	06/25/09 17:29	SM2540 C	9064051
Total Organic Carbon	**2.23**		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	**1.52**		mg/L	0.100	1	06/24/09 13:43	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Arsenic	ND		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Barium	**0.0436**		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Beryllium	**0.0145**		mg/L	0.00400	1	06/24/09 13:43	SW846 6010B	9063484
Boron	ND		mg/L	0.0500	1	06/24/09 13:43	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:43	SW846 6010B	9063484
Calcium	**110**		mg/L	1.00	1	06/24/09 13:43	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:43	SW846 6010B	9063484
Cobalt	**0.0454**		mg/L	0.0200	1	06/24/09 13:43	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Iron	**58.2**		mg/L	0.0500	1	06/24/09 13:43	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:43	SW846 6010B	9063484
Magnesium	**27.7**		mg/L	1.00	1	06/24/09 13:43	SW846 6010B	9063484
Manganese	**0.565**		mg/L	0.0150	1	06/24/09 13:43	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:43	SW846 6010B	9063484
Nickel	**0.0883**		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Potassium	**9.47**		mg/L	1.00	1	06/24/09 13:43	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:43	SW846 6010B	9063484
Sodium	**10.6**		mg/L	1.00	1	06/24/09 13:43	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:43	SW846 6010B	9063484
Vanadium	ND		mg/L	0.0200	1	06/24/09 13:43	SW846 6010B	9063484
Zinc	**0.224**		mg/L	0.0500	1	06/24/09 13:43	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:48	SW846 7470A	9063496

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-04 (MW-BGC-15 - Ground Water) Sampled: 06/18/09 15:20								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/19/09 23:16	SM 2320B	9063364
Bromide	**7.67**		mg/L	1.00	1	06/19/09 18:55	EPA 300.1	9063329
Chloride	**1140**		mg/L	200	200	06/30/09 09:21	EPA 300.0	9063329
Fluoride	**0.206**		mg/L	0.100	1	06/19/09 18:55	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 18:55	EPA 300.0	9063329
Phosphorus	ND		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	**408**		mg/L	20.0	20	06/29/09 20:32	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 18:20	SM4500-S2 F	9064053
Total Dissolved Solids	**2190**	H2	mg/L	20.0	1	07/07/09 23:10	SM2540 C	9070877
Total Organic Carbon	**4.98**		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	**6.92**		mg/L	0.100	1	06/24/09 13:46	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Arsenic	**0.0336**		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Barium	**0.0694**		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Beryllium	ND		mg/L	0.00400	1	06/24/09 13:46	SW846 6010B	9063484
Boron	**0.162**		mg/L	0.0500	1	06/24/09 13:46	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:46	SW846 6010B	9063484
Calcium	**196**		mg/L	1.00	1	06/24/09 13:46	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:46	SW846 6010B	9063484
Cobalt	ND		mg/L	0.0200	1	06/24/09 13:46	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Iron	**91.9**		mg/L	0.0500	1	06/24/09 13:46	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:46	SW846 6010B	9063484
Magnesium	**34.6**		mg/L	1.00	1	06/24/09 13:46	SW846 6010B	9063484
Manganese	**0.385**		mg/L	0.0150	1	06/24/09 13:46	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:46	SW846 6010B	9063484
Nickel	**0.0236**		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Potassium	**63.6**		mg/L	1.00	1	06/24/09 13:46	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:46	SW846 6010B	9063484
Sodium	**384**		mg/L	1.00	1	06/24/09 13:46	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:46	SW846 6010B	9063484
Vanadium	**0.0363**		mg/L	0.0200	1	06/24/09 13:46	SW846 6010B	9063484
Zinc	**0.107**		mg/L	0.0500	1	06/24/09 13:46	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:51	SW846 7470A	9063496

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-05 (MW-BGC-14 - Ground Water) Sampled: 06/18/09 16:30								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**59.1**		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bicarbonate Alkalinity as CaCO3	**59.1**		mg/L	10.0	1	06/19/09 23:16	SM 2320B	9063364
Bromide	ND		mg/L	1.00	1	06/19/09 19:13	EPA 300.1	9063329
Chloride	**16.4**		mg/L	2.00	2	06/29/09 20:51	EPA 300.0	9063329
Fluoride	ND		mg/L	0.100	1	06/19/09 19:13	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 19:13	EPA 300.0	9063329
Phosphorus	ND		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	**53.8**		mg/L	2.00	2	06/29/09 20:51	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 18:20	SM4500-S2 F	9064053
Total Dissolved Solids	**66.0**		mg/L	10.0	1	06/25/09 17:29	SM2540 C	9064051
Total Organic Carbon	**1.97**		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	**0.242**		mg/L	0.100	1	06/24/09 13:49	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Arsenic	ND		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Barium	**0.0531**		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Beryllium	ND		mg/L	0.00400	1	06/24/09 13:49	SW846 6010B	9063484
Boron	ND		mg/L	0.0500	1	06/24/09 13:49	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:49	SW846 6010B	9063484
Calcium	**29.1**		mg/L	1.00	1	06/24/09 13:49	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:49	SW846 6010B	9063484
Cobalt	ND		mg/L	0.0200	1	06/24/09 13:49	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Iron	**7.99**		mg/L	0.0500	1	06/24/09 13:49	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:49	SW846 6010B	9063484
Magnesium	**4.78**		mg/L	1.00	1	06/24/09 13:49	SW846 6010B	9063484
Manganese	**0.216**		mg/L	0.0150	1	06/24/09 13:49	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:49	SW846 6010B	9063484
Nickel	ND		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Potassium	**2.82**		mg/L	1.00	1	06/24/09 13:49	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:49	SW846 6010B	9063484
Sodium	**10.9**		mg/L	1.00	1	06/24/09 13:49	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:49	SW846 6010B	9063484
Vanadium	ND		mg/L	0.0200	1	06/24/09 13:49	SW846 6010B	9063484
Zinc	ND		mg/L	0.0500	1	06/24/09 13:49	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:53	SW846 7470A	9063496

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-06 (MW-BGC-Dup 04 - Ground Water) Sampled: 06/18/09 00:01								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/19/09 23:16	SM 2320B	9063364
Bromide	**7.59**		mg/L	1.00	1	06/19/09 17:04	EPA 300.1	9063329
Chloride	**1050**		mg/L	100	100	06/29/09 18:24	EPA 300.0	9063329
Fluoride	**0.187**		mg/L	0.100	1	06/19/09 17:04	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 17:04	EPA 300.0	9063329
Phosphorus	ND		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	**383**		mg/L	20.0	20	06/29/09 18:42	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 17:02	SM4500-S2 F	9063999
Total Dissolved Solids	**3600**	H2	mg/L	100	1	06/29/09 19:15	SM2540 C	9064639
Total Organic Carbon	**4.70**		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	**6.74**		mg/L	0.100	1	06/24/09 13:52	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Arsenic	**0.0332**		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Barium	**0.0695**		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Beryllium	ND		mg/L	0.00400	1	06/24/09 13:52	SW846 6010B	9063484
Boron	**0.157**		mg/L	0.0500	1	06/24/09 13:52	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:52	SW846 6010B	9063484
Calcium	**196**		mg/L	1.00	1	06/24/09 13:52	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:52	SW846 6010B	9063484
Cobalt	ND		mg/L	0.0200	1	06/24/09 13:52	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Iron	**90.7**		mg/L	0.0500	1	06/24/09 13:52	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:52	SW846 6010B	9063484
Magnesium	**34.3**		mg/L	1.00	1	06/24/09 13:52	SW846 6010B	9063484
Manganese	**0.383**		mg/L	0.0150	1	06/24/09 13:52	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:52	SW846 6010B	9063484
Nickel	**0.0234**		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Potassium	**63.4**		mg/L	1.00	1	06/24/09 13:52	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:52	SW846 6010B	9063484
Sodium	**382**		mg/L	1.00	1	06/24/09 13:52	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:52	SW846 6010B	9063484
Vanadium	**0.0382**		mg/L	0.0200	1	06/24/09 13:52	SW846 6010B	9063484
Zinc	**0.112**		mg/L	0.0500	1	06/24/09 13:52	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:55	SW846 7470A	9063496

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1870-07 (MW-BGC-RB 04 - Ground Water) Sampled: 06/18/09 17:15								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/19/09 23:16	SM2320 B	9063367
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	06/19/09 23:16	SM 2320B	9063364
Bromide	ND		mg/L	1.00	1	06/19/09 19:31	EPA 300.1	9063329
Chloride	ND		mg/L	1.00	1	06/19/09 19:31	EPA 300.0	9063329
Fluoride	ND		mg/L	0.100	1	06/19/09 19:31	EPA 300.0	9063329
Nitrate as N	ND		mg/L	0.100	1	06/19/09 19:31	EPA 300.0	9063329
Phosphorus	ND		mg/L	0.100	1	06/29/09 16:49	EPA 365.4	9064301
Sulfate	ND		mg/L	1.00	1	06/19/09 19:31	EPA 300.0	9063329
Sulfide	ND		mg/L	1.00	1	06/24/09 18:20	SM4500-S2 F	9064053
Total Dissolved Solids	ND		mg/L	10.0	1	06/25/09 17:29	SM2540 C	9064051
Total Organic Carbon	ND		mg/L	1.00	1	07/06/09 15:06	SW846 9060A	9070623
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/24/09 13:56	SW846 6010B	9063484
Antimony	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Arsenic	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Barium	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Beryllium	ND		mg/L	0.00400	1	06/24/09 13:56	SW846 6010B	9063484
Boron	ND		mg/L	0.0500	1	06/24/09 13:56	SW846 6010B	9063484
Cadmium	ND		mg/L	0.00100	1	06/24/09 13:56	SW846 6010B	9063484
Calcium	ND		mg/L	1.00	1	06/24/09 13:56	SW846 6010B	9063484
Chromium	ND		mg/L	0.00500	1	06/24/09 13:56	SW846 6010B	9063484
Cobalt	ND		mg/L	0.0200	1	06/24/09 13:56	SW846 6010B	9063484
Copper	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Iron	**0.0563**		mg/L	0.0500	1	06/24/09 13:56	SW846 6010B	9063484
Lead	ND		mg/L	0.00500	1	06/24/09 13:56	SW846 6010B	9063484
Magnesium	ND		mg/L	1.00	1	06/24/09 13:56	SW846 6010B	9063484
Manganese	ND		mg/L	0.0150	1	06/24/09 13:56	SW846 6010B	9063484
Molybdenum	ND		mg/L	0.0500	1	06/24/09 13:56	SW846 6010B	9063484
Nickel	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Potassium	ND		mg/L	1.00	1	06/24/09 13:56	SW846 6010B	9063484
Selenium	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Silver	ND		mg/L	0.00500	1	06/24/09 13:56	SW846 6010B	9063484
Sodium	ND		mg/L	1.00	1	06/24/09 13:56	SW846 6010B	9063484
Thallium	ND		mg/L	0.0100	1	06/24/09 13:56	SW846 6010B	9063484
Vanadium	ND		mg/L	0.0200	1	06/24/09 13:56	SW846 6010B	9063484
Zinc	ND		mg/L	0.0500	1	06/24/09 13:56	SW846 6010B	9063484
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/26/09 15:57	SW846 7470A	9063496

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	9063496	NSF1870-01	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
SW846 7470A	9063496	NSF1870-02	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
SW846 7470A	9063496	NSF1870-03	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
SW846 7470A	9063496	NSF1870-04	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
SW846 7470A	9063496	NSF1870-05	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
SW846 7470A	9063496	NSF1870-06	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
SW846 7470A	9063496	NSF1870-07	30.00	30.00	06/24/09 08:18	KKK	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-01	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-02	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-03	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-04	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-05	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-06	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010
SW846 6010B	9063484	NSF1870-07	50.00	50.00	06/23/09 12:45	BTS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9063329-BLK1						
Bromide	<0.500		mg/L	9063329	9063329-BLK1	06/19/09 16:27
Chloride	<0.500		mg/L	9063329	9063329-BLK1	06/19/09 16:27
Fluoride	<0.0500		mg/L	9063329	9063329-BLK1	06/19/09 16:27
Nitrate as N	<0.0500		mg/L	9063329	9063329-BLK1	06/19/09 16:27
Sulfate	<0.500		mg/L	9063329	9063329-BLK1	06/19/09 16:27
9063364-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	9063364	9063364-BLK1	06/19/09 23:16
9063367-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9063367	9063367-BLK1	06/19/09 23:16
9063999-BLK1						
Sulfide	<0.170		mg/L	9063999	9063999-BLK1	06/24/09 17:02
9064051-BLK1						
Total Dissolved Solids	<5.00		mg/L	9064051	9064051-BLK1	06/25/09 17:29
9064053-BLK1						
Sulfide	<0.170		mg/L	9064053	9064053-BLK1	06/24/09 18:20
9064301-BLK1						
Phosphorus	<0.0500		mg/L	9064301	9064301-BLK1	06/29/09 16:49
9064639-BLK1						
Total Dissolved Solids	<5.00		mg/L	9064639	9064639-BLK1	06/29/09 19:15
9070623-BLK1						
Total Organic Carbon	<0.500		mg/L	9070623	9070623-BLK1	07/06/09 15:06
9070877-BLK1						
Total Dissolved Solids	<5.00		mg/L	9070877	9070877-BLK1	07/07/09 23:10
Total Metals by EPA Method 6010B						
9063484-BLK1						
Aluminum	<0.0540		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Antimony	0.00220		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Arsenic	<0.00360		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Barium	<0.00100		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Beryllium	<0.00100		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Boron	<0.00500		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Cadmium	<0.000600		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Calcium	<0.100		mg/L	9063484	9063484-BLK1	06/24/09 12:36

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
9063484-BLK1						
Chromium	<0.00260		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Cobalt	<0.00500		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Copper	<0.00210		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Iron	<0.0490		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Lead	<0.00210		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Magnesium	<0.0660		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Manganese	<0.00100		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Molybdenum	<0.00500		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Nickel	<0.00230		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Potassium	<0.100		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Selenium	<0.00390		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Silver	<0.00280		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Sodium	<0.820		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Thallium	<0.00630		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Vanadium	<0.00500		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Zinc	<0.00500		mg/L	9063484	9063484-BLK1	06/24/09 12:36
Mercury by EPA Methods 7470A/7471A						
9063496-BLK1						
Mercury	0.000111		mg/L	9063496	9063496-BLK1	06/26/09 15:29

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9063329-DUP1										
Bromide	ND	ND		mg/L		20	9063329	NSF1870-07		06/19/09 19:50
Chloride	ND	ND		mg/L		20	9063329	NSF1870-07		06/19/09 19:50
Fluoride	ND	ND		mg/L		19	9063329	NSF1870-07		06/19/09 19:50
Nitrate as N	ND	ND		mg/L		20	9063329	NSF1870-07		06/19/09 19:50
Sulfate	ND	ND		mg/L		20	9063329	NSF1870-07		06/19/09 19:50
9063364-DUP1										
Bicarbonate Alkalinity as CaCO3	399	399		mg/L	0.1	20	9063364	NSF1867-01		06/19/09 23:16
9063367-DUP1										
Alkalinity, Total (CaCO3)	52.0	49.8		mg/L	4	20	9063367	NSF1484-01		06/19/09 23:16
9063999-DUP1										
Sulfide	ND	ND		mg/L		10	9063999	NSF1706-10		06/24/09 17:02
9064051-DUP1										
Total Dissolved Solids	163	165		mg/L	1	20	9064051	NSF1995-07		06/25/09 17:29
9064051-DUP2										
Total Dissolved Solids	ND	ND		mg/L		20	9064051	NSF1870-07		06/25/09 17:29
9064053-DUP1										
Sulfide	ND	ND		mg/L		10	9064053	NSF1870-07		06/24/09 18:20
9064301-DUP1										
Phosphorus	0.477	0.604		mg/L	23	37	9064301	NSF2111-01		06/29/09 16:49
9064639-DUP1										
Total Dissolved Solids	120	120		mg/L	0	20	9064639	NSF2245-01		06/29/09 19:15
9064639-DUP2										
Total Dissolved Solids	186	218		mg/L	16	20	9064639	NSF2436-01		06/29/09 19:15
9070623-DUP1										
Total Organic Carbon	93.0	94.6		mg/L	2	20	9070623	NSF1876-03		07/06/09 15:06
9070877-DUP1										
Total Dissolved Solids	162	169		mg/L	4	20	9070877	NSG0161-01		07/07/09 23:10
9070877-DUP2										
Total Dissolved Solids	106	105		mg/L	0.9	20	9070877	NSG0163-05		07/07/09 23:10

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9063329-BS1								
Bromide	10.0	9.98		mg/L	100%	90 - 110	9063329	06/19/09 16:46
Chloride	3.00	3.05	MNR	mg/L	102%	90 - 110	9063329	06/19/09 16:46
Fluoride	2.00	2.14		mg/L	107%	90 - 110	9063329	06/19/09 16:46
Nitrate as N	3.00	3.08		mg/L	103%	90 - 110	9063329	06/19/09 16:46
Sulfate	15.0	15.8	MNR	mg/L	105%	90 - 110	9063329	06/19/09 19:50
9063367-BS1								
Alkalinity, Total (CaCO3)	100	98.6		ug/mL	99%	90 - 110	9063367	06/19/09 23:16
9063999-BS1								
Sulfide	20.0	20.5		mg/L	102%	90 - 110	9063999	06/24/09 17:02
9064051-BS1								
Total Dissolved Solids	100	98.0		ug/mL	98%	90 - 110	9064051	06/25/09 17:29
9064053-BS1								
Sulfide	20.0	20.5		mg/L	102%	90 - 110	9064053	06/24/09 18:20
9064301-BS1								
Phosphorus	2.00	1.93		mg/L	96%	90 - 110	9064301	06/29/09 16:49
9064639-BS1								
Total Dissolved Solids	100	91.0		ug/mL	91%	90 - 110	9064639	06/29/09 19:15
9070623-BS1								
Total Organic Carbon	200	189		ug/mL	95%	90 - 110	9070623	07/06/09 15:06
9070877-BS1								
Total Dissolved Solids	100	95.0		ug/mL	95%	90 - 110	9070877	07/07/09 23:10
Total Metals by EPA Method 6010B								
9063484-BS1								
Aluminum	2.00	2.20		mg/L	110%	80 - 120	9063484	06/24/09 12:53
Antimony	0.100	0.0972		mg/L	97%	80 - 120	9063484	06/24/09 12:53
Arsenic	0.0500	0.0516		mg/L	103%	80 - 120	9063484	06/24/09 12:53
Barium	2.00	2.07		mg/L	103%	80 - 120	9063484	06/24/09 12:53
Beryllium	0.0500	0.0517		mg/L	103%	80 - 120	9063484	06/24/09 12:53
Boron	1.00	1.03		mg/L	103%	80 - 120	9063484	06/24/09 12:53
Cadmium	0.0500	0.0478		mg/L	96%	80 - 120	9063484	06/24/09 12:53
Calcium	5.00	5.17		mg/L	103%	80 - 120	9063484	06/24/09 12:53
Chromium	0.200	0.204		mg/L	102%	80 - 120	9063484	06/24/09 12:53
Cobalt	0.500	0.489		mg/L	98%	80 - 120	9063484	06/24/09 12:53
Copper	0.250	0.259		mg/L	104%	80 - 120	9063484	06/24/09 12:53

TestAmerica
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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
9063484-BS1								
Iron	1.00	1.04		mg/L	104%	80 - 120	9063484	06/24/09 12:53
Lead	0.0500	0.0473		mg/L	95%	80 - 120	9063484	06/24/09 12:53
Magnesium	5.00	5.30		mg/L	106%	80 - 120	9063484	06/24/09 12:53
Manganese	0.500	0.496		mg/L	99%	80 - 120	9063484	06/24/09 12:53
Molybdenum	0.500	0.504		mg/L	101%	80 - 120	9063484	06/24/09 12:53
Nickel	0.500	0.520		mg/L	104%	80 - 120	9063484	06/24/09 12:53
Potassium	5.00	5.31		mg/L	106%	80 - 120	9063484	06/24/09 12:53
Selenium	0.0500	0.0518		mg/L	104%	80 - 120	9063484	06/24/09 12:53
Silver	0.0350	0.0334		mg/L	95%	80 - 120	9063484	06/24/09 12:53
Sodium	5.00	5.22		mg/L	104%	80 - 120	9063484	06/24/09 12:53
Thallium	0.0500	0.0495		mg/L	99%	80 - 120	9063484	06/24/09 12:53
Vanadium	0.500	0.516		mg/L	103%	80 - 120	9063484	06/24/09 12:53
Zinc	0.500	0.496		mg/L	99%	80 - 120	9063484	06/24/09 12:53
Mercury by EPA Methods 7470A/7471A								
9063496-BS1								
Mercury	0.00100	0.00101		mg/L	101%	80 - 120	9063496	06/26/09 15:35

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9070877-BSD1												
Total Dissolved Solids		95.0		ug/mL	100	95%	90 - 110	0	20	9070877		07/07/09 23:10
Total Metals by EPA Method 6010B												
9063484-BSD1												
Aluminum		2.21		mg/L	2.00	110%	80 - 120	0.2	20	9063484		06/24/09 12:56
Antimony		0.0975		mg/L	0.100	97%	80 - 120	0.3	20	9063484		06/24/09 12:56
Arsenic		0.0523		mg/L	0.0500	105%	80 - 120	1	20	9063484		06/24/09 12:56
Barium		2.08		mg/L	2.00	104%	80 - 120	0.6	20	9063484		06/24/09 12:56
Beryllium		0.0521		mg/L	0.0500	104%	80 - 120	0.8	20	9063484		06/24/09 12:56
Boron		1.04		mg/L	1.00	104%	80 - 120	1	20	9063484		06/24/09 12:56
Cadmium		0.0486		mg/L	0.0500	97%	80 - 120	2	20	9063484		06/24/09 12:56
Calcium		5.21		mg/L	5.00	104%	80 - 120	0.8	20	9063484		06/24/09 12:56
Chromium		0.204		mg/L	0.200	102%	80 - 120	0.05	20	9063484		06/24/09 12:56
Cobalt		0.494		mg/L	0.500	99%	80 - 120	1	20	9063484		06/24/09 12:56
Copper		0.261		mg/L	0.250	105%	80 - 120	1	20	9063484		06/24/09 12:56
Iron		1.04		mg/L	1.00	104%	80 - 120	0.9	20	9063484		06/24/09 12:56
Lead		0.0480		mg/L	0.0500	96%	80 - 120	1	20	9063484		06/24/09 12:56
Magnesium		5.36		mg/L	5.00	107%	80 - 120	1	20	9063484		06/24/09 12:56
Manganese		0.500		mg/L	0.500	100%	80 - 120	0.9	20	9063484		06/24/09 12:56
Molybdenum		0.508		mg/L	0.500	102%	80 - 120	0.9	20	9063484		06/24/09 12:56
Nickel		0.527		mg/L	0.500	105%	80 - 120	1	20	9063484		06/24/09 12:56
Potassium		5.35		mg/L	5.00	107%	80 - 120	0.8	20	9063484		06/24/09 12:56
Selenium		0.0518		mg/L	0.0500	104%	80 - 120	0	20	9063484		06/24/09 12:56
Silver		0.0333		mg/L	0.0350	95%	80 - 120	0.3	20	9063484		06/24/09 12:56
Sodium		5.27		mg/L	5.00	105%	80 - 120	0.9	20	9063484		06/24/09 12:56
Thallium		0.0499		mg/L	0.0500	100%	80 - 120	0.8	20	9063484		06/24/09 12:56
Vanadium		0.523		mg/L	0.500	105%	80 - 120	1	20	9063484		06/24/09 12:56
Zinc		0.500		mg/L	0.500	100%	80 - 120	0.8	20	9063484		06/24/09 12:56

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9063329-MS1										
Bromide	ND	9.64		mg/L	10.0	96%	90 - 110	9063329	NSF1870-01	06/19/09 17:41
Fluoride	0.173	2.39		mg/L	2.00	111%	80 - 120	9063329	NSF1870-01	06/19/09 17:41
Nitrate as N	ND	2.94		mg/L	3.00	98%	80 - 120	9063329	NSF1870-01	06/19/09 17:41
9063367-MS1										
Alkalinity, Total (CaCO3)	78.4	122	M8	ug/mL	100	43%	80 - 120	9063367	NSF1864-04	06/19/09 23:16
9063999-MS1										
Sulfide	ND	20.6		mg/L	20.0	103%	70 - 130	9063999	NSF1724-01	06/24/09 17:02
9064053-MS1										
Sulfide	ND	20.5		mg/L	20.0	102%	70 - 130	9064053	NSF1870-05	06/24/09 18:20
9064301-MS1										
Phosphorus	0.477	2.46		mg/L	2.00	99%	66 - 121	9064301	NSF2111-01	06/29/09 16:49
9070623-MS1										
Total Organic Carbon	1.53	24.3		ug/mL	20.0	114%	66 - 135	9070623	NSF1870-01	07/06/09 15:06
Total Metals by EPA Method 6010B										
9063484-MS1										
Aluminum	ND	2.24		mg/L	2.00	112%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Antimony	ND	0.101		mg/L	0.100	101%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Arsenic	ND	0.0558		mg/L	0.0500	112%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Barium	0.795	2.86		mg/L	2.00	103%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Beryllium	ND	0.0525		mg/L	0.0500	105%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Boron	0.0620	1.13		mg/L	1.00	107%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Cadmium	ND	0.0513		mg/L	0.0500	103%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Calcium	188	191	MHA	mg/L	5.00	62%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Chromium	ND	0.208		mg/L	0.200	104%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Cobalt	ND	0.511		mg/L	0.500	102%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Copper	ND	0.264		mg/L	0.250	106%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Iron	14.8	15.7		mg/L	1.00	87%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Lead	0.00250	0.0518		mg/L	0.0500	99%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Magnesium	47.8	52.5		mg/L	5.00	93%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Manganese	0.332	0.820		mg/L	0.500	98%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Molybdenum	ND	0.517		mg/L	0.500	103%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Nickel	0.00650	0.548		mg/L	0.500	108%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Potassium	7.08	12.3		mg/L	5.00	105%	75 - 125	9063484	NSF1867-01	06/24/09 13:02

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9063484-MS1										
Selenium	ND	0.0533		mg/L	0.0500	107%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Silver	ND	0.0348		mg/L	0.0350	99%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Sodium	33.2	38.4		mg/L	5.00	105%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Thallium	ND	0.0502		mg/L	0.0500	100%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Vanadium	0.0101	0.538		mg/L	0.500	106%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Zinc	ND	0.526		mg/L	0.500	105%	75 - 125	9063484	NSF1867-01	06/24/09 13:02
Mercury by EPA Methods 7470A/7471A										
9063496-MS1										
Mercury	ND	0.00107		mg/L	0.00100	107%	75 - 125	9063496	NSF1870-01	06/26/09 15:42

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9063329-MSD1												
Bromide	ND	9.70		mg/L	10.0	97%	90 - 110	0.6	20	9063329	NSF1870-01	06/19/09 17:59
Fluoride	0.173	2.36		mg/L	2.00	109%	80 - 120	1	19	9063329	NSF1870-01	06/19/09 17:59
Nitrate as N	ND	2.94		mg/L	3.00	98%	80 - 120	0.1	20	9063329	NSF1870-01	06/19/09 17:59
9063999-MSD1												
Sulfide	ND	20.5		mg/L	20.0	102%	70 - 130	0.5	10	9063999	NSF1724-01	06/24/09 17:02
9064053-MSD1												
Sulfide	ND	20.5		mg/L	20.0	102%	70 - 130	0	10	9064053	NSF1870-05	06/24/09 18:20
9064301-MSD1												
Phosphorus	0.477	1.32	M8, R2	mg/L	2.00	42%	66 - 121	61	37	9064301	NSF2111-01	06/29/09 16:49
9070623-MSD1												
Total Organic Carbon	1.53	24.2		ug/mL	20.0	114%	66 - 135	0.1	20	9070623	NSF1870-01	07/06/09 15:06
Total Metals by EPA Method 6010B												
9063484-MSD1												
Aluminum	ND	2.30		mg/L	2.00	115%	75 - 125	2	20	9063484	NSF1867-01	06/24/09 13:05
Antimony	ND	0.101		mg/L	0.100	101%	75 - 125	0.1	20	9063484	NSF1867-01	06/24/09 13:05
Arsenic	ND	0.0556		mg/L	0.0500	111%	75 - 125	0.4	20	9063484	NSF1867-01	06/24/09 13:05
Barium	0.795	2.86		mg/L	2.00	104%	75 - 125	0.2	20	9063484	NSF1867-01	06/24/09 13:05
Beryllium	ND	0.0527		mg/L	0.0500	105%	75 - 125	0.4	20	9063484	NSF1867-01	06/24/09 13:05
Boron	0.0620	1.13		mg/L	1.00	107%	75 - 125	0.2	20	9063484	NSF1867-01	06/24/09 13:05
Cadmium	ND	0.0512		mg/L	0.0500	102%	75 - 125	0.2	20	9063484	NSF1867-01	06/24/09 13:05
Calcium	188	195	MHA	mg/L	5.00	140%	75 - 125	2	20	9063484	NSF1867-01	06/24/09 13:05
Chromium	ND	0.209		mg/L	0.200	104%	75 - 125	0.4	20	9063484	NSF1867-01	06/24/09 13:05
Cobalt	ND	0.509		mg/L	0.500	102%	75 - 125	0.2	20	9063484	NSF1867-01	06/24/09 13:05
Copper	ND	0.266		mg/L	0.250	106%	75 - 125	0.6	20	9063484	NSF1867-01	06/24/09 13:05
Iron	14.8	15.9		mg/L	1.00	114%	75 - 125	2	20	9063484	NSF1867-01	06/24/09 13:05
Lead	0.00250	0.0517		mg/L	0.0500	98%	75 - 125	0.2	20	9063484	NSF1867-01	06/24/09 13:05
Magnesium	47.8	53.0		mg/L	5.00	103%	75 - 125	0.9	20	9063484	NSF1867-01	06/24/09 13:05
Manganese	0.332	0.830		mg/L	0.500	100%	75 - 125	1	20	9063484	NSF1867-01	06/24/09 13:05
Molybdenum	ND	0.517		mg/L	0.500	103%	75 - 125	0.08	20	9063484	NSF1867-01	06/24/09 13:05
Nickel	0.00650	0.547		mg/L	0.500	108%	75 - 125	0.1	20	9063484	NSF1867-01	06/24/09 13:05
Potassium	7.08	12.5		mg/L	5.00	108%	75 - 125	1	20	9063484	NSF1867-01	06/24/09 13:05
Selenium	ND	0.0534		mg/L	0.0500	107%	75 - 125	0.2	20	9063484	NSF1867-01	06/24/09 13:05
Silver	ND	0.0348		mg/L	0.0350	99%	75 - 125	0	20	9063484	NSF1867-01	06/24/09 13:05
Sodium	33.2	38.2		mg/L	5.00	100%	75 - 125	0.7	20	9063484	NSF1867-01	06/24/09 13:05
Thallium	ND	0.0504		mg/L	0.0500	101%	75 - 125	0.4	20	9063484	NSF1867-01	06/24/09 13:05
Vanadium	0.0101	0.538		mg/L	0.500	106%	75 - 125	0.06	20	9063484	NSF1867-01	06/24/09 13:05
Zinc	ND	0.524		mg/L	0.500	105%	75 - 125	0.5	20	9063484	NSF1867-01	06/24/09 13:05

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA Method 6010B												
Mercury by EPA Methods 7470A/7471A												
9063496-MSD1												
Mercury	ND	0.00108		mg/L	0.00100	108%	75 - 125	0.9	20	9063496	NSF1870-01	06/26/09 15:44

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 C	Water	N/A	X	
SM4500-S2 F	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1870
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

DATA QUALIFIERS AND DEFINITIONS

H2	Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past holding time.
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
R2	The RPD exceeded the acceptance limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEI

NSF1870

Cooler Received/Opened On_06/19/09 @ 08:00

1. Tracking #_8253_____(last 4 digits, Fe...,

Courier: ___FED-EX IR Gun ID___97310166

2. Temperature of rep. sample or temp blank when opened: 3.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1-FRONT

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) BA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO... Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

50916

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSF1870
07/06/09 23:59

Page _____ of _____

50917

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Bailey
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - SEE LIST	Metals, RCRA Water ICP 6010B	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Dissolved SM2540 C (TDS)	Sulfate by IC 300.0	Sulfide SM4500-S2 D	TOC 9060A				RUSH TAT (Pre Schedule) *	
MW-BGC-12A	6-18-09	1335	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	Y	X	X	X	X				NSF1870-01	
MW-BGC-12B	6-18-09	1340	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				02	
MW-BGC-13	6-18-09	1455	6						1	1	1		1	2	X						X		X	X	X	X	X	X	X	X	X	X	X				03	
MW-BGC-15	6-18-09	1520	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				04	
MW-BGC-14	6-18-09	1630	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				05	
MW-BGC-DUP04	6-18-09	-	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				06	
MW-BGC-RB04	6-18-09	1715	6						1	1	1		1	2	X						X	X	X	X	X	X	X	X	X	X	X	X	X				07	

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 14989*
TASK 6.0 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	6-18-09		FedEx					

Shipped Via:	Shipped Via:	QC Deliverables (Please Circle One) :	Date Due of Report:
		Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	

Received for TestAmerica by:	Date:	Time:	Temperature Upon Receipt: 3.1c	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N
	6-19-09	0800			

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 29, 2009 3:22:01PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF0851
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/09/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SB-BGC-10 (1.8-5)	NSF0851-01	06/08/09 14:00
SB-BGC-11 (1.9-4)	NSF0851-02	06/08/09 14:30
SB-BGC-12 (1.75-2.75)	NSF0851-03	06/08/09 14:45
SB-BGC-Dup 01	NSF0851-04	06/08/09 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0851-01 (SB-BGC-10 (1.8-5) - Soil) Sampled: 06/08/09 14:00								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/27/09 21:24	SW846 9056	9062790
Fluoride	**5.11**		mg/kg	1.00	1	06/27/09 21:24	SW846 9056	9062790
Phosphorus	**105**	M7, M8	mg/kg	10.0	1	06/18/09 14:49	EPA 365.4 M	9062777
Sulfate	**652**		mg/kg	50.0	5	06/28/09 17:31	SW846 9056	9062790
Sulfide	ND		mg/kg	100	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/27/09 21:24	SW846 9056	9062790
Nitrate as N	**1.54**		mg/kg	1.00	1	06/27/09 21:24	SW846 9056	9062790
pH	**6.80**		pH Units	0.100	1	06/11/09 14:05	SW846 9045D	9061548
Temperature of pH determination	**22.7**		Deg C	NA	1	06/11/09 14:05	EPA 170.1	9061548
Total Metals by EPA Method 6010B								
Aluminum	**6790**		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Antimony	ND		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Arsenic	**13.6**		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Barium	**67.8**		mg/kg	1.99	1	06/11/09 10:55	SW846 6010B	9061553
Beryllium	ND		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Boron	ND		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Cadmium	ND		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Calcium	**1930**		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Chromium	**16.2**		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Cobalt	**1.35**		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Copper	**7.53**		mg/kg	1.99	1	06/11/09 10:55	SW846 6010B	9061553
Iron	**3770**		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Lead	**16.0**		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Magnesium	**445**		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Manganese	**26.7**		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Molybdenum	ND		mg/kg	2.98	1	06/11/09 10:55	SW846 6010B	9061553
Nickel	**3.50**		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Potassium	**515**		mg/kg	99.4	1	06/11/09 10:55	SW846 6010B	9061553
Selenium	ND		mg/kg	1.99	1	06/11/09 10:55	SW846 6010B	9061553
Silver	ND		mg/kg	0.994	1	06/11/09 10:55	SW846 6010B	9061553
Sodium	ND		mg/kg	199	1	06/11/09 10:55	SW846 6010B	9061553
Thallium	ND		mg/kg	1.99	1	06/11/09 10:55	SW846 6010B	9061553
Vanadium	**13.8**		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Zinc	**14.3**		mg/kg	9.94	1	06/11/09 10:55	SW846 6010B	9061553
Mercury by EPA Methods 7470A/7471A								
Mercury	**0.221**		mg/kg	0.0998	1	06/16/09 17:22	SW846 7471A	9061543

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0851-02 (SB-BGC-11 (1.9-4) - Soil) Sampled: 06/08/09 14:30								
General Chemistry Parameters								
Chloride	**348**		mg/kg	50.0	5	06/28/09 17:49	SW846 9056	9062790
Fluoride	**9.46**		mg/kg	1.00	1	06/27/09 22:19	SW846 9056	9062790
Phosphorus	**112**		mg/kg	10.0	1	06/18/09 14:49	EPA 365.4 M	9062777
Sulfate	**718**		mg/kg	50.0	5	06/28/09 17:49	SW846 9056	9062790
Sulfide	ND		mg/kg	100	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/27/09 22:19	SW846 9056	9062790
Nitrate as N	**5.81**		mg/kg	1.00	1	06/27/09 22:19	SW846 9056	9062790
pH	**8.50**		pH Units	0.100	1	06/11/09 14:05	SW846 9045D	9061548
Temperature of pH determination	**22.7**		Deg C	NA	1	06/11/09 14:05	EPA 170.1	9061548
Total Metals by EPA Method 6010B								
Aluminum	**10900**	MHA	mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Antimony	ND		mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Arsenic	**74.6**	M1	mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Barium	**441**	M1	mg/kg	2.02	1	06/11/09 11:09	SW846 6010B	9061553
Beryllium	**3.05**		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Boron	**11.5**		mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Cadmium	ND		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Calcium	**9290**	MHA	mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Chromium	**23.0**		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Cobalt	**9.56**		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Copper	**35.9**	M1	mg/kg	2.02	1	06/11/09 11:09	SW846 6010B	9061553
Iron	**13200**	MHA	mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Lead	**17.2**		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Magnesium	**1050**	M1	mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Manganese	**56.6**		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Molybdenum	**6.26**		mg/kg	3.03	1	06/11/09 11:09	SW846 6010B	9061553
Nickel	**17.2**		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Potassium	**1640**	M1	mg/kg	101	1	06/11/09 11:09	SW846 6010B	9061553
Selenium	**8.86**		mg/kg	2.02	1	06/11/09 11:09	SW846 6010B	9061553
Silver	ND		mg/kg	1.01	1	06/11/09 11:09	SW846 6010B	9061553
Sodium	**621**	M1	mg/kg	202	1	06/11/09 11:09	SW846 6010B	9061553
Thallium	ND	M2	mg/kg	2.02	1	06/11/09 11:09	SW846 6010B	9061553
Vanadium	**48.2**		mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Zinc	**24.1**		mg/kg	10.1	1	06/11/09 11:09	SW846 6010B	9061553
Mercury by EPA Methods 7470A/7471A								
Mercury	**0.218**		mg/kg	0.0960	1	06/16/09 17:24	SW846 7471A	9061543

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0851-03 (SB-BGC-12 (1.75-2.75) - Soil) Sampled: 06/08/09 14:45								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/27/09 22:38	SW846 9056	9062790
Fluoride	**5.01**		mg/kg	1.00	1	06/27/09 22:38	SW846 9056	9062790
Phosphorus	**93.0**		mg/kg	10.0	1	06/18/09 14:49	EPA 365.4 M	9062777
Sulfate	**775**		mg/kg	50.0	5	06/28/09 18:07	SW846 9056	9062790
Sulfide	**425**		mg/kg	100	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/27/09 22:38	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/27/09 22:38	SW846 9056	9062790
pH	**8.60**		pH Units	0.100	1	06/11/09 14:05	SW846 9045D	9061548
Temperature of pH determination	**22.7**		Deg C	NA	1	06/11/09 14:05	EPA 170.1	9061548
Total Metals by EPA Method 6010B								
Aluminum	**12300**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Antimony	ND		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Arsenic	**51.9**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Barium	**378**		mg/kg	1.93	1	06/11/09 11:22	SW846 6010B	9061553
Beryllium	**2.62**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Boron	**11.2**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Cadmium	ND		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Calcium	**6370**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Chromium	**21.7**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Cobalt	**8.29**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Copper	**29.2**		mg/kg	1.93	1	06/11/09 11:22	SW846 6010B	9061553
Iron	**12300**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Lead	**13.4**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Magnesium	**1050**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Manganese	**50.1**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Molybdenum	ND		mg/kg	2.89	1	06/11/09 11:22	SW846 6010B	9061553
Nickel	**15.8**		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Potassium	**1370**		mg/kg	96.3	1	06/11/09 11:22	SW846 6010B	9061553
Selenium	**8.28**		mg/kg	1.93	1	06/11/09 11:22	SW846 6010B	9061553
Silver	ND		mg/kg	0.963	1	06/11/09 11:22	SW846 6010B	9061553
Sodium	**361**		mg/kg	193	1	06/11/09 11:22	SW846 6010B	9061553
Thallium	ND		mg/kg	1.93	1	06/11/09 11:22	SW846 6010B	9061553
Vanadium	**39.7**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Zinc	**20.3**		mg/kg	9.63	1	06/11/09 11:22	SW846 6010B	9061553
Mercury by EPA Methods 7470A/7471A								
Mercury	**0.188**		mg/kg	0.0998	1	06/16/09 17:26	SW846 7471A	9061543

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0851-04 (SB-BGC-Dup 01 - Soil) Sampled: 06/08/09 00:01								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/27/09 22:56	SW846 9056	9062790
Fluoride	**5.15**		mg/kg	1.00	1	06/27/09 22:56	SW846 9056	9062790
Phosphorus	**388**		mg/kg	10.0	1	06/18/09 14:49	EPA 365.4 M	9062777
Sulfate	**975**		mg/kg	50.0	5	06/28/09 18:26	SW846 9056	9062790
Sulfide	ND		mg/kg	100	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/27/09 22:56	SW846 9056	9062790
Nitrate as N	**2.46**		mg/kg	1.00	1	06/27/09 22:56	SW846 9056	9062790
pH	**7.90**		pH Units	0.100	1	06/11/09 14:05	SW846 9045D	9061548
Temperature of pH determination	**22.7**		Deg C	NA	1	06/11/09 14:05	EPA 170.1	9061548
Total Metals by EPA Method 6010B								
Aluminum	**12300**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Antimony	ND		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Arsenic	**30.7**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Barium	**248**		mg/kg	1.92	1	06/11/09 11:27	SW846 6010B	9061553
Beryllium	**2.19**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Boron	**12.7**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Cadmium	ND		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Calcium	**4500**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Chromium	**25.3**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Cobalt	**8.06**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Copper	**23.5**		mg/kg	1.92	1	06/11/09 11:27	SW846 6010B	9061553
Iron	**9530**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Lead	**16.4**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Magnesium	**969**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Manganese	**50.2**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Molybdenum	ND		mg/kg	2.88	1	06/11/09 11:27	SW846 6010B	9061553
Nickel	**15.1**		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Potassium	**1520**		mg/kg	96.0	1	06/11/09 11:27	SW846 6010B	9061553
Selenium	**6.37**		mg/kg	1.92	1	06/11/09 11:27	SW846 6010B	9061553
Silver	ND		mg/kg	0.960	1	06/11/09 11:27	SW846 6010B	9061553
Sodium	**287**		mg/kg	192	1	06/11/09 11:27	SW846 6010B	9061553
Thallium	ND		mg/kg	1.92	1	06/11/09 11:27	SW846 6010B	9061553
Vanadium	**36.8**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Zinc	**22.9**		mg/kg	9.60	1	06/11/09 11:27	SW846 6010B	9061553
Mercury by EPA Methods 7470A/7471A								
Mercury	**0.164**		mg/kg	0.0974	1	06/16/09 17:28	SW846 7471A	9061543

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7471A	9061543	NSF0851-01	0.60	100.00	06/16/09 07:58	KKK	EPA 7471
SW846 7471A	9061543	NSF0851-02	0.63	100.00	06/16/09 07:58	KKK	EPA 7471
SW846 7471A	9061543	NSF0851-03	0.60	100.00	06/16/09 07:58	KKK	EPA 7471
SW846 7471A	9061543	NSF0851-04	0.62	100.00	06/16/09 07:58	KKK	EPA 7471
Total Metals by EPA Method 6010B							
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-01	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-02	0.50	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-03	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010
SW846 6010B	9061553	NSF0851-04	0.52	100.00	06/10/09 13:00	JLS	EPA 3051A/6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSF0851
		Project Name:	BGC - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9061548-BLK1						
pH	<0.100		pH Units	9061548	9061548-BLK1	06/11/09 14:05
Temperature of pH determination	<0.00		Deg C	9061548	9061548-BLK1	06/11/09 14:05
9062212-BLK1						
Sulfide	<5.00		mg/kg	9062212	9062212-BLK1	06/13/09 10:10
9062777-BLK1						
Phosphorus	<4.10		mg/kg	9062777	9062777-BLK1	06/18/09 14:49
9062790-BLK1						
Chloride	<5.00		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Fluoride	<0.500		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Sulfate	<5.00		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Bromide	<5.00		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Nitrate as N	<0.500		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Total Metals by EPA Method 6010B						
9061553-BLK1						
Aluminum	<5.89		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Antimony	<0.483		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Arsenic	<0.676		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Barium	<0.0965		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Beryllium	<0.0965		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Boron	8.90		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Cadmium	<0.193		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Calcium	8.69		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Chromium	<0.483		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Cobalt	<0.869		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Copper	<0.483		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Iron	<9.56		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Lead	<0.386		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Magnesium	<3.67		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Manganese	<0.483		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Molybdenum	<0.290		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Nickel	<0.676		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Potassium	<49.2		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Selenium	<0.676		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Silver	<0.483		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Sodium	<157		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Thallium	<1.54		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Vanadium	<1.06		mg/kg	9061553	9061553-BLK1	06/11/09 09:31
Zinc	<0.772		mg/kg	9061553	9061553-BLK1	06/11/09 09:31

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
Mercury by EPA Methods 7470A/7471A						
9061543-BLK1						
Mercury	<0.0400		mg/kg	9061543	9061543-BLK1	06/16/09 16:47

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9061548-DUP1										
pH	4.60	4.60		pH Units	0	200	9061548	NSF0715-01		06/11/09 14:05
Temperature of pH determination	22.7	22.7		Deg C	0	200	9061548	NSF0715-01		06/11/09 14:05
9062212-DUP1										
Sulfide	9.00	9.00		mg/kg	0	12	9062212	NSF1046-01		06/13/09 10:10
9062777-DUP1										
Phosphorus	388	312		mg/kg	22	43	9062777	NSF0851-04		06/18/09 14:49
9062790-DUP1										
Chloride	ND	6.01		mg/kg		20	9062790	NSF0856-07		06/28/09 02:00
Fluoride	0.770	0.830		mg/kg	8	20	9062790	NSF0856-07		06/28/09 02:00
Sulfate	17.3	14.1		mg/kg	20	20	9062790	NSF0856-07		06/28/09 02:00
Bromide	ND	ND		mg/kg		20	9062790	NSF0856-07		06/28/09 02:00
Nitrate as N	0.550	0.640		mg/kg	15	20	9062790	NSF0856-07		06/28/09 02:00

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9061548-BS1								
pH	7.00	7.02		pH Units	100%	0 - 200	9061548	06/11/09 14:05
9062212-BS1								
Sulfide	200	194		mg/kg	97%	80 - 120	9062212	06/13/09 10:10
9062777-BS1								
Phosphorus	200	182		mg/kg	91%	85 - 115	9062777	06/18/09 14:49
9062790-BS1								
Chloride	30.0	31.4		mg/kg	105%	90 - 110	9062790	06/27/09 20:47
Fluoride	20.0	21.2		mg/kg	106%	90 - 110	9062790	06/27/09 20:47
Sulfate	150	154		mg/kg	103%	90 - 110	9062790	06/27/09 20:47
Bromide	100	98.3		mg/kg	98%	90 - 110	9062790	06/27/09 20:47
Nitrate as N	30.0	30.2		mg/kg	101%	90 - 110	9062790	06/27/09 20:47
Total Metals by EPA Method 6010B								
9061553-BS1								
Aluminum	400	407		mg/kg	102%	80 - 120	9061553	06/11/09 09:52
Antimony	100	100		mg/kg	100%	80 - 120	9061553	06/11/09 09:52
Arsenic	20.0	18.9		mg/kg	94%	80 - 120	9061553	06/11/09 09:52
Barium	400	410		mg/kg	103%	80 - 120	9061553	06/11/09 09:52
Beryllium	10.0	9.16		mg/kg	92%	80 - 120	9061553	06/11/09 09:52
Boron	200	201		mg/kg	100%	80 - 120	9061553	06/11/09 09:52
Cadmium	20.0	19.5		mg/kg	97%	80 - 120	9061553	06/11/09 09:52
Calcium	1000	1000		mg/kg	100%	80 - 120	9061553	06/11/09 09:52
Chromium	40.0	40.5		mg/kg	101%	80 - 120	9061553	06/11/09 09:52
Cobalt	100	97.3		mg/kg	97%	80 - 120	9061553	06/11/09 09:52
Copper	50.0	50.0		mg/kg	100%	80 - 120	9061553	06/11/09 09:52
Iron	200	223		mg/kg	111%	80 - 120	9061553	06/11/09 09:52
Lead	100	98.9		mg/kg	99%	80 - 120	9061553	06/11/09 09:52
Magnesium	1000	984		mg/kg	98%	80 - 120	9061553	06/11/09 09:52
Manganese	100	100		mg/kg	100%	80 - 120	9061553	06/11/09 09:52
Molybdenum	100	101		mg/kg	101%	80 - 120	9061553	06/11/09 09:52
Nickel	100	99.2		mg/kg	99%	80 - 120	9061553	06/11/09 09:52
Potassium	1000	834		mg/kg	83%	80 - 120	9061553	06/11/09 09:52
Selenium	20.0	19.5		mg/kg	97%	80 - 120	9061553	06/11/09 09:52
Silver	10.0	11.1		mg/kg	111%	75 - 125	9061553	06/11/09 09:52
Sodium	1000	976		mg/kg	98%	80 - 120	9061553	06/11/09 09:52
Thallium	100	94.2		mg/kg	94%	80 - 120	9061553	06/11/09 09:52
Vanadium	100	100		mg/kg	100%	80 - 120	9061553	06/11/09 09:52
Zinc	100	99.9		mg/kg	100%	80 - 120	9061553	06/11/09 09:52

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A								
9061543-BS1								
Mercury	0.167	0.178		mg/kg	107%	80 - 120	9061543	06/16/09 16:49

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9061548-BSD1												
pH		7.05		pH Units	7.00	101%	0 - 200	0.4	200	9061548		06/11/09 14:05
9062212-BSD1												
Sulfide		196		mg/kg	200	98%	80 - 120	1	12	9062212		06/13/09 10:10
9062790-BSD1												
Chloride		32.9		mg/kg	30.0	110%	90 - 110	5	20	9062790		06/27/09 21:06
Fluoride		22.0		mg/kg	20.0	110%	90 - 110	4	20	9062790		06/27/09 21:06
Sulfate		159		mg/kg	150	106%	90 - 110	3	20	9062790		06/28/09 17:12
Bromide		101		mg/kg	100	101%	90 - 110	3	20	9062790		06/27/09 21:06
Nitrate as N		31.0		mg/kg	30.0	103%	90 - 110	3	20	9062790		06/27/09 21:06
Total Metals by EPA Method 6010B												
9061553-BSD1												
Aluminum		408		mg/kg	400	102%	80 - 120	0.2	20	9061553		06/11/09 09:58
Antimony		100		mg/kg	100	100%	80 - 120	0.08	20	9061553		06/11/09 09:58
Arsenic		18.8		mg/kg	20.0	94%	80 - 120	0.7	20	9061553		06/11/09 09:58
Barium		411		mg/kg	400	103%	80 - 120	0.1	20	9061553		06/11/09 09:58
Beryllium		9.16		mg/kg	10.0	92%	80 - 120	0	20	9061553		06/11/09 09:58
Boron		201		mg/kg	200	100%	80 - 120	0.1	20	9061553		06/11/09 09:58
Cadmium		19.5		mg/kg	20.0	97%	80 - 120	0.1	20	9061553		06/11/09 09:58
Calcium		1010		mg/kg	1000	101%	80 - 120	1	20	9061553		06/11/09 09:58
Chromium		40.5		mg/kg	40.0	101%	80 - 120	0	20	9061553		06/11/09 09:58
Cobalt		97.3		mg/kg	100	97%	80 - 120	0.04	20	9061553		06/11/09 09:58
Copper		50.1		mg/kg	50.0	100%	80 - 120	0.2	20	9061553		06/11/09 09:58
Iron		224		mg/kg	200	112%	80 - 120	0.4	20	9061553		06/11/09 09:58
Lead		98.8		mg/kg	100	99%	80 - 120	0.1	20	9061553		06/11/09 09:58
Magnesium		985		mg/kg	1000	98%	80 - 120	0.08	20	9061553		06/11/09 09:58
Manganese		100		mg/kg	100	100%	80 - 120	0.06	20	9061553		06/11/09 09:58
Molybdenum		101		mg/kg	100	101%	80 - 120	0.06	20	9061553		06/11/09 09:58
Nickel		99.5		mg/kg	100	100%	80 - 120	0.3	20	9061553		06/11/09 09:58
Potassium		837		mg/kg	1000	84%	80 - 120	0.4	20	9061553		06/11/09 09:58
Selenium		19.2		mg/kg	20.0	96%	80 - 120	2	20	9061553		06/11/09 09:58
Silver		11.2		mg/kg	10.0	112%	75 - 125	0.4	20	9061553		06/11/09 09:58
Sodium		977		mg/kg	1000	98%	80 - 120	0.04	20	9061553		06/11/09 09:58
Thallium		94.1		mg/kg	100	94%	80 - 120	0.2	20	9061553		06/11/09 09:58
Vanadium		100		mg/kg	100	100%	80 - 120	0.08	20	9061553		06/11/09 09:58
Zinc		101		mg/kg	100	101%	80 - 120	0.7	20	9061553		06/11/09 09:58

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSF0851
		Project Name:	BGC - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9062212-MS1										
Sulfide	82.0	232		mg/kg	200	75%	70 - 130	9062212	NSF0639-01	06/13/09 10:10
9062777-MS1										
Phosphorus	105	123	M8	mg/kg	200	9%	66 - 143	9062777	NSF0851-01	06/18/09 14:49
9062790-MS1										
Chloride	8.57	37.2		mg/kg	30.0	95%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Fluoride	5.11	24.3		mg/kg	20.0	96%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Sulfate	652	ND	MHA	mg/kg	150	-435%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Bromide	ND	96.9		mg/kg	100	97%	90 - 110	9062790	NSF0851-01	06/27/09 21:43
Nitrate as N	1.54	31.1		mg/kg	30.0	99%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Total Metals by EPA Method 6010B										
9061553-MS1										
Aluminum	10900	16000	MHA	mg/kg	393	1320%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Antimony	2.91	91.1		mg/kg	98.2	90%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Arsenic	74.6	106	M1	mg/kg	19.6	162%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Barium	441	950	M1	mg/kg	393	130%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Beryllium	3.05	12.9		mg/kg	9.82	100%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Boron	11.5	200		mg/kg	196	96%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Cadmium	ND	17.9		mg/kg	19.6	91%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Calcium	9290	12800	MHA	mg/kg	982	357%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Chromium	23.0	66.4		mg/kg	39.3	111%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Cobalt	9.56	104		mg/kg	98.2	96%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Copper	35.9	98.9	M1	mg/kg	49.1	128%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Iron	13200	18500	MHA	mg/kg	196	2680%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Lead	17.2	109		mg/kg	98.2	93%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Magnesium	1050	2420	M1	mg/kg	982	139%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Manganese	56.6	166		mg/kg	98.2	112%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Molybdenum	6.26	91.8		mg/kg	98.2	87%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Nickel	17.2	116		mg/kg	98.2	101%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Potassium	1640	3800	M1	mg/kg	982	220%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Selenium	8.86	29.1		mg/kg	19.6	103%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Silver	ND	9.94		mg/kg	9.82	101%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Sodium	621	1970	M1	mg/kg	982	138%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Thallium	ND	74.6		mg/kg	98.2	76%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Vanadium	48.2	156		mg/kg	98.2	110%	75 - 125	9061553	NSF0851-02	06/11/09 11:13
Zinc	24.1	123		mg/kg	98.2	100%	75 - 125	9061553	NSF0851-02	06/11/09 11:13

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
Mercury by EPA Methods 7470A/7471A										
9061543-MS1										
Mercury	ND	0.181		mg/kg	0.161	113%	75 - 125	9061543	NSF1451-01	06/16/09 17:33

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9062212-MSD1												
Sulfide	82.0	236		mg/kg	200	77%	70 - 130	2	12	9062212	NSF0639-01	06/13/09 10:10
9062777-MSD1												
Phosphorus	105	688	M7	mg/kg	400	146%	66 - 143	139	43	9062777	NSF0851-01	06/18/09 14:49
9062790-MSD1												
Chloride	8.57	38.0		mg/kg	30.0	98%	80 - 120	2	20	9062790	NSF0851-01	06/27/09 22:01
Fluoride	5.11	24.8		mg/kg	20.0	98%	80 - 120	2	20	9062790	NSF0851-01	06/27/09 22:01
Sulfate	652	ND	MHA	mg/kg	150	-435%	80 - 120		20	9062790	NSF0851-01	06/27/09 22:01
Bromide	ND	97.4		mg/kg	100	97%	90 - 110	0.5	20	9062790	NSF0851-01	06/27/09 22:01
Nitrate as N	1.54	31.3		mg/kg	30.0	99%	80 - 120	0.6	20	9062790	NSF0851-01	06/27/09 22:01
Total Metals by EPA Method 6010B												
9061553-MSD1												
Aluminum	10900	17400	MHA	mg/kg	398	1640%	75 - 125	8	20	9061553	NSF0851-02	06/11/09 11:18
Antimony	2.91	91.2		mg/kg	99.4	89%	75 - 125	0.2	20	9061553	NSF0851-02	06/11/09 11:18
Arsenic	74.6	112	M1	mg/kg	19.9	188%	75 - 125	5	20	9061553	NSF0851-02	06/11/09 11:18
Barium	441	976	M1	mg/kg	398	134%	75 - 125	3	20	9061553	NSF0851-02	06/11/09 11:18
Beryllium	3.05	13.3		mg/kg	9.94	103%	75 - 125	3	20	9061553	NSF0851-02	06/11/09 11:18
Boron	11.5	199		mg/kg	199	94%	75 - 125	0.5	20	9061553	NSF0851-02	06/11/09 11:18
Cadmium	ND	17.8		mg/kg	19.9	90%	75 - 125	0.4	20	9061553	NSF0851-02	06/11/09 11:18
Calcium	9290	12600	MHA	mg/kg	994	330%	75 - 125	2	20	9061553	NSF0851-02	06/11/09 11:18
Chromium	23.0	67.4		mg/kg	39.8	112%	75 - 125	2	20	9061553	NSF0851-02	06/11/09 11:18
Cobalt	9.56	104		mg/kg	99.4	95%	75 - 125	0.9	20	9061553	NSF0851-02	06/11/09 11:18
Copper	35.9	103	M1	mg/kg	49.7	135%	75 - 125	4	20	9061553	NSF0851-02	06/11/09 11:18
Iron	13200	20400	MHA	mg/kg	199	3610%	75 - 125	10	20	9061553	NSF0851-02	06/11/09 11:18
Lead	17.2	110		mg/kg	99.4	93%	75 - 125	0.6	20	9061553	NSF0851-02	06/11/09 11:18
Magnesium	1050	2490	M1	mg/kg	994	144%	75 - 125	3	20	9061553	NSF0851-02	06/11/09 11:18
Manganese	56.6	168		mg/kg	99.4	112%	75 - 125	1	20	9061553	NSF0851-02	06/11/09 11:18
Molybdenum	6.26	90.2		mg/kg	99.4	84%	75 - 125	2	20	9061553	NSF0851-02	06/11/09 11:18
Nickel	17.2	119		mg/kg	99.4	102%	75 - 125	2	20	9061553	NSF0851-02	06/11/09 11:18
Potassium	1640	4170	M1	mg/kg	994	255%	75 - 125	9	20	9061553	NSF0851-02	06/11/09 11:18
Selenium	8.86	29.4		mg/kg	19.9	103%	75 - 125	0.9	20	9061553	NSF0851-02	06/11/09 11:18
Silver	ND	9.86		mg/kg	9.94	99%	75 - 125	0.8	20	9061553	NSF0851-02	06/11/09 11:18
Sodium	621	2010	M1	mg/kg	994	140%	75 - 125	2	20	9061553	NSF0851-02	06/11/09 11:18
Thallium	ND	73.7	M2	mg/kg	99.4	74%	75 - 125	1	20	9061553	NSF0851-02	06/11/09 11:18
Vanadium	48.2	159		mg/kg	99.4	111%	75 - 125	1	20	9061553	NSF0851-02	06/11/09 11:18
Zinc	24.1	123		mg/kg	99.4	100%	75 - 125	0.6	20	9061553	NSF0851-02	06/11/09 11:18
Mercury by EPA Methods 7470A/7471A												
9061543-MSD1												

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A												
9061543-MSD1												
Mercury	ND	0.207		mg/kg	0.166	125%	75 - 125	13	20	9061543	NSF1451-01	06/16/09 17:40

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
EPA 365.4 M	Soil	N/A		
SW846 6010B	Soil	N/A	X	N/A
SW846 7471A	Soil		X	
SW846 9030B/9034	Soil	N/A	X	N/A
SW846 9045D	Soil			
SW846 9056	Soil	N/A	X	N/A

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0851
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

DATA QUALIFIERS AND DEFINITIONS

M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

Phosphorus in soil 365.4 M - M = Modified for soil analysis

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIP

NSF0851

Cooler Received/Opened On 6/9/09 @ 8:00

1. Tracking # 9498 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 5.4 *Degrees Celsius*
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA
4. Were custody seals on outside of cooler? YES..NO...NA
   If yes, how many and where: 1 FRONT
5. Were the seals intact, signed, and dated correctly? YES..NO...NA
6. Were custody papers inside cooler? YES..NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) SZ

7. Were custody seals on containers: YES NO and intact YES...NO...NA
   Were these signed and dated correctly? YES...NO...NA
8. Packing mat'l used? Bubble wrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES..NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES..NO...NA
12. Did all container labels and tags agree with custody papers? YES..NO...NA
13a. Were VOA vials received? YES NO 06.9.09
   b. Was there any observable headspace present in any VOA vial? YES...NO...NA
14. Was there a Trip Blank in this cooler? YES..NO..NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) MW

15a. On preserved bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA
   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA
   If preservation in-house was needed, record standard ID of preservative used here_____
16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) MW

17. Were custody papers properly filled out (ink, signed, etc)? YES..NO...NA
18. Did you sign the custody papers in the appropriate place? YES..NO...NA
19. Were correct containers used for the analysis requested? YES..NO...NA
20. Was sufficient amount of sample sent in each container? YES..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) MW

I certify that I attached a label with the unique LIMS number to each container (intial) MW

21. Were there Non-Conformance issues at login? YES..NO Was a PIPE generated? YES..NO..#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSF0851
06/23/09 23:59

Page 1 of 1

50939

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buchny
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Bromide SW846 9056	Chloride SW846 9056	Fluoride IC SW846 9056	METALS - SEE LIST	Metals, RCRA Solid ICP 6010B	Nitrate SW846 9056	pH 9045D (+T)	Phosphorus Total 365.4	Sulfate 9056	Sulfide SW846 9030B/9034						RUSH TAT (Pre Schedule) *
SB-BGC-10(1.8-5)	6/6/09	1400	2		X									X					X		X	X	X	X	X	X	X	X	X	X		NSF0851-				01
SB-BGC-11(1.9-4)	6/6/09	1430	2		X									X					X		X	X	X	X	X	X	X	X	X	X						02
SB-BGC-12(1.75-2.75)	6/6/09	1445	2		X									X					X		X	X	X	X	X	X	X	X	X	X						03
SB-BGC-Dup 01	6/6/09	—	2		X									X					X		X	X	X	X	X	X	X	X	X	X						04
Temp Blank																																				

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 14986*
TASK 4.1 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	6/8/09	1730	Ted Eso					

Shipped Via:	Shipped Via:	QC Deliverables (Please Circle One) :	Date Due of Report:
Received for TestAmerica by: / Date: 6/9/09 / Time: 0800	Temperature Upon Receipt: 5.4c / Sample Containers Intact? Y N / VOCs Free of Headspace? Y N	Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 18, 2009 4:30:07PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF0446
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/04/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
PS-BGC-SG12-1	NSF0446-01	06/03/09 11:00
PS-BGC-SG12-2	NSF0446-02	06/03/09 11:15
PS-BGC-SG11-1	NSF0446-03	06/03/09 12:00
PS-BGC-SG11-2	NSF0446-04	06/03/09 12:30
PS-BGC-SG10-1	NSF0446-05	06/03/09 13:30
PS-BGC-SG10-2	NSF0446-06	06/03/09 13:45
PS-BGC-SG9-1	NSF0446-07	06/03/09 14:30
PS-BGC-SG9-2	NSF0446-08	06/03/09 15:00
PS-BGC-DUP01	NSF0446-09	06/03/09 16:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:
The samples arrived at the laboratory at 8.8 degrees C and were analyzed at the request of the consultant.
Virginia Certification Number: 00323

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-01 (PS-BGC-SG12-1 - Soil) Sampled: 06/03/09 11:00								
General Chemistry Parameters								
Chloride	**143**		mg/kg	100	10	06/15/09 19:06	SW846 9056	9062233
Fluoride	ND	M8	mg/kg	1.00	1	06/13/09 19:49	SW846 9056	9062233
Phosphorus	**122**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	**1020**		mg/kg	100	10	06/15/09 19:06	SW846 9056	9062233
Sulfide	ND		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 19:49	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 19:49	SW846 9056	9062233
pH	**6.30**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**10300**		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Antimony	ND		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Arsenic	**7.28**		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Barium	**33.2**		mg/kg	1.93	1	06/09/09 15:50	SW846 6010B	9061169
Beryllium	ND		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Boron	ND		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Cadmium	ND		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Calcium	**371**		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Chromium	**13.3**		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Cobalt	**1.39**		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Copper	**2.70**		mg/kg	1.93	1	06/09/09 15:50	SW846 6010B	9061169
Iron	**28500**		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Lead	**7.53**		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Magnesium	**613**		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Manganese	**19.3**		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Molybdenum	ND		mg/kg	2.89	1	06/09/09 15:50	SW846 6010B	9061169
Nickel	**4.22**		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Potassium	**481**		mg/kg	96.3	1	06/09/09 15:50	SW846 6010B	9061169
Selenium	**2.92**		mg/kg	1.93	1	06/09/09 15:50	SW846 6010B	9061169
Silver	ND		mg/kg	0.963	1	06/09/09 15:50	SW846 6010B	9061169
Sodium	**425**		mg/kg	193	1	06/09/09 15:50	SW846 6010B	9061169
Thallium	ND		mg/kg	1.93	1	06/09/09 15:50	SW846 6010B	9061169
Vanadium	**17.8**		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Zinc	**13.2**		mg/kg	9.63	1	06/09/09 15:50	SW846 6010B	9061169
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0995	1	06/10/09 14:20	SW846 7471A	9060869

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-02 (PS-BGC-SG12-2 - Soil) Sampled: 06/03/09 11:15								
General Chemistry Parameters								
Chloride	**154**		mg/kg	50.0	5	06/15/09 19:25	SW846 9056	9062233
Fluoride	**2.60**		mg/kg	1.00	1	06/13/09 21:42	SW846 9056	9062233
Phosphorus	**136**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	**12.2**		mg/kg	10.0	1	06/13/09 21:42	SW846 9056	9062233
Sulfide	ND		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 21:42	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 21:42	SW846 9056	9062233
pH	**6.60**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**11600**		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Antimony	ND		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Arsenic	**6.15**		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Barium	**34.2**		mg/kg	1.91	1	06/09/09 17:22	SW846 6010B	9061169
Beryllium	ND		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Boron	ND		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Cadmium	ND		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Calcium	**424**		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Chromium	**13.6**		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Cobalt	**2.19**		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Copper	**3.05**		mg/kg	1.91	1	06/09/09 17:22	SW846 6010B	9061169
Iron	**16500**		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Lead	**8.22**		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Magnesium	**568**		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Manganese	**18.3**		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Molybdenum	ND		mg/kg	2.86	1	06/09/09 17:22	SW846 6010B	9061169
Nickel	**5.38**		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Potassium	**457**		mg/kg	95.4	1	06/09/09 17:22	SW846 6010B	9061169
Selenium	ND		mg/kg	1.91	1	06/09/09 17:22	SW846 6010B	9061169
Silver	ND		mg/kg	0.954	1	06/09/09 17:22	SW846 6010B	9061169
Sodium	**313**		mg/kg	191	1	06/09/09 17:22	SW846 6010B	9061169
Thallium	ND		mg/kg	1.91	1	06/09/09 17:22	SW846 6010B	9061169
Vanadium	**18.0**		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Zinc	**18.7**		mg/kg	9.54	1	06/09/09 17:22	SW846 6010B	9061169
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0985	1	06/10/09 14:22	SW846 7471A	9060869

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-03 (PS-BGC-SG11-1 - Soil) Sampled: 06/03/09 12:00								
General Chemistry Parameters								
Chloride	**120**		mg/kg	10.0	1	06/13/09 22:00	SW846 9056	9062233
Fluoride	**1.80**		mg/kg	1.00	1	06/13/09 22:00	SW846 9056	9062233
Phosphorus	**201**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	ND		mg/kg	10.0	1	06/13/09 22:00	SW846 9056	9062233
Sulfide	**130**		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 22:00	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 22:00	SW846 9056	9062233
pH	**6.80**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**8800**		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Antimony	ND		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Arsenic	**6.91**		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Barium	**29.1**		mg/kg	1.96	1	06/09/09 17:27	SW846 6010B	9061169
Beryllium	ND		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Boron	ND		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Cadmium	ND		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Calcium	**531**		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Chromium	**11.0**		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Cobalt	**1.96**		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Copper	**4.54**		mg/kg	1.96	1	06/09/09 17:27	SW846 6010B	9061169
Iron	**13300**		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Lead	**11.0**		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Magnesium	**477**		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Manganese	**17.0**		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Molybdenum	ND		mg/kg	2.94	1	06/09/09 17:27	SW846 6010B	9061169
Nickel	**4.36**		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Potassium	**379**		mg/kg	97.8	1	06/09/09 17:27	SW846 6010B	9061169
Selenium	ND		mg/kg	1.96	1	06/09/09 17:27	SW846 6010B	9061169
Silver	ND		mg/kg	0.978	1	06/09/09 17:27	SW846 6010B	9061169
Sodium	**353**		mg/kg	196	1	06/09/09 17:27	SW846 6010B	9061169
Thallium	ND		mg/kg	1.96	1	06/09/09 17:27	SW846 6010B	9061169
Vanadium	**13.8**		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Zinc	**19.2**		mg/kg	9.78	1	06/09/09 17:27	SW846 6010B	9061169
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0960	1	06/10/09 14:25	SW846 7471A	9060869

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-04 (PS-BGC-SG11-2 - Soil) Sampled: 06/03/09 12:30								
General Chemistry Parameters								
Chloride	**325**		mg/kg	50.0	5	06/16/09 11:29	SW846 9056	9062233
Fluoride	**2.70**		mg/kg	1.00	1	06/13/09 22:18	SW846 9056	9062233
Phosphorus	**300**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	ND		mg/kg	10.0	1	06/13/09 22:18	SW846 9056	9062233
Sulfide	**565**		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 22:18	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 22:18	SW846 9056	9062233
pH	**6.60**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**10700**		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Antimony	ND		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Arsenic	**9.63**		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Barium	**44.0**		mg/kg	1.96	1	06/09/09 17:31	SW846 6010B	9061169
Beryllium	ND		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Boron	ND		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Cadmium	ND		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Calcium	**641**		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Chromium	**13.0**		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Cobalt	**2.36**		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Copper	**4.68**		mg/kg	1.96	1	06/09/09 17:31	SW846 6010B	9061169
Iron	**17200**		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Lead	**8.58**		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Magnesium	**588**		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Manganese	**22.2**		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Molybdenum	ND		mg/kg	2.95	1	06/09/09 17:31	SW846 6010B	9061169
Nickel	**5.30**		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Potassium	**479**		mg/kg	98.2	1	06/09/09 17:31	SW846 6010B	9061169
Selenium	ND		mg/kg	1.96	1	06/09/09 17:31	SW846 6010B	9061169
Silver	ND		mg/kg	0.982	1	06/09/09 17:31	SW846 6010B	9061169
Sodium	**432**		mg/kg	196	1	06/09/09 17:31	SW846 6010B	9061169
Thallium	ND		mg/kg	1.96	1	06/09/09 17:31	SW846 6010B	9061169
Vanadium	**16.4**		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Zinc	**18.2**		mg/kg	9.82	1	06/09/09 17:31	SW846 6010B	9061169
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0979	1	06/10/09 14:27	SW846 7471A	9060869

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-05 (PS-BGC-SG10-1 - Soil) Sampled: 06/03/09 13:30								
General Chemistry Parameters								
Chloride	**161**		mg/kg	20.0	2	06/16/09 11:48	SW846 9056	9062233
Fluoride	**1.40**		mg/kg	1.00	1	06/13/09 20:37	SW846 9056	9062233
Phosphorus	**161**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	**78.4**		mg/kg	10.0	1	06/13/09 20:37	SW846 9056	9062233
Sulfide	**190**		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 20:37	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 20:37	SW846 9056	9062233
pH	**6.80**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**8030**		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Antimony	ND		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Arsenic	**3.56**		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Barium	**42.2**		mg/kg	2.02	1	06/09/09 17:36	SW846 6010B	9061169
Beryllium	ND		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Boron	ND		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Cadmium	ND		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Calcium	**806**		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Chromium	**11.5**		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Cobalt	**1.45**		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Copper	**3.78**		mg/kg	2.02	1	06/09/09 17:36	SW846 6010B	9061169
Iron	**7260**		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Lead	**7.27**		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Magnesium	**554**		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Manganese	**19.4**		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Molybdenum	ND		mg/kg	3.03	1	06/09/09 17:36	SW846 6010B	9061169
Nickel	**4.42**		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Potassium	**403**		mg/kg	101	1	06/09/09 17:36	SW846 6010B	9061169
Selenium	ND		mg/kg	2.02	1	06/09/09 17:36	SW846 6010B	9061169
Silver	ND		mg/kg	1.01	1	06/09/09 17:36	SW846 6010B	9061169
Sodium	**426**		mg/kg	202	1	06/09/09 17:36	SW846 6010B	9061169
Thallium	ND		mg/kg	2.02	1	06/09/09 17:36	SW846 6010B	9061169
Vanadium	**14.4**		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Zinc	**15.6**		mg/kg	10.1	1	06/09/09 17:36	SW846 6010B	9061169
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0979	1	06/10/09 14:29	SW846 7471A	9060869

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-06 (PS-BGC-SG10-2 - Soil) Sampled: 06/03/09 13:45								
General Chemistry Parameters								
Chloride	**23.6**		mg/kg	10.0	1	06/13/09 22:55	SW846 9056	9062233
Fluoride	**1.43**		mg/kg	1.00	1	06/13/09 22:55	SW846 9056	9062233
Phosphorus	**84.4**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	**33.7**		mg/kg	10.0	1	06/13/09 22:55	SW846 9056	9062233
Sulfide	ND		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 22:55	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 22:55	SW846 9056	9062233
pH	**6.90**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**5440**		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Antimony	ND		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Arsenic	**1.52**		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Barium	**37.7**		mg/kg	1.98	1	06/10/09 13:24	SW846 6010B	9061171
Beryllium	ND		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Boron	ND		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Cadmium	ND		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Calcium	**689**		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Chromium	**9.27**		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Cobalt	ND		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Copper	ND		mg/kg	1.98	1	06/10/09 13:24	SW846 6010B	9061171
Iron	**5370**		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Lead	**9.85**		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Magnesium	**510**		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Manganese	**30.8**		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Molybdenum	ND		mg/kg	2.97	1	06/10/09 13:24	SW846 6010B	9061171
Nickel	**3.50**		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Potassium	**258**		mg/kg	99.0	1	06/10/09 13:24	SW846 6010B	9061171
Selenium	ND		mg/kg	1.98	1	06/10/09 13:24	SW846 6010B	9061171
Silver	ND		mg/kg	0.990	1	06/10/09 13:24	SW846 6010B	9061171
Sodium	ND		mg/kg	198	1	06/10/09 13:24	SW846 6010B	9061171
Thallium	ND		mg/kg	1.98	1	06/10/09 13:24	SW846 6010B	9061171
Vanadium	**10.1**		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Zinc	**12.6**		mg/kg	9.90	1	06/10/09 13:24	SW846 6010B	9061171
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0960	1	06/10/09 14:36	SW846 7471A	9060869

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-07 (PS-BGC-SG9-1 - Soil) Sampled: 06/03/09 14:30								
General Chemistry Parameters								
Chloride	**17.4**		mg/kg	10.0	1	06/13/09 23:50	SW846 9056	9062233
Fluoride	**4.78**		mg/kg	1.00	1	06/13/09 23:50	SW846 9056	9062233
Phosphorus	**145**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	**93.8**		mg/kg	10.0	1	06/13/09 23:50	SW846 9056	9062233
Sulfide	ND		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/13/09 23:50	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 23:50	SW846 9056	9062233
pH	**6.70**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**7920**		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Antimony	ND		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Arsenic	**2.87**		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Barium	**42.6**		mg/kg	1.94	1	06/10/09 13:28	SW846 6010B	9061171
Beryllium	ND		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Boron	ND		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Cadmium	ND		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Calcium	**752**		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Chromium	**13.1**		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Cobalt	**1.32**		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Copper	**2.47**		mg/kg	1.94	1	06/10/09 13:28	SW846 6010B	9061171
Iron	**6810**		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Lead	**10.5**		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Magnesium	**670**		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Manganese	**37.5**		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Molybdenum	ND		mg/kg	2.91	1	06/10/09 13:28	SW846 6010B	9061171
Nickel	**5.22**		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Potassium	**383**		mg/kg	97.1	1	06/10/09 13:28	SW846 6010B	9061171
Selenium	ND		mg/kg	1.94	1	06/10/09 13:28	SW846 6010B	9061171
Silver	ND		mg/kg	0.971	1	06/10/09 13:28	SW846 6010B	9061171
Sodium	ND		mg/kg	194	1	06/10/09 13:28	SW846 6010B	9061171
Thallium	ND		mg/kg	1.94	1	06/10/09 13:28	SW846 6010B	9061171
Vanadium	**14.6**		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Zinc	**12.8**		mg/kg	9.71	1	06/10/09 13:28	SW846 6010B	9061171
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.100	1	06/10/09 14:39	SW846 7471A	9060869

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-08 (PS-BGC-SG9-2 - Soil) Sampled: 06/03/09 15:00								
General Chemistry Parameters								
Chloride	**12.1**		mg/kg	10.0	1	06/14/09 00:09	SW846 9056	9062233
Fluoride	**1.57**		mg/kg	1.00	1	06/14/09 00:09	SW846 9056	9062233
Phosphorus	**130**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	ND		mg/kg	10.0	1	06/14/09 00:09	SW846 9056	9062233
Sulfide	ND		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/14/09 00:09	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/14/09 00:09	SW846 9056	9062233
pH	**6.60**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**5680**		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Antimony	ND		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Arsenic	**2.24**		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Barium	**27.7**		mg/kg	2.02	1	06/10/09 13:33	SW846 6010B	9061171
Beryllium	ND		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Boron	ND		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Cadmium	ND		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Calcium	**568**		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Chromium	**8.59**		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Cobalt	ND		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Copper	ND		mg/kg	2.02	1	06/10/09 13:33	SW846 6010B	9061171
Iron	**6630**		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Lead	**16.5**		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Magnesium	**431**		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Manganese	**27.7**		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Molybdenum	ND		mg/kg	3.02	1	06/10/09 13:33	SW846 6010B	9061171
Nickel	**2.90**		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Potassium	**239**		mg/kg	101	1	06/10/09 13:33	SW846 6010B	9061171
Selenium	ND		mg/kg	2.02	1	06/10/09 13:33	SW846 6010B	9061171
Silver	ND		mg/kg	1.01	1	06/10/09 13:33	SW846 6010B	9061171
Sodium	ND		mg/kg	202	1	06/10/09 13:33	SW846 6010B	9061171
Thallium	ND		mg/kg	2.02	1	06/10/09 13:33	SW846 6010B	9061171
Vanadium	**10.3**		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Zinc	**10.1**		mg/kg	10.1	1	06/10/09 13:33	SW846 6010B	9061171
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0960	1	06/10/09 14:41	SW846 7471A	9060869

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0446-09 (PS-BGC-DUP01 - Soil) Sampled: 06/03/09 16:00								
General Chemistry Parameters								
Chloride	**144**		mg/kg	50.0	5	06/15/09 19:43	SW846 9056	9062233
Fluoride	**2.50**		mg/kg	1.00	1	06/15/09 19:43	SW846 9056	9062233
Phosphorus	**141**		mg/kg	10.0	1	06/15/09 12:47	EPA 365.4 M	9062132
Sulfate	**91.8**	R3	mg/kg	10.0	1	06/15/09 19:43	SW846 9056	9062233
Sulfide	**130**		mg/kg	100	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/14/09 00:27	SW846 9056	9062233
Nitrate as N	ND		mg/kg	1.00	1	06/15/09 19:43	SW846 9056	9062233
pH	**6.70**	HTI	pH Units	0.100	1	06/10/09 12:23	SW846 9045D	9061416
Temperature of pH determination	**23.4**	HTI	Deg C	NA	1	06/10/09 12:23	EPA 170.1	9061416
Total Metals by EPA Method 6010B								
Aluminum	**16500**		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Antimony	ND		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Arsenic	**8.25**		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Barium	**47.6**		mg/kg	1.96	1	06/10/09 14:01	SW846 6010B	9061171
Beryllium	ND		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Boron	ND		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Cadmium	ND		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Calcium	**513**		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Chromium	**18.3**		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Cobalt	**2.86**		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Copper	**3.69**		mg/kg	1.96	1	06/10/09 14:01	SW846 6010B	9061171
Iron	**18600**		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Lead	**15.5**		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Magnesium	**826**		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Manganese	**25.5**		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Molybdenum	ND		mg/kg	2.94	1	06/10/09 14:01	SW846 6010B	9061171
Nickel	**6.80**		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Potassium	**903**		mg/kg	98.0	1	06/10/09 14:01	SW846 6010B	9061171
Selenium	ND		mg/kg	1.96	1	06/10/09 14:01	SW846 6010B	9061171
Silver	ND		mg/kg	0.980	1	06/10/09 14:01	SW846 6010B	9061171
Sodium	**307**		mg/kg	196	1	06/10/09 14:01	SW846 6010B	9061171
Thallium	ND		mg/kg	1.96	1	06/10/09 14:01	SW846 6010B	9061171
Vanadium	**24.6**		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Zinc	**21.8**		mg/kg	9.80	1	06/10/09 14:01	SW846 6010B	9061171
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0982	1	06/10/09 14:43	SW846 7471A	9060869

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7471A	9060869	NSF0446-01	0.60	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-02	0.61	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-03	0.63	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-04	0.61	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-05	0.61	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-06	0.63	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-07	0.60	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-08	0.63	100.00	06/05/09 08:59	KKK	EPA 7471
SW846 7471A	9060869	NSF0446-09	0.61	100.00	06/05/09 08:59	KKK	EPA 7471
Total Metals by EPA Method 6010B							
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-01	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-02	0.52	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-03	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-04	0.51	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061169	NSF0446-05	0.50	100.00	06/08/09 15:45	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-06	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-07	0.52	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-08	0.50	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010
SW846 6010B	9061171	NSF0446-09	0.51	100.00	06/09/09 12:30	JLS	EPA 3051A/6010

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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9061416-BLK1						
pH	<0.100		pH Units	9061416	9061416-BLK1	06/10/09 12:23
Temperature of pH determination	<0.00		Deg C	9061416	9061416-BLK1	06/10/09 12:23
9061771-BLK1						
Sulfide	<5.00		mg/kg	9061771	9061771-BLK1	06/11/09 15:08
9062132-BLK1						
Phosphorus	<4.10		mg/kg	9062132	9062132-BLK1	06/15/09 12:47
9062233-BLK1						
Chloride	<5.00		mg/kg	9062233	9062233-BLK1	06/13/09 19:13
Fluoride	<0.500		mg/kg	9062233	9062233-BLK1	06/13/09 19:13
Sulfate	<5.00		mg/kg	9062233	9062233-BLK1	06/13/09 09:42
Bromide	<5.00		mg/kg	9062233	9062233-BLK1	06/13/09 19:13
Nitrate as N	<0.500		mg/kg	9062233	9062233-BLK1	06/13/09 19:13
Total Metals by EPA Method 6010B						
9061169-BLK1						
Aluminum	<6.06		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Antimony	0.517		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Arsenic	<0.696		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Barium	0.199		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Beryllium	0.139		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Boron	<1.19		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Cadmium	<0.199		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Calcium	<4.67		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Chromium	<0.497		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Cobalt	<0.895		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Copper	<0.497		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Iron	<9.84		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Lead	<0.398		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Magnesium	<3.78		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Manganese	<0.497		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Molybdenum	<0.298		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Nickel	<0.696		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Potassium	<50.7		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Selenium	<0.696		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Silver	<0.497		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Sodium	163		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Thallium	<1.59		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Vanadium	<1.09		mg/kg	9061169	9061169-BLK1	06/09/09 14:24
Zinc	1.15		mg/kg	9061169	9061169-BLK1	06/09/09 14:24

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
9061171-BLK1						
Aluminum	<6.06		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Antimony	<0.497		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Arsenic	<0.696		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Barium	0.119		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Beryllium	<0.0994		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Boron	<1.19		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Cadmium	<0.199		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Calcium	<4.67		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Chromium	<0.497		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Cobalt	<0.895		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Copper	<0.497		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Iron	<9.84		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Lead	0.441		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Magnesium	<3.78		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Manganese	<0.497		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Molybdenum	<0.298		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Nickel	<0.696		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Potassium	<50.7		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Selenium	<0.696		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Silver	<0.497		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Sodium	181		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Thallium	<1.59		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Vanadium	<1.09		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Zinc	<0.795		mg/kg	9061171	9061171-BLK1	06/10/09 12:54
Mercury by EPA Methods 7470A/7471A						
9060869-BLK1						
Mercury	<0.0400		mg/kg	9060869	9060869-BLK1	06/10/09 14:09

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9061416-DUP1										
pH	6.30	6.30		pH Units	0	200	9061416	NSF0446-01		06/10/09 12:23
Temperature of pH determination	23.4	23.4		Deg C	0	200	9061416	NSF0446-01		06/10/09 12:23
9061771-DUP1										
Sulfide	ND	6.00		mg/kg		12	9061771	NSF0856-07		06/11/09 15:08
9062132-DUP1										
Phosphorus	141	84.5	R2	mg/kg	50	43	9062132	NSF0446-09		06/15/09 12:47
9062233-DUP1										
Chloride	144	149		mg/kg	4	20	9062233	NSF0446-09		06/14/09 00:46
Fluoride	2.50	2.70		mg/kg	8	20	9062233	NSF0446-09		06/14/09 00:46
Sulfate	91.8	39.9	R3	mg/kg	79	20	9062233	NSF0446-09		06/14/09 00:46
Bromide	ND	ND		mg/kg		20	9062233	NSF0446-09		06/15/09 20:02
Nitrate as N	ND	ND		mg/kg		20	9062233	NSF0446-09		06/14/09 00:46

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9061416-BS1								
pH	7.00	7.05		pH Units	101%	0 - 200	9061416	06/10/09 12:23
9061771-BS1								
Sulfide	200	212		mg/kg	106%	80 - 120	9061771	06/11/09 15:08
9062132-BS1								
Phosphorus	200	185		mg/kg	93%	85 - 115	9062132	06/15/09 12:47
9062233-BS1								
Chloride	30.0	27.3		mg/kg	91%	90 - 110	9062233	06/13/09 19:31
Fluoride	20.0	19.9		mg/kg	100%	90 - 110	9062233	06/13/09 19:31
Sulfate	150	148		mg/kg	99%	90 - 110	9062233	06/14/09 00:46
Bromide	100	90.1		mg/kg	90%	90 - 110	9062233	06/13/09 19:31
Nitrate as N	30.0	27.5		mg/kg	92%	90 - 110	9062233	06/13/09 19:31
Total Metals by EPA Method 6010B								
9061169-BS1								
Aluminum	400	405		mg/kg	101%	80 - 120	9061169	06/09/09 14:36
Antimony	100	103		mg/kg	103%	80 - 120	9061169	06/09/09 14:36
Arsenic	20.0	20.7		mg/kg	103%	80 - 120	9061169	06/09/09 14:36
Barium	400	411		mg/kg	103%	80 - 120	9061169	06/09/09 14:36
Beryllium	10.0	10.4		mg/kg	104%	80 - 120	9061169	06/09/09 14:36
Boron	200	208		mg/kg	104%	80 - 120	9061169	06/09/09 14:36
Cadmium	20.0	21.9		mg/kg	110%	80 - 120	9061169	06/09/09 14:36
Calcium	1000	1030		mg/kg	103%	80 - 120	9061169	06/09/09 14:36
Chromium	40.0	43.9		mg/kg	110%	80 - 120	9061169	06/09/09 14:36
Cobalt	100	110		mg/kg	110%	80 - 120	9061169	06/09/09 14:36
Copper	50.0	52.3		mg/kg	105%	80 - 120	9061169	06/09/09 14:36
Iron	200	228		mg/kg	114%	80 - 120	9061169	06/09/09 14:36
Lead	100	104		mg/kg	104%	80 - 120	9061169	06/09/09 14:36
Magnesium	1000	992		mg/kg	99%	80 - 120	9061169	06/09/09 14:36
Manganese	100	102		mg/kg	102%	80 - 120	9061169	06/09/09 14:36
Molybdenum	100	105		mg/kg	105%	80 - 120	9061169	06/09/09 14:36
Nickel	100	107		mg/kg	107%	80 - 120	9061169	06/09/09 14:36
Potassium	1000	815		mg/kg	82%	80 - 120	9061169	06/09/09 14:36
Selenium	20.0	20.0		mg/kg	100%	80 - 120	9061169	06/09/09 14:36
Silver	10.0	12.0		mg/kg	120%	75 - 125	9061169	06/09/09 14:36
Sodium	1000	1040		mg/kg	104%	80 - 120	9061169	06/09/09 14:36
Thallium	100	97.8		mg/kg	98%	80 - 120	9061169	06/09/09 14:36
Vanadium	100	103		mg/kg	103%	80 - 120	9061169	06/09/09 14:36
Zinc	100	108		mg/kg	108%	80 - 120	9061169	06/09/09 14:36

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
9061171-BS1								
Aluminum	400	382		mg/kg	95%	80 - 120	9061171	06/10/09 13:11
Antimony	100	103		mg/kg	103%	80 - 120	9061171	06/10/09 13:11
Arsenic	20.0	19.8		mg/kg	99%	80 - 120	9061171	06/10/09 13:11
Barium	400	386		mg/kg	97%	80 - 120	9061171	06/10/09 13:11
Beryllium	10.0	9.46		mg/kg	95%	80 - 120	9061171	06/10/09 13:11
Boron	200	209		mg/kg	104%	80 - 120	9061171	06/10/09 13:11
Cadmium	20.0	20.2		mg/kg	101%	80 - 120	9061171	06/10/09 13:11
Calcium	1000	1020		mg/kg	102%	80 - 120	9061171	06/10/09 13:11
Chromium	40.0	41.1		mg/kg	103%	80 - 120	9061171	06/10/09 13:11
Cobalt	100	99.2		mg/kg	99%	80 - 120	9061171	06/10/09 13:11
Copper	50.0	48.2		mg/kg	96%	80 - 120	9061171	06/10/09 13:11
Iron	200	210		mg/kg	105%	80 - 120	9061171	06/10/09 13:11
Lead	100	102		mg/kg	102%	80 - 120	9061171	06/10/09 13:11
Magnesium	1000	1010		mg/kg	101%	80 - 120	9061171	06/10/09 13:11
Manganese	100	99.6		mg/kg	100%	80 - 120	9061171	06/10/09 13:11
Molybdenum	100	103		mg/kg	103%	80 - 120	9061171	06/10/09 13:11
Nickel	100	102		mg/kg	102%	80 - 120	9061171	06/10/09 13:11
Potassium	1000	817		mg/kg	82%	80 - 120	9061171	06/10/09 13:11
Selenium	20.0	20.0		mg/kg	100%	80 - 120	9061171	06/10/09 13:11
Silver	10.0	10.9		mg/kg	109%	75 - 125	9061171	06/10/09 13:11
Sodium	1000	981		mg/kg	98%	80 - 120	9061171	06/10/09 13:11
Thallium	100	95.5		mg/kg	96%	80 - 120	9061171	06/10/09 13:11
Vanadium	100	99.3		mg/kg	99%	80 - 120	9061171	06/10/09 13:11
Zinc	100	103		mg/kg	103%	80 - 120	9061171	06/10/09 13:11
Mercury by EPA Methods 7470A/7471A								
9060869-BS1								
Mercury	0.167	0.177		mg/kg	106%	80 - 120	9060869	06/10/09 14:11

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9061416-BSD1												
pH		7.05		pH Units	7.00	101%	0 - 200	0	200	9061416		06/10/09 12:23

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Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSF0446
		Project Name:	BGC - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9061771-MS1										
Sulfide	6.00	190		mg/kg	200	92%	70 - 130	9061771	NSF0833-01	06/11/09 15:08
9062132-MS1										
Phosphorus	122	341		mg/kg	200	109%	66 - 143	9062132	NSF0446-01	06/15/09 12:47
9062233-MS1										
Chloride	143	ND	MHA	mg/kg	30.0	-478%	80 - 120	9062233	NSF0446-01	06/13/09 20:08
Fluoride	0.500	7.80	M8	mg/kg	20.0	36%	80 - 120	9062233	NSF0446-01	06/13/09 20:08
Sulfate	1020	ND	MHA	mg/kg	150	-682%	80 - 120	9062233	NSF0446-01	06/13/09 20:08
Bromide	ND	93.8		mg/kg	100	94%	90 - 110	9062233	NSF0446-01	06/13/09 20:08
Nitrate as N	ND	27.9		mg/kg	30.0	93%	80 - 120	9062233	NSF0446-01	06/13/09 20:08
Total Metals by EPA Method 6010B										
9061169-MS1										
Aluminum	16500	18200	MHA	mg/kg	400	428%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Antimony	1.38	95.4		mg/kg	100	94%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Arsenic	6.27	29.5		mg/kg	20.0	116%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Barium	75.5	469		mg/kg	400	98%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Beryllium	0.893	10.7		mg/kg	10.0	98%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Boron	2.17	198		mg/kg	200	98%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Cadmium	ND	20.2		mg/kg	20.0	101%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Calcium	1850	2660		mg/kg	1000	81%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Chromium	17.7	62.5		mg/kg	40.0	112%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Cobalt	6.95	110		mg/kg	100	103%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Copper	6.95	60.0		mg/kg	50.0	106%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Iron	18600	23300	MHA	mg/kg	200	2340%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Lead	13.5	114		mg/kg	100	100%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Magnesium	1290	2400		mg/kg	1000	110%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Manganese	545	641	MHA	mg/kg	100	96%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Molybdenum	ND	94.8		mg/kg	100	95%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Nickel	11.7	112		mg/kg	100	100%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Potassium	1270	2430		mg/kg	1000	116%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Selenium	2.59	21.6		mg/kg	20.0	95%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Silver	ND	11.3		mg/kg	10.0	113%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Sodium	190	1210		mg/kg	1000	102%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Thallium	ND	80.3		mg/kg	100	80%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Vanadium	30.3	135		mg/kg	100	105%	75 - 125	9061169	NSF0391-02	06/09/09 15:07
Zinc	41.4	140		mg/kg	100	99%	75 - 125	9061169	NSF0391-02	06/09/09 15:07

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Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSF0446
		Project Name:	BGC - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9061171-MS1										
Aluminum	3110	4420	MHA	mg/kg	398	329%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Antimony	ND	98.5		mg/kg	99.4	99%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Arsenic	1.65	20.3		mg/kg	19.9	94%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Barium	11.5	410		mg/kg	398	100%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Beryllium	0.161	9.05		mg/kg	9.94	89%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Boron	ND	198		mg/kg	199	100%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Cadmium	ND	18.8		mg/kg	19.9	95%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Calcium	1210	1860	M2	mg/kg	994	66%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Chromium	4.37	45.8		mg/kg	39.8	104%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Cobalt	1.47	95.8		mg/kg	99.4	95%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Copper	3.56	53.2		mg/kg	49.7	100%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Iron	4410	4920	MHA	mg/kg	199	256%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Lead	10.5	104		mg/kg	99.4	94%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Magnesium	562	1520		mg/kg	994	96%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Manganese	89.9	181		mg/kg	99.4	91%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Molybdenum	ND	96.8		mg/kg	99.4	97%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Nickel	2.49	99.5		mg/kg	99.4	98%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Potassium	230	1350		mg/kg	994	113%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Selenium	0.779	19.0		mg/kg	19.9	92%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Silver	ND	11.3		mg/kg	9.94	114%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Sodium	ND	1000		mg/kg	994	101%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Thallium	ND	87.5		mg/kg	99.4	88%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Vanadium	6.66	105		mg/kg	99.4	99%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Zinc	18.0	107		mg/kg	99.4	90%	75 - 125	9061171	NSF0661-02	06/10/09 16:18
Mercury by EPA Methods 7470A/7471A										
9060869-MS1										
Mercury	ND	0.172		mg/kg	0.161	107%	75 - 125	9060869	NSE2334-01	06/10/09 14:15

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9061771-MSD1												
Sulfide	6.00	198		mg/kg	200	96%	70 - 130	4	12	9061771	NSF0833-01	06/11/09 15:08
9062132-MSD1												
Phosphorus	122	301		mg/kg	200	89%	66 - 143	12	43	9062132	NSF0446-01	06/15/09 12:47
9062233-MSD1												
Chloride	143	ND	MHA	mg/kg	30.0	-478%	80 - 120		20	9062233	NSF0446-01	06/13/09 20:26
Fluoride	0.500	6.20	M8	mg/kg	20.0	28%	80 - 120	23	20	9062233	NSF0446-01	06/13/09 20:26
Sulfate	1020	ND	MHA	mg/kg	150	-682%	80 - 120		20	9062233	NSF0446-01	06/13/09 20:26
Bromide	ND	94.6		mg/kg	100	95%	90 - 110	0.8	20	9062233	NSF0446-01	06/13/09 20:26
Nitrate as N	ND	28.0		mg/kg	30.0	93%	80 - 120	0.4	20	9062233	NSF0446-01	06/13/09 20:26
Total Metals by EPA Method 6010B												
9061169-MSD1												
Aluminum	16500	20100	MHA	mg/kg	402	897%	75 - 125	10	20	9061169	NSF0391-02	06/09/09 15:11
Antimony	1.38	99.8		mg/kg	101	98%	75 - 125	4	20	9061169	NSF0391-02	06/09/09 15:11
Arsenic	6.27	27.1		mg/kg	20.1	104%	75 - 125	8	20	9061169	NSF0391-02	06/09/09 15:11
Barium	75.5	495		mg/kg	402	104%	75 - 125	5	20	9061169	NSF0391-02	06/09/09 15:11
Beryllium	0.893	11.0		mg/kg	10.1	100%	75 - 125	3	20	9061169	NSF0391-02	06/09/09 15:11
Boron	2.17	208		mg/kg	201	102%	75 - 125	5	20	9061169	NSF0391-02	06/09/09 15:11
Cadmium	ND	21.0		mg/kg	20.1	104%	75 - 125	4	20	9061169	NSF0391-02	06/09/09 15:11
Calcium	1850	2880		mg/kg	1010	102%	75 - 125	8	20	9061169	NSF0391-02	06/09/09 15:11
Chromium	17.7	64.8		mg/kg	40.2	117%	75 - 125	4	20	9061169	NSF0391-02	06/09/09 15:11
Cobalt	6.95	113		mg/kg	101	106%	75 - 125	3	20	9061169	NSF0391-02	06/09/09 15:11
Copper	6.95	61.8		mg/kg	50.3	109%	75 - 125	3	20	9061169	NSF0391-02	06/09/09 15:11
Iron	18600	18400	MHA,	mg/kg	201	-104%	75 - 125	23	20	9061169	NSF0391-02	06/09/09 15:11
Lead	13.5	114		mg/kg	101	100%	75 - 125	0.3	20	9061169	NSF0391-02	06/09/09 15:11
Magnesium	1290	2530		mg/kg	1010	123%	75 - 125	5	20	9061169	NSF0391-02	06/09/09 15:11
Manganese	545	507	MHA,	mg/kg	101	-38%	75 - 125	23	20	9061169	NSF0391-02	06/09/09 15:11
Molybdenum	ND	98.0		mg/kg	101	97%	75 - 125	3	20	9061169	NSF0391-02	06/09/09 15:11
Nickel	11.7	115		mg/kg	101	103%	75 - 125	3	20	9061169	NSF0391-02	06/09/09 15:11
Potassium	1270	2890	M1	mg/kg	1010	160%	75 - 125	17	20	9061169	NSF0391-02	06/09/09 15:11
Selenium	2.59	21.7		mg/kg	20.1	95%	75 - 125	0.7	20	9061169	NSF0391-02	06/09/09 15:11
Silver	ND	11.5		mg/kg	10.1	115%	75 - 125	2	20	9061169	NSF0391-02	06/09/09 15:11
Sodium	190	1220		mg/kg	1010	102%	75 - 125	0.7	20	9061169	NSF0391-02	06/09/09 15:11
Thallium	ND	85.7		mg/kg	101	85%	75 - 125	6	20	9061169	NSF0391-02	06/09/09 15:11
Vanadium	30.3	137		mg/kg	101	106%	75 - 125	1	20	9061169	NSF0391-02	06/09/09 15:11
Zinc	41.4	143		mg/kg	101	101%	75 - 125	2	20	9061169	NSF0391-02	06/09/09 15:11
9061171-MSD1												
Aluminum	3110	3980	MHA	mg/kg	391	224%	75 - 125	10	20	9061171	NSF0661-02	06/10/09 16:38

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0446
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA Method 6010B												
9061171-MSD1												
Antimony	ND	98.1		mg/kg	97.7	100%	75 - 125	0.5	20	9061171	NSF0661-02	06/10/09 16:38
Arsenic	1.65	20.7		mg/kg	19.5	97%	75 - 125	2	20	9061171	NSF0661-02	06/10/09 16:38
Barium	11.5	410		mg/kg	391	102%	75 - 125	0.05	20	9061171	NSF0661-02	06/10/09 16:38
Beryllium	0.161	9.04		mg/kg	9.77	91%	75 - 125	0.03	20	9061171	NSF0661-02	06/10/09 16:38
Boron	ND	199		mg/kg	195	102%	75 - 125	0.4	20	9061171	NSF0661-02	06/10/09 16:38
Cadmium	ND	18.6		mg/kg	19.5	95%	75 - 125	1	20	9061171	NSF0661-02	06/10/09 16:38
Calcium	1210	3100	M1, R3	mg/kg	977	193%	75 - 125	50	20	9061171	NSF0661-02	06/10/09 16:38
Chromium	4.37	44.0		mg/kg	39.1	101%	75 - 125	4	20	9061171	NSF0661-02	06/10/09 16:38
Cobalt	1.47	94.5		mg/kg	97.7	95%	75 - 125	1	20	9061171	NSF0661-02	06/10/09 16:38
Copper	3.56	54.1		mg/kg	48.8	104%	75 - 125	2	20	9061171	NSF0661-02	06/10/09 16:38
Iron	4410	5630	MHA	mg/kg	195	626%	75 - 125	14	20	9061171	NSF0661-02	06/10/09 16:38
Lead	10.5	106		mg/kg	97.7	98%	75 - 125	2	20	9061171	NSF0661-02	06/10/09 16:38
Magnesium	562	2220	M1, R3	mg/kg	977	169%	75 - 125	37	20	9061171	NSF0661-02	06/10/09 16:38
Manganese	89.9	168		mg/kg	97.7	80%	75 - 125	7	20	9061171	NSF0661-02	06/10/09 16:38
Molybdenum	ND	96.6		mg/kg	97.7	99%	75 - 125	0.2	20	9061171	NSF0661-02	06/10/09 16:38
Nickel	2.49	99.0		mg/kg	97.7	99%	75 - 125	0.5	20	9061171	NSF0661-02	06/10/09 16:38
Potassium	230	1200		mg/kg	977	99%	75 - 125	12	20	9061171	NSF0661-02	06/10/09 16:38
Selenium	0.779	19.1		mg/kg	19.5	94%	75 - 125	0.4	20	9061171	NSF0661-02	06/10/09 16:38
Silver	ND	11.0		mg/kg	9.77	113%	75 - 125	2	20	9061171	NSF0661-02	06/10/09 16:38
Sodium	ND	957		mg/kg	977	98%	75 - 125	5	20	9061171	NSF0661-02	06/10/09 16:38
Thallium	ND	86.2		mg/kg	97.7	88%	75 - 125	2	20	9061171	NSF0661-02	06/10/09 16:38
Vanadium	6.66	104		mg/kg	97.7	100%	75 - 125	0.9	20	9061171	NSF0661-02	06/10/09 16:38
Zinc	18.0	112		mg/kg	97.7	97%	75 - 125	5	20	9061171	NSF0661-02	06/10/09 16:38
Mercury by EPA Methods 7470A/7471A												
9060869-MSD1												
Mercury	ND	0.174		mg/kg	0.161	108%	75 - 125	1	20	9060869	NSE2334-01	06/10/09 14:18

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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/04/09 08:15

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
EPA 365.4 M	Soil	N/A		
SW846 6010B	Soil	N/A	X	N/A
SW846 7471A	Soil		X	
SW846 9030B/9034	Soil	N/A	X	N/A
SW846 9045D	Soil			
SW846 9056	Soil	N/A	X	N/A

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Attn	Greg Grose	Received:	06/04/09 08:15

DATA QUALIFIERS AND DEFINITIONS

HTI	The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
R2	The RPD exceeded the acceptance limit.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

Phosphorus in soil 365.4 M - M = Modified for soil analysis

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIP

NSF0446

Cooler Received/Opened On 6/4/2009 @ 0815

1. Tracking # 9476 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 97460373

2. Temperature of rep. sample or temp blank when opened: 8.8 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 (front) 1 (back)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#53518

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50968

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSF0446
06/18/09 23:59

Page 1 of 1

50969

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Body
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Bromide SW846 9056	Chloride SW846 9056	Fluoride IC SW846 9056	METALS - SEE LIST	Metals, RCRA Solid ICP 6010B	Nitrate SW846 9056	pH 9045D (+T)	Phosphorus Total 365.4	Sulfate 9056	Sulfide SW846 9030B/9034							RUSH TAT (Pre Schedule) *
PS-BGL-SG12-1	6/3/09	1100	2		X									X					X		X	X	X	X	X	X	X	X	X	X	NSF0446					01	
PS-BGL-SG12-2	6/3/09	1115	2		X									X					X		X	X	\	X	X	X	X	X	X	X						02	
PS-BGL-SG11-1	6/3/09	1200	2		X									X					X		X	X	\	X	X	X	X	X	X	X						03	
PS-BGL-SG11-2	6/3/09	1230	2		X									X					X		X	X	\	X	X	X	X	X	X	X						04	
PS-BGL-SG10-1	6/3/09	1330	2		X									X					X		X	X	\	X	X	X	X	X	X	X						05	
PS-BGL-SG10-2	6/3/09	1345	2		X									X					X		X	X	\	X	X	X	X	X	X	X						06	
PS-BGL-SG9-1	6/3/09	1430	2		X									X					X		X	X	\	X	X	X	X	X	X	X						07	
PS-BGL-SG9-2	6/3/09	1500	2		X									X					X		X	X	\	X	X	X	X	X	X	X						08	
PS-BGL-Dup01	6/3/09	1600	2		X									X					X		X	X	X	X	X	X	X	X	X	X						09	

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 14980*
TASK 2.0-SED METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	6/3/09	1800	Fed Ex					

Shipped Via:	Shipped Via:	QC Deliverables (Please Circle One) :	Date Due of Report:
Received for TestAmerica by:	Date: 6/4/09 Time: 0815	Temperature Upon Receipt: BG	Sample Containers Intact? Y N VOCs Free of Headspace? Y N	Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	

TestAmerica INCORPORATED

Sample NonConformance/COC Revision Form

Initiated By:	McBrideM	**Phone:**		**NC Closed:**	Yes
Client Name:	MACTEC Engineerin	**Sample Range:**		**Date Closed:**	06/04/2009
Client Contact:	Greg Grose	**SDG:**			
Client Account:	63036	**Analyst:**	Mike McBride		
Date Created:	6/4/2009 12:00:00AM	**Supervisor:**	Paul Buckingham		
NC #:		**NC Type:**			
Project Name:	BDG-SW QUAD	**XOM TM:**			
Project Number:	3552-09-1263				
Project Origin:					
Requlatory:					

Process: Temperature outside Method Allowance- Run or Do Not Run?

Action: Corrective action not chosen

Corrected By: Lisa Headley

Closed: Yes **By:** headleyl

Comments:

Comment added by: headleyl on 6/4/2009 2:43:25 PM
Per phone conversation with PM Greg Grose, analyze the samples. He will follow up with an email.

****

Comment added by: McBrideM on 6/4/2009 11:44:50 AM
These samples were received at 8.8 celsius. The ise is in a bag on top of the samples. No direct contact.

****

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 17, 2009 4:44:51PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSE2471
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 05/29/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SP-BGC-01	NSE2471-01	05/28/09 12:40
SP-BGC-02	NSE2471-02	05/28/09 12:50
SP-BGC-03	NSE2471-03	05/28/09 13:00
SP-BGC-04	NSE2471-04	05/28/09 13:10
SP-BGC-DUP01	NSE2471-05	05/28/09 13:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-01 (SP-BGC-01 - Soil) Sampled: 05/28/09 12:40								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 15:50	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 15:50	SW846 9056	9061057
Phosphorus	**26.5**	B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**134**		mg/kg	10.0	1	06/13/09 15:50	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 15:50	SW846 9056	9061057
Nitrate as N	**3.80**		mg/kg	1.00	1	06/13/09 15:50	SW846 9056	9061057
pH	**4.50**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**25900**	MHA	mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Antimony	ND		mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Arsenic	**3.30**		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Barium	**58.1**		mg/kg	1.93	1	06/05/09 18:14	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Boron	ND		mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Calcium	**236**		mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Chromium	**24.1**		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Cobalt	**1.66**		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Copper	ND		mg/kg	1.93	1	06/05/09 18:14	SW846 6010B	9060062
Iron	**11900**	MHA	mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Lead	**12.7**		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Magnesium	**907**	M1	mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Manganese	**22.5**		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.90	1	06/05/09 18:14	SW846 6010B	9060062
Nickel	**4.25**		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Potassium	**703**	M1	mg/kg	96.5	1	06/05/09 18:14	SW846 6010B	9060062
Selenium	ND		mg/kg	1.93	1	06/05/09 18:14	SW846 6010B	9060062
Silver	ND		mg/kg	0.965	1	06/05/09 18:14	SW846 6010B	9060062
Sodium	**361**	M1	mg/kg	193	1	06/05/09 18:14	SW846 6010B	9060062
Thallium	ND		mg/kg	1.93	1	06/05/09 18:14	SW846 6010B	9060062
Vanadium	**42.6**		mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Zinc	ND		mg/kg	9.65	1	06/05/09 18:14	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0982	1	06/03/09 16:37	SW846 7471A	9054416
TCLP Metals by 6000/7000 Series Methods								
Arsenic	ND		mg/L	0.100	1	06/08/09 16:40	W846 1311/6010	9060898
Barium	**0.316**		mg/L	0.100	1	06/08/09 16:40	W846 1311/6010	9060898
Beryllium	ND		mg/L	0.0400	1	06/08/09 16:40	W846 1311/6010	9060898
Boron	ND		mg/L	0.500	1	06/08/09 16:40	W846 1311/6010	9060898
Cadmium	ND		mg/L	0.0100	1	06/08/09 16:40	W846 1311/6010	9060898

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-01 (SP-BGC-01 - Soil) - cont. Sampled: 05/28/09 12:40								
TCLP Metals by 6000/7000 Series Methods - cont.								
Chromium	ND		mg/L	0.0500	1	06/08/09 16:40	W846 1311/6010	9060898
Cobalt	ND		mg/L	0.200	1	06/08/09 16:40	W846 1311/6010	9060898
Copper	ND		mg/L	0.100	1	06/08/09 16:40	W846 1311/6010	9060898
Iron	ND		mg/L	0.500	1	06/08/09 16:40	W846 1311/6010	9060898
Lead	ND		mg/L	0.0500	1	06/08/09 16:40	W846 1311/6010	9060898
Magnesium	ND		mg/L	10.0	1	06/08/09 16:40	W846 1311/6010	9060898
Manganese	ND		mg/L	0.150	1	06/08/09 16:40	W846 1311/6010	9060898
Molybdenum	ND		mg/L	0.500	1	06/08/09 16:40	W846 1311/6010	9060898
Nickel	ND		mg/L	0.100	1	06/08/09 16:40	W846 1311/6010	9060898
Selenium	ND		mg/L	0.100	1	06/08/09 16:40	W846 1311/6010	9060898
Silver	ND		mg/L	0.0500	1	06/08/09 16:40	W846 1311/6010	9060898
Thallium	ND		mg/L	0.500	1	06/08/09 16:40	W846 1311/6010	9060898
Vanadium	ND		mg/L	0.200	1	06/08/09 16:40	W846 1311/6010	9060898
Zinc	ND		mg/L	0.500	1	06/08/09 16:40	W846 1311/6010	9060898
Aluminum	ND		mg/L	1.00	1	06/08/09 16:40	W846 1311/6010	9060898
Mercury	ND		mg/L	0.0100	1	06/08/09 15:16	W846 1311/7470	9060984
Sample ID: NSE2471-02 (SP-BGC-02 - Soil) Sampled: 05/28/09 12:50								
General Chemistry Parameters								
Chloride	**14.8**		mg/kg	10.0	1	06/13/09 17:22	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 17:22	SW846 9056	9061057
Phosphorus	**157**	B, B1	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**87.3**		mg/kg	10.0	1	06/13/09 17:22	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 17:22	SW846 9056	9061057
Nitrate as N	**5.60**		mg/kg	1.00	1	06/13/09 17:22	SW846 9056	9061057
pH	**5.00**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**16800**		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Antimony	ND		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Arsenic	ND		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Barium	**62.8**		mg/kg	2.01	1	06/05/09 18:27	SW846 6010B	9060062
Beryllium	ND		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Boron	ND		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Cadmium	ND		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Calcium	**923**		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Chromium	**19.4**		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Cobalt	**2.31**		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Copper	**3.15**		mg/kg	2.01	1	06/05/09 18:27	SW846 6010B	9060062
Iron	**6340**		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Lead	**14.3**		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Magnesium	**882**		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-02 (SP-BGC-02 - Soil) - cont. Sampled: 05/28/09 12:50								
Total Metals by EPA Method 6010B - cont.								
Manganese	**32.1**		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Molybdenum	ND		mg/kg	3.01	1	06/05/09 18:27	SW846 6010B	9060062
Nickel	**6.00**		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Potassium	**634**		mg/kg	100	1	06/05/09 18:27	SW846 6010B	9060062
Selenium	ND		mg/kg	2.01	1	06/05/09 18:27	SW846 6010B	9060062
Silver	ND		mg/kg	1.00	1	06/05/09 18:27	SW846 6010B	9060062
Sodium	**346**		mg/kg	201	1	06/05/09 18:27	SW846 6010B	9060062
Thallium	ND		mg/kg	2.01	1	06/05/09 18:27	SW846 6010B	9060062
Vanadium	**23.9**		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Zinc	**22.5**		mg/kg	10.0	1	06/05/09 18:27	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0993	1	06/03/09 16:40	SW846 7471A	9054416
TCLP Metals by 6000/7000 Series Methods								
Arsenic	ND		mg/L	0.100	1	06/08/09 16:44	W846 1311/6010	9060898
Barium	**0.319**		mg/L	0.100	1	06/08/09 16:44	W846 1311/6010	9060898
Beryllium	ND		mg/L	0.0400	1	06/08/09 16:44	W846 1311/6010	9060898
Boron	ND		mg/L	0.500	1	06/08/09 16:44	W846 1311/6010	9060898
Cadmium	ND		mg/L	0.0100	1	06/08/09 16:44	W846 1311/6010	9060898
Chromium	ND		mg/L	0.0500	1	06/08/09 16:44	W846 1311/6010	9060898
Cobalt	ND		mg/L	0.200	1	06/08/09 16:44	W846 1311/6010	9060898
Copper	ND		mg/L	0.100	1	06/08/09 16:44	W846 1311/6010	9060898
Iron	**0.550**		mg/L	0.500	1	06/08/09 16:44	W846 1311/6010	9060898
Lead	**0.0640**		mg/L	0.0500	1	06/08/09 16:44	W846 1311/6010	9060898
Magnesium	ND		mg/L	10.0	1	06/08/09 16:44	W846 1311/6010	9060898
Manganese	**0.161**		mg/L	0.150	1	06/08/09 16:44	W846 1311/6010	9060898
Molybdenum	ND		mg/L	0.500	1	06/08/09 16:44	W846 1311/6010	9060898
Nickel	ND		mg/L	0.100	1	06/08/09 16:44	W846 1311/6010	9060898
Selenium	ND		mg/L	0.100	1	06/08/09 16:44	W846 1311/6010	9060898
Silver	ND		mg/L	0.0500	1	06/08/09 16:44	W846 1311/6010	9060898
Thallium	ND		mg/L	0.500	1	06/08/09 16:44	W846 1311/6010	9060898
Vanadium	ND		mg/L	0.200	1	06/08/09 16:44	W846 1311/6010	9060898
Zinc	**0.549**		mg/L	0.500	1	06/08/09 16:44	W846 1311/6010	9060898
Aluminum	**2.04**		mg/L	1.00	1	06/08/09 16:44	W846 1311/6010	9060898
Mercury	ND		mg/L	0.0100	1	06/08/09 15:23	W846 1311/7470	9060984

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-03 (SP-BGC-03 - Soil) Sampled: 05/28/09 13:00								
General Chemistry Parameters								
Chloride	**10.1**		mg/kg	10.0	1	06/13/09 17:41	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 17:41	SW846 9056	9061057
Phosphorus	**82.5**	B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**79.0**		mg/kg	10.0	1	06/13/09 17:41	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 17:41	SW846 9056	9061057
Nitrate as N	**5.70**		mg/kg	1.00	1	06/13/09 17:41	SW846 9056	9061057
pH	**4.80**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**17200**		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Antimony	ND		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Arsenic	ND		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Barium	**45.7**		mg/kg	1.99	1	06/05/09 18:47	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Boron	ND		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Calcium	**207**		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Chromium	**16.8**		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Cobalt	**1.41**		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Copper	ND		mg/kg	1.99	1	06/05/09 18:47	SW846 6010B	9060062
Iron	**4030**		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Lead	**8.82**		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Magnesium	**712**		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Manganese	**23.0**		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.98	1	06/05/09 18:47	SW846 6010B	9060062
Nickel	**5.13**		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Potassium	**638**		mg/kg	99.4	1	06/05/09 18:47	SW846 6010B	9060062
Selenium	ND		mg/kg	1.99	1	06/05/09 18:47	SW846 6010B	9060062
Silver	ND		mg/kg	0.994	1	06/05/09 18:47	SW846 6010B	9060062
Sodium	**300**		mg/kg	199	1	06/05/09 18:47	SW846 6010B	9060062
Thallium	ND		mg/kg	1.99	1	06/05/09 18:47	SW846 6010B	9060062
Vanadium	**23.5**		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Zinc	ND		mg/kg	9.94	1	06/05/09 18:47	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0998	1	06/03/09 16:42	SW846 7471A	9054416
TCLP Metals by 6000/7000 Series Methods								
Arsenic	ND		mg/L	0.100	1	06/08/09 16:48	W846 1311/6010	9060898
Barium	**0.334**		mg/L	0.100	1	06/08/09 16:48	W846 1311/6010	9060898
Beryllium	ND		mg/L	0.0400	1	06/08/09 16:48	W846 1311/6010	9060898
Boron	ND		mg/L	0.500	1	06/08/09 16:48	W846 1311/6010	9060898
Cadmium	ND		mg/L	0.0100	1	06/08/09 16:48	W846 1311/6010	9060898

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-03 (SP-BGC-03 - Soil) - cont. Sampled: 05/28/09 13:00								
TCLP Metals by 6000/7000 Series Methods - cont.								
Chromium	ND		mg/L	0.0500	1	06/08/09 16:48	W846 1311/6010	9060898
Cobalt	ND		mg/L	0.200	1	06/08/09 16:48	W846 1311/6010	9060898
Copper	ND		mg/L	0.100	1	06/08/09 16:48	W846 1311/6010	9060898
Iron	ND		mg/L	0.500	1	06/08/09 16:48	W846 1311/6010	9060898
Lead	ND		mg/L	0.0500	1	06/08/09 16:48	W846 1311/6010	9060898
Magnesium	ND		mg/L	10.0	1	06/08/09 16:48	W846 1311/6010	9060898
Manganese	ND		mg/L	0.150	1	06/08/09 16:48	W846 1311/6010	9060898
Molybdenum	ND		mg/L	0.500	1	06/08/09 16:48	W846 1311/6010	9060898
Nickel	ND		mg/L	0.100	1	06/08/09 16:48	W846 1311/6010	9060898
Selenium	ND		mg/L	0.100	1	06/08/09 16:48	W846 1311/6010	9060898
Silver	ND		mg/L	0.0500	1	06/08/09 16:48	W846 1311/6010	9060898
Thallium	ND		mg/L	0.500	1	06/08/09 16:48	W846 1311/6010	9060898
Vanadium	ND		mg/L	0.200	1	06/08/09 16:48	W846 1311/6010	9060898
Zinc	ND		mg/L	0.500	1	06/08/09 16:48	W846 1311/6010	9060898
Aluminum	**2.44**		mg/L	1.00	1	06/08/09 16:48	W846 1311/6010	9060898
Mercury	ND		mg/L	0.0100	1	06/08/09 15:25	W846 1311/7470	9060984
Sample ID: NSE2471-04 (SP-BGC-04 - Soil) Sampled: 05/28/09 13:10								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 17:59	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 17:59	SW846 9056	9061057
Phosphorus	**68.5**	B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**62.1**		mg/kg	10.0	1	06/13/09 17:59	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 17:59	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 17:59	SW846 9056	9061057
pH	**5.40**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**9070**		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Antimony	ND		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Arsenic	ND		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Barium	**47.8**		mg/kg	1.99	1	06/05/09 18:51	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Boron	ND		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Calcium	**588**		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Chromium	**9.58**		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Cobalt	**0.996**		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Copper	**8.57**		mg/kg	1.99	1	06/05/09 18:51	SW846 6010B	9060062
Iron	**5630**		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Lead	**48.0**		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Magnesium	**483**		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-04 (SP-BGC-04 - Soil) - cont. Sampled: 05/28/09 13:10								
Total Metals by EPA Method 6010B - cont.								
Manganese	**39.5**		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.99	1	06/05/09 18:51	SW846 6010B	9060062
Nickel	**3.19**		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Potassium	**287**		mg/kg	99.6	1	06/05/09 18:51	SW846 6010B	9060062
Selenium	**2.05**		mg/kg	1.99	1	06/05/09 18:51	SW846 6010B	9060062
Silver	ND		mg/kg	0.996	1	06/05/09 18:51	SW846 6010B	9060062
Sodium	ND		mg/kg	199	1	06/05/09 18:51	SW846 6010B	9060062
Thallium	ND		mg/kg	1.99	1	06/05/09 18:51	SW846 6010B	9060062
Vanadium	**13.2**		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Zinc	**63.5**		mg/kg	9.96	1	06/05/09 18:51	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0992	1	06/03/09 16:53	SW846 7471A	9054416
TCLP Metals by 6000/7000 Series Methods								
Arsenic	ND		mg/L	0.100	1	06/08/09 16:53	W846 1311/6010	9060898
Barium	**0.327**		mg/L	0.100	1	06/08/09 16:53	W846 1311/6010	9060898
Beryllium	ND		mg/L	0.0400	1	06/08/09 16:53	W846 1311/6010	9060898
Boron	ND		mg/L	0.500	1	06/08/09 16:53	W846 1311/6010	9060898
Cadmium	ND		mg/L	0.0100	1	06/08/09 16:53	W846 1311/6010	9060898
Chromium	ND		mg/L	0.0500	1	06/08/09 16:53	W846 1311/6010	9060898
Cobalt	ND		mg/L	0.200	1	06/08/09 16:53	W846 1311/6010	9060898
Copper	ND		mg/L	0.100	1	06/08/09 16:53	W846 1311/6010	9060898
Iron	**0.758**		mg/L	0.500	1	06/08/09 16:53	W846 1311/6010	9060898
Lead	**0.0616**		mg/L	0.0500	1	06/08/09 16:53	W846 1311/6010	9060898
Magnesium	ND		mg/L	10.0	1	06/08/09 16:53	W846 1311/6010	9060898
Manganese	ND		mg/L	0.150	1	06/08/09 16:53	W846 1311/6010	9060898
Molybdenum	ND		mg/L	0.500	1	06/08/09 16:53	W846 1311/6010	9060898
Nickel	ND		mg/L	0.100	1	06/08/09 16:53	W846 1311/6010	9060898
Selenium	ND		mg/L	0.100	1	06/08/09 16:53	W846 1311/6010	9060898
Silver	ND		mg/L	0.0500	1	06/08/09 16:53	W846 1311/6010	9060898
Thallium	ND		mg/L	0.500	1	06/08/09 16:53	W846 1311/6010	9060898
Vanadium	ND		mg/L	0.200	1	06/08/09 16:53	W846 1311/6010	9060898
Zinc	**0.561**		mg/L	0.500	1	06/08/09 16:53	W846 1311/6010	9060898
Aluminum	**3.05**		mg/L	1.00	1	06/08/09 16:53	W846 1311/6010	9060898
Mercury	ND		mg/L	0.0100	1	06/08/09 15:28	W846 1311/7470	9060984

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2471-05 (SP-BGC-DUP01 - Soil) Sampled: 05/28/09 13:30								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 18:18	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 18:18	SW846 9056	9061057
Phosphorus	**90.5**	B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**84.7**		mg/kg	10.0	1	06/13/09 18:18	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 18:18	SW846 9056	9061057
Nitrate as N	**3.60**		mg/kg	1.00	1	06/13/09 18:18	SW846 9056	9061057
pH	**5.30**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**14200**		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Antimony	ND		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Arsenic	ND		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Barium	**37.9**		mg/kg	2.00	1	06/05/09 18:56	SW846 6010B	9060062
Beryllium	ND		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Boron	ND		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Cadmium	ND		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Calcium	**338**		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Chromium	**13.8**		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Cobalt	ND		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Copper	ND		mg/kg	2.00	1	06/05/09 18:56	SW846 6010B	9060062
Iron	**3260**		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Lead	**8.53**		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Magnesium	**568**		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Manganese	**18.4**		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Molybdenum	ND		mg/kg	3.00	1	06/05/09 18:56	SW846 6010B	9060062
Nickel	**4.28**		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Potassium	**344**		mg/kg	100	1	06/05/09 18:56	SW846 6010B	9060062
Selenium	ND		mg/kg	2.00	1	06/05/09 18:56	SW846 6010B	9060062
Silver	ND		mg/kg	1.00	1	06/05/09 18:56	SW846 6010B	9060062
Sodium	**215**		mg/kg	200	1	06/05/09 18:56	SW846 6010B	9060062
Thallium	ND		mg/kg	2.00	1	06/05/09 18:56	SW846 6010B	9060062
Vanadium	**17.0**		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Zinc	ND		mg/kg	10.0	1	06/05/09 18:56	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0990	1	06/03/09 16:55	SW846 7471A	9054416

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7471A	9054416	NSE2471-01	0.61	100.00	06/03/09 01:30	KKK	EPA 7471
SW846 7471A	9054416	NSE2471-02	0.60	100.00	06/03/09 01:30	KKK	EPA 7471
SW846 7471A	9054416	NSE2471-03	0.60	100.00	06/03/09 01:30	KKK	EPA 7471
SW846 7471A	9054416	NSE2471-04	0.61	100.00	06/03/09 01:30	KKK	EPA 7471
SW846 7471A	9054416	NSE2471-05	0.61	100.00	06/03/09 01:30	KKK	EPA 7471
TCLP Extraction by EPA 1311							
SW846 1311	9060478	NSE2471-01	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311	9060478	NSE2471-02	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311	9060478	NSE2471-03	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311	9060478	NSE2471-04	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
TCLP Metals by 6000/7000 Series Methods							
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060478	NSE2471-01	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-01	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060478	NSE2471-02	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-02	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060478	NSE2471-03	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-03	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060478	NSE2471-04	100.00	2000.00	06/04/09 14:10	AML	EPA 1311
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/6010B	9060898	NSE2471-04	5.00	50.00	06/05/09 18:00	JLS	EPA 3015A
SW846 1311/7470A	9060984	NSE2471-01	3.00	30.00	06/05/09 13:48	KKK	EPA 7470
SW846 1311/7470A	9060984	NSE2471-02	3.00	30.00	06/05/09 13:48	KKK	EPA 7470
SW846 1311/7470A	9060984	NSE2471-03	3.00	30.00	06/05/09 13:48	KKK	EPA 7470
SW846 1311/7470A	9060984	NSE2471-04	3.00	30.00	06/05/09 13:48	KKK	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-01	0.52	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2471-05	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9060231-BLK1						
Sulfide	<5.00		mg/kg	9060231	9060231-BLK1	06/02/09 18:03
9060801-BLK1						
pH	<0.100		pH Units	9060801	9060801-BLK1	06/09/09 10:34
Temperature of pH determination	<0.00		Deg C	9060801	9060801-BLK1	06/09/09 10:34
9060920-BLK1						
Phosphorus	10.0		mg/kg	9060920	9060920-BLK1	06/09/09 18:05
9061057-BLK1						
Chloride	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Fluoride	<0.500		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Sulfate	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Bromide	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Nitrate as N	<0.500		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Total Metals by EPA Method 6010B						
9060062-BLK1						
Aluminum	6.10		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Antimony	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Arsenic	<0.696		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Barium	0.119		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Beryllium	<0.0994		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Boron	3.82		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Cadmium	<0.199		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Calcium	<4.67		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Chromium	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Cobalt	<0.895		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Copper	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Iron	<9.84		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Lead	<0.398		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Magnesium	4.37		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Manganese	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Molybdenum	<0.298		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Nickel	<0.696		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Potassium	<50.7		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Selenium	<0.696		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Silver	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Sodium	<162		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Thallium	<1.59		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Vanadium	<1.09		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Zinc	<0.795		mg/kg	9060062	9060062-BLK1	06/05/09 15:45

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
Mercury by EPA Methods 7470A/7471A						
9054416-BLK1						
Mercury	<0.0400		mg/kg	9054416	9054416-BLK1	06/03/09 15:55
TCLP Metals by 6000/7000 Series Methods						
9060898-BLK1						
Arsenic	<0.0400		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Barium	0.0170		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Beryllium	<0.0100		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Boron	<0.0500		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Cadmium	<0.00600		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Chromium	<0.0260		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Cobalt	<0.0500		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Copper	<0.0200		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Iron	<0.490		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Lead	<0.0210		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Magnesium	<0.660		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Manganese	0.0160		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Molybdenum	<0.0500		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Nickel	<0.0230		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Selenium	<0.0390		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Silver	<0.0280		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Thallium	<0.0630		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Vanadium	<0.0500		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Zinc	<0.0500		mg/L	9060898	9060898-BLK1	06/08/09 16:24
Aluminum	<0.540		mg/L	9060898	9060898-BLK1	06/08/09 16:24
9060984-BLK1						
Mercury	<0.00100		mg/L	9060984	9060984-BLK1	06/08/09 15:09

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9060231-DUP1										
Sulfide	ND	ND		mg/kg		12	9060231	NSE2471-05		06/02/09 18:03
9060801-DUP1										
pH	5.30	5.40		pH Units	2	200	9060801	NSE2463-01		06/09/09 10:34
Temperature of pH determination	23.6	23.6		Deg C	0	200	9060801	NSE2463-01		06/09/09 10:34
9060920-DUP1										
Phosphorus	440	494	B	mg/kg	11	43	9060920	NSF0032-02		06/09/09 18:05
9061057-DUP1										
Chloride	27.2	33.6	R3	mg/kg	21	20	9061057	NSE2442-04		06/13/09 11:33
Fluoride	0.600	0.600		mg/kg	0	20	9061057	NSE2442-04		06/13/09 11:33
Sulfate	133	221	R3	mg/kg	50	20	9061057	NSE2442-04		06/13/09 11:33
Bromide	ND	ND		mg/kg		20	9061057	NSE2442-04		06/13/09 11:33
Nitrate as N	0.700	1.50	R3	mg/kg	73	20	9061057	NSE2442-04		06/13/09 11:33
9061057-DUP2										
Chloride	7.50	15.1	R3	mg/kg	67	20	9061057	NSE2463-01		06/13/09 14:18
Fluoride	1.20	1.20		mg/kg	0	20	9061057	NSE2463-01		06/13/09 14:18
Sulfate	75.9	46.5	R3	mg/kg	48	20	9061057	NSE2463-01		06/13/09 14:18
Bromide	ND	ND		mg/kg		20	9061057	NSE2463-01		06/13/09 14:18
Nitrate as N	4.00	4.30		mg/kg	7	20	9061057	NSE2463-01		06/13/09 14:18

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9060231-BS1								
Sulfide	200	201		mg/kg	100%	80 - 120	9060231	06/02/09 18:03
9060801-BS1								
pH	7.00	6.97		pH Units	100%	0 - 200	9060801	06/09/09 10:34
9060920-BS1								
Phosphorus	200	206	B	mg/kg	103%	85 - 115	9060920	06/09/09 18:05
9061057-BS1								
Chloride	30.0	29.0		mg/kg	97%	90 - 110	9061057	06/13/09 10:01
Fluoride	20.0	20.5		mg/kg	102%	90 - 110	9061057	06/13/09 10:01
Sulfate	150	151		mg/kg	101%	90 - 110	9061057	06/13/09 10:01
Bromide	100	93.0		mg/kg	93%	90 - 110	9061057	06/13/09 10:01
Nitrate as N	30.0	28.4		mg/kg	95%	90 - 110	9061057	06/13/09 10:01
Total Metals by EPA Method 6010B								
9060062-BS1								
Aluminum	400	403		mg/kg	101%	80 - 120	9060062	06/05/09 16:01
Antimony	100	102		mg/kg	102%	80 - 120	9060062	06/05/09 16:01
Arsenic	20.0	19.6		mg/kg	98%	80 - 120	9060062	06/05/09 16:01
Barium	400	412		mg/kg	103%	80 - 120	9060062	06/05/09 16:01
Beryllium	10.0	10.0		mg/kg	100%	80 - 120	9060062	06/05/09 16:01
Boron	200	211		mg/kg	105%	80 - 120	9060062	06/05/09 16:01
Cadmium	20.0	21.3		mg/kg	106%	80 - 120	9060062	06/05/09 16:01
Calcium	1000	976		mg/kg	98%	80 - 120	9060062	06/05/09 16:01
Chromium	40.0	41.5		mg/kg	104%	80 - 120	9060062	06/05/09 16:01
Cobalt	100	107		mg/kg	107%	80 - 120	9060062	06/05/09 16:01
Copper	50.0	52.8		mg/kg	106%	80 - 120	9060062	06/05/09 16:01
Iron	200	216		mg/kg	108%	80 - 120	9060062	06/05/09 16:01
Lead	100	101		mg/kg	101%	80 - 120	9060062	06/05/09 16:01
Magnesium	1000	969		mg/kg	97%	80 - 120	9060062	06/05/09 16:01
Manganese	100	99.0		mg/kg	99%	80 - 120	9060062	06/05/09 16:01
Molybdenum	100	98.6		mg/kg	99%	80 - 120	9060062	06/05/09 16:01
Nickel	100	104		mg/kg	104%	80 - 120	9060062	06/05/09 16:01
Potassium	1000	834		mg/kg	83%	80 - 120	9060062	06/05/09 16:01
Selenium	20.0	19.9		mg/kg	99%	80 - 120	9060062	06/05/09 16:01
Silver	10.0	8.70		mg/kg	87%	75 - 125	9060062	06/05/09 16:01
Sodium	1000	946		mg/kg	95%	80 - 120	9060062	06/05/09 16:01
Thallium	100	94.4		mg/kg	94%	80 - 120	9060062	06/05/09 16:01
Vanadium	100	100		mg/kg	100%	80 - 120	9060062	06/05/09 16:01
Zinc	100	104		mg/kg	104%	80 - 120	9060062	06/05/09 16:01

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A								
9054416-BS1								
Mercury	0.167	0.165		mg/kg	99%	80 - 120	9054416	06/03/09 15:58
TCLP Metals by 6000/7000 Series Methods								
9060898-BS1								
Arsenic	10.0	9.98		mg/L	100%	80 - 120	9060898	06/08/09 16:32
Barium	50.0	51.1		mg/L	102%	80 - 120	9060898	06/08/09 16:32
Beryllium	50.0	50.1		mg/L	100%	80 - 120	9060898	06/08/09 16:32
Boron	50.0	51.2		mg/L	102%	80 - 120	9060898	06/08/09 16:32
Cadmium	10.0	10.8		mg/L	108%	80 - 120	9060898	06/08/09 16:32
Chromium	50.0	52.8		mg/L	106%	80 - 120	9060898	06/08/09 16:32
Cobalt	50.0	53.4		mg/L	107%	80 - 120	9060898	06/08/09 16:32
Copper	50.0	55.4		mg/L	111%	80 - 120	9060898	06/08/09 16:32
Iron	50.0	57.2		mg/L	114%	80 - 120	9060898	06/08/09 16:32
Lead	50.0	50.2		mg/L	100%	80 - 120	9060898	06/08/09 16:32
Magnesium	50.0	49.6		mg/L	99%	80 - 120	9060898	06/08/09 16:32
Manganese	50.0	49.2		mg/L	98%	80 - 120	9060898	06/08/09 16:32
Molybdenum	10.0	9.95		mg/L	100%	80 - 120	9060898	06/08/09 16:32
Nickel	50.0	52.8		mg/L	106%	80 - 120	9060898	06/08/09 16:32
Selenium	10.0	9.40		mg/L	94%	80 - 120	9060898	06/08/09 16:32
Silver	10.0	10.3		mg/L	103%	80 - 120	9060898	06/08/09 16:32
Thallium	50.0	48.8		mg/L	98%	80 - 120	9060898	06/08/09 16:32
Vanadium	50.0	49.7		mg/L	99%	80 - 120	9060898	06/08/09 16:32
Zinc	50.0	48.3		mg/L	97%	80 - 120	9060898	06/08/09 16:32
Aluminum	50.0	50.1		mg/L	100%	80 - 120	9060898	06/08/09 16:32
9060984-BS1								
Mercury	0.0200	0.0181		mg/L	91%	80 - 120	9060984	06/08/09 15:14

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9060801-BSD1												
pH		6.98		pH Units	7.00	100%	0 - 200	0.1	200	9060801		06/09/09 10:34
Mercury by EPA Methods 7470A/7471A												
9054416-BSD1												
Mercury		0.165		mg/kg	0.167	99%	80 - 120	0.2	20	9054416		06/03/09 16:00

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9060231-MS1										
Sulfide	ND	196		mg/kg	200	98%	70 - 130	9060231	NSE2442-01	06/02/09 18:03
9060920-MS1										
Phosphorus	440	645	B	mg/kg	200	102%	66 - 143	9060920	NSF0032-02	06/09/09 18:05
9061057-MS1										
Chloride	25.6	91.4	M1	mg/kg	30.0	219%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Fluoride	ND	8.20	M2	mg/kg	20.0	41%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Sulfate	92.4	255		mg/kg	150	108%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Bromide	ND	95.9		mg/kg	100	96%	90 - 110	9061057	NSE2442-05	06/13/09 12:10
Nitrate as N	ND	30.6		mg/kg	30.0	102%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
9061057-MS2										
Chloride	8.00	40.2		mg/kg	30.0	107%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Fluoride	ND	7.00	M2	mg/kg	20.0	35%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Sulfate	134	241		mg/kg	150	71%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Bromide	ND	95.0		mg/kg	100	95%	90 - 110	9061057	NSE2471-01	06/13/09 16:09
Nitrate as N	3.80	33.5		mg/kg	30.0	99%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Total Metals by EPA Method 6010B										
9060062-MS1										
Aluminum	25900	31200	MHA	mg/kg	396	1340%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Antimony	0.946	94.3		mg/kg	99.0	94%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Arsenic	3.30	20.2		mg/kg	19.8	86%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Barium	58.1	475		mg/kg	396	105%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Beryllium	0.386	10.3		mg/kg	9.90	100%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Boron	ND	205		mg/kg	198	104%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Cadmium	ND	20.3		mg/kg	19.8	102%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Calcium	236	1460		mg/kg	990	124%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Chromium	24.1	68.8		mg/kg	39.6	113%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Cobalt	1.66	107		mg/kg	99.0	106%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Copper	ND	54.9		mg/kg	49.5	111%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Iron	11900	8470	MHA	mg/kg	198	-1740%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Lead	12.7	109		mg/kg	99.0	98%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Magnesium	907	2230	M1	mg/kg	990	134%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Manganese	22.5	135		mg/kg	99.0	113%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Molybdenum	ND	93.0		mg/kg	99.0	94%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Nickel	4.25	103		mg/kg	99.0	100%	75 - 125	9060062	NSE2471-01	06/05/09 18:18

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSE2471
		Project Name:	BGC - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9060062-MS1										
Potassium	703	2920	M1	mg/kg	990	224%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Selenium	0.894	20.4		mg/kg	19.8	98%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Silver	ND	8.53		mg/kg	9.90	86%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Sodium	361	1620	M1	mg/kg	990	127%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Thallium	ND	90.1		mg/kg	99.0	91%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Vanadium	42.6	137		mg/kg	99.0	95%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Zinc	7.47	111		mg/kg	99.0	104%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Mercury by EPA Methods 7470A/7471A										
9054416-MS1										
Mercury	ND	0.151		mg/kg	0.162	94%	75 - 125	9054416	NSE2073-01	06/03/09 16:07
TCLP Metals by 6000/7000 Series Methods										
9060898-MS1										
Arsenic	ND	10.0		mg/L	10.0	100%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Barium	0.925	56.5		mg/L	50.0	111%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Beryllium	ND	49.1		mg/L	50.0	98%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Boron	0.570	53.1		mg/L	50.0	105%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Cadmium	0.295	9.95		mg/L	10.0	97%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Chromium	ND	50.5		mg/L	50.0	101%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Cobalt	0.121	47.1		mg/L	50.0	94%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Copper	0.787	57.6		mg/L	50.0	114%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Iron	24.4	75.8		mg/L	50.0	103%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Lead	0.723	49.1		mg/L	50.0	97%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Magnesium	17.5	66.4		mg/L	50.0	98%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Manganese	6.76	55.6		mg/L	50.0	98%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Molybdenum	ND	9.93		mg/L	10.0	99%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Nickel	2.87	51.5		mg/L	50.0	97%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Selenium	0.0980	9.75		mg/L	10.0	97%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Silver	ND	10.8		mg/L	10.0	108%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Thallium	ND	50.8		mg/L	50.0	102%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Vanadium	ND	50.6		mg/L	50.0	101%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Zinc	256	226	MHA	mg/L	50.0	-59%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
Aluminum	1.32	61.7		mg/L	50.0	121%	75 - 125	9060898	NSF0300-02	06/08/09 19:20
9060984-MS1										
Mercury	ND	0.0185		mg/L	0.0200	92%	75 - 125	9060984	NSE2471-01	06/08/09 15:19

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9060231-MSD1												
Sulfide	ND	192		mg/kg	200	96%	70 - 130	2	12	9060231	NSE2442-01	06/02/09 18:03
9060920-MSD1												
Phosphorus	440	669	B	mg/kg	200	114%	66 - 143	4	43	9060920	NSF0032-02	06/09/09 18:05
9061057-MSD1												
Chloride	25.6	79.7	M1	mg/kg	30.0	180%	80 - 120	14	20	9061057	NSE2442-05	06/13/09 12:28
Fluoride	ND	7.20	M2	mg/kg	20.0	36%	80 - 120	13	20	9061057	NSE2442-05	06/13/09 12:28
Sulfate	92.4	239		mg/kg	150	98%	80 - 120	6	20	9061057	NSE2442-05	06/13/09 12:28
Bromide	ND	96.1		mg/kg	100	96%	90 - 110	0.2	20	9061057	NSE2442-05	06/13/09 12:28
Nitrate as N	ND	30.0		mg/kg	30.0	100%	80 - 120	2	20	9061057	NSE2442-05	06/13/09 12:28
9061057-MSD2												
Chloride	8.00	37.0		mg/kg	30.0	97%	80 - 120	8	20	9061057	NSE2471-01	06/13/09 16:27
Fluoride	ND	5.50	M2	mg/kg	20.0	28%	80 - 120	24	20	9061057	NSE2471-01	06/13/09 16:27
Sulfate	134	203	M2	mg/kg	150	46%	80 - 120	17	20	9061057	NSE2471-01	06/13/09 16:27
Bromide	ND	94.5		mg/kg	100	94%	90 - 110	0.5	20	9061057	NSE2471-01	06/13/09 16:27
Nitrate as N	3.80	32.6		mg/kg	30.0	96%	80 - 120	3	20	9061057	NSE2471-01	06/13/09 16:27
Total Metals by EPA Method 6010B												
9060062-MSD1												
Aluminum	25900	27900	MHA	mg/kg	395	515%	75 - 125	11	20	9060062	NSE2471-01	06/05/09 18:23
Antimony	0.946	94.4		mg/kg	98.8	95%	75 - 125	0.2	20	9060062	NSE2471-01	06/05/09 18:23
Arsenic	3.30	20.5		mg/kg	19.8	87%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Barium	58.1	463		mg/kg	395	103%	75 - 125	3	20	9060062	NSE2471-01	06/05/09 18:23
Beryllium	0.386	10.1		mg/kg	9.88	99%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Boron	ND	199		mg/kg	198	101%	75 - 125	3	20	9060062	NSE2471-01	06/05/09 18:23
Cadmium	ND	20.0		mg/kg	19.8	101%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Calcium	236	1320		mg/kg	988	110%	75 - 125	10	20	9060062	NSE2471-01	06/05/09 18:23
Chromium	24.1	66.3		mg/kg	39.5	107%	75 - 125	4	20	9060062	NSE2471-01	06/05/09 18:23
Cobalt	1.66	106		mg/kg	98.8	105%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Copper	ND	54.7		mg/kg	49.4	111%	75 - 125	0.5	20	9060062	NSE2471-01	06/05/09 18:23
Iron	11900	9190	MHA	mg/kg	198	-1380%	75 - 125	8	20	9060062	NSE2471-01	06/05/09 18:23
Lead	12.7	108		mg/kg	98.8	97%	75 - 125	0.8	20	9060062	NSE2471-01	06/05/09 18:23
Magnesium	907	2090		mg/kg	988	119%	75 - 125	7	20	9060062	NSE2471-01	06/05/09 18:23
Manganese	22.5	129		mg/kg	98.8	107%	75 - 125	5	20	9060062	NSE2471-01	06/05/09 18:23
Molybdenum	ND	93.6		mg/kg	98.8	95%	75 - 125	0.7	20	9060062	NSE2471-01	06/05/09 18:23
Nickel	4.25	102		mg/kg	98.8	99%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Potassium	703	2190	M1, R3	mg/kg	988	151%	75 - 125	28	20	9060062	NSE2471-01	06/05/09 18:23
Selenium	0.894	19.2		mg/kg	19.8	93%	75 - 125	6	20	9060062	NSE2471-01	06/05/09 18:23
Silver	ND	8.26		mg/kg	9.88	84%	75 - 125	3	20	9060062	NSE2471-01	06/05/09 18:23

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA Method 6010B												
9060062-MSD1												
Sodium	361	1510		mg/kg	988	116%	75 - 125	7	20	9060062	NSE2471-01	06/05/09 18:23
Thallium	ND	91.2		mg/kg	98.8	92%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Vanadium	42.6	133		mg/kg	98.8	92%	75 - 125	2	20	9060062	NSE2471-01	06/05/09 18:23
Zinc	7.47	110		mg/kg	98.8	103%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Mercury by EPA Methods 7470A/7471A												
9054416-MSD1												
Mercury	ND	0.152		mg/kg	0.162	94%	75 - 125	0.6	20	9054416	NSE2073-01	06/03/09 16:09
TCLP Metals by 6000/7000 Series Methods												
9060898-MSD1												
Arsenic	ND	10.0		mg/L	10.0	100%	75 - 125	0.2	20	9060898	NSF0300-02	06/08/09 19:24
Barium	0.925	56.4		mg/L	50.0	111%	75 - 125	0.1	20	9060898	NSF0300-02	06/08/09 19:24
Beryllium	ND	49.2		mg/L	50.0	98%	75 - 125	0.1	20	9060898	NSF0300-02	06/08/09 19:24
Boron	0.570	53.4		mg/L	50.0	106%	75 - 125	0.4	20	9060898	NSF0300-02	06/08/09 19:24
Cadmium	0.295	9.94		mg/L	10.0	96%	75 - 125	0.09	20	9060898	NSF0300-02	06/08/09 19:24
Chromium	ND	50.6		mg/L	50.0	101%	75 - 125	0.04	20	9060898	NSF0300-02	06/08/09 19:24
Cobalt	0.121	47.1		mg/L	50.0	94%	75 - 125	0.08	20	9060898	NSF0300-02	06/08/09 19:24
Copper	0.787	57.7		mg/L	50.0	114%	75 - 125	0.1	20	9060898	NSF0300-02	06/08/09 19:24
Iron	24.4	75.4		mg/L	50.0	102%	75 - 125	0.6	20	9060898	NSF0300-02	06/08/09 19:24
Lead	0.723	49.1		mg/L	50.0	97%	75 - 125	0.07	20	9060898	NSF0300-02	06/08/09 19:24
Magnesium	17.5	66.2		mg/L	50.0	97%	75 - 125	0.3	20	9060898	NSF0300-02	06/08/09 19:24
Manganese	6.76	55.7		mg/L	50.0	98%	75 - 125	0.2	20	9060898	NSF0300-02	06/08/09 19:24
Molybdenum	ND	9.99		mg/L	10.0	100%	75 - 125	0.6	20	9060898	NSF0300-02	06/08/09 19:24
Nickel	2.87	51.5		mg/L	50.0	97%	75 - 125	0.1	20	9060898	NSF0300-02	06/08/09 19:24
Selenium	0.0980	9.81		mg/L	10.0	97%	75 - 125	0.6	20	9060898	NSF0300-02	06/08/09 19:24
Silver	ND	9.84		mg/L	10.0	98%	75 - 125	9	20	9060898	NSF0300-02	06/08/09 19:24
Thallium	ND	51.1		mg/L	50.0	102%	75 - 125	0.5	20	9060898	NSF0300-02	06/08/09 19:24
Vanadium	ND	50.6		mg/L	50.0	101%	75 - 125	0.1	20	9060898	NSF0300-02	06/08/09 19:24
Zinc	256	225	MHA	mg/L	50.0	-61%	75 - 125	0.4	20	9060898	NSF0300-02	06/08/09 19:24
Aluminum	1.32	61.5		mg/L	50.0	120%	75 - 125	0.3	20	9060898	NSF0300-02	06/08/09 19:24
9060984-MSD1												
Mercury	ND	0.0198		mg/L	0.0200	99%	75 - 125	7	20	9060984	NSE2471-01	06/08/09 15:21

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
EPA 365.4 M	Soil	N/A		
SW846 1311/6010B	Soil	N/A	X	N/A
SW846 1311/7470A	Soil	N/A	X	N/A
SW846 1311	Soil	N/A	X	N/A
SW846 6010B	Soil	N/A	X	N/A
SW846 7471A	Soil		X	
SW846 9030B/9034	Soil	N/A	X	N/A
SW846 9045D	Soil			
SW846 9056	Soil	N/A	X	N/A

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

TCLP REGULATORY LIMITS

Analyte	Regulatory Limit
Arsenic	5
Barium	100
Cadmium	1
Chromium	5
Lead	5
Mercury	0.2
Selenium	1
Silver	5

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2471
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
HTI	The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

Phosphorus in soil 365.4 M - M = Modified for soil analysis

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIPT I

NSE2471

Cooler Received/Opened On_05/29/09 @ 08:00

1. Tracking #_____7897_____(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___97310166

2. Temperature of rep. sample or temp blank when opened:_____4.1_____ *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where:_____2 - FRONT & BACK_____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

50997

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Page 1 of 1

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joel Buchy
SamplerSignature:

TA Account #: 63036
PO #: 2209 07924
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip:
Regulatory District (CA): Virginia

NSE2471
06/12/09 23:59

	Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Bromide SW846 9056	Chloride SW846 9056	Fluoride IC SW846 9056	METALS - SEE LIST	Metals, RCRA Solid ICP 6010B	Metals, TCLP 6010B	Nitrate SW846 9056	pH 9045D (+T)	Phosphorus Total 365.4	Sulfate 9056	Sulfide SW846 9030B/9034	TCLP METALS - see list					RUSH TAT (Pre Schedule) *
01	SP-BGC-01	5/28/09	1240	3		X									X					X		X	X	X	X	X		X	X	X	X	X	X	X				
02	SP-BGC-02	5/28/09	1250	3		X									X					X		X	X	X	X	X		X	X	X	X	X	X					
03	SP-BGC-03	5/28/09	1300	3		X									X					X		X	X	X	X	X		X	X	X	X	X	X					
04	SP-BGC-04	5/28/09	1310	3		X									X					X		X	X	X	X	X		X	X	X	X	X	X					
05	SP-BGC-Dup01	5/28/09	1330	3		X									X					X		X	X	X	X	X		X	X	X	X	X	X					
																				X		X	X	X	X	X		X	X	X	X	X						

Metals, TCLP 6010B: same as
TCLP METALS - see list

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 15006
TASK 4.3 with TCLP Metals - see ATTACHMENT for lists of additional Metals and TCLP Metals

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	5/28/09	1500	FedEx					

Shipped Via:

Received for TestAmerica by:	Date:	Time:	Shipped Via:	Temperature Upon Receipt: 4.1°C	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N	QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
	5/29	8:00						

50998

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 17, 2009 4:38:17PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSE2463
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 05/29/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
HA-BGC-RB1	NSE2463-01	05/28/09 11:30
HA-BGC-RB2	NSE2463-02	05/28/09 11:40
HA-BGC-RB3	NSE2463-03	05/28/09 11:50
HA-BGC-RB4	NSE2463-04	05/28/09 12:00
HA-BGC-RB DUP	NSE2463-05	05/28/09 12:15

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

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All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa Headley

Senior Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2463-01 (HA-BGC-RB1 - Soil) Sampled: 05/28/09 11:30								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 14:00	SW846 9056	9061057
Fluoride	**1.20**		mg/kg	1.00	1	06/13/09 14:00	SW846 9056	9061057
Phosphorus	**385**	B1, B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**75.9**		mg/kg	10.0	1	06/13/09 14:00	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 14:00	SW846 9056	9061057
Nitrate as N	**4.00**		mg/kg	1.00	1	06/13/09 14:00	SW846 9056	9061057
pH	**5.30**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**12800**		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Antimony	ND		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Arsenic	**7.37**		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Barium	**48.2**		mg/kg	2.01	1	06/05/09 16:42	SW846 6010B	9060062
Beryllium	ND		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Boron	ND		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Cadmium	ND		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Calcium	**549**		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Chromium	**17.4**		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Cobalt	**2.11**		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Copper	**4.68**		mg/kg	2.01	1	06/05/09 16:42	SW846 6010B	9060062
Iron	**4640**		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Lead	**12.2**		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Magnesium	**666**		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Manganese	**24.2**		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Molybdenum	ND		mg/kg	3.01	1	06/05/09 16:42	SW846 6010B	9060062
Nickel	**5.58**		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Potassium	**603**		mg/kg	100	1	06/05/09 16:42	SW846 6010B	9060062
Selenium	ND		mg/kg	2.01	1	06/05/09 16:42	SW846 6010B	9060062
Silver	ND		mg/kg	1.00	1	06/05/09 16:42	SW846 6010B	9060062
Sodium	ND		mg/kg	201	1	06/05/09 16:42	SW846 6010B	9060062
Thallium	ND		mg/kg	2.01	1	06/05/09 16:42	SW846 6010B	9060062
Vanadium	**18.1**		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Zinc	**12.7**		mg/kg	10.0	1	06/05/09 16:42	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0998	1	06/08/09 14:53	SW846 7471A	9060207

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2463-02 (HA-BGC-RB2 - Soil) Sampled: 05/28/09 11:40								
General Chemistry Parameters								
Chloride	**14.3**		mg/kg	10.0	1	06/13/09 14:37	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 14:37	SW846 9056	9061057
Phosphorus	**304**	B1, B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**50.7**		mg/kg	10.0	1	06/13/09 14:37	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 14:37	SW846 9056	9061057
Nitrate as N	**4.40**		mg/kg	1.00	1	06/13/09 14:37	SW846 9056	9061057
pH	**5.20**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**12100**		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Antimony	ND		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Arsenic	**4.07**		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Barium	**39.0**		mg/kg	1.98	1	06/05/09 17:56	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Boron	ND		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Calcium	**555**		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Chromium	**15.0**		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Cobalt	**1.49**		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Copper	**3.06**		mg/kg	1.98	1	06/05/09 17:56	SW846 6010B	9060062
Iron	**5050**		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Lead	**9.27**		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Magnesium	**696**		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Manganese	**41.2**		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.98	1	06/05/09 17:56	SW846 6010B	9060062
Nickel	**4.37**		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Potassium	**641**		mg/kg	99.2	1	06/05/09 17:56	SW846 6010B	9060062
Selenium	ND		mg/kg	1.98	1	06/05/09 17:56	SW846 6010B	9060062
Silver	ND		mg/kg	0.992	1	06/05/09 17:56	SW846 6010B	9060062
Sodium	ND		mg/kg	198	1	06/05/09 17:56	SW846 6010B	9060062
Thallium	ND		mg/kg	1.98	1	06/05/09 17:56	SW846 6010B	9060062
Vanadium	**16.8**		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Zinc	**15.1**		mg/kg	9.92	1	06/05/09 17:56	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0980	1	06/08/09 14:55	SW846 7471A	9060207

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2463-03 (HA-BGC-RB3 - Soil) Sampled: 05/28/09 11:50								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 14:55	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 14:55	SW846 9056	9061057
Phosphorus	**149**	B, B1	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**73.5**		mg/kg	10.0	1	06/13/09 14:55	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 14:55	SW846 9056	9061057
Nitrate as N	**1.60**		mg/kg	1.00	1	06/13/09 14:55	SW846 9056	9061057
pH	**5.30**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**21900**		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Antimony	ND		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Arsenic	**6.12**		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Barium	**78.5**		mg/kg	1.99	1	06/05/09 18:00	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Boron	ND		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Calcium	**442**		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Chromium	**24.3**		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Cobalt	**1.51**		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Copper	**3.44**		mg/kg	1.99	1	06/05/09 18:00	SW846 6010B	9060062
Iron	**35800**		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Lead	**15.3**		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Magnesium	**1110**		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Manganese	**23.5**		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.98	1	06/05/09 18:00	SW846 6010B	9060062
Nickel	**6.54**		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Potassium	**483**		mg/kg	99.4	1	06/05/09 18:00	SW846 6010B	9060062
Selenium	**3.79**		mg/kg	1.99	1	06/05/09 18:00	SW846 6010B	9060062
Silver	ND		mg/kg	0.994	1	06/05/09 18:00	SW846 6010B	9060062
Sodium	**291**		mg/kg	199	1	06/05/09 18:00	SW846 6010B	9060062
Thallium	ND		mg/kg	1.99	1	06/05/09 18:00	SW846 6010B	9060062
Vanadium	**47.3**		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Zinc	ND		mg/kg	9.94	1	06/05/09 18:00	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0968	1	06/08/09 14:58	SW846 7471A	9060207

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2463-04 (HA-BGC-RB4 - Soil) Sampled: 05/28/09 12:00								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 15:14	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 15:14	SW846 9056	9061057
Phosphorus	**60.7**	B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**104**		mg/kg	10.0	1	06/13/09 15:14	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 15:14	SW846 9056	9061057
Nitrate as N	**3.20**		mg/kg	1.00	1	06/13/09 15:14	SW846 9056	9061057
pH	**5.40**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**10200**		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Antimony	ND		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Arsenic	**1.46**		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Barium	**38.0**		mg/kg	2.00	1	06/05/09 18:05	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Boron	ND		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Calcium	**644**		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Chromium	**11.7**		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Cobalt	ND		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Copper	ND		mg/kg	2.00	1	06/05/09 18:05	SW846 6010B	9060062
Iron	**6710**		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Lead	**8.92**		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Magnesium	**520**		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Manganese	**19.6**		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.99	1	06/05/09 18:05	SW846 6010B	9060062
Nickel	**2.28**		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Potassium	**306**		mg/kg	99.8	1	06/05/09 18:05	SW846 6010B	9060062
Selenium	ND		mg/kg	2.00	1	06/05/09 18:05	SW846 6010B	9060062
Silver	ND		mg/kg	0.998	1	06/05/09 18:05	SW846 6010B	9060062
Sodium	ND		mg/kg	200	1	06/05/09 18:05	SW846 6010B	9060062
Thallium	ND		mg/kg	2.00	1	06/05/09 18:05	SW846 6010B	9060062
Vanadium	**17.2**		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Zinc	ND		mg/kg	9.98	1	06/05/09 18:05	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.0966	1	06/03/09 16:33	SW846 7471A	9054416

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2463-05 (HA-BGC-RB DUP - Soil) Sampled: 05/28/09 12:15								
General Chemistry Parameters								
Chloride	**12.2**		mg/kg	10.0	1	06/13/09 15:32	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 15:32	SW846 9056	9061057
Phosphorus	**149**	B1, B	mg/kg	10.0	1	06/09/09 18:05	EPA 365.4 M	9060920
Sulfate	**171**		mg/kg	10.0	1	06/13/09 15:32	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 15:32	SW846 9056	9061057
Nitrate as N	**1.50**		mg/kg	1.00	1	06/13/09 15:32	SW846 9056	9061057
pH	**5.40**	HTI	pH Units	0.100	1	06/09/09 10:34	SW846 9045D	9060801
Temperature of pH determination	**23.6**	HTI	Deg C	NA	1	06/09/09 10:34	EPA 170.1	9060801
Total Metals by EPA Method 6010B								
Aluminum	**25400**		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Antimony	ND		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Arsenic	**6.24**		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Barium	**78.4**		mg/kg	1.98	1	06/05/09 18:09	SW846 6010B	9060062
Beryllium	ND		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Boron	ND		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Cadmium	ND		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Calcium	**478**		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Chromium	**26.9**		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Cobalt	**2.20**		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Copper	**3.70**		mg/kg	1.98	1	06/05/09 18:09	SW846 6010B	9060062
Iron	**26700**		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Lead	**12.6**		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Magnesium	**1200**		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Manganese	**25.7**		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Molybdenum	ND		mg/kg	2.97	1	06/05/09 18:09	SW846 6010B	9060062
Nickel	**7.60**		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Potassium	**661**		mg/kg	99.0	1	06/05/09 18:09	SW846 6010B	9060062
Selenium	**3.15**		mg/kg	1.98	1	06/05/09 18:09	SW846 6010B	9060062
Silver	ND		mg/kg	0.990	1	06/05/09 18:09	SW846 6010B	9060062
Sodium	**330**		mg/kg	198	1	06/05/09 18:09	SW846 6010B	9060062
Thallium	ND		mg/kg	1.98	1	06/05/09 18:09	SW846 6010B	9060062
Vanadium	**50.1**		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Zinc	ND		mg/kg	9.90	1	06/05/09 18:09	SW846 6010B	9060062
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/kg	0.101	1	06/03/09 16:35	SW846 7471A	9054416

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7471A	9060207	NSE2463-01	0.60	100.00	06/08/09 10:09	KKK	EPA 7471
SW846 7471A	9060207	NSE2463-02	0.61	100.00	06/08/09 10:09	KKK	EPA 7471
SW846 7471A	9060207	NSE2463-03	0.62	100.00	06/08/09 10:09	KKK	EPA 7471
SW846 7471A	9054416	NSE2463-04	0.62	100.00	06/03/09 01:30	KKK	EPA 7471
SW846 7471A	9054416	NSE2463-05	0.60	100.00	06/03/09 01:30	KKK	EPA 7471
Total Metals by EPA Method 6010B							
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-01	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-02	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-03	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010

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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-04	0.50	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010
SW846 6010B	9060062	NSE2463-05	0.51	100.00	06/02/09 12:00	JLS	EPA 3051A/6010

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9060231-BLK1						
Sulfide	<5.00		mg/kg	9060231	9060231-BLK1	06/02/09 18:03
9060801-BLK1						
pH	<0.100		pH Units	9060801	9060801-BLK1	06/09/09 10:34
Temperature of pH determination	<0.00		Deg C	9060801	9060801-BLK1	06/09/09 10:34
9060920-BLK1						
Phosphorus	10.0		mg/kg	9060920	9060920-BLK1	06/09/09 18:05
9061057-BLK1						
Chloride	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Fluoride	<0.500		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Sulfate	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Bromide	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Nitrate as N	<0.500		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Total Metals by EPA Method 6010B						
9060062-BLK1						
Aluminum	6.10		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Antimony	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Arsenic	<0.696		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Barium	0.119		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Beryllium	<0.0994		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Boron	3.82		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Cadmium	<0.199		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Calcium	<4.67		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Chromium	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Cobalt	<0.895		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Copper	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Iron	<9.84		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Lead	<0.398		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Magnesium	4.37		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Manganese	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Molybdenum	<0.298		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Nickel	<0.696		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Potassium	<50.7		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Selenium	<0.696		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Silver	<0.497		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Sodium	<162		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Thallium	<1.59		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Vanadium	<1.09		mg/kg	9060062	9060062-BLK1	06/05/09 15:45
Zinc	<0.795		mg/kg	9060062	9060062-BLK1	06/05/09 15:45

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Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
Mercury by EPA Methods 7470A/7471A						
9054416-BLK1						
Mercury	<0.0400		mg/kg	9054416	9054416-BLK1	06/03/09 15:55
9060207-BLK1						
Mercury	<0.0400		mg/kg	9060207	9060207-BLK1	06/08/09 14:40

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	Ashburn, VA 20147	Project Number:	3552-09-1263
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PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9060231-DUP1										
Sulfide	ND	ND		mg/kg		12	9060231	NSE2471-05		06/02/09 18:03
9060801-DUP1										
pH	5.30	5.40		pH Units	2	200	9060801	NSE2463-01		06/09/09 10:34
Temperature of pH determination	23.6	23.6		Deg C	0	200	9060801	NSE2463-01		06/09/09 10:34
9060920-DUP1										
Phosphorus	440	494	B	mg/kg	11	43	9060920	NSF0032-02		06/09/09 18:05
9061057-DUP1										
Chloride	27.2	33.6	R3	mg/kg	21	20	9061057	NSE2442-04		06/13/09 11:33
Fluoride	0.600	0.600		mg/kg	0	20	9061057	NSE2442-04		06/13/09 11:33
Sulfate	133	221	R3	mg/kg	50	20	9061057	NSE2442-04		06/13/09 11:33
Bromide	ND	ND		mg/kg		20	9061057	NSE2442-04		06/13/09 11:33
Nitrate as N	0.700	1.50	R3	mg/kg	73	20	9061057	NSE2442-04		06/13/09 11:33
9061057-DUP2										
Chloride	7.50	15.1	R3	mg/kg	67	20	9061057	NSE2463-01		06/13/09 14:18
Fluoride	1.20	1.20		mg/kg	0	20	9061057	NSE2463-01		06/13/09 14:18
Sulfate	75.9	46.5	R3	mg/kg	48	20	9061057	NSE2463-01		06/13/09 14:18
Bromide	ND	ND		mg/kg		20	9061057	NSE2463-01		06/13/09 14:18
Nitrate as N	4.00	4.30		mg/kg	7	20	9061057	NSE2463-01		06/13/09 14:18

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9060231-BS1								
Sulfide	200	201		mg/kg	100%	80 - 120	9060231	06/02/09 18:03
9060801-BS1								
pH	7.00	6.97		pH Units	100%	0 - 200	9060801	06/09/09 10:34
9060920-BS1								
Phosphorus	200	206	B	mg/kg	103%	85 - 115	9060920	06/09/09 18:05
9061057-BS1								
Chloride	30.0	29.0		mg/kg	97%	90 - 110	9061057	06/13/09 10:01
Fluoride	20.0	20.5		mg/kg	102%	90 - 110	9061057	06/13/09 10:01
Sulfate	150	151		mg/kg	101%	90 - 110	9061057	06/13/09 10:01
Bromide	100	93.0		mg/kg	93%	90 - 110	9061057	06/13/09 10:01
Nitrate as N	30.0	28.4		mg/kg	95%	90 - 110	9061057	06/13/09 10:01
Total Metals by EPA Method 6010B								
9060062-BS1								
Aluminum	400	403		mg/kg	101%	80 - 120	9060062	06/05/09 16:01
Antimony	100	102		mg/kg	102%	80 - 120	9060062	06/05/09 16:01
Arsenic	20.0	19.6		mg/kg	98%	80 - 120	9060062	06/05/09 16:01
Barium	400	412		mg/kg	103%	80 - 120	9060062	06/05/09 16:01
Beryllium	10.0	10.0		mg/kg	100%	80 - 120	9060062	06/05/09 16:01
Boron	200	211		mg/kg	105%	80 - 120	9060062	06/05/09 16:01
Cadmium	20.0	21.3		mg/kg	106%	80 - 120	9060062	06/05/09 16:01
Calcium	1000	976		mg/kg	98%	80 - 120	9060062	06/05/09 16:01
Chromium	40.0	41.5		mg/kg	104%	80 - 120	9060062	06/05/09 16:01
Cobalt	100	107		mg/kg	107%	80 - 120	9060062	06/05/09 16:01
Copper	50.0	52.8		mg/kg	106%	80 - 120	9060062	06/05/09 16:01
Iron	200	216		mg/kg	108%	80 - 120	9060062	06/05/09 16:01
Lead	100	101		mg/kg	101%	80 - 120	9060062	06/05/09 16:01
Magnesium	1000	969		mg/kg	97%	80 - 120	9060062	06/05/09 16:01
Manganese	100	99.0		mg/kg	99%	80 - 120	9060062	06/05/09 16:01
Molybdenum	100	98.6		mg/kg	99%	80 - 120	9060062	06/05/09 16:01
Nickel	100	104		mg/kg	104%	80 - 120	9060062	06/05/09 16:01
Potassium	1000	834		mg/kg	83%	80 - 120	9060062	06/05/09 16:01
Selenium	20.0	19.9		mg/kg	99%	80 - 120	9060062	06/05/09 16:01
Silver	10.0	8.70		mg/kg	87%	75 - 125	9060062	06/05/09 16:01
Sodium	1000	946		mg/kg	95%	80 - 120	9060062	06/05/09 16:01
Thallium	100	94.4		mg/kg	94%	80 - 120	9060062	06/05/09 16:01
Vanadium	100	100		mg/kg	100%	80 - 120	9060062	06/05/09 16:01
Zinc	100	104		mg/kg	104%	80 - 120	9060062	06/05/09 16:01

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A								
9054416-BS1								
Mercury	0.167	0.165		mg/kg	99%	80 - 120	9054416	06/03/09 15:58
9060207-BS1								
Mercury	0.167	0.164		mg/kg	98%	80 - 120	9060207	06/08/09 14:42

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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9060801-BSD1												
pH		6.98		pH Units	7.00	100%	0 - 200	0.1	200	9060801		06/09/09 10:34
Mercury by EPA Methods 7470A/7471A												
9054416-BSD1												
Mercury		0.165		mg/kg	0.167	99%	80 - 120	0.2	20	9054416		06/03/09 16:00

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9060231-MS1										
Sulfide	ND	196		mg/kg	200	98%	70 - 130	9060231	NSE2442-01	06/02/09 18:03
9060920-MS1										
Phosphorus	440	645	B	mg/kg	200	102%	66 - 143	9060920	NSF0032-02	06/09/09 18:05
9061057-MS1										
Chloride	25.6	91.4	M1	mg/kg	30.0	219%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Fluoride	ND	8.20	M2	mg/kg	20.0	41%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Sulfate	92.4	255		mg/kg	150	108%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Bromide	ND	95.9		mg/kg	100	96%	90 - 110	9061057	NSE2442-05	06/13/09 12:10
Nitrate as N	ND	30.6		mg/kg	30.0	102%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
9061057-MS2										
Chloride	8.00	40.2		mg/kg	30.0	107%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Fluoride	ND	7.00	M2	mg/kg	20.0	35%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Sulfate	134	241		mg/kg	150	71%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Bromide	ND	95.0		mg/kg	100	95%	90 - 110	9061057	NSE2471-01	06/13/09 16:09
Nitrate as N	3.80	33.5		mg/kg	30.0	99%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Total Metals by EPA Method 6010B										
9060062-MS1										
Aluminum	25900	31200	MHA	mg/kg	396	1340%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Antimony	0.946	94.3		mg/kg	99.0	94%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Arsenic	3.30	20.2		mg/kg	19.8	86%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Barium	58.1	475		mg/kg	396	105%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Beryllium	0.386	10.3		mg/kg	9.90	100%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Boron	ND	205		mg/kg	198	104%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Cadmium	ND	20.3		mg/kg	19.8	102%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Calcium	236	1460		mg/kg	990	124%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Chromium	24.1	68.8		mg/kg	39.6	113%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Cobalt	1.66	107		mg/kg	99.0	106%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Copper	ND	54.9		mg/kg	49.5	111%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Iron	11900	8470	MHA	mg/kg	198	-1740%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Lead	12.7	109		mg/kg	99.0	98%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Magnesium	907	2230	M1	mg/kg	990	134%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Manganese	22.5	135		mg/kg	99.0	113%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Molybdenum	ND	93.0		mg/kg	99.0	94%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Nickel	4.25	103		mg/kg	99.0	100%	75 - 125	9060062	NSE2471-01	06/05/09 18:18

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2463
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9060062-MS1										
Potassium	703	2920	M1	mg/kg	990	224%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Selenium	0.894	20.4		mg/kg	19.8	98%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Silver	ND	8.53		mg/kg	9.90	86%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Sodium	361	1620	M1	mg/kg	990	127%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Thallium	ND	90.1		mg/kg	99.0	91%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Vanadium	42.6	137		mg/kg	99.0	95%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Zinc	7.47	111		mg/kg	99.0	104%	75 - 125	9060062	NSE2471-01	06/05/09 18:18
Mercury by EPA Methods 7470A/7471A										
9054416-MS1										
Mercury	ND	0.151		mg/kg	0.162	94%	75 - 125	9054416	NSE2073-01	06/03/09 16:07
9060207-MS1										
Mercury	ND	0.186		mg/kg	0.168	111%	75 - 125	9060207	NSE2437-01	06/08/09 14:47

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	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9060231-MSD1												
Sulfide	ND	192		mg/kg	200	96%	70 - 130	2	12	9060231	NSE2442-01	06/02/09 18:03
9060920-MSD1												
Phosphorus	440	669	B	mg/kg	200	114%	66 - 143	4	43	9060920	NSF0032-02	06/09/09 18:05
9061057-MSD1												
Chloride	25.6	79.7	M1	mg/kg	30.0	180%	80 - 120	14	20	9061057	NSE2442-05	06/13/09 12:28
Fluoride	ND	7.20	M2	mg/kg	20.0	36%	80 - 120	13	20	9061057	NSE2442-05	06/13/09 12:28
Sulfate	92.4	239		mg/kg	150	98%	80 - 120	6	20	9061057	NSE2442-05	06/13/09 12:28
Bromide	ND	96.1		mg/kg	100	96%	90 - 110	0.2	20	9061057	NSE2442-05	06/13/09 12:28
Nitrate as N	ND	30.0		mg/kg	30.0	100%	80 - 120	2	20	9061057	NSE2442-05	06/13/09 12:28
9061057-MSD2												
Chloride	8.00	37.0		mg/kg	30.0	97%	80 - 120	8	20	9061057	NSE2471-01	06/13/09 16:27
Fluoride	ND	5.50	M2	mg/kg	20.0	28%	80 - 120	24	20	9061057	NSE2471-01	06/13/09 16:27
Sulfate	134	203	M2	mg/kg	150	46%	80 - 120	17	20	9061057	NSE2471-01	06/13/09 16:27
Bromide	ND	94.5		mg/kg	100	94%	90 - 110	0.5	20	9061057	NSE2471-01	06/13/09 16:27
Nitrate as N	3.80	32.6		mg/kg	30.0	96%	80 - 120	3	20	9061057	NSE2471-01	06/13/09 16:27
Total Metals by EPA Method 6010B												
9060062-MSD1												
Aluminum	25900	27900	MHA	mg/kg	395	515%	75 - 125	11	20	9060062	NSE2471-01	06/05/09 18:23
Antimony	0.946	94.4		mg/kg	98.8	95%	75 - 125	0.2	20	9060062	NSE2471-01	06/05/09 18:23
Arsenic	3.30	20.5		mg/kg	19.8	87%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Barium	58.1	463		mg/kg	395	103%	75 - 125	3	20	9060062	NSE2471-01	06/05/09 18:23
Beryllium	0.386	10.1		mg/kg	9.88	99%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Boron	ND	199		mg/kg	198	101%	75 - 125	3	20	9060062	NSE2471-01	06/05/09 18:23
Cadmium	ND	20.0		mg/kg	19.8	101%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Calcium	236	1320		mg/kg	988	110%	75 - 125	10	20	9060062	NSE2471-01	06/05/09 18:23
Chromium	24.1	66.3		mg/kg	39.5	107%	75 - 125	4	20	9060062	NSE2471-01	06/05/09 18:23
Cobalt	1.66	106		mg/kg	98.8	105%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Copper	ND	54.7		mg/kg	49.4	111%	75 - 125	0.5	20	9060062	NSE2471-01	06/05/09 18:23
Iron	11900	9190	MHA	mg/kg	198	-1380%	75 - 125	8	20	9060062	NSE2471-01	06/05/09 18:23
Lead	12.7	108		mg/kg	98.8	97%	75 - 125	0.8	20	9060062	NSE2471-01	06/05/09 18:23
Magnesium	907	2090		mg/kg	988	119%	75 - 125	7	20	9060062	NSE2471-01	06/05/09 18:23
Manganese	22.5	129		mg/kg	98.8	107%	75 - 125	5	20	9060062	NSE2471-01	06/05/09 18:23
Molybdenum	ND	93.6		mg/kg	98.8	95%	75 - 125	0.7	20	9060062	NSE2471-01	06/05/09 18:23
Nickel	4.25	102		mg/kg	98.8	99%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Potassium	703	2190	M1, R3	mg/kg	988	151%	75 - 125	28	20	9060062	NSE2471-01	06/05/09 18:23
Selenium	0.894	19.2		mg/kg	19.8	93%	75 - 125	6	20	9060062	NSE2471-01	06/05/09 18:23
Silver	ND	8.26		mg/kg	9.88	84%	75 - 125	3	20	9060062	NSE2471-01	06/05/09 18:23

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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA Method 6010B												
9060062-MSD1												
Sodium	361	1510		mg/kg	988	116%	75 - 125	7	20	9060062	NSE2471-01	06/05/09 18:23
Thallium	ND	91.2		mg/kg	98.8	92%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Vanadium	42.6	133		mg/kg	98.8	92%	75 - 125	2	20	9060062	NSE2471-01	06/05/09 18:23
Zinc	7.47	110		mg/kg	98.8	103%	75 - 125	1	20	9060062	NSE2471-01	06/05/09 18:23
Mercury by EPA Methods 7470A/7471A												
9054416-MSD1												
Mercury	ND	0.152		mg/kg	0.162	94%	75 - 125	0.6	20	9054416	NSE2073-01	06/03/09 16:09
9060207-MSD1												
Mercury	ND	0.187		mg/kg	0.167	112%	75 - 125	0.4	20	9060207	NSE2437-01	06/08/09 14:49

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Attn	Greg Grose	Received:	05/29/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
EPA 365.4 M	Soil	N/A		
SW846 6010B	Soil	N/A	X	N/A
SW846 7471A	Soil		X	
SW846 9030B/9034	Soil	N/A	X	N/A
SW846 9045D	Soil			
SW846 9056	Soil	N/A	X	N/A

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Attn	Greg Grose	Received:	05/29/09 08:00

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
HTI	The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

Phosphorus in soil 365.4 M - M = Modified for soil analysis

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER

NSE2463

Cooler Received/Opened On 5 / 29/ 09 @ 8:00

1. Tracking # 7934 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 4.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 1 front 1 back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

51020

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Page 1 of 1

51021

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buck
SamplerSignature:

TA Account #: 63036
PO #: 2909079 74
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

NSE2463
06/12/09 23:59

	Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Bromide SW846 9056	Chloride SW846 9056	Fluoride IC SW846 9056	METALS - SEE LIST	Metals, RCRA Solid ICP 6010B	Nitrate SW846 9056	pH 9045D (+1)	Phosphorus Total 365.4	Sulfate 9056	Sulfide SW846 9030B/9034							RUSH TAT (Pre Schedule) *
01	HA-BGL-RB1	5/28/09	1130	2		X									X					X		X	X	X	X	X	X	X	X	X	X							
02	HA-BGL-RB2	5/28/09	1140	2		X									X					X		X	X	X	X	X	X	X	X	X	X							
03	HA-BGL-RB3	5/28/09	1150	2		X									X					X		X	X	X	X	X	X	X	X	X	X							
04	HA-BGL-RB4	5/28/09	1200	2		X									X					X		X	X	X	X	X	X	X	X	X	X							
05	HA-BGL-RBDUP	5/28/09	1215	2		X									X					X		X	X	X	X	X	X	X	X	X	X							

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 14995
TASK 4.3 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	5/28/09	1500	Fed Ex					

Shipped Via:

Received for TestAmerica by: Date: 5/29 Time: 8:00

Shipped Via:

Temperature Upon Receipt: 4.1
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific
(If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)

Date Due of Report:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 17, 2009 4:32:29PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSE2442
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 05/29/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
HA-BGC-SG13	NSE2442-01	05/28/09 09:20
HA-BGC-SG12	NSE2442-02	05/28/09 09:30
HA-BGC-SW22	NSE2442-03	05/28/09 09:40
HA-BGC-SG9	NSE2442-04	05/28/09 09:50
HA-BGC-SG10	NSE2442-05	05/28/09 10:00
HA-BGC-SG11	NSE2442-06	05/28/09 10:10
HA-BGC-DUP01	NSE2442-07	05/28/09 10:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2442-01 (HA-BGC-SG13 - Soil) Sampled: 05/28/09 09:20								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 10:19	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 10:19	SW846 9056	9061057
Sulfate	**103**		mg/kg	10.0	1	06/13/09 10:19	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 10:19	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 10:19	SW846 9056	9061057
pH	**3.90**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800
Sample ID: NSE2442-02 (HA-BGC-SG12 - Soil) Sampled: 05/28/09 09:30								
General Chemistry Parameters								
Chloride	**32.4**		mg/kg	10.0	1	06/13/09 10:38	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 10:38	SW846 9056	9061057
Sulfate	**40.6**		mg/kg	10.0	1	06/13/09 10:38	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 10:38	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 10:38	SW846 9056	9061057
pH	**4.80**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800
Sample ID: NSE2442-03 (HA-BGC-SW22 - Soil) Sampled: 05/28/09 09:40								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 10:56	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 10:56	SW846 9056	9061057
Sulfate	**72.1**		mg/kg	10.0	1	06/13/09 10:56	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 10:56	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 10:56	SW846 9056	9061057
pH	**4.20**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800
Sample ID: NSE2442-04 (HA-BGC-SG9 - Soil) Sampled: 05/28/09 09:50								
General Chemistry Parameters								
Chloride	**27.2**		mg/kg	10.0	1	06/13/09 11:14	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 11:14	SW846 9056	9061057
Sulfate	**133**		mg/kg	10.0	1	06/13/09 11:14	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 11:14	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 11:14	SW846 9056	9061057
pH	**5.40**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2442-05 (HA-BGC-SG10 - Soil) Sampled: 05/28/09 10:00								
General Chemistry Parameters								
Chloride	**25.6**	M1	mg/kg	10.0	1	06/13/09 11:51	SW846 9056	9061057
Fluoride	ND	M2	mg/kg	1.00	1	06/13/09 11:51	SW846 9056	9061057
Sulfate	**92.4**		mg/kg	10.0	1	06/13/09 11:51	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 11:51	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 11:51	SW846 9056	9061057
pH	**5.50**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800
Sample ID: NSE2442-06 (HA-BGC-SG11 - Soil) Sampled: 05/28/09 10:10								
General Chemistry Parameters								
Chloride	**62.3**		mg/kg	10.0	1	06/13/09 13:23	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 13:23	SW846 9056	9061057
Sulfate	**113**		mg/kg	10.0	1	06/13/09 13:23	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 13:23	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 13:23	SW846 9056	9061057
pH	**4.90**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800
Sample ID: NSE2442-07 (HA-BGC-DUP01 - Soil) Sampled: 05/28/09 10:30								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/13/09 13:41	SW846 9056	9061057
Fluoride	ND		mg/kg	1.00	1	06/13/09 13:41	SW846 9056	9061057
Sulfate	**64.8**		mg/kg	10.0	1	06/13/09 13:41	SW846 9056	9061057
Sulfide	ND		mg/kg	20.0	1	06/02/09 18:03	W846 9030B/903	9060231
Bromide	ND		mg/kg	10.0	1	06/13/09 13:41	SW846 9056	9061057
Nitrate as N	ND		mg/kg	1.00	1	06/13/09 13:41	SW846 9056	9061057
pH	**4.70**	HTI	pH Units	0.100	1	06/09/09 11:04	SW846 9045D	9060800
Temperature of pH determination	**23.5**	HTI	Deg C	NA	1	06/09/09 11:04	EPA 170.1	9060800

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9060231-BLK1						
Sulfide	<5.00		mg/kg	9060231	9060231-BLK1	06/02/09 18:03
9060800-BLK1						
pH	<0.100		pH Units	9060800	9060800-BLK1	06/09/09 11:04
Temperature of pH determination	<0.00		Deg C	9060800	9060800-BLK1	06/09/09 11:04
9061057-BLK1						
Chloride	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Fluoride	<0.500		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Sulfate	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Bromide	<5.00		mg/kg	9061057	9061057-BLK1	06/13/09 09:42
Nitrate as N	<0.500		mg/kg	9061057	9061057-BLK1	06/13/09 09:42

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9060231-DUP1										
Sulfide	ND	ND		mg/kg		12	9060231	NSE2471-05		06/02/09 18:03
9060800-DUP1										
pH	3.90	4.00		pH Units	3	200	9060800	NSE2442-01		06/09/09 11:04
Temperature of pH determination	23.5	23.5		Deg C	0	200	9060800	NSE2442-01		06/09/09 11:04
9061057-DUP1										
Chloride	27.2	33.6	R3	mg/kg	21	20	9061057	NSE2442-04		06/13/09 11:33
Fluoride	0.600	0.600		mg/kg	0	20	9061057	NSE2442-04		06/13/09 11:33
Sulfate	133	221	R3	mg/kg	50	20	9061057	NSE2442-04		06/13/09 11:33
Bromide	ND	ND		mg/kg		20	9061057	NSE2442-04		06/13/09 11:33
Nitrate as N	0.700	1.50	R3	mg/kg	73	20	9061057	NSE2442-04		06/13/09 11:33
9061057-DUP2										
Chloride	7.50	15.1	R3	mg/kg	67	20	9061057	NSE2463-01		06/13/09 14:18
Fluoride	1.20	1.20		mg/kg	0	20	9061057	NSE2463-01		06/13/09 14:18
Sulfate	75.9	46.5	R3	mg/kg	48	20	9061057	NSE2463-01		06/13/09 14:18
Bromide	ND	ND		mg/kg		20	9061057	NSE2463-01		06/13/09 14:18
Nitrate as N	4.00	4.30		mg/kg	7	20	9061057	NSE2463-01		06/13/09 14:18

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9060231-BS1								
Sulfide	200	201		mg/kg	100%	80 - 120	9060231	06/02/09 18:03
9060800-BS1								
pH	7.00	6.97		pH Units	100%	0 - 200	9060800	06/09/09 11:04
9061057-BS1								
Chloride	30.0	29.0		mg/kg	97%	90 - 110	9061057	06/13/09 10:01
Fluoride	20.0	20.5		mg/kg	102%	90 - 110	9061057	06/13/09 10:01
Sulfate	150	151		mg/kg	101%	90 - 110	9061057	06/13/09 10:01
Bromide	100	93.0		mg/kg	93%	90 - 110	9061057	06/13/09 10:01
Nitrate as N	30.0	28.4		mg/kg	95%	90 - 110	9061057	06/13/09 10:01

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9060800-BSD1												
pH		6.95		pH Units	7.00	99%	0 - 200	0.3	200	9060800		06/09/09 11:04

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9060231-MS1										
Sulfide	ND	196		mg/kg	200	98%	70 - 130	9060231	NSE2442-01	06/02/09 18:03
9061057-MS1										
Chloride	25.6	91.4	M1	mg/kg	30.0	219%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Fluoride	ND	8.20	M2	mg/kg	20.0	41%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Sulfate	92.4	255		mg/kg	150	108%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
Bromide	ND	95.9		mg/kg	100	96%	90 - 110	9061057	NSE2442-05	06/13/09 12:10
Nitrate as N	ND	30.6		mg/kg	30.0	102%	80 - 120	9061057	NSE2442-05	06/13/09 12:10
9061057-MS2										
Chloride	8.00	40.2		mg/kg	30.0	107%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Fluoride	ND	7.00	M2	mg/kg	20.0	35%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Sulfate	134	241		mg/kg	150	71%	80 - 120	9061057	NSE2471-01	06/13/09 16:09
Bromide	ND	95.0		mg/kg	100	95%	90 - 110	9061057	NSE2471-01	06/13/09 16:09
Nitrate as N	3.80	33.5		mg/kg	30.0	99%	80 - 120	9061057	NSE2471-01	06/13/09 16:09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9060231-MSD1												
Sulfide	ND	192		mg/kg	200	96%	70 - 130	2	12	9060231	NSE2442-01	06/02/09 18:03
9061057-MSD1												
Chloride	25.6	79.7	M1	mg/kg	30.0	180%	80 - 120	14	20	9061057	NSE2442-05	06/13/09 12:28
Fluoride	ND	7.20	M2	mg/kg	20.0	36%	80 - 120	13	20	9061057	NSE2442-05	06/13/09 12:28
Sulfate	92.4	239		mg/kg	150	98%	80 - 120	6	20	9061057	NSE2442-05	06/13/09 12:28
Bromide	ND	96.1		mg/kg	100	96%	90 - 110	0.2	20	9061057	NSE2442-05	06/13/09 12:28
Nitrate as N	ND	30.0		mg/kg	30.0	100%	80 - 120	2	20	9061057	NSE2442-05	06/13/09 12:28
9061057-MSD2												
Chloride	8.00	37.0		mg/kg	30.0	97%	80 - 120	8	20	9061057	NSE2471-01	06/13/09 16:27
Fluoride	ND	5.50	M2	mg/kg	20.0	28%	80 - 120	24	20	9061057	NSE2471-01	06/13/09 16:27
Sulfate	134	203	M2	mg/kg	150	46%	80 - 120	17	20	9061057	NSE2471-01	06/13/09 16:27
Bromide	ND	94.5		mg/kg	100	94%	90 - 110	0.5	20	9061057	NSE2471-01	06/13/09 16:27
Nitrate as N	3.80	32.6		mg/kg	30.0	96%	80 - 120	3	20	9061057	NSE2471-01	06/13/09 16:27

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
SW846 9030B/9034	Soil	N/A	X	N/A
SW846 9045D	Soil			
SW846 9056	Soil	N/A	X	N/A

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2442
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/29/09 08:00

DATA QUALIFIERS AND DEFINITIONS

HTI	The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIPT

NSE2442

Cooler Received/Opened On: 5/29/09 @ 8:00

1. **Tracking #** 7901 **(last 4 digits, FedEx)**

Courier: Fed-ex 95610068

2. **Temperature of rep. sample or temp blank when opened:** 5.6 ***Degrees Celsius***
3. **If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen?** YES NO ..NA
4. **Were custody seals on outside of cooler?** YES...NO...NA

   If yes, how many and where: Front
5. **Were the seals intact, signed, and dated correctly?** YES...NO...NA
6. **Were custody papers inside cooler?** YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. **Were custody seals on containers:** YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA
8. **Packing mat'l used?** Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. **Cooling process:** Ice Ice-pack Ice (direct contact) Dry ice Other None
10. **Did all containers arrive in good condition (unbroken)?** YES...NO...NA
11. **Were all container labels complete (#, date, signed, pres., etc)?** YES...NO...NA
12. **Did all container labels and tags agree with custody papers?** YES...NO...NA

13a. **Were VOA vials received?** YES...NO...NA

   b. **Was there any observable headspace present in any VOA vial?** YES...NO...NA

14. **Was there a Trip Blank in this cooler?** YES...NO...NA **If multiple coolers, sequence #**_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. **On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?** YES...NO...NA

   b. **Did the bottle labels indicate that the correct preservatives were used** YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. **Was residual chlorine present?** YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. **Were custody papers properly filled out (ink, signed, etc)?** YES...NO...NA
18. **Did you sign the custody papers in the appropriate place?** YES...NO...NA
19. **Were correct containers used for the analysis requested?** YES...NO...NA
20. **Was sufficient amount of sample sent in each container?** YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. **Were there Non-Conformance issues at login?** YES...NO **Was a PIPE generated?** YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSE2442
06/12/09 23:59

Page 1 of 1

51034

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buchy
SamplerSignature:

TA Account #: 63036 PO #: 2009079 24
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Bromide SW846 9056	Chloride SW846 9056	Fluoride IC SW846 9056	Nitrate SW846 9056	pH 9045D (+T)	Sulfate 9056	Sulfide SW846 9030B/9034									RUSH TAT (Pre Schedule) *
HA-BGC-SG13	5/28/09	920	1		X														X		X	X	X	X	X	X	X			NSE 2442				01		
HA-BGC-SG12	5/28/09	930	1		X														X		X	X	X	X	X	X	X							02		
HA-BGC-SW22	5/28/09	940	1		X														X		X	X	X	X	X	X	X							03		
HA-BGC-SG9	5/28/09	950	1		X														X		X	X	X	X	X	X	X							04		
HA-BGC-SG10	5/28/09	1000	1		X														X		X	X	X	X	X	X	X							05		
HA-BGC-SG11	5/28/09	1010	1		X														X		X	X	X	X	X	X	X							06		
HA-BGC-Dup01	5/28/09	1030	1		X														X		X	X	X	X	X	X	X							07		

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 14987*
TASK 4.2 - SURFACE SOIL

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	5/28/09	1500	FedEx					

Shipped Via:	Shipped Via:	QC Deliverables (Please Circle One) : Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
Received for TestAmerica by: Date: 5/29/09 Time: 0800	Temperature Upon Receipt: 5.6c; Sample Containers Intact? Y N; VOCs Free of Headspace? Y N		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 29, 2009 3:25:56PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF0856
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/09/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-BGC-13 (0-2)	NSF0856-01	06/08/09 10:00
MW-BGC-13 (10-12)	NSF0856-02	06/08/09 10:10
MW-BGC-14 (0-2)	NSF0856-03	06/08/09 12:30
MW-BGC-14 (13-15)	NSF0856-04	06/08/09 12:40
MW-BGC-15 (0-2)	NSF0856-05	06/08/09 15:00
MW-BGC-15 (8-10)	NSF0856-06	06/08/09 15:15
MW-BGC-Dup 01	NSF0856-07	06/08/09 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0856-01 (MW-BGC-13 (0-2) - Soil) Sampled: 06/08/09 10:00								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/27/09 23:15	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/27/09 23:15	SW846 9056	9062790
Sulfate	**42.7**		mg/kg	10.0	1	06/27/09 23:15	SW846 9056	9062790
Sulfide	ND		mg/kg	20.0	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/27/09 23:15	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/27/09 23:15	SW846 9056	9062790
pH	**5.50**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550
Sample ID: NSF0856-02 (MW-BGC-13 (10-12) - Soil) Sampled: 06/08/09 10:10								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/28/09 00:10	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/28/09 00:10	SW846 9056	9062790
Sulfate	**733**		mg/kg	20.0	2	06/28/09 18:44	SW846 9056	9062790
Sulfide	**21.0**		mg/kg	20.0	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/28/09 00:10	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/28/09 00:10	SW846 9056	9062790
pH	**4.20**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550
Sample ID: NSF0856-03 (MW-BGC-14 (0-2) - Soil) Sampled: 06/08/09 12:30								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/28/09 00:28	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/28/09 00:28	SW846 9056	9062790
Sulfate	**12.4**		mg/kg	10.0	1	06/28/09 00:28	SW846 9056	9062790
Sulfide	ND		mg/kg	20.0	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/28/09 00:28	SW846 9056	9062790
Nitrate as N	**2.70**		mg/kg	1.00	1	06/28/09 00:28	SW846 9056	9062790
pH	**5.30**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550
Sample ID: NSF0856-04 (MW-BGC-14 (13-15) - Soil) Sampled: 06/08/09 12:40								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/28/09 00:47	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/28/09 00:47	SW846 9056	9062790
Sulfate	**304**		mg/kg	10.0	1	06/28/09 00:47	SW846 9056	9062790
Sulfide	ND		mg/kg	20.0	1	06/13/09 10:10	W846 9030B/903	9062212
Bromide	ND		mg/kg	10.0	1	06/28/09 00:47	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/28/09 00:47	SW846 9056	9062790
pH	**3.50**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF0856-05 (MW-BGC-15 (0-2) - Soil) Sampled: 06/08/09 15:00								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/28/09 01:05	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/28/09 01:05	SW846 9056	9062790
Sulfate	**17.6**		mg/kg	10.0	1	06/28/09 01:05	SW846 9056	9062790
Sulfide	ND		mg/kg	20.0	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/28/09 01:05	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/28/09 01:05	SW846 9056	9062790
pH	**5.50**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550
Sample ID: NSF0856-06 (MW-BGC-15 (8-10) - Soil) Sampled: 06/08/09 15:15								
General Chemistry Parameters								
Chloride	**206**		mg/kg	50.0	5	06/28/09 19:02	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/28/09 01:23	SW846 9056	9062790
Sulfate	**903**		mg/kg	50.0	5	06/28/09 19:02	SW846 9056	9062790
Sulfide	ND		mg/kg	20.0	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/28/09 01:23	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/28/09 01:23	SW846 9056	9062790
pH	**3.00**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550
Sample ID: NSF0856-07 (MW-BGC-Dup 01 - Soil) Sampled: 06/08/09 00:01								
General Chemistry Parameters								
Chloride	ND		mg/kg	10.0	1	06/28/09 01:42	SW846 9056	9062790
Fluoride	ND		mg/kg	1.00	1	06/28/09 01:42	SW846 9056	9062790
Sulfate	**17.3**		mg/kg	10.0	1	06/28/09 01:42	SW846 9056	9062790
Sulfide	ND		mg/kg	20.0	1	06/11/09 15:08	W846 9030B/903	9061771
Bromide	ND		mg/kg	10.0	1	06/28/09 01:42	SW846 9056	9062790
Nitrate as N	ND		mg/kg	1.00	1	06/28/09 01:42	SW846 9056	9062790
pH	**6.90**	HTI	pH Units	0.100	1	06/18/09 13:40	SW846 9045D	9061550
Temperature of pH determination	**22.7**	HTI	Deg C	NA	1	06/18/09 13:40	EPA 170.1	9061550

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9061550-BLK1						
pH	<0.100		pH Units	9061550	9061550-BLK1	06/18/09 13:40
Temperature of pH determination	<0.00		Deg C	9061550	9061550-BLK1	06/18/09 13:40
9061771-BLK1						
Sulfide	<5.00		mg/kg	9061771	9061771-BLK1	06/11/09 15:08
9062212-BLK1						
Sulfide	<5.00		mg/kg	9062212	9062212-BLK1	06/13/09 10:10
9062790-BLK1						
Chloride	<5.00		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Fluoride	<0.500		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Sulfate	<5.00		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Bromide	<5.00		mg/kg	9062790	9062790-BLK1	06/27/09 20:11
Nitrate as N	<0.500		mg/kg	9062790	9062790-BLK1	06/27/09 20:11

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9061550-DUP1										
pH	5.50	5.50		pH Units	0	200	9061550	NSF0856-01		06/18/09 13:40
Temperature of pH determination	22.7	22.7		Deg C	0	200	9061550	NSF0856-01		06/18/09 13:40
9061771-DUP1										
Sulfide	ND	6.00		mg/kg		12	9061771	NSF0856-07		06/11/09 15:08
9062212-DUP1										
Sulfide	9.00	9.00		mg/kg	0	12	9062212	NSF1046-01		06/13/09 10:10
9062790-DUP1										
Chloride	ND	6.01		mg/kg		20	9062790	NSF0856-07		06/28/09 02:00
Fluoride	0.770	0.830		mg/kg	8	20	9062790	NSF0856-07		06/28/09 02:00
Sulfate	17.3	14.1		mg/kg	20	20	9062790	NSF0856-07		06/28/09 02:00
Bromide	ND	ND		mg/kg		20	9062790	NSF0856-07		06/28/09 02:00
Nitrate as N	0.550	0.640		mg/kg	15	20	9062790	NSF0856-07		06/28/09 02:00

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9061550-BS1								
pH	7.00	7.01		pH Units	100%	0 - 200	9061550	06/18/09 13:40
9061771-BS1								
Sulfide	200	212		mg/kg	106%	80 - 120	9061771	06/11/09 15:08
9062212-BS1								
Sulfide	200	194		mg/kg	97%	80 - 120	9062212	06/13/09 10:10
9062790-BS1								
Chloride	30.0	31.4		mg/kg	105%	90 - 110	9062790	06/27/09 20:47
Fluoride	20.0	21.2		mg/kg	106%	90 - 110	9062790	06/27/09 20:47
Sulfate	150	154		mg/kg	103%	90 - 110	9062790	06/27/09 20:47
Bromide	100	98.3		mg/kg	98%	90 - 110	9062790	06/27/09 20:47
Nitrate as N	30.0	30.2		mg/kg	101%	90 - 110	9062790	06/27/09 20:47

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9061550-BSD1												
pH		6.99		pH Units	7.00	100%	0 - 200	0.3	200	9061550		06/18/09 13:40
9062212-BSD1												
Sulfide		196		mg/kg	200	98%	80 - 120	1	12	9062212		06/13/09 10:10
9062790-BSD1												
Chloride		32.9		mg/kg	30.0	110%	90 - 110	5	20	9062790		06/27/09 21:06
Fluoride		22.0		mg/kg	20.0	110%	90 - 110	4	20	9062790		06/27/09 21:06
Sulfate		159		mg/kg	150	106%	90 - 110	3	20	9062790		06/28/09 17:12
Bromide		101		mg/kg	100	101%	90 - 110	3	20	9062790		06/27/09 21:06
Nitrate as N		31.0		mg/kg	30.0	103%	90 - 110	3	20	9062790		06/27/09 21:06

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9061771-MS1										
Sulfide	6.00	190		mg/kg	200	92%	70 - 130	9061771	NSF0833-01	06/11/09 15:08
9062212-MS1										
Sulfide	82.0	232		mg/kg	200	75%	70 - 130	9062212	NSF0639-01	06/13/09 10:10
9062790-MS1										
Chloride	8.57	37.2		mg/kg	30.0	95%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Fluoride	5.11	24.3		mg/kg	20.0	96%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Sulfate	652	ND	MHA	mg/kg	150	-435%	80 - 120	9062790	NSF0851-01	06/27/09 21:43
Bromide	ND	96.9		mg/kg	100	97%	90 - 110	9062790	NSF0851-01	06/27/09 21:43
Nitrate as N	1.54	31.1		mg/kg	30.0	99%	80 - 120	9062790	NSF0851-01	06/27/09 21:43

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9061771-MSD1												
Sulfide	6.00	198		mg/kg	200	96%	70 - 130	4	12	9061771	NSF0833-01	06/11/09 15:08
9062212-MSD1												
Sulfide	82.0	236		mg/kg	200	77%	70 - 130	2	12	9062212	NSF0639-01	06/13/09 10:10
9062790-MSD1												
Chloride	8.57	38.0		mg/kg	30.0	98%	80 - 120	2	20	9062790	NSF0851-01	06/27/09 22:01
Fluoride	5.11	24.8		mg/kg	20.0	98%	80 - 120	2	20	9062790	NSF0851-01	06/27/09 22:01
Sulfate	652	ND	MHA	mg/kg	150	-435%	80 - 120		20	9062790	NSF0851-01	06/27/09 22:01
Bromide	ND	97.4		mg/kg	100	97%	90 - 110	0.5	20	9062790	NSF0851-01	06/27/09 22:01
Nitrate as N	1.54	31.3		mg/kg	30.0	99%	80 - 120	0.6	20	9062790	NSF0851-01	06/27/09 22:01

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 170.1	Soil			
SW846 9030B/9034	Soil	N/A	X	N/A
SW846 9045D	Soil			
SW846 9056	Soil	N/A	X	N/A

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF0856
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/09/09 08:00

DATA QUALIFIERS AND DEFINITIONS

HTI	The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT

NSF0856

Cooler Received/Opened On 6/9/09 @ 8:00

1. Tracking # 9487 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 5.5 *Degrees Celsius*
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA
4. Were custody seals on outside of cooler? YES NO NA

   If yes, how many and where: 1 BACK
5. Were the seals intact, signed, and dated correctly? YES NO NA
6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (initial) [illegible]

7. Were custody seals on containers: YES NO and Intact YES NO NA

   Were these signed and dated correctly? YES NO NA
8. Packing mat'l used? Bubble wrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES NO NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES NO NA
12. Did all container labels and tags agree with custody papers? YES NO NA

13a. Were VOA vials received? YES NO NA

   b. Was there any observable headspace present in any VOA vial? YES NO NA
14. Was there a Trip Blank in this cooler? YES NO NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) [illegible]

15a. On preserved bottles, did pH test strips suggest preservation reached the correct pH level? YES NO NA

   b. Did the bottle labels indicate that the correct preservatives were used YES NO NA

   If preservation in-house was needed, record standard ID of preservative used here_____
16. Was residual chlorine present? YES NO NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) [illegible]

17. Were custody papers properly filled out (ink, signed, etc)? YES NO NA
18. Did you sign the custody papers in the appropriate place? YES NO NA
19. Were correct containers used for the analysis requested? YES NO NA
20. Was sufficient amount of sample sent in each container? YES NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) [illegible]

I certify that I attached a label with the unique LIMS number to each container (intial) [illegible]

21. Were there Non-Conformance issues at login? YES NO Was a PIPE generated? YES NO #_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

51046

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSF0856
06/23/09 23:59

Page 1 of 1

51047

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Juliann Shockley
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	(specify) Other	Analyze for: Bromide SW846 9056	Chloride SW846 9056	Fluoride IC SW846 9056	Nitrate SW846 9056	pH 9045D (+T)	Sulfate 9056	Sulfide SW846 9030B/9034									RUSH TAT (Pre Schedule) *
MW-BGC-13(0-2)	6/8/09	1000	1	X	X									X					X		X	X	X	X	X	X	X			NSF0856-01						
MW-BGC-13(10-12)	6/8/09	1010	1		X									X					X		X	X	X	X	X	X	X								02	
MW-BGC-14(0-2)	6/8/09	1230	1		X									X					X		X	X	X	X	X	X	X								03	
MW-BGC-14(13-15)	6/8/09	1240	1		X									X					X		X	X	X	X	X	X	X								04	
MW-BGC-15(0-2)	6/8/09	1500	1		X									X					X		X	X	X	X	X	X	X								05	
MW-BGC-15(8-10)	6/8/09	1515	1		X									X					X		X	X	X	X	X	X	X								06	
[redacted]																																				
MW-BGC-Dup01	6/8/09	[redacted]	1		X	X								X					X		X	X	X	X	X	X	X								07	
Temp Blank					X																															

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 14988
TASK 5.0 - MONITORING WELL SOIL

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	6/8/09	1730						

Shipped Via:			Shipped Via:		QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
Received for TestAmerica by:	Date: 6/9/09	Time: 0800	Temperature Upon Receipt: 5.5c	Sample Containers Intact? Y N VOCs Free of Headspace? Y N		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 23, 2009 5:56:05PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSF1914
Project Name: BGC - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 06/19/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-BGC-SG9	NSF1914-01	06/18/09 16:50
SW-BGC-SG10	NSF1914-02	06/18/09 16:40
SW-BGC-SG11	NSF1914-03	06/18/09 16:35
SW-BGC-SG12	NSF1914-04	06/18/09 16:15
SW-BGC-SG13	NSF1914-05	06/18/09 16:30
SW-BGC-SW22	NSF1914-06	06/18/09 16:20
SW-BGC-DUP0609	NSF1914-07	06/18/09 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Virginia Certification Number: 00323

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Mark Hollingsworth

Program Manager - National Accounts

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSF1914-01 (SW-BGC-SG9 - Water) Sampled: 06/18/09 16:50								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753
Sample ID: NSF1914-02 (SW-BGC-SG10 - Water) Sampled: 06/18/09 16:40								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753
Sample ID: NSF1914-03 (SW-BGC-SG11 - Water) Sampled: 06/18/09 16:35								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753
Sample ID: NSF1914-04 (SW-BGC-SG12 - Water) Sampled: 06/18/09 16:15								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753
Sample ID: NSF1914-05 (SW-BGC-SG13 - Water) Sampled: 06/18/09 16:30								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753
Sample ID: NSF1914-06 (SW-BGC-SW22 - Water) Sampled: 06/18/09 16:20								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753
Sample ID: NSF1914-07 (SW-BGC-DUP0609 - Water) Sampled: 06/18/09 00:01								
General Chemistry Parameters								
Sulfide	ND		mg/L	0.100	1	06/22/09 16:45	SM4500-S2 D	9062753

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9062753-BLK1						
Sulfide	<0.0400		mg/L	9062753	9062753-BLK1	06/22/09 16:45

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9062753-DUP1										
Sulfide	ND	ND		mg/L		50	9062753	NSF1502-02		06/22/09 16:45

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9062753-BS1								
Sulfide	1.00	1.02		ug/mL	102%	90 - 110	9062753	06/22/09 16:45

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9062753-BSD1												
Sulfide		1.03		ug/mL	1.00	103%	90 - 110	1	50	9062753		06/22/09 16:45

TestAmerica
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9062753-MS1										
Sulfide	ND	0.759		ug/mL	1.00	76%	70 - 130	9062753	NSF1914-07	06/22/09 16:45

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9062753-MSD1												
Sulfide	ND	0.768		ug/mL	1.00	77%	70 - 130	1	50	9062753	NSF1914-07	06/22/09 16:45

TestAmerica
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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
SM4500-S2 D	Water		X	

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSF1914
	21740 Beaumeade Circle, Suite 150	Project Name:	BGC - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	06/19/09 08:00

DATA QUALIFIERS AND DEFINITIONS

ND Not detected at the reporting limit (or method detection limit if shown)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER REC

NSF1914

Cooler Received/Opened On: 6/19/09 @ 8:00

1. Tracking # 5471 (last 4 digits, FedEx)

Courier: Fed-ex 95610068

2. Temperature of rep. sample or temp blank when opened: 1.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 1 Front / 1 Back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-I

End of Form

Revised 9/6/07

51058

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Ruiz
SamplerSignature:

TA Account #: 63036 PO #:
Invoice to: MACTEC Engineering & Consulting (801
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Vi
Regulatory District (CA):

NS
07/0

	Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify)	Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - SEE LIST	Metals, RCRA Water ICP 6010B	Nitrate N, IC 300.0
01	SW-BGC-S69	6-18-09	1650	1							1										X								
02	SW-BGC-S610	6-18-09	1640	1							1										X								
03	SW-BGC-S611	6-18-09	1635	1							1										X								
04	SW-BGC-S612	6-18-09	1625	1							1										X								
05	SW-BGC-S613	6-18-09	1630	1							1										X								
06	SW-BGCSW22	6-18-09	1620	1							1										X								
07	SW-BGC-DUP0609	6-18-09	—	1							1										X								

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 14989
~~TASK 6.0~~ METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, M
Task 3.0

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:
	6-18-09		Fed Ex			
Shipped Via:			Shipped Via:			
Received for TestAmerica by:	Date: 6/19	Time: 8:00	Temperature Upon Receipt: 1.1°C	Sample Containers Intact? Y N VOCs Free of Headspace? Y N		

QC Deliverables (Please Circle One) :
Level 2 Level 3 Level 4 Site Sp
(If site specific, please pre-schedule w/ T
Project Manager or attach specific instru

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 11, 2009 1:04:14PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSE2286
Project Name: BCG - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 05/28/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-BGC-SG13	NSE2286-01	05/27/09 10:45
SW-BGC-SW22	NSE2286-02	05/27/09 11:05
SW-BGC-SG12	NSE2286-03	05/27/09 11:25
SW-BGC-SG11	NSE2286-04	05/27/09 11:40
SW-BGC-DUP052709	NSE2286-05	05/27/09 12:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:
Although the COC requested the analysis of Sulfide, no containers preserved for this analysis were received at the laboratory so, at the request of the consultant, Sulfide was not analyzed.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2286-01 (SW-BGC-SG13 - Water) Sampled: 05/27/09 10:45								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	05/28/09 21:50	SM2320 B	9054402
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	ND		mg/L	1.00	1	05/29/09 00:55	EPA 300.1	9054350
Chloride	**22.7**		mg/L	5.00	5	06/10/09 09:05	EPA 300.0	9054350
Fluoride	**0.176**		mg/L	0.100	1	06/10/09 06:01	EPA 300.0	9054350
Nitrate as N	**0.137**		mg/L	0.100	1	05/29/09 00:55	EPA 300.0	9054350
Phosphorus	**0.114**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**80.5**		mg/L	5.00	5	06/10/09 09:05	EPA 300.0	9054350
Total Organic Carbon	**1.22**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	**2.89**		mg/L	1.11	1	05/28/09 19:05	SM2540 D	9054291
Total Metals by EPA Method 6010B								
Aluminum	**0.459**		mg/L	0.100	1	06/01/09 18:34	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Barium	**0.0305**		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 18:34	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 18:34	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 18:34	SW846 6010B	9054495
Calcium	**17.3**		mg/L	1.00	1	06/01/09 18:34	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 18:34	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 18:34	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Iron	**0.521**		mg/L	0.0500	1	06/01/09 18:34	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 18:34	SW846 6010B	9054495
Magnesium	**6.29**		mg/L	1.00	1	06/01/09 18:34	SW846 6010B	9054495
Manganese	**0.289**		mg/L	0.0150	1	06/01/09 18:34	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 18:34	SW846 6010B	9054495
Nickel	**0.0134**		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Potassium	**2.26**		mg/L	1.00	1	06/01/09 18:34	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 18:34	SW846 6010B	9054495
Sodium	**13.1**		mg/L	1.00	1	06/01/09 18:34	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 18:34	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 18:34	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 18:34	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:46	SW846 7470A	9054419

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2286-02 (SW-BGC-SW22 - Water) Sampled: 05/27/09 11:05								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	05/28/09 21:50	SM2320 B	9054402
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	ND		mg/L	1.00	1	05/29/09 01:14	EPA 300.1	9054350
Chloride	**26.8**		mg/L	5.00	5	06/10/09 09:41	EPA 300.0	9054350
Fluoride	**0.235**		mg/L	0.100	1	06/10/09 06:19	EPA 300.0	9054350
Nitrate as N	**0.109**		mg/L	0.100	1	05/29/09 01:14	EPA 300.0	9054350
Phosphorus	**0.180**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**154**		mg/L	5.00	5	06/10/09 09:41	EPA 300.0	9054350
Total Organic Carbon	**4.47**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	**27.1**		mg/L	1.25	1	05/28/09 19:05	SM2540 D	9054291
Total Metals by EPA Method 6010B								
Aluminum	**12.4**		mg/L	0.100	1	06/01/09 18:38	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Barium	**0.0400**		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Beryllium	**0.00450**		mg/L	0.00400	1	06/01/09 18:38	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 18:38	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 18:38	SW846 6010B	9054495
Calcium	**38.0**		mg/L	1.00	1	06/01/09 18:38	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 18:38	SW846 6010B	9054495
Cobalt	**0.0752**		mg/L	0.0200	1	06/01/09 18:38	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Iron	**18.1**		mg/L	0.0500	1	06/01/09 18:38	SW846 6010B	9054495
Lead	**0.00550**		mg/L	0.00500	1	06/01/09 18:38	SW846 6010B	9054495
Magnesium	**11.2**		mg/L	1.00	1	06/01/09 18:38	SW846 6010B	9054495
Manganese	**0.654**		mg/L	0.0150	1	06/01/09 18:38	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 18:38	SW846 6010B	9054495
Nickel	**0.0862**		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Potassium	**3.15**		mg/L	1.00	1	06/01/09 18:38	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 18:38	SW846 6010B	9054495
Sodium	**14.5**		mg/L	1.00	1	06/01/09 18:38	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 18:38	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 18:38	SW846 6010B	9054495
Zinc	**0.114**		mg/L	0.0500	1	06/01/09 18:38	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:48	SW846 7470A	9054419

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2286-03 (SW-BGC-SG12 - Water) Sampled: 05/27/09 11:25								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	05/28/09 21:50	SM2320 B	9054402
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	**2.34**		mg/L	1.00	1	05/29/09 01:32	EPA 300.1	9054350
Chloride	**216**		mg/L	50.0	50	06/10/09 10:00	EPA 300.0	9054350
Fluoride	**0.151**		mg/L	0.100	1	06/10/09 06:37	EPA 300.0	9054350
Nitrate as N	ND		mg/L	0.100	1	05/29/09 01:32	EPA 300.0	9054350
Phosphorus	**0.116**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**142**		mg/L	10.0	10	06/10/09 10:18	EPA 300.0	9054350
Total Organic Carbon	**1.44**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	ND		mg/L	1.11	1	05/29/09 20:32	SM2540 D	9054496
Total Metals by EPA Method 6010B								
Aluminum	**2.00**		mg/L	0.100	1	06/01/09 18:43	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Barium	**0.0776**		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 18:43	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 18:43	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 18:43	SW846 6010B	9054495
Calcium	**44.6**		mg/L	1.00	1	06/01/09 18:43	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 18:43	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 18:43	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Iron	**2.02**		mg/L	0.0500	1	06/01/09 18:43	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 18:43	SW846 6010B	9054495
Magnesium	**9.60**		mg/L	1.00	1	06/01/09 18:43	SW846 6010B	9054495
Manganese	**0.304**		mg/L	0.0150	1	06/01/09 18:43	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 18:43	SW846 6010B	9054495
Nickel	**0.0210**		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Potassium	**24.2**		mg/L	1.00	1	06/01/09 18:43	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 18:43	SW846 6010B	9054495
Sodium	**86.2**		mg/L	10.0	10	06/02/09 08:21	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 18:43	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 18:43	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 18:43	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:51	SW846 7470A	9054419

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2286-04 (SW-BGC-SG11 - Water) Sampled: 05/27/09 11:40								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	05/28/09 21:50	SM2320 B	9054402
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	**1.54**		mg/L	1.00	1	05/29/09 01:50	EPA 300.1	9054350
Chloride	**167**		mg/L	50.0	50	06/10/09 10:37	EPA 300.0	9054350
Fluoride	**0.121**		mg/L	0.100	1	06/10/09 06:56	EPA 300.0	9054350
Nitrate as N	ND		mg/L	0.100	1	05/29/09 01:50	EPA 300.0	9054350
Phosphorus	**0.132**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**90.0**		mg/L	5.00	5	06/10/09 10:55	EPA 300.0	9054350
Total Organic Carbon	**5.90**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	**15.8**		mg/L	1.25	1	05/29/09 20:32	SM2540 D	9054496
Total Metals by EPA Method 6010B								
Aluminum	**0.205**		mg/L	0.100	1	06/01/09 19:12	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Barium	**0.0797**		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 19:12	SW846 6010B	9054495
Boron	**0.0612**		mg/L	0.0500	1	06/01/09 19:12	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 19:12	SW846 6010B	9054495
Calcium	**33.7**		mg/L	1.00	1	06/01/09 19:12	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 19:12	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 19:12	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Iron	**0.717**		mg/L	0.0500	1	06/01/09 19:12	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 19:12	SW846 6010B	9054495
Magnesium	**6.96**		mg/L	1.00	1	06/01/09 19:12	SW846 6010B	9054495
Manganese	**0.179**		mg/L	0.0150	1	06/01/09 19:12	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 19:12	SW846 6010B	9054495
Nickel	ND		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Potassium	**24.4**		mg/L	1.00	1	06/01/09 19:12	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 19:12	SW846 6010B	9054495
Sodium	**70.6**		mg/L	10.0	10	06/02/09 08:25	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 19:12	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 19:12	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 19:12	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:58	SW846 7470A	9054419

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2286-05 (SW-BGC-DUP052709 - Water) Sampled: 05/27/09 12:00								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	05/28/09 21:50	SM2320 B	9054402
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	**2.25**		mg/L	1.00	1	05/29/09 02:09	EPA 300.1	9054350
Chloride	**244**		mg/L	50.0	50	06/10/09 11:50	EPA 300.0	9054350
Fluoride	**0.166**		mg/L	0.100	1	06/10/09 07:14	EPA 300.0	9054350
Nitrate as N	ND		mg/L	0.100	1	05/29/09 02:09	EPA 300.0	9054350
Phosphorus	**0.113**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**144**		mg/L	10.0	10	06/10/09 12:27	EPA 300.0	9054350
Total Organic Carbon	**1.74**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	**3.00**		mg/L	1.11	1	05/29/09 20:32	SM2540 D	9054496
Total Metals by EPA Method 6010B								
Aluminum	**1.94**		mg/L	0.100	1	06/01/09 19:17	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Barium	**0.0756**		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 19:17	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 19:17	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 19:17	SW846 6010B	9054495
Calcium	**44.0**		mg/L	1.00	1	06/01/09 19:17	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 19:17	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 19:17	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Iron	**1.98**		mg/L	0.0500	1	06/01/09 19:17	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 19:17	SW846 6010B	9054495
Magnesium	**9.38**		mg/L	1.00	1	06/01/09 19:17	SW846 6010B	9054495
Manganese	**0.299**		mg/L	0.0150	1	06/01/09 19:17	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 19:17	SW846 6010B	9054495
Nickel	**0.0200**		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Potassium	**23.5**		mg/L	1.00	1	06/01/09 19:17	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 19:17	SW846 6010B	9054495
Sodium	**87.2**		mg/L	10.0	10	06/02/09 08:29	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 19:17	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 19:17	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 19:17	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 12:00	SW846 7470A	9054419

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	9054419	NSE2286-01	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
SW846 7470A	9054419	NSE2286-02	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
SW846 7470A	9054419	NSE2286-03	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
SW846 7470A	9054419	NSE2286-04	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
SW846 7470A	9054419	NSE2286-05	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-04	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2286-05	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9054291-BLK1						
Total Suspended Solids	<0.500		mg/L	9054291	9054291-BLK1	05/28/09 19:05
9054292-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	9054292	9054292-BLK1	05/28/09 21:50
9054350-BLK1						
Bromide	<0.500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
Chloride	<0.500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
Fluoride	<0.0500		mg/L	9054350	9054350-BLK1	06/10/09 03:52
Nitrate as N	<0.0500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
Sulfate	<0.500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
9054402-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9054402	9054402-BLK1	05/28/09 21:50
9054496-BLK1						
Total Suspended Solids	<0.500		mg/L	9054496	9054496-BLK1	05/29/09 20:32
9060369-BLK1						
Total Organic Carbon	<0.500		mg/L	9060369	9060369-BLK1	06/03/09 12:39
9060914-BLK1						
Phosphorus	0.0670		mg/L	9060914	9060914-BLK1	06/09/09 18:05
Total Metals by EPA Method 6010B						
9054495-BLK1						
Aluminum	<0.0540		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Antimony	0.00250		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Arsenic	<0.00360		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Barium	<0.00100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Beryllium	<0.00100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Boron	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Cadmium	<0.000600		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Calcium	<0.100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Chromium	<0.00260		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Cobalt	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Copper	<0.00210		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Iron	<0.0490		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Lead	<0.00210		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Magnesium	<0.0660		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Manganese	<0.00100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Molybdenum	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
9054495-BLK1						
Nickel	<0.00230		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Potassium	<0.100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Selenium	<0.00390		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Silver	<0.00280		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Sodium	<0.820		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Thallium	<0.00630		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Vanadium	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Zinc	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Mercury by EPA Methods 7470A/7471A						
9054419-BLK1						
Mercury	<0.000100		mg/L	9054419	9054419-BLK1	06/03/09 11:30

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9054291-DUP1										
Total Suspended Solids	10.8	10.5		mg/L	3	20	9054291	NSE2276-01		05/28/09 19:05
9054291-DUP2										
Total Suspended Solids	1.20	1.50	R2	mg/L	22	20	9054291	NSE2204-01		05/28/09 19:05
9054292-DUP1										
Bicarbonate Alkalinity as CaCO3	ND	ND		mg/L		20	9054292	NSE2286-02		05/28/09 21:50
9054350-DUP1										
Bromide	2.25	2.22		mg/L	1	20	9054350	NSE2286-05		05/29/09 03:04
Chloride	244	254		mg/L	4	20	9054350	NSE2286-05		06/10/09 12:09
Fluoride	0.166	0.161		mg/L	3	19	9054350	NSE2286-05		06/10/09 08:09
Nitrate as N	ND	ND		mg/L		20	9054350	NSE2286-05		05/29/09 03:04
Sulfate	144	145		mg/L	0.8	20	9054350	NSE2286-05		06/10/09 12:45
9054402-DUP1										
Alkalinity, Total (CaCO3)	ND	ND		mg/L		20	9054402	NSE2286-02		05/28/09 21:50
9054496-DUP1										
Total Suspended Solids	38.6	39.2		mg/L	2	20	9054496	NSE2128-01		05/29/09 20:32
9054496-DUP2										
Total Suspended Solids	79.6	81.6		mg/L	2	20	9054496	NSE2321-01		05/29/09 20:32
9060369-DUP1										
Total Organic Carbon	1.22	1.23		mg/L	0.5	20	9060369	NSE2286-01		06/03/09 12:39
9060369-DUP2										
Total Organic Carbon	1.74	1.52		mg/L	14	20	9060369	NSE2286-05		06/03/09 12:39
9060914-DUP1										
Phosphorus	1.41	1.33		mg/L	6	37	9060914	NSF0052-01		06/09/09 18:05

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9054291-BS1								
Total Suspended Solids	100	91.0		mg/L	91%	90 - 110	9054291	05/28/09 19:05
9054350-BS1								
Bromide	10.0	9.94		mg/L	99%	90 - 110	9054350	05/28/09 23:05
Chloride	3.00	2.83	MNR	mg/L	94%	90 - 110	9054350	05/28/09 23:05
Fluoride	2.00	2.01		mg/L	100%	90 - 110	9054350	06/10/09 04:10
Nitrate as N	3.00	3.26		mg/L	109%	90 - 110	9054350	05/28/09 23:05
Sulfate	15.0	15.5		mg/L	103%	90 - 110	9054350	05/28/09 23:05
9054402-BS1								
Alkalinity, Total (CaCO3)	100	109		ug/mL	109%	90 - 110	9054402	05/28/09 21:50
9054496-BS1								
Total Suspended Solids	100	92.0		mg/L	92%	90 - 110	9054496	05/29/09 20:32
9060369-BS1								
Total Organic Carbon	10.0	9.98		ug/mL	100%	90 - 110	9060369	06/03/09 12:39
9060914-BS1								
Phosphorus	2.00	2.15		mg/L	108%	90 - 110	9060914	06/09/09 18:05
Total Metals by EPA Method 6010B								
9054495-BS1								
Aluminum	2.00	1.98		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Antimony	0.100	0.102		mg/L	102%	80 - 120	9054495	06/01/09 17:00
Arsenic	0.0500	0.0467		mg/L	93%	80 - 120	9054495	06/01/09 17:00
Barium	2.00	1.98		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Beryllium	0.0500	0.0527		mg/L	105%	80 - 120	9054495	06/01/09 17:00
Boron	1.00	0.972		mg/L	97%	80 - 120	9054495	06/01/09 17:00
Cadmium	0.0500	0.0494		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Calcium	5.00	4.90		mg/L	98%	80 - 120	9054495	06/01/09 17:00
Chromium	0.200	0.206		mg/L	103%	80 - 120	9054495	06/01/09 17:00
Cobalt	0.500	0.513		mg/L	103%	80 - 120	9054495	06/01/09 17:00
Copper	0.250	0.241		mg/L	96%	80 - 120	9054495	06/01/09 17:00
Iron	1.00	0.982		mg/L	98%	80 - 120	9054495	06/01/09 17:00
Lead	0.0500	0.0496		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Magnesium	5.00	4.84		mg/L	97%	80 - 120	9054495	06/01/09 17:00
Manganese	0.500	0.502		mg/L	100%	80 - 120	9054495	06/01/09 17:00
Molybdenum	0.500	0.480		mg/L	96%	80 - 120	9054495	06/01/09 17:00
Nickel	0.500	0.486		mg/L	97%	80 - 120	9054495	06/01/09 17:00
Potassium	5.00	4.16		mg/L	83%	80 - 120	9054495	06/01/09 17:00
Selenium	0.0500	0.0481		mg/L	96%	80 - 120	9054495	06/01/09 17:00

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
9054495-BS1								
Silver	0.0500	0.0507		mg/L	101%	80 - 120	9054495	06/01/09 17:00
Sodium	5.00	4.21		mg/L	84%	80 - 120	9054495	06/01/09 17:00
Thallium	0.0500	0.0477		mg/L	95%	80 - 120	9054495	06/01/09 17:00
Vanadium	0.500	0.490		mg/L	98%	80 - 120	9054495	06/01/09 17:00
Zinc	0.500	0.496		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Mercury by EPA Methods 7470A/7471A								
9054419-BS1								
Mercury	0.00100	0.00107		mg/L	107%	80 - 120	9054419	06/03/09 11:32

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9054496-BSD1												
Total Suspended Solids		91.0		mg/L	100	91%	90 - 110	1	20	9054496		05/29/09 20:32
Total Metals by EPA Method 6010B												
9054495-BSD1												
Aluminum		1.97		mg/L	2.00	98%	80 - 120	0.9	20	9054495		06/01/09 17:05
Antimony		0.109		mg/L	0.100	109%	80 - 120	6	20	9054495		06/01/09 17:05
Arsenic		0.0489		mg/L	0.0500	98%	80 - 120	5	20	9054495		06/01/09 17:05
Barium		1.96		mg/L	2.00	98%	80 - 120	0.9	20	9054495		06/01/09 17:05
Beryllium		0.0528		mg/L	0.0500	106%	80 - 120	0.2	20	9054495		06/01/09 17:05
Boron		0.962		mg/L	1.00	96%	80 - 120	1	20	9054495		06/01/09 17:05
Cadmium		0.0497		mg/L	0.0500	99%	80 - 120	0.6	20	9054495		06/01/09 17:05
Calcium		4.93		mg/L	5.00	99%	80 - 120	0.7	20	9054495		06/01/09 17:05
Chromium		0.208		mg/L	0.200	104%	80 - 120	0.9	20	9054495		06/01/09 17:05
Cobalt		0.515		mg/L	0.500	103%	80 - 120	0.3	20	9054495		06/01/09 17:05
Copper		0.240		mg/L	0.250	96%	80 - 120	0.5	20	9054495		06/01/09 17:05
Iron		1.01		mg/L	1.00	101%	80 - 120	3	20	9054495		06/01/09 17:05
Lead		0.0480		mg/L	0.0500	96%	80 - 120	3	20	9054495		06/01/09 17:05
Magnesium		4.76		mg/L	5.00	95%	80 - 120	2	20	9054495		06/01/09 17:05
Manganese		0.504		mg/L	0.500	101%	80 - 120	0.4	20	9054495		06/01/09 17:05
Molybdenum		0.488		mg/L	0.500	98%	80 - 120	2	20	9054495		06/01/09 17:05
Nickel		0.489		mg/L	0.500	98%	80 - 120	0.5	20	9054495		06/01/09 17:05
Potassium		4.08		mg/L	5.00	82%	80 - 120	2	20	9054495		06/01/09 17:05
Selenium		0.0493		mg/L	0.0500	99%	80 - 120	2	20	9054495		06/01/09 17:05
Silver		0.0510		mg/L	0.0500	102%	80 - 120	0.6	20	9054495		06/01/09 17:05
Sodium		4.40		mg/L	5.00	88%	80 - 120	4	20	9054495		06/01/09 17:05
Thallium		0.0526		mg/L	0.0500	105%	80 - 120	10	20	9054495		06/01/09 17:05
Vanadium		0.490		mg/L	0.500	98%	80 - 120	0.1	20	9054495		06/01/09 17:05
Zinc		0.503		mg/L	0.500	101%	80 - 120	1	20	9054495		06/01/09 17:05

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSE2286
		Project Name:	BCG - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9054350-MS1										
Bromide	ND	9.80		mg/L	10.0	98%	90 - 110	9054350	NSE2269-01	05/28/09 23:42
Fluoride	0.225	2.20		mg/L	2.00	99%	80 - 120	9054350	NSE2269-01	06/10/09 04:47
Nitrate as N	ND	3.12		mg/L	3.00	104%	80 - 120	9054350	NSE2269-01	05/28/09 23:42
Sulfate	35.6	49.6		mg/L	15.0	94%	80 - 120	9054350	NSE2269-01	05/28/09 23:42
9054402-MS1										
Alkalinity, Total (CaCO3)	ND	80.7		ug/mL	100	81%	80 - 120	9054402	NSE2286-05	05/28/09 21:50
9060369-MS1										
Total Organic Carbon	3.44	16.6		ug/mL	20.0	66%	66 - 135	9060369	NSE2228-01	06/03/09 12:39
9060914-MS1										
Phosphorus	1.41	3.08		mg/L	2.00	84%	66 - 121	9060914	NSF0052-01	06/09/09 18:05
Total Metals by EPA Method 6010B										
9054495-MS1										
Aluminum	1.94	4.11		mg/L	2.00	109%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Antimony	ND	0.102		mg/L	0.100	102%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Arsenic	ND	0.0518		mg/L	0.0500	104%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Barium	0.0756	2.03		mg/L	2.00	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Beryllium	0.00100	0.0539		mg/L	0.0500	106%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Boron	0.0436	1.06		mg/L	1.00	102%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Cadmium	ND	0.0499		mg/L	0.0500	100%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Chromium	ND	0.204		mg/L	0.200	102%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Cobalt	0.0162	0.534		mg/L	0.500	104%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Copper	ND	0.249		mg/L	0.250	100%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Iron	1.98	2.95		mg/L	1.00	97%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Lead	ND	0.0514		mg/L	0.0500	103%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Manganese	0.299	0.792		mg/L	0.500	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Molybdenum	ND	0.492		mg/L	0.500	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Nickel	0.0200	0.509		mg/L	0.500	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Selenium	ND	0.0505		mg/L	0.0500	101%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Silver	ND	0.0528		mg/L	0.0500	106%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Thallium	ND	0.0458		mg/L	0.0500	92%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Vanadium	ND	0.487		mg/L	0.500	97%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Zinc	0.0382	0.539		mg/L	0.500	100%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Mercury by EPA Methods 7470A/7471A										
9054419-MS1										

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Mercury by EPA Methods 7470A/7471A										
9054419-MS1										
Mercury	0.00120	0.00214		mg/L	0.00100	94%	75 - 125	9054419	NSE2452-01	06/03/09 12:05

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9054350-MSD1												
Bromide	ND	10.7		mg/L	10.0	107%	90 - 110	8	20	9054350	NSE2269-01	05/29/09 00:00
Fluoride	0.225	2.16		mg/L	2.00	97%	80 - 120	2	19	9054350	NSE2269-01	06/10/09 05:05
Nitrate as N	ND	3.41		mg/L	3.00	114%	80 - 120	9	20	9054350	NSE2269-01	05/29/09 00:00
Sulfate	35.6	51.2		mg/L	15.0	104%	80 - 120	3	20	9054350	NSE2269-01	05/29/09 00:00
9060369-MSD1												
Total Organic Carbon	3.44	19.3		ug/mL	20.0	79%	66 - 135	15	20	9060369	NSE2228-01	06/03/09 12:39
9060914-MSD1												
Phosphorus	1.41	3.06		mg/L	2.00	82%	66 - 121	0.7	37	9060914	NSF0052-01	06/09/09 18:05
Total Metals by EPA Method 6010B												
9054495-MSD1												
Aluminum	1.94	4.08		mg/L	2.00	107%	75 - 125	0.7	20	9054495	NSE2286-05	06/01/09 19:26
Antimony	ND	0.106		mg/L	0.100	106%	75 - 125	3	20	9054495	NSE2286-05	06/01/09 19:26
Arsenic	ND	0.0479		mg/L	0.0500	96%	75 - 125	8	20	9054495	NSE2286-05	06/01/09 19:26
Barium	0.0756	2.04		mg/L	2.00	98%	75 - 125	0.7	20	9054495	NSE2286-05	06/01/09 19:26
Beryllium	0.00100	0.0535		mg/L	0.0500	105%	75 - 125	0.7	20	9054495	NSE2286-05	06/01/09 19:26
Boron	0.0436	1.06		mg/L	1.00	101%	75 - 125	0.4	20	9054495	NSE2286-05	06/01/09 19:26
Cadmium	ND	0.0491		mg/L	0.0500	98%	75 - 125	2	20	9054495	NSE2286-05	06/01/09 19:26
Chromium	ND	0.202		mg/L	0.200	101%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Cobalt	0.0162	0.529		mg/L	0.500	103%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Copper	ND	0.248		mg/L	0.250	99%	75 - 125	0.2	20	9054495	NSE2286-05	06/01/09 19:26
Iron	1.98	2.90		mg/L	1.00	92%	75 - 125	2	20	9054495	NSE2286-05	06/01/09 19:26
Lead	ND	0.0505		mg/L	0.0500	101%	75 - 125	2	20	9054495	NSE2286-05	06/01/09 19:26
Manganese	0.299	0.781		mg/L	0.500	96%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Molybdenum	ND	0.493		mg/L	0.500	99%	75 - 125	0.2	20	9054495	NSE2286-05	06/01/09 19:26
Nickel	0.0200	0.502		mg/L	0.500	96%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Selenium	ND	0.0503		mg/L	0.0500	101%	75 - 125	0.4	20	9054495	NSE2286-05	06/01/09 19:26
Silver	ND	0.0523		mg/L	0.0500	105%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Thallium	ND	0.0480		mg/L	0.0500	96%	75 - 125	5	20	9054495	NSE2286-05	06/01/09 19:26
Vanadium	ND	0.483		mg/L	0.500	97%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Zinc	0.0382	0.534		mg/L	0.500	99%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Mercury by EPA Methods 7470A/7471A												
9054419-MSD1												
Mercury	0.00120	0.00215		mg/L	0.00100	95%	75 - 125	0.5	20	9054419	NSE2452-01	06/03/09 12:07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2286
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

DATA QUALIFIERS AND DEFINITIONS

MNR No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.

R2 The RPD exceeded the acceptance limit.

ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIP

NSE2286

Cooler Received/Opened On 05/28/2009 @ 0810

1. Tracking # 8676 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 3.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 2 front/back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) VS

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) (AW)

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) (AW)

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) (AW)

I certify that I attached a label with the unique LIMS number to each container (intial) (AW) 05-28-09

21. Were there Non-Conformance issues at login? YES NO Was a PIPE generated? YES NO # 53409 05-28-09

#15b) No NaOH 2aNaOH received for sulfide. (AW) 05-28-09

BIS = Broken in shipment

Cooler Receipt Form.doc

LF-1

End of Form

Revised 9/6/07

51080

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSE2286
06/11/09 23:59

Page 1 of 1

51081

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buck
SamplerSignature:

TA Account #: 63036 PO #: 200907924
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other Sulfide (specify)	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - SEE LIST	Metals, RCRA Water ICP 6010B	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Suspended SM2540 D	Sulfate by IC 300.0	TOC 9060A	Sulfide SM4500-S2 F			RUSH TAT (Pre Schedule) *
SW-BGC-SG13	5/27/09	1045	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X		NSE 2286 01	
SW-BGC-SW22	5/27/09	1105	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X		02	
SW-BGC-SG12	5/27/09	1125	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X		03	
SW-BGC-SG11	5/27/09	1140	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X		04	
SW-BGC-Dup052709	5/27/09	1200	5						1	1 10	1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X		05	

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: *BO # 14983*
TASK 3.0 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn
sulfide by titration 2 coolers w/ this shipment

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	5/27/09	1400	Fed Ex					

Shipped Via:	Received for TestAmerica by:	Date:	Time:	Temperature Upon Receipt: 3.1c	Sample Containers Intact? Y N	VOCs Free of Headspace? Y N	QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)	Date Due of Report:
		5/28/09	0610					

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 11, 2009 12:40:16PM

Client: MACTEC Engineering & Consulting, Inc. (3740)
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147
Attn: Greg Grose

Work Order: NSE2269
Project Name: BCG - SW QUAD
Project Nbr: 3552-09-1263
P/O Nbr: 200907924
Date Received: 05/28/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SW-BCG-SG9	NSE2269-01	05/27/09 11:55
SW-BCG-SG10	NSE2269-02	05/27/09 12:10
SW-Rinse Blank 052709	NSE2269-03	05/27/09 13:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Additional Laboratory Comments:
Although the COC requested the analysis of Sulfide, no containers preserved for this analysis were received at the laboratory so, at the request of the consultant, Sulfide was not analyzed.

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2269-01 (SW-BCG-SG9 - Water) Sampled: 05/27/09 11:55								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**24.8**		mg/L	10.0	1	05/30/09 16:26	SM2320 B	9054541
Bicarbonate Alkalinity as CaCO3	**24.7**		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	ND		mg/L	1.00	1	05/28/09 23:23	EPA 300.1	9054350
Chloride	**29.2**		mg/L	5.00	5	06/10/09 08:28	EPA 300.0	9054350
Fluoride	**0.225**		mg/L	0.100	1	06/10/09 04:29	EPA 300.0	9054350
Nitrate as N	ND		mg/L	0.100	1	05/28/09 23:23	EPA 300.0	9054350
Phosphorus	**0.126**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**35.6**		mg/L	1.00	1	05/28/09 23:23	EPA 300.0	9054350
Total Organic Carbon	**6.82**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	**12.1**		mg/L	1.33	1	05/29/09 20:32	SM2540 D	9054496
Total Metals by EPA Method 6010B								
Aluminum	**0.372**		mg/L	0.100	1	06/01/09 18:19	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Barium	**0.0369**		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 18:19	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 18:19	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 18:19	SW846 6010B	9054495
Calcium	**18.4**		mg/L	1.00	1	06/01/09 18:19	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 18:19	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 18:19	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Iron	**0.290**		mg/L	0.0500	1	06/01/09 18:19	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 18:19	SW846 6010B	9054495
Magnesium	**4.47**		mg/L	1.00	1	06/01/09 18:19	SW846 6010B	9054495
Manganese	ND		mg/L	0.0150	1	06/01/09 18:19	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 18:19	SW846 6010B	9054495
Nickel	ND		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Potassium	**4.27**		mg/L	1.00	1	06/01/09 18:19	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 18:19	SW846 6010B	9054495
Sodium	**10.3**		mg/L	1.00	1	06/01/09 18:19	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 18:19	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 18:19	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 18:19	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:39	SW846 7470A	9054419

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2269-02 (SW-BCG-SG10 - Water) Sampled: 05/27/09 12:10								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	**119**		mg/L	10.0	1	06/04/09 17:50	SM2320 B	9060733
Bicarbonate Alkalinity as CaCO3	**21.1**		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	ND		mg/L	1.00	1	05/29/09 00:18	EPA 300.1	9054350
Chloride	**37.9**		mg/L	5.00	5	06/10/09 08:46	EPA 300.0	9054350
Fluoride	**0.227**		mg/L	0.100	1	06/10/09 05:24	EPA 300.0	9054350
Nitrate as N	ND		mg/L	0.100	1	05/29/09 00:18	EPA 300.0	9054350
Phosphorus	**0.340**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	**34.6**		mg/L	1.00	1	05/29/09 00:18	EPA 300.0	9054350
Total Organic Carbon	**6.98**		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	**3.89**		mg/L	1.11	1	05/29/09 20:32	SM2540 D	9054496
Total Metals by EPA Method 6010B								
Aluminum	**0.140**		mg/L	0.100	1	06/01/09 18:24	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Barium	**0.0325**		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 18:24	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 18:24	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 18:24	SW846 6010B	9054495
Calcium	**19.4**		mg/L	1.00	1	06/01/09 18:24	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 18:24	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 18:24	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Iron	**0.324**		mg/L	0.0500	1	06/01/09 18:24	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 18:24	SW846 6010B	9054495
Magnesium	**4.62**		mg/L	1.00	1	06/01/09 18:24	SW846 6010B	9054495
Manganese	ND		mg/L	0.0150	1	06/01/09 18:24	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 18:24	SW846 6010B	9054495
Nickel	ND		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Potassium	**4.77**		mg/L	1.00	1	06/01/09 18:24	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 18:24	SW846 6010B	9054495
Sodium	**13.6**		mg/L	1.00	1	06/01/09 18:24	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 18:24	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 18:24	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 18:24	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:41	SW846 7470A	9054419

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE2269-03 (SW-Rinse Blank 052709 - Water) Sampled: 05/27/09 13:00								
General Chemistry Parameters								
Alkalinity, Total (CaCO3)	ND		mg/L	10.0	1	06/03/09 01:06	SM2320 B	9060256
Bicarbonate Alkalinity as CaCO3	ND		mg/L	10.0	1	05/28/09 21:50	SM 2320B	9054292
Bromide	ND		mg/L	1.00	1	05/29/09 00:37	EPA 300.1	9054350
Chloride	ND		mg/L	1.00	1	05/29/09 00:37	EPA 300.0	9054350
Fluoride	ND		mg/L	0.100	1	06/10/09 05:42	EPA 300.0	9054350
Nitrate as N	ND		mg/L	0.100	1	05/29/09 00:37	EPA 300.0	9054350
Phosphorus	**0.169**		mg/L	0.100	1	06/09/09 18:05	EPA 365.4	9060914
Sulfate	ND		mg/L	1.00	1	05/29/09 00:37	EPA 300.0	9054350
Total Organic Carbon	ND		mg/L	1.00	1	06/03/09 12:39	SW846 9060A	9060369
Total Suspended Solids	ND		mg/L	1.11	1	05/30/09 17:52	SM2540 D	9054656
Total Metals by EPA Method 6010B								
Aluminum	ND		mg/L	0.100	1	06/01/09 18:29	SW846 6010B	9054495
Antimony	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Arsenic	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Barium	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Beryllium	ND		mg/L	0.00400	1	06/01/09 18:29	SW846 6010B	9054495
Boron	ND		mg/L	0.0500	1	06/01/09 18:29	SW846 6010B	9054495
Cadmium	ND		mg/L	0.00100	1	06/01/09 18:29	SW846 6010B	9054495
Calcium	ND		mg/L	1.00	1	06/01/09 18:29	SW846 6010B	9054495
Chromium	ND		mg/L	0.00500	1	06/01/09 18:29	SW846 6010B	9054495
Cobalt	ND		mg/L	0.0200	1	06/01/09 18:29	SW846 6010B	9054495
Copper	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Iron	ND		mg/L	0.0500	1	06/01/09 18:29	SW846 6010B	9054495
Lead	ND		mg/L	0.00500	1	06/01/09 18:29	SW846 6010B	9054495
Magnesium	ND		mg/L	1.00	1	06/01/09 18:29	SW846 6010B	9054495
Manganese	ND		mg/L	0.0150	1	06/01/09 18:29	SW846 6010B	9054495
Molybdenum	ND		mg/L	0.0500	1	06/01/09 18:29	SW846 6010B	9054495
Nickel	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Potassium	ND		mg/L	1.00	1	06/01/09 18:29	SW846 6010B	9054495
Selenium	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Silver	ND		mg/L	0.00500	1	06/01/09 18:29	SW846 6010B	9054495
Sodium	ND		mg/L	1.00	1	06/01/09 18:29	SW846 6010B	9054495
Thallium	ND		mg/L	0.0100	1	06/01/09 18:29	SW846 6010B	9054495
Vanadium	ND		mg/L	0.0200	1	06/01/09 18:29	SW846 6010B	9054495
Zinc	ND		mg/L	0.0500	1	06/01/09 18:29	SW846 6010B	9054495
Mercury by EPA Methods 7470A/7471A								
Mercury	ND		mg/L	0.000200	1	06/03/09 11:44	SW846 7470A	9054419

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Mercury by EPA Methods 7470A/7471A							
SW846 7470A	9054419	NSE2269-01	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
SW846 7470A	9054419	NSE2269-02	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
SW846 7470A	9054419	NSE2269-03	30.00	30.00	06/03/09 08:00	KKK	EPA 7470
Total Metals by EPA Method 6010B							
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-01	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-02	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010
SW846 6010B	9054495	NSE2269-03	50.00	50.00	05/29/09 13:15	JLS	EPA 3010A / 6010

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9054292-BLK1						
Bicarbonate Alkalinity as CaCO3	<5.00		mg/L	9054292	9054292-BLK1	05/28/09 21:50
9054350-BLK1						
Bromide	<0.500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
Chloride	<0.500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
Fluoride	<0.0500		mg/L	9054350	9054350-BLK1	06/10/09 03:52
Nitrate as N	<0.0500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
Sulfate	<0.500		mg/L	9054350	9054350-BLK1	05/28/09 22:46
9054496-BLK1						
Total Suspended Solids	<0.500		mg/L	9054496	9054496-BLK1	05/29/09 20:32
9054541-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9054541	9054541-BLK1	05/30/09 16:26
9054656-BLK1						
Total Suspended Solids	<0.500		mg/L	9054656	9054656-BLK1	05/30/09 17:52
9060256-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9060256	9060256-BLK1	06/03/09 01:06
9060369-BLK1						
Total Organic Carbon	<0.500		mg/L	9060369	9060369-BLK1	06/03/09 12:39
9060733-BLK1						
Alkalinity, Total (CaCO3)	<5.00		mg/L	9060733	9060733-BLK1	06/04/09 17:50
9060914-BLK1						
Phosphorus	0.0670		mg/L	9060914	9060914-BLK1	06/09/09 18:05
Total Metals by EPA Method 6010B						
9054495-BLK1						
Aluminum	<0.0540		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Antimony	0.00250		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Arsenic	<0.00360		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Barium	<0.00100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Beryllium	<0.00100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Boron	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Cadmium	<0.000600		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Calcium	<0.100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Chromium	<0.00260		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Cobalt	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Copper	<0.00210		mg/L	9054495	9054495-BLK1	06/01/09 16:55

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA Method 6010B						
9054495-BLK1						
Iron	<0.0490		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Lead	<0.00210		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Magnesium	<0.0660		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Manganese	<0.00100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Molybdenum	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Nickel	<0.00230		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Potassium	<0.100		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Selenium	<0.00390		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Silver	<0.00280		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Sodium	<0.820		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Thallium	<0.00630		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Vanadium	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Zinc	<0.00500		mg/L	9054495	9054495-BLK1	06/01/09 16:55
Mercury by EPA Methods 7470A/7471A						
9054419-BLK1						
Mercury	<0.000100		mg/L	9054419	9054419-BLK1	06/03/09 11:30

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9054292-DUP1										
Bicarbonate Alkalinity as CaCO3	ND	ND		mg/L		20	9054292	NSE2286-02		05/28/09 21:50
9054350-DUP1										
Bromide	2.25	2.22		mg/L	1	20	9054350	NSE2286-05		05/29/09 03:04
Chloride	244	254		mg/L	4	20	9054350	NSE2286-05		06/10/09 12:09
Fluoride	0.166	0.161		mg/L	3	19	9054350	NSE2286-05		06/10/09 08:09
Nitrate as N	ND	ND		mg/L		20	9054350	NSE2286-05		05/29/09 03:04
Sulfate	144	145		mg/L	0.8	20	9054350	NSE2286-05		06/10/09 12:45
9054496-DUP1										
Total Suspended Solids	38.6	39.2		mg/L	2	20	9054496	NSE2128-01		05/29/09 20:32
9054496-DUP2										
Total Suspended Solids	79.6	81.6		mg/L	2	20	9054496	NSE2321-01		05/29/09 20:32
9054541-DUP1										
Alkalinity, Total (CaCO3)	ND	ND		mg/L		20	9054541	NSE2425-02		05/30/09 16:26
9054656-DUP1										
Total Suspended Solids	76.0	86.4		mg/L	13	20	9054656	NSE2311-01		05/30/09 17:52
9054656-DUP2										
Total Suspended Solids	10.4	3.60	R2	mg/L	97	20	9054656	NSE2410-01		05/30/09 17:52
9060256-DUP1										
Alkalinity, Total (CaCO3)	90.0	87.2		mg/L	3	20	9060256	NSF0065-01		06/03/09 01:06
9060369-DUP1										
Total Organic Carbon	1.22	1.23		mg/L	0.5	20	9060369	NSE2286-01		06/03/09 12:39
9060369-DUP2										
Total Organic Carbon	1.74	1.52		mg/L	14	20	9060369	NSE2286-05		06/03/09 12:39
9060733-DUP1										
Alkalinity, Total (CaCO3)	ND	ND		mg/L		20	9060733	NSE2425-02RE1		06/04/09 17:50
9060914-DUP1										
Phosphorus	1.41	1.33		mg/L	6	37	9060914	NSF0052-01		06/09/09 18:05

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9054350-BS1								
Bromide	10.0	9.94		mg/L	99%	90 - 110	9054350	05/28/09 23:05
Chloride	3.00	2.83	MNR	mg/L	94%	90 - 110	9054350	05/28/09 23:05
Fluoride	2.00	2.01		mg/L	100%	90 - 110	9054350	06/10/09 04:10
Nitrate as N	3.00	3.26		mg/L	109%	90 - 110	9054350	05/28/09 23:05
Sulfate	15.0	15.5		mg/L	103%	90 - 110	9054350	05/28/09 23:05
9054496-BS1								
Total Suspended Solids	100	92.0		mg/L	92%	90 - 110	9054496	05/29/09 20:32
9054541-BS1								
Alkalinity, Total (CaCO3)	100	106		ug/mL	106%	90 - 110	9054541	05/30/09 16:26
9054656-BS1								
Total Suspended Solids	100	95.0		mg/L	95%	90 - 110	9054656	05/30/09 17:52
9060256-BS1								
Alkalinity, Total (CaCO3)	100	106		ug/mL	106%	90 - 110	9060256	06/03/09 01:06
9060369-BS1								
Total Organic Carbon	10.0	9.98		ug/mL	100%	90 - 110	9060369	06/03/09 12:39
9060733-BS1								
Alkalinity, Total (CaCO3)	100	104		ug/mL	104%	90 - 110	9060733	06/04/09 17:50
9060914-BS1								
Phosphorus	2.00	2.15		mg/L	108%	90 - 110	9060914	06/09/09 18:05
Total Metals by EPA Method 6010B								
9054495-BS1								
Aluminum	2.00	1.98		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Antimony	0.100	0.102		mg/L	102%	80 - 120	9054495	06/01/09 17:00
Arsenic	0.0500	0.0467		mg/L	93%	80 - 120	9054495	06/01/09 17:00
Barium	2.00	1.98		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Beryllium	0.0500	0.0527		mg/L	105%	80 - 120	9054495	06/01/09 17:00
Boron	1.00	0.972		mg/L	97%	80 - 120	9054495	06/01/09 17:00
Cadmium	0.0500	0.0494		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Calcium	5.00	4.90		mg/L	98%	80 - 120	9054495	06/01/09 17:00
Chromium	0.200	0.206		mg/L	103%	80 - 120	9054495	06/01/09 17:00
Cobalt	0.500	0.513		mg/L	103%	80 - 120	9054495	06/01/09 17:00
Copper	0.250	0.241		mg/L	96%	80 - 120	9054495	06/01/09 17:00
Iron	1.00	0.982		mg/L	98%	80 - 120	9054495	06/01/09 17:00
Lead	0.0500	0.0496		mg/L	99%	80 - 120	9054495	06/01/09 17:00

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA Method 6010B								
9054495-BS1								
Magnesium	5.00	4.84		mg/L	97%	80 - 120	9054495	06/01/09 17:00
Manganese	0.500	0.502		mg/L	100%	80 - 120	9054495	06/01/09 17:00
Molybdenum	0.500	0.480		mg/L	96%	80 - 120	9054495	06/01/09 17:00
Nickel	0.500	0.486		mg/L	97%	80 - 120	9054495	06/01/09 17:00
Potassium	5.00	4.16		mg/L	83%	80 - 120	9054495	06/01/09 17:00
Selenium	0.0500	0.0481		mg/L	96%	80 - 120	9054495	06/01/09 17:00
Silver	0.0500	0.0507		mg/L	101%	80 - 120	9054495	06/01/09 17:00
Sodium	5.00	4.21		mg/L	84%	80 - 120	9054495	06/01/09 17:00
Thallium	0.0500	0.0477		mg/L	95%	80 - 120	9054495	06/01/09 17:00
Vanadium	0.500	0.490		mg/L	98%	80 - 120	9054495	06/01/09 17:00
Zinc	0.500	0.496		mg/L	99%	80 - 120	9054495	06/01/09 17:00
Mercury by EPA Methods 7470A/7471A								
9054419-BS1								
Mercury	0.00100	0.00107		mg/L	107%	80 - 120	9054419	06/03/09 11:32

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Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9054496-BSD1												
Total Suspended Solids		91.0		mg/L	100	91%	90 - 110	1	20	9054496		05/29/09 20:32
Total Metals by EPA Method 6010B												
9054495-BSD1												
Aluminum		1.97		mg/L	2.00	98%	80 - 120	0.9	20	9054495		06/01/09 17:05
Antimony		0.109		mg/L	0.100	109%	80 - 120	6	20	9054495		06/01/09 17:05
Arsenic		0.0489		mg/L	0.0500	98%	80 - 120	5	20	9054495		06/01/09 17:05
Barium		1.96		mg/L	2.00	98%	80 - 120	0.9	20	9054495		06/01/09 17:05
Beryllium		0.0528		mg/L	0.0500	106%	80 - 120	0.2	20	9054495		06/01/09 17:05
Boron		0.962		mg/L	1.00	96%	80 - 120	1	20	9054495		06/01/09 17:05
Cadmium		0.0497		mg/L	0.0500	99%	80 - 120	0.6	20	9054495		06/01/09 17:05
Calcium		4.93		mg/L	5.00	99%	80 - 120	0.7	20	9054495		06/01/09 17:05
Chromium		0.208		mg/L	0.200	104%	80 - 120	0.9	20	9054495		06/01/09 17:05
Cobalt		0.515		mg/L	0.500	103%	80 - 120	0.3	20	9054495		06/01/09 17:05
Copper		0.240		mg/L	0.250	96%	80 - 120	0.5	20	9054495		06/01/09 17:05
Iron		1.01		mg/L	1.00	101%	80 - 120	3	20	9054495		06/01/09 17:05
Lead		0.0480		mg/L	0.0500	96%	80 - 120	3	20	9054495		06/01/09 17:05
Magnesium		4.76		mg/L	5.00	95%	80 - 120	2	20	9054495		06/01/09 17:05
Manganese		0.504		mg/L	0.500	101%	80 - 120	0.4	20	9054495		06/01/09 17:05
Molybdenum		0.488		mg/L	0.500	98%	80 - 120	2	20	9054495		06/01/09 17:05
Nickel		0.489		mg/L	0.500	98%	80 - 120	0.5	20	9054495		06/01/09 17:05
Potassium		4.08		mg/L	5.00	82%	80 - 120	2	20	9054495		06/01/09 17:05
Selenium		0.0493		mg/L	0.0500	99%	80 - 120	2	20	9054495		06/01/09 17:05
Silver		0.0510		mg/L	0.0500	102%	80 - 120	0.6	20	9054495		06/01/09 17:05
Sodium		4.40		mg/L	5.00	88%	80 - 120	4	20	9054495		06/01/09 17:05
Thallium		0.0526		mg/L	0.0500	105%	80 - 120	10	20	9054495		06/01/09 17:05
Vanadium		0.490		mg/L	0.500	98%	80 - 120	0.1	20	9054495		06/01/09 17:05
Zinc		0.503		mg/L	0.500	101%	80 - 120	1	20	9054495		06/01/09 17:05

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740) 21740 Beaumeade Circle, Suite 150 Ashburn, VA 20147	Work Order:	NSE2269
		Project Name:	BCG - SW QUAD
		Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9054350-MS1										
Bromide	ND	9.80		mg/L	10.0	98%	90 - 110	9054350	NSE2269-01	05/28/09 23:42
Fluoride	0.225	2.20		mg/L	2.00	99%	80 - 120	9054350	NSE2269-01	06/10/09 04:47
Nitrate as N	ND	3.12		mg/L	3.00	104%	80 - 120	9054350	NSE2269-01	05/28/09 23:42
Sulfate	35.6	49.6		mg/L	15.0	94%	80 - 120	9054350	NSE2269-01	05/28/09 23:42
9054541-MS1										
Alkalinity, Total (CaCO3)	69.4	172		ug/mL	100	102%	80 - 120	9054541	NSE2198-13	05/30/09 16:26
9060256-MS1										
Alkalinity, Total (CaCO3)	79.7	162		ug/mL	100	82%	80 - 120	9060256	NSF0056-03	06/03/09 01:06
9060369-MS1										
Total Organic Carbon	3.44	16.6		ug/mL	20.0	66%	66 - 135	9060369	NSE2228-01	06/03/09 12:39
9060733-MS1										
Alkalinity, Total (CaCO3)	113	180	M8	ug/mL	100	67%	80 - 120	9060733	NSE2527-01RE1	06/04/09 17:50
9060914-MS1										
Phosphorus	1.41	3.08		mg/L	2.00	84%	66 - 121	9060914	NSF0052-01	06/09/09 18:05
Total Metals by EPA Method 6010B										
9054495-MS1										
Aluminum	1.94	4.11		mg/L	2.00	109%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Antimony	ND	0.102		mg/L	0.100	102%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Arsenic	ND	0.0518		mg/L	0.0500	104%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Barium	0.0756	2.03		mg/L	2.00	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Beryllium	0.00100	0.0539		mg/L	0.0500	106%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Boron	0.0436	1.06		mg/L	1.00	102%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Cadmium	ND	0.0499		mg/L	0.0500	100%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Chromium	ND	0.204		mg/L	0.200	102%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Cobalt	0.0162	0.534		mg/L	0.500	104%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Copper	ND	0.249		mg/L	0.250	100%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Iron	1.98	2.95		mg/L	1.00	97%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Lead	ND	0.0514		mg/L	0.0500	103%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Manganese	0.299	0.792		mg/L	0.500	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Molybdenum	ND	0.492		mg/L	0.500	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Nickel	0.0200	0.509		mg/L	0.500	98%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Selenium	ND	0.0505		mg/L	0.0500	101%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Silver	ND	0.0528		mg/L	0.0500	106%	75 - 125	9054495	NSE2286-05	06/01/09 19:21

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA Method 6010B										
9054495-MS1										
Thallium	ND	0.0458		mg/L	0.0500	92%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Vanadium	ND	0.487		mg/L	0.500	97%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Zinc	0.0382	0.539		mg/L	0.500	100%	75 - 125	9054495	NSE2286-05	06/01/09 19:21
Mercury by EPA Methods 7470A/7471A										
9054419-MS1										
Mercury	0.00120	0.00214		mg/L	0.00100	94%	75 - 125	9054419	NSE2452-01	06/03/09 12:05

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THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9054350-MSD1												
Bromide	ND	10.7		mg/L	10.0	107%	90 - 110	8	20	9054350	NSE2269-01	05/29/09 00:00
Fluoride	0.225	2.16		mg/L	2.00	97%	80 - 120	2	19	9054350	NSE2269-01	06/10/09 05:05
Nitrate as N	ND	3.41		mg/L	3.00	114%	80 - 120	9	20	9054350	NSE2269-01	05/29/09 00:00
Sulfate	35.6	51.2		mg/L	15.0	104%	80 - 120	3	20	9054350	NSE2269-01	05/29/09 00:00
9060369-MSD1												
Total Organic Carbon	3.44	19.3		ug/mL	20.0	79%	66 - 135	15	20	9060369	NSE2228-01	06/03/09 12:39
9060914-MSD1												
Phosphorus	1.41	3.06		mg/L	2.00	82%	66 - 121	0.7	37	9060914	NSF0052-01	06/09/09 18:05
Total Metals by EPA Method 6010B												
9054495-MSD1												
Aluminum	1.94	4.08		mg/L	2.00	107%	75 - 125	0.7	20	9054495	NSE2286-05	06/01/09 19:26
Antimony	ND	0.106		mg/L	0.100	106%	75 - 125	3	20	9054495	NSE2286-05	06/01/09 19:26
Arsenic	ND	0.0479		mg/L	0.0500	96%	75 - 125	8	20	9054495	NSE2286-05	06/01/09 19:26
Barium	0.0756	2.04		mg/L	2.00	98%	75 - 125	0.7	20	9054495	NSE2286-05	06/01/09 19:26
Beryllium	0.00100	0.0535		mg/L	0.0500	105%	75 - 125	0.7	20	9054495	NSE2286-05	06/01/09 19:26
Boron	0.0436	1.06		mg/L	1.00	101%	75 - 125	0.4	20	9054495	NSE2286-05	06/01/09 19:26
Cadmium	ND	0.0491		mg/L	0.0500	98%	75 - 125	2	20	9054495	NSE2286-05	06/01/09 19:26
Chromium	ND	0.202		mg/L	0.200	101%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Cobalt	0.0162	0.529		mg/L	0.500	103%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Copper	ND	0.248		mg/L	0.250	99%	75 - 125	0.2	20	9054495	NSE2286-05	06/01/09 19:26
Iron	1.98	2.90		mg/L	1.00	92%	75 - 125	2	20	9054495	NSE2286-05	06/01/09 19:26
Lead	ND	0.0505		mg/L	0.0500	101%	75 - 125	2	20	9054495	NSE2286-05	06/01/09 19:26
Manganese	0.299	0.781		mg/L	0.500	96%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Molybdenum	ND	0.493		mg/L	0.500	99%	75 - 125	0.2	20	9054495	NSE2286-05	06/01/09 19:26
Nickel	0.0200	0.502		mg/L	0.500	96%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Selenium	ND	0.0503		mg/L	0.0500	101%	75 - 125	0.4	20	9054495	NSE2286-05	06/01/09 19:26
Silver	ND	0.0523		mg/L	0.0500	105%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Thallium	ND	0.0480		mg/L	0.0500	96%	75 - 125	5	20	9054495	NSE2286-05	06/01/09 19:26
Vanadium	ND	0.483		mg/L	0.500	97%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Zinc	0.0382	0.534		mg/L	0.500	99%	75 - 125	1	20	9054495	NSE2286-05	06/01/09 19:26
Mercury by EPA Methods 7470A/7471A												
9054419-MSD1												
Mercury	0.00120	0.00215		mg/L	0.00100	95%	75 - 125	0.5	20	9054419	NSE2452-01	06/03/09 12:07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	MACTEC Engineering & Consulting, Inc. (3740)	Work Order:	NSE2269
	21740 Beaumeade Circle, Suite 150	Project Name:	BCG - SW QUAD
	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Virginia
EPA 300.0	Water	N/A	X	
EPA 300.1	Water	N/A		
EPA 365.4	Water	N/A	X	
SM 2320B	Water	N/A		
SM2320 B	Water		X	
SM2540 D	Water		X	
SW846 6010B	Water	N/A	X	N/A
SW846 7470A	Water	N/A	X	N/A
SW846 9060A	Water			

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	Ashburn, VA 20147	Project Number:	3552-09-1263
Attn	Greg Grose	Received:	05/28/09 08:10

DATA QUALIFIERS AND DEFINITIONS

M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
R2	The RPD exceeded the acceptance limit.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT

NSE2269

Cooler Received/Opened On 5 / 28/ 09 @ 8:10

1. Tracking # 8665 (last 4 digits, FedEx)

Courier: FED-EX IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 3 4 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: Front Back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

   If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 9/6/07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton Drive * Nashville TN 37204
Phone: (800) 765-0980 / (615) 726-0177 Fax:(615) 726-3404

NSE2269
06/11/09 23:59

Page 1 of 1

-51100

Client: MACTEC Engineering & Consulting, Inc. (3740)
Address: 21740 Beaumeade Circle, Suite 150
City, State, Zip: Ashburn VA 20147
Client Invoice Contact: Ap Coordinator (inv)
Client Project Mgr: Greg Grose
Client Telephone#: (703) 729-1416 Fax: (703) 858-1858
Sampler Name (Print): Joe Buchy
SamplerSignature:

TA Account #: 63036
PO #: 200907924
Invoice to: MACTEC Engineering & Consulting (80116)
Report to: Greg Grose
Project Name: BCG - SW QUAD
Facility ID: 3552-09-1263
Site Address:
City,State,Zip: Virginia
Regulatory District (CA):

	Sample ID	Date Sampled	Time Sampled	# Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	(Blue Label) HCL	(Orange Label) NaOH	(Yellow Label) Plastic H2SO4	(Yellow Label) Glass H2SO4	(Red Label) HNO3	(Black Label) None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify) Sulfide by titration	Analyze for: Alkalinity Total SM2320 B	Bicarbonate Alkalinity	Bromide by IC 300.1	Chloride by IC 300.0	Fluoride IC 300.0	METALS - SEE LIST	Metals, RCRA Water ICP 6010B	Nitrate N, IC 300.0	Phosphorus Total 365.4	Solids Suspended SM2540 D	Sulfate by IC 300.0	TOC 9060A	Sulfide SM4500-S2F				RUSH TAT (Pre Schedule) *
01	SW-BGC-S09	5/27/09	1155	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X				
02	SW-BGC-S10	5/27/09	1210	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X				
03	SW-RinseBlank 052709	5/27/09	1300	5						1		1		1	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X				

COMMENTS: All turn around times are calculated from the time of receipt at TestAmerica.
* Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with RUSH turn around time commitments;additional charges may be assessed.
There may be a charge assessed for TestAmerica disposing of sample remainders.

NOTES/SPECIAL INSTRUCTIONS: BO # 14983
TASK 3.0 METALS = RCRA 8 + Al, Sb, B, Be, Ca, Co, Cu, Fe, K, Mg, Mn, Mo, Ni, Na, Tl, V, Zn
sulfide by titration 2 coolers w/ this shipment

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Relinquished by:	Date:	Time:
	5/27/09	1400	FedEx					
Shipped Via:			Shipped Via:					
Received for TestAmerica by:	Date: 5/28	Time: 8:10	Temperature Upon Receipt: 3.4°C	Sample Containers Intact? Y N VOCs Free of Headspace? Y N		QC Deliverables (Please Circle One): Level 2 Level 3 Level 4 Site Specific (If site specific, please pre-schedule w/ TestAmerica Project Manager or attach specific instructions)		Date Due of Report:

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Soil Genesis and Mined Land Reclamation

Department of Crop and Soil Environmental Sciences
244 Smyth Hall, Blacksburg, VA 24061-0404
540-231-7175; Fax: -7630; Email: wdaniels@vt.edu

To: Joe Buchy, MACTEC
21740 Beaumeade Circle, Ste. 150
Ashburn, VA 20147

From: Julie Burger

Re: **Potential Peroxide Acidity**

Date: July 8, 2009

Encl.: Data Sheet, Invoice

Dear Joe,

Enclosed are the results of the Potential Peroxide Acidity analyses that were run on nineteen soil samples you sent on May 28 and June 8, 2009. Based on our results most of the samples you sent are acid sulfate material (greater than 5 tons $CaCO_3$/1000 tons material). Acid sulfate materials are potentially phytotoxic, can pose a water quality risk, and can damage concrete and metal.

Enclosed is a data sheet with the results of the analyses. The PPA is reported in tons of net acid demand per 1000 tons dry soil. This also equates to tons of lime demand per acre of soil six inches deep with standard dry density. Most of your samples are in need of lime amendment. Please note also that lime should be applied and thoroughly mixed to a depth of 6 inches.

If you have any questions or concerns please let me know. Thank you for using the Soil Physics Laboratory.

Sincerely,

Julie Burger
Research Associate

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An Equal Opportunity/Affirmative Action Institution

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Soil Genesis and Mined Land Reclamation

Department of Crop and Soil Environmental Sciences
244 Smyth Hall, Blacksburg, VA 24061-0404
540-231-7175; Fax: -7630; Email: wdaniels@vt.edu

Invoice for Lab Analyses

To: Joe Buchy, MACTEC
21740 Beaumeade Circle, Suite 150
Ashburn, VA 20147

From: Julie Burger

Re: **Lab Charges**

Date: June 19, 2009

Analyses:

Sample Preparation ($7/sample)	19 samples	$133
PPA ($50/sample)	19 samples	$950

Total: **$1083**

Please make check payable to: ***Treasurer of Virginia Tech***

Please note that we CANNOT accept Federal Funds

Mail to: Ms. Julie Burger, Lab 250 Supervisor
CSES Dept., Virginia Tech, 0404
Blacksburg, VA, 24061-0404

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An Equal Opportunity/Affirmative Action Institution

POTENTIAL PEROXIDE ACIDITY

COUNTY/STUDY: MacTec
DATE: 6/11/2009

Lab No	Sample ID	Tons $CaCO_3$/1000 Tons Material
2	HA-BGC-SG13	7.66
3a	HA-BGC-SG12	18.52
4	HA-BGC-SW22	11.14
5	HA-BGC-SG9	2.04
6	HA-BGC-SG10	14.70
7	HA-BGC-SG11	11.16
8	HA-BGC-Dup01	7.94

DATE: 6/19/2009

Lab No	Sample ID	Tons CaCO3/1000 Tons Material
2	SB-BGC-4 (0-4)	0.00
3	SB-BGC-5 (2-4)	9.02
4	SB-BGC-6 (0-3)	9.11
5	SB-BGC-6 (4-8)	18.14
6	SB-BGC-Dup02	0.00
7	MW-BGC-13 (0-2)	1.64
8	MW-BGC-13 (10-12)	16.55
9	MW-BGC-14 (0-2)	4.19
10	MW-BGC-14 (13-15)	10.99
11	MW-BGC-15 (0-2)	20.20
12	MW-BGC-15 (8-10)	14.64
13	MW-BGC-Dup01	22.60

Chain of Custody

Sampler Name Joe Buchy, MACTEC 703-729-1416

Page 1 of 1

Project Name BGC-SW Quad

Project Location VA

Total # Samples 7

	Date	Water	Soil	Other: # of Containers	Sample ID	Time	Analysis Name/Method: Potassium Permanide	Acidity (ppm)					Lab Use Only: Sample Processed (Date) Water: Filtered	Soil: Dried/ Ground	Other	Lab ID Number
1	5/28/09		X	2	HA-BGC-SG13	920	X									
2	5/28/09		X	2	HA-BGC-SG12	930	X									
3	5/28/09		X	2	HA-BGC-SW22	940	X									
4	5/28/09		X	2	HA-BGC-SG9	950	X									
5	5/28/09		X	2	HA-BGC-SG10	1000	X									
6	5/28/09		X	2	HA-BGC-SG11	1010	X									
7	5/28/09		X	2	HA-BGC-Dup01	1030	X									

Special Instructions: Samples will need to be prepped by lab.

Send Samples To: Julie Burger, Virginia Tech
250 Smyth Hall CSES 0404
Blacksburg, VA 24061-0404

Signature

Date 5/28/09

jmbuchy@mactec.com

51104

Chain of Custody

Sampler Name MACIEL

Project Name BGC

Project Location VA

Total # Samples 5

Page of

	Date	Water	Soil	Other: # of containers	Sample ID	Time	Analysis Name/Method: Potential Perchlorate	Perchlorate (MPA)					Lab Use Only: Sample Processed (Date) Water: Filtered	Soil: Dried/ Ground	Other	Lab ID Number
1B	6/8/09		X	1	SB-BGC-4 (0-4)	1500		X								
2B	6/8/09		X	1	SB-BGC-5 (2-4)	1530		X								
3B	6/8/09		X	1	SB-BGC-6 (0-3)	1600		X								
4B	6/8/09		X	3	SB-BGC-6 (4-8)	1615		X								
5B	6/8/09		X	1	SB-BGC-Dup07			X								

Special Instructions:

Send Samples To: Julie Burger, Virginia Tech
250 Smyth Hall- CSES 0404
Blacksburg, VA 24061-0404

Signature

Date

51105

Chain of Custody

Sampler Name MACTEC

Page 1 of 1

Project Name BGC

Project Location VA

Total # Samples 19

	Date	Water	Soil	Other: # of containers	Sample ID	Time	Analysis Name/Method: Perchlorate (EPA 314.0)					Lab Use Only: Sample Processed (Date) Water: Filtered	Soil: Dried/ Ground	Other	Lab ID Number
6B	6/8/09		X	2	MW-BGC-13 (0-2)	1000		X							
7B	6/8/09		X	2	MW-BGC-13 (10-12)	1010		X							
8B	6/8/09		X	3	MW-BGC-14 (0-2)	1230		X							
9B	6/8/09		X	3	MW-BGC-14 (13-15)	1240		X							
10B	6/8/09		X	3	MW-BGC-15 (0-2)	1500		X							
11B	6/8/09		X	3	MW-BGC-15 (8-10)	1515		X							
12B	6/8/09		X	3	MW-BGC-Dup01			X							
				1	Temp Blank										

Special Instructions:

Send Samples To: Julie Burger, Virginia Tech
250 Smyth Hall- CSES 0404
Blacksburg, VA 24061-0404

Signature [signature]

Date 6/8/09

51106

APPENDIX F
SAMPLING AND ANALYSIS PLANS

SAMPLING AND ANALYSIS PLAN
POST-CONSTRUCTION ASH FILL, COVER & GROUNDWATER EVALUATION
BATTLEFIELD GOLF CLUB
CHESAPEAKE, VIRGINIA

Prepared For:

Dominion Generation
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Prepared by:

MACTEC ENGINEERING AND CONSULTING, INC.
21740 Beaumeade Circle, Suite 150
Ashburn, Virginia 20147

NOVEMBER 7, 2008

51108

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1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) has been prepared by MACTEC Engineering and Consulting, Inc. (MACTEC) for Dominion Generation (Dominion) to perform a Post-Construction Ash Fill, Cover and Groundwater Evaluation at the Battlefield Golf Club located in Chesapeake, Virginia. This SAP was prepared substantially based on a site visit with Dominion personnel and our review of the following information sources:

- *Chesapeake Energy Center Hydrologic Investigation*, URS Corporation, dated September 21, 2001
- Data Tables and Figures, Kimley-Horn and Associates, Inc., available at www.cityofchesapeake.net/services/citizen_info/battlefieldgolfclub/, July 2008
- *Preliminary Site Assessment Work Plan*, Camp Dresser McKee, Inc. (CDM), dated September 2008

This SAP will be implemented in general accordance with MACTEC Standard Operating Procedures (SOPs), and will follow DEQ guidance for groundwater sampling and analysis, sample preservation and shipment, chain-of-custody, QA/QC, and data reporting procedures..

The Battlefield Golf Club (the 'Site') is an 18-hole golf course located southeast of the intersection of Whittamore Road and Centerville Turnpike South in Chesapeake, Virginia. Several man-made ponds that were dug during construction of the golf course also exist at the Site. The area to the south of the Site along Murray Road contains several residential structures with associated water supply wells.

The Site lies within the Coastal Plan Physiographic Province. The Coastal Plain Physiographic Province consists mainly of unconsolidated to poorly consolidated sediments generally forming an eastward thickening wedge. A shallow aquifer (within 5 feet of the surface) is generally present at the site within sediments of the Columbia Group. The Columbia Group varies in thickness and is composed dominantly of sands, although local peat beds may occur. Underlying the Columbia Group is the Yorktown Formation that consists of gray sands with gravel and shells with some clay

at the top of the unit. The finer-grained sediments of the upper Yorktown Formation, when present, may act as a confining unit segregating the shallow and deeper aquifers at the Site.

MACTEC understands that approximately 1.5 million tons of fly ash (Type F) generated from coal-fired power generating units at the Chesapeake Energy Center (CEC) was provided for use as structural fill during construction of the golf course from approximately March 2002 through April 2007. We further understand that Coal Combustion Products (CCP) provided to the developer included amendment of the ash with approximately 1.5 percent amending reagent.

2.0 SCOPE AND OBJECTIVES

The primary objective of this investigation is to provide an assessment of flow characteristics and metals concentrations in surface water and groundwater at the site (within a Dominion easement) and in the interior of the site (using existing wells, if suitable, and surface water bodies within and along the perimeter of the active golf course). A secondary objective of this investigation is to evaluate geotechnical properties and amending reagent content of the ash fill, including soil cover thickness.

2.1 Field Investigation Scope

The following tasks will be performed to evaluate ash and groundwater conditions at the site:

- Task 1.0 – Health & Safety Plan and Sampling & Analysis Plan Development
- Task 2.0 – Existing Well Development and Groundwater Sampling
- Task 3.0 – Ash and Soil Cover Sampling and Analysis
- Task 4.0 – Monitoring Well Installation and Development
- Task 5.0 – Staff Gauge Installation, Survey, Gauging, Slug Testing and Groundwater Sampling

<u>Task 1.0: Health & Safety Plan (HASP) and Sampling & Analysis Plan (SAP) Development</u>

MACTEC will review available documents regarding environmental conditions at the site to be provided by Dominion and prepare a site-specific Health and Safety Plan (HASP) to address potential health and safety hazards associated with the proposed field activities to be performed by MACTEC personnel. MACTEC will also review design plans, construction specifications and quality control tests and reports provided by the Site development contractor during construction of the golf course. Based on our review of available reports, MACTEC may modify or supplement this SAP to guide our proposed field investigation.

<u>Task 2.0: Existing Well Development and Groundwater Sampling</u>

Proper well development is essential to promote the flow of representative groundwater into the well, remove sediment introduced into the borehole during the drilling process and improve the

hydraulic connection between the monitoring well screen and the surrounding aquifer. MACTEC will gauge and re-develop four existing monitoring wells at the site (one installed by URS and three installed by Kimley-Horn). If the development water purged from a well does not appear relatively clear (and turbidity readings using a water quality analyzer remain greater than 250 nephelometric turbidity units [NTU]) following removal of 10 well volumes, then the well will be allowed to recharge for 24 hours. If after 24 hours has elapsed and the well still does not meet the turbidity requirements, then it will considered un-suitable for continued development (not practical for production of a non-turbid [less than 10 NTU] sample).

A groundwater sample will be collected from each suitable well using low-flow sampling techniques. Each groundwater sample will be analyzed for the following metals and inorganic constituents:

Existing Well Groundwater Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, Al, An, As, B, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Hg, K, Mn, Mg, Mo, Na, Ni, Pb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered) & Dissolved (field filtered)	4 existing wells (if suitable)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300.0	
Total Organic Halides (TOX)	9020	
Total Phosphorus	E365.3	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: 1 equipment rinse blank, 1 field blank & 1 duplicate sample for all constituents.		

Task 3.0 – Ash and Soil Cover Sampling and Analysis

Test borings, hand auger borings and test pits will be advanced to evaluate the soil cover and ash fill. The locations of the test pits will be selected following review of the construction documents in Task 1.0. The number and locations of borings may change based on the results of our review of construction documents. The hand auger borings and test pits will be located in the field by

MACTEC personnel by referencing site features shown on plans and aerial photographs and utilizing a conventional global positioning system instrument. A MACTEC engineer or geologist will be on-site to direct the field exploration program and prepare field logs of borings and test pits.

Task 3.1 Ash Fill Test Borings

Three test borings will be advanced through the ash fill at three of the highest locations at the site (see Figure 2 for proposed ash fill test borings locations). The test borings will be advanced using hollow stem auger or mud-rotary drilling procedures. Each boring will be advanced to the base of the ash fill (anticipated to be within 30 feet of the existing grade). Standard penetration tests and sampling will be conducted using the procedures described in ASTM D1586 at 2.5-foot intervals. We will attempt to obtain undisturbed tube samples of the fly ash fill using the procedures described in ASTM D1587. Each undisturbed tube sample will be submitted for vertical permeability (falling head) analysis. One fly ash sample from each soil boring, near the base of the ash fill (for a total of three ash samples) will also be submitted for pH and TCLP metals.

Test boring depths may be adjusted based on the actual conditions encountered. Upon completion of drilling, the borings will be backfilled with tremie-placed cement-bentonite grout to seal the borehole and to mitigate the potential for cross-contamination of the underlying aquifer. Drill cuttings (fly ash) will be used as fill in the backhoe test pits described below.

Task 3.2 Test Pits

Three test pits will be excavated into the ash fill at the site to depths of 6 to 8 feet below grade utilizing a rubber-tired backhoe. As the test pits are excavated, in-place density tests will be performed. Bulk samples will be obtained for testing in the laboratory. Following completion, the test pits will be backfilled in lifts and compacted to mitigate the potential for cross-contamination of the underlying aquifer. Soil cover will also be placed over the ash in accordance with the specifications and the surface will be covered with straw material and grass seed.

Samples obtained in the borings and test pits will be returned to the geotechnical laboratory for further examination by the geotechnical engineer. Samples will be selected for testing in the laboratory. The test program will include natural moisture contents and grain size analysis. The density of the fly ash will be determined if undisturbed tube samples are successfully obtained.

Standard or Modified Proctor moisture-density relationships of the fly ash will be determined on bulk samples obtained from the borings and test pits. One fly ash sample will be collected from each soil boring, near the base of the ash fill (for a total of three ash samples), and submitted for pH and TCLP metals analysis. In addition, petrographic and chemical analysis of three fly ash samples (one from each boring) will be performed to evaluate the amending reagent content of the ash fill. Laboratory procedures will be in general accordance with applicable ASTM standards.

Task 3.3 Soil Cover Assessment

Approximately 30 hand-auger borings will be advanced at the site in areas of ash fill (locations will generally be spaced in a uniform grid layout) to evaluate the thickness and physical properties of the soil cover. The soil will be described in general accordance with the Unified Soil Classification System (USCS). Three representative locations will also be selected for collection of undisturbed tube samples using the procedures described in ASTM D1587. Each undisturbed tube sample will be submitted for vertical permeability (falling head) analysis. Upon completion of sampling, the borings will be backfilled with the hand auger cuttings to mitigate the potential for cross-contamination of the underlying aquifer.

Task 4.0: Monitoring Well Installation and Development

Sixteen (16) 2-inch inside-diameter (I.D.) Type II (no outer surface casing) groundwater monitoring wells will be installed around the perimeter of the site (see Figure 2 for proposed well locations). The borings will be advanced using hollow-stem auger or mud rotary drilling procedures. Standard penetration tests and sampling will be conducted using the procedures described in ASTM D1586 continuously for the first 10 feet below grade and at 5-foot intervals thereafter. The field program will be monitored by a registered professional geologist so that the need for adjustments can be assessed.

MACTEC personnel will provide oversight to log each boring. Borehole samples will be classified according to their lithology to ensure that samples of each geologic formation, especially that the depth of stratigraphic contacts is documented. Each soil sample will be visually described by a MACTEC professional and given an estimated USCS classification.

Task 4.1 Type II Monitoring Well Installation

Eight 'shallow-depth' Type II wells will be advanced to penetrate at least ten feet into the uppermost water-bearing zone (based on previous wells installed at the site, we anticipate groundwater will be encountered within 5 to 10 feet of the ground surface and shallow well depths are anticipated to range from approximately 15 to 20 feet below grade). Eight 'intermediate-depth' Type II wells will be advanced to the apparent base of the uppermost water-bearing zone (based on previous investigation at the site, the upper Yorktown Formation consists of finer-grained sediments that were encountered within 43 to 50 feet of the ground surface and intermediate well depths are anticipated to range from approximately 40 to 45 feet below grade). Boring and screen depths may be adjusted based on the actual subsurface conditions encountered. A 10-foot section of 2-inch I.D. machine-slotted well screen will be installed at the bottom of each well and solid casing will extend to the ground surface. The annular space around the well screen will be filled with #2 morie sand to act as a filter pack and to produce a representative groundwater sample, and will extend approximately two feet above the top of the slotted screen. A bentonite seal approximately two feet thick will be placed above the sand pack, and Portland cement/bentonite grout slurry to seal the well at the ground surface to mitigate the potential for cross-contamination of the underlying aquifer. The shallow- and intermediate-depth wells will be installed in pairs at eight locations around the perimeter of the site within an existing Dominion easement. Three Type II well-pairs will be located in areas inferred to be up-gradient area of the ash fill and five Type II well-pairs in areas inferred to be cross-gradient to down-gradient from the ash fill (wells will be located outside of ash placement areas).

The Type II monitoring wells located along the south and east boundaries of the site (five wells) will be completed with a 3-foot standing riser cover with a hinged locking lid (due to the tall vegetation in this area) set into a 2-foot by 2-foot concrete pad. The Type II monitoring wells located along the north and west boundaries of the site (three wells) will be completed with locking well seal and an 8-inch diameter flush-mount manhole cover (due to the proximity of Centerville Turnpike and Whittamore Road and the landscaped nature of this area of the site) set into a 2-foot by 2-foot concrete pad.

Task 4.2 Well Development

MACTEC will gauge and develop each of the 16 proposed monitoring wells at the site. Well development will be performed using a surge block and disposable bailer (or submersible pump) to

surge throughout the well screen and purge up to 10 well volumes from each well. Development will continue until standard water quality parameters, including; pH, temperature, specific conductance, dissolved oxygen, oxidation/reduction potential (ORP) and turbidity have stabilized to within 10 percent or 10 NTUs. No water from an outside source will be introduced into the new wells during well development activities. Each properly developed well will then be allowed to stabilize for a minimum of 48 hours prior to collection of a groundwater sample. Well development and purge water removed from the wells will be placed into 55-gallon drums and labeled for temporary staging on the Site at a location designated by Dominion personnel. Appropriate disposition of the purge/development water will be determined following review of the groundwater analytical results for each well.

Task 5.0: Staff-Gauge Installation, Survey, Slug Testing and Groundwater Sampling

Surface water staff gauges will be installed, monitored and surveyed to evaluate surface water flow characteristics at the site. Slug tests will be performed in proposed monitoring wells at the site to evaluate groundwater flow characteristics. Proposed monitoring wells, including up-gradient wells to establish background, will be sampled to evaluate the concentration of total metals and selected ions.

Task 5.1 Surface Water Staff-Gauge Installation

Seventeen (17) surface water staff gauges will be installed in ponds and drainage ditches on the site. The water level at each staff gauge will be recorded at the time of gauge installation and on two separate occasions to collect data needed to evaluate the surface water and groundwater flow direction at the site. Corresponding tidal data for the nearest tidal stations will also be referenced for comparison.

Task 5.2 Survey & Gauging

The location of the 16 proposed wells, 17 proposed staff gauges, 3 proposed soil borings and 4 existing wells will be surveyed by a Virginia licensed professional surveyor. All well locations will be recorded using the Virginia State Plane coordinate system or other system if required by Dominion. The height of a reference survey datum, permanently marked on top of the inner well casing, and the ground-surface elevation of each well will be established within ±0.01 foot in

relation to mean sea level, which is established by reference to a National Geodetic Vertical Datum. The static ground-water level in each newly installed and at the four existing wells will be gauged on two separate occasions using a water level indicator probe to collect data needed to evaluate the groundwater flow direction.

Task 5.3 Surface Water Sampling & Analysis

MACTEC will collect surface-water samples from 11 selected staff gauge locations (see Figure 2 for proposed surface-water sample locations). Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The surface-water samples will be sent to TestAmerica Laboratories for analysis. The following table summarizes the proposed sampling and analysis. A minimum of two quality assurance (QA) samples will also be collected for analysis.

Surface-Water Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered)	11 Selected staff-gauge locations
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300.0	
Total Phosphorus	E365.3	
Total Suspended Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: 2 duplicate samples for all constituents.		

Task 5.4 Slug Testing

Following monitoring well installation and development, an aquifer test (slug test) will be performed on eight of the proposed new wells (four shallow and four intermediate-depth wells) in general accordance with ASTM Standard D 4044-91. Each slug test will be performed by producing a near instantaneous change in head pressure in the monitoring well and measuring the subsequent water level response within the well. Head changes will be induced by

adding/removing a mechanical PVC "slug" from the water column inside the well. After the slug is added or removed from the well, the water level in the well will be monitored using a pressure transducer with an internal datalogger, which records water level readings at regular, timed intervals. Water level readings will begin one to two minutes prior to introducing the PVC "slug" into the well to establish a baseline during the slug-in portion of the test. Readings will continue as the water infiltrates into the aquifer, and continue until the water level has recovered to within 98% of the initial static ground-water level. A subsequent slug-out test will begin by quickly removing the PVC "slug" and monitoring recharge from the aquifer, and will continue until the water level has recovered to within 98% of the initial static ground-water level. Data will be evaluated using three different methods (Bouwer and Rice, 1976; Cooper, Bredehoeft, and Papadopulos, 1967; and Lambe & Whitman, 1969) and averaged to produce an estimated mean value for each well.

Task 5.5 Groundwater Sampling & Analysis (Proposed New Wells)

MACTEC will collect groundwater samples from each of the 16 proposed monitoring wells no sooner than 48 hours after final development. The sampling will be conducted using the EPA Region III low-flow purge and sampling method. Ground-water purging and sampling records will be completed for each well. Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The groundwater samples will be sent to TestAmerica Laboratories for analysis. The following table summarizes the proposed sampling and analysis. A minimum of two quality assurance (QA) samples will also be collected for analysis.

Proposed Well Groundwater Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered)	16 proposed wells
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300.0	
Total Phosphorus	E365.3	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: 2 duplicate samples for all constituents.		

Well purge water removed from the wells will be placed into 55-gallon drums and labeled for temporary staging on the Site at a location designated by Dominion personnel. Appropriate disposition of the purge water will be determined following review of the groundwater analytical results for each well.

2.2 Decontamination

Equipment decontamination procedures (steam cleaning of augers and the backhoe bucket) will be performed prior to each boring/test pit in order to prevent cross-contamination during sampling. Dedicated disposable tubing will be utilized for groundwater sampling. Submerged sampling and testing equipment (water level indicators, well development slugs, submersible pumps and slug testing equipment) will be properly decontaminated prior to each well using an Alconox/potable-water wash/rinse, followed by a 10% nitric acid/de-ionized water rinse, followed by a triple rinse with de-ionized water.

2.3 Investigation-Derived Waste (IDW)

IDW generated within the golf course boundary (where ash fill may be present)

Drill cuttings and test pit spoils generated from borings/test pits inside the ash-filled areas of the golf course (where ash fill is may be encountered) will be used to backfill test pits only (the ash fill will be placed in lifts, compacted and covered with clean fill in accordance with the CCP re-use requirements for the site).

Decontamination water from steam cleaning of drilling/test pit equipment used inside the golf course boundary will be placed in labeled drums for characterization and proper disposal. Development water, purge water and decontamination water from sampling equipment (where nitric acid was used during the rinse) will be placed in labeled drums for characterization and proper disposal. All IDW will be managed in accordance with applicable standards and with DEQ guidance.

IDW generated from the Dominion easement (where ash was not placed)

Soil cuttings generated during well installation outside the filled areas of the golf course (where ash fill is not present) will be placed on the ground surface at a designated location within the golf course boundary.

Decontamination water from steam cleaning of drilling equipment used outside the filled areas of the golf course (where ash fill is not present) will be ground applied at a designated location within the golf course boundary. Development water, purge water and decontamination water (from sampling equipment where nitric acid was used during the rinse) will be placed in labeled drums for characterization and proper disposal.

2.4 Quality Assurance

Duplicate groundwater samples will be collected at a frequency of 10 percent. One equipment rinse blank and one blind field blank will also be collected to evaluate field decontamination procedures and laboratory analytical integrity.

2.5 Sample Packing and Shipping Requirements

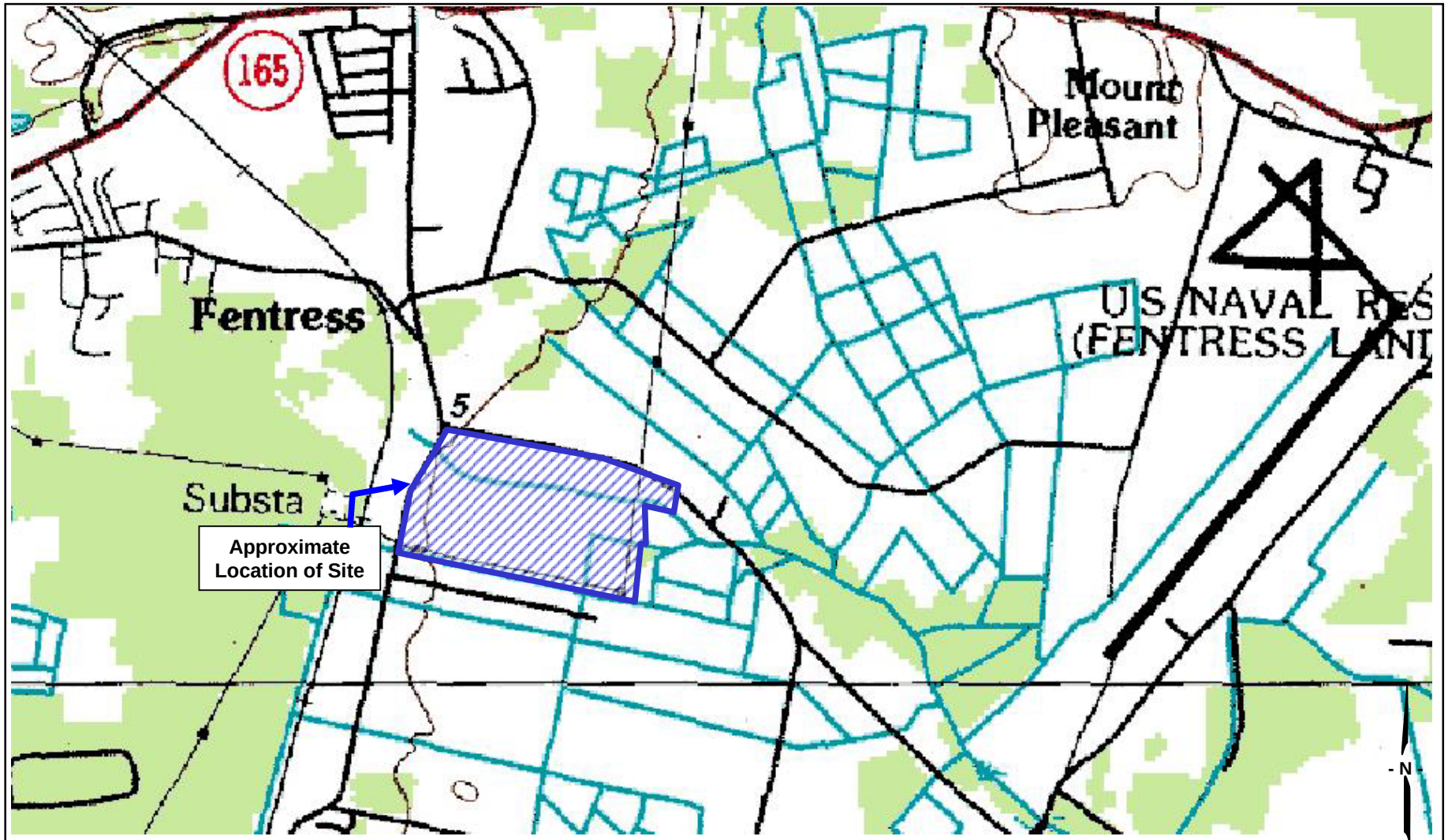
Samples will be delivered to the designated laboratory via Federal Express shipping. During the field effort the Field Technical Lead will coordinate laboratory shipments. Samples will be placed inside designated laboratory sample coolers with a temperature blank and will be lined with packaging material to mitigate damage during transport. Samples will be placed on ice and a chain-of-custody will accompany each cooler. After packing is complete, the cooler will be taped shut with chain-of-custody seals affixed across the top and bottom joints.

2.6 Data Analysis and Reporting

Following completion of Tasks 1.0 through 5.0, MACTEC will prepare boring logs, test pit logs, well construction diagrams, two stratigraphic cross-sections, a vicinity map, sample locations map, surface water/groundwater contour maps and representative iso-concentration maps (as deemed appropriate). MACTEC will also evaluate the field and laboratory data and provide a Post-Construction Ash and Groundwater Evaluation Report. The report will also include:

- A review of known project information.
- A brief review of our test procedures for the field investigation.
- Groundwater and surface water quality testing results.
- General description of the site and subsurface conditions.
- Physical properties of the ash fill and cover.
- Discussion of results and recommendations for further assessment, if necessary.

FIGURES



Source: USGS Topographic Map, Available online at <*http://terraserver-usa.com/image.aspx*>. July 1, 1969. Accessed October 13, 2008.

Prepared by: JES 10/13/08
Checked by: GBG 10/13/08

Battlefield Golf Course 1001 South Centerville Turnpike Chesapeake, Virginia	MACTEC 21740 Beaumeade Circle, Suite 150 Ashburn, Virginia 20147	Topographic Map Proposal # WashPROP08.120 Figure 1

51124

Legend:

- Proposed Surface Water Sample Location
- Approximate Location of Existing Groundwater Monitoring Well (MW)
- Proposed Ash Fill Test Boring
- Proposed Location for Pair of Shallow & Intermediate-Depth Type II Monitoring Wells

- N -

SCALE : Graphical

Source: GoogleEarth, 2008. Accessed October 13, 2008.

Prepared by: JES 10/13/08
Checked by: GBG 10/13/08

Battlefield Golf Course 1001 South Centerville Turnpike Chesapeake, Virginia	MACTEC 21740 Beaumeade Circle, Suite 150 Ashburn, Virginia 20147	Proposed Sample Location Map Proposal # WashPROP08.120 Figure 2

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ATTORNEY-CLIENT PRIVILEGED COMMUNICATION WORK PRODUCT; PREPARED IN ANTICIPATION OF LITIGATION

PHASE II
ASH FILL, SOIL, & GROUNDWATER EVALUATION - SOUTHWEST QUADRANT

SAMPLING AND ANALYSIS PLAN (SAP)

BATTLEFIELD GOLF CLUB
CHESAPEAKE, VIRGINIA

Prepared For:

Dominion Generation
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Prepared by:

MACTEC ENGINEERING AND CONSULTING, INC.
21740 Beaumeade Circle, Suite 150
Ashburn, Virginia 20147

MAY 26, 2009

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2.5 Sample Packing and Shipping 12
2.6 Data Analysis and Reporting 13

FIGURES

Figure 1 – Topographic Map
Figure 2 – Proposed Ash Fill Boring, Test Pit, Surficial Soil, and Stockpile Sample Location Map
Figure 3 – Proposed Well Location Map

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1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) has been prepared by MACTEC Engineering and Consulting, Inc. (MACTEC) for Dominion Generation (Dominion) to perform Phase II Ash Fill, Soil and Groundwater Evaluation in the Southwest Quadrant of the Battlefield Golf Club located in Chesapeake, Virginia. This SAP was prepared substantially based on the conclusions from our DRAFT Post-Construction Ash Fill, Cover and Groundwater Evaluation Report, dated February 2009.

This SAP will be implemented in general accordance with MACTEC Standard Operating Procedures (SOPs), and will follow DEQ guidance for groundwater sampling and analysis, sample preservation and shipment, chain-of-custody, QA/QC, and data reporting procedures.

The Battlefield Golf Club (the 'Site') is an 18-hole golf course located southeast of the intersection of Whittamore Road and Centerville Turnpike South in Chesapeake, Virginia. Several man-made ponds that were dug during construction of the golf course also exist at the Site. The area to the south of the Site along Murray Road contains several residential structures with associated water supply wells. Approximately 1.5 million tons of fly ash (Type F) generated from coal-fired power generating units at the Chesapeake Energy Center (CEC) was provided for use as structural fill during construction of the golf course from March 2002 through April 2007. Coal Combustion By Products (CCB) provided to the developer included amendment of the ash with approximately 1.5 percent amending reagent.

Relatively low pH (<4) conditions were identified in groundwater at monitoring well MW-BGC-8A and in proximal surface water in the Southwest Quadrant of the Site. Analytical results for monitoring well MW-BGC-8A generally appear elevated relative to other wells at the Site. The sulfate concentration in this well was also approximately one order of magnitude higher than other wells at the Site.

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2.0 SCOPE AND OBJECTIVES

The primary objective of the following Phase II field scope of services is to further evaluate surface water and groundwater conditions within the Southwest Quadrant of the Site using existing wells, proposed monitoring wells, soil borings, and surface water bodies.

2.1 Field Investigation Scope

The following field tasks will be performed to achieve the objectives of the Phase II investigation in the Southwest Quadrant of the Site (as outlined in the approved MACTEC proposal, dated May 13, 2009, to Dominion):

- Task 2.0 – Pond Depth Sounding and Sediment Sampling
- Task 3.0 – Surface Water Sampling
- Task 4.0 – Soil, Ash Fill, and Stockpile Sampling
- Task 5.0 – Monitoring Well Installation and Development
- Task 6.0 – Survey, Gauging, Slug Testing and Groundwater Sampling

<u>Task 2.0 – Pond Depth Gauging and Sediment Sampling</u>

Four ponds in the Southwest Quadrant of the Site (the ponds identified with staff gauges SG-9, SG-10, SG-11 and SG-12) will be gauged at approximately 10-foot intervals along the center length of each pond to determine the bottom depth below the water surface. Approximately 10 sediment samples will be collected from the ponds (at least 2 per pond). Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The samples will be sent to TestAmerica Laboratories for the following analyses:

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Pond Sediment Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	Metals by Method 6010	4 Selected Ponds (2 Samples each)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	pH Determination	
Total Phosphorus	E365.3	
QA/QC Samples: 1 duplicate sample for all constituents.		

Task 3.0 – Surface Water Sampling

Surface-water samples will be collected from a total of six locations, five previously sampled locations (SG-9, SG-10, SG-11, SG-12, and SW-22) and one new location adjacent to well MW-BGC-8A (SG-13). Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The samples will be sent to TestAmerica Laboratories for the following analyses:

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Surface-Water Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	SW-846 Method 6010B/7470A Total (unfiltered)	SG-9, SG-10, SG-11, SG-12, SG-13, and SW-22 (6 Total Samples)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N, and Sulfide	300.0 or SM4500-S2F (titration)	
pH	Field pH Meter	
Total Phosphorus	E365.3	
Total Suspended Solids (TSS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: 1 duplicate sample for all constituents. 1 rinse blank sample for all constituents.		

Task 4.0 – Soil, Ash Fill, and Stockpile Sampling

Soil borings will be advanced in the approximate area as shown on Figure 2. A MACTEC engineer or geologist will be on-site to direct the field exploration program and prepare field logs of the soil borings. The ground surface location for each boring will be surveyed as described in Task 6.1 to establish vertical and horizontal control.

Task 4.1 Soil and Ash Fill Borings and Analysis

Approximately 12 test borings (by Geoprobe) will be advanced to locate the extent and to collect representative samples of the ash fill in the Southwest Quadrant of the Site (see Figure 2 for proposed test boring locations). The number and locations of borings may change based on the presence or absence of ash encountered in each subsequent boring (the budget for this proposal assumes a maximum depth of 8 feet below ground surface [bgs] for each boring). A qualified geologist will be on-site to direct the field exploration program and prepare field logs of the test borings. A total of 3 grab ash fill samples will be collected. Up to 6 surface soil samples (approximately 6 to 24 inches bgs) also will be collected. Appropriate sampling information will

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subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The samples will be sent to TestAmerica Laboratories or other qualified laboratory for the following analyses:

Soil and Ash Fill Boring Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	Metals by Method 6010	3 Grab Ash Fill Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	pH Determination	
Total Phosphorus	E365.3	
Acid Producing Potential	Potential Peroxide Acidity (PPA)[1]	Up to 6 Surface Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	pH Determination	
QA/QC Samples: 1 duplicate soil sample.		

[1] Soil samples will be sent to Virginia Tech Soils Laboratory (Virginia Tech) for PPA analysis.

Upon completion of drilling, the borings will be backfilled with bentonite chips to mitigate the potential for cross-contamination of the underlying aquifer.

Task 4.2 Surface Soil Samples and Analysis

Approximately 6 soil borings will be advanced (by hand auger) approximately 6 to 24 inches bgs to evaluate potential acid sulfate soils in the Southwest Quadrant. The locations of these hand augers will be within the vicinity of surface water locations SG-9, SG-10, SG-11, SG-12, SW-13, and SW-22. Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The samples will be sent to TestAmerica Laboratories or other qualified laboratory for the following analyses:

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Surface Soil Sample Analyses		
Analyte	**Method**	**Locations**
Acid Producing Potential	Potential Peroxide Acidity (PPA)[1]	6 Soil Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	pH Determination	
QA/QC Samples: 1 duplicate sample.		

[1] Soil samples will be sent to Virginia Tech Virginia Tech for PPA analysis.

Upon completion of the hand augers, the borings will be backfilled with bentonite chips to grade (where applicable).

Task 4.3 – Road Bed and Stockpile Sampling and Analysis

A hand auger will be utilized to collect approximately four road bed (from grade to approximately six inches below grade in the access road) and four soil stockpile samples (one composite sample from each stockpile). Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The samples will be sent to TestAmerica Laboratories for analysis. Each sample will be submitted for the following analyses:

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Road Bed and Stockpile Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	Metals by Method 6010	4 Grab Surface Soil and 4 Stockpile Composite Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	pH Determination	
Total Phosphorus	E365.3	
TCLP Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, Tl, V, Zn	TCLP Metals by Method 6000	4 Stockpile Composite Samples
QA/QC Samples: 2 total duplicate samples (1 surface and 1 stockpile sample) for applicable constituents.		

Upon completion of the hand augers, the borings will be backfilled with bentonite chips to grade. The ground surface location for each hand auger will be surveyed as described in Task 6.0 to establish vertical and horizontal control.

Task 5.0 – Monitoring Well Installation and Development

Up to four 2-inch inside-diameter (I.D.) Type II groundwater monitoring wells will be installed within the Southwest Quadrant of the Site (see Figure 3 for proposed well locations). The borings will be advanced using hollow-stem auger drilling procedures. Standard penetration tests and sampling will be conducted using the procedures described in ASTM D1586 continuously for the first 10 feet below grade and at 5-foot intervals thereafter. The field program will be monitored by a registered professional geologist so that the need for adjustments can be assessed.

MACTEC personnel will provide oversight to log each boring. Borehole samples will be classified according to their lithology to ensure that samples of each geologic formation, especially that the depth of stratigraphic contacts is documented. Each soil sample will be visually described by a

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MACTEC professional and given an estimated USCS classification. One soil sample from each well location will be analyzed for the following:

Monitoring Well Soil Sample Analyses		
Analyte	**Method**	**Locations**
Acid Producing Potential	Potential Peroxide Acidity (PPA) [1]	4 Soil Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	pH Determination	
QA/QC Samples: 1 duplicate sample.		

[1] Soil samples will be sent to Virginia Tech Virginia Tech for PPA analysis.

Task 5.1 Type II Monitoring Well Installation

Up to four 'shallow-depth' Type II wells will be advanced to penetrate at least ten feet into the uppermost water-bearing zone (based on previous wells installed at the site, we anticipate groundwater will be encountered within 5 to 10 feet of the ground surface and shallow well depths are anticipated to range from approximately 15 to 20 feet below grade). Boring and screen depths may be adjusted based on the actual subsurface conditions encountered. A 10-foot section of 2-inch I.D. machine-slotted well screen will be installed at the bottom of each well and solid casing will extend to the ground surface. The annular space around the well screen will be filled with #2 morie sand to act as a filter pack and to produce a representative groundwater sample, and will extend approximately two feet above the top of the slotted screen. A bentonite seal approximately two feet thick will be placed above the sand pack, and Portland cement/bentonite grout slurry to seal the well at the ground surface to mitigate the potential for cross-contamination of the underlying aquifer. See Figure 2 for proposed well locations.

The Type II monitoring wells will be set, into a 2-foot by 2-foot concrete pad and completed with a 3-foot standing riser cover with a hinged locking lid or with a locking well seal and an 8-inch diameter flush-mount manhole cover.

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Task 5.2 Well Development

MACTEC will gauge and develop each of the four proposed monitoring wells at the Site. Well development will be performed using a surge block and disposable bailer (or submersible pump) to surge throughout the well screen and purge up to 10 well volumes from each well. Development will continue until standard water quality parameters, including; pH, temperature, specific conductance, dissolved oxygen, oxidation/reduction potential (ORP) and turbidity have stabilized to within 10 percent or 10 NTUs. No water from an outside source will be introduced into the new wells during well development activities. Each properly developed well will then be allowed to stabilize for a minimum of 48 hours prior to collection of a groundwater sample. Well development and purge water removed from the wells will be placed into 55-gallon drums and labeled for temporary staging on the Site at a location designated by Dominion personnel. Appropriate disposition of the purge/development water will be determined following review of the groundwater analytical results for each well.

Task 6.0 – Survey, Gauging, Slug Testing and Groundwater Sampling

The proposed wells, soil borings, and surficial soil sampling locations will be surveyed to establish horizontal and vertical control at the site. Proposed and selected existing monitoring wells will be sampled to evaluate the concentration of total metals and selected ions.

Task 6.1 Survey

The location of the 4 proposed wells, 12 soil borings, and 4 surficial soil sample locations will be surveyed by a Virginia licensed professional surveyor. Well locations will be recorded using the Virginia State Plane coordinate system or other system if required by Dominion. The height of a reference survey datum, permanently marked on top of the inner well casing, and the ground-surface elevation of each well will be established within ±0.01 foot in relation to mean sea level, which is established by reference to a National Geodetic Vertical Datum.

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Task 6.2 Gauging

The static groundwater level at the 4 newly installed wells, 20 existing wells, and 19 staff gauge locations will be gauged on two separate occasions to collect data needed to further evaluate the groundwater flow direction. Monitoring wells will be gauged utilizing an electronic water level indicator.

Task 6.3 Slug Testing

Following monitoring well installation and development, an aquifer test (slug test) will be performed on 2 of the proposed new wells and on existing well MW-BGC-8A in general accordance with ASTM Standard D 4044-91. Each slug test will be performed by producing a near instantaneous change in head pressure in the monitoring well and measuring the subsequent water level response within the well. Head changes will be induced by adding/removing a mechanical PVC "slug" from the water column inside the well. After the slug is added or removed from the well, the water level in the well will be monitored using a pressure transducer with an internal datalogger, which records water level readings at regular, timed intervals. Water level readings will begin one to two minutes prior to introducing the PVC "slug" into the well to establish a baseline during the slug-in portion of the test. Readings will continue as the water infiltrates into the aquifer, and continue until the water level has recovered to within 98% of the initial static groundwater level. A subsequent slug-out test will begin by quickly removing the PVC "slug" and monitoring recharge from the aquifer, and will continue until the water level has recovered to within 98% of the initial static groundwater level. Data will be evaluated using three different methods (Bouwer and Rice, 1976; Cooper, Bredehoeft, and Papadopulos, 1967; and Lambe & Whitman, 1969) and averaged to produce an estimated mean value for each well.

Task 6.4 Groundwater Sampling and Analysis

MACTEC will collect groundwater samples from each of the 4 proposed monitoring wells (no sooner than 48 hours after final development) and the 16 previously installed wells around the perimeter of the site (MW-BGC-8A and B through -12A and B). The sampling will be conducted using the EPA Region III low-flow purge and sampling method. Groundwater purging and

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sampling records will be completed for each well. Appropriate sampling information will subsequently be transferred to a chain-of-custody record to accompany the sample shipment to the laboratory. The groundwater samples will be sent to Test America Laboratories for the following analyses:

Proposed and Existing Well Groundwater Sample Analyses		
Analyte	**Method**	**Locations**
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Tl, V & Zn	SW-846 Method 6010B/7470A Total (unfiltered)	16 Previously Installed Perimeter Wells and 4 Proposed Wells
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N, Sulfide	300.0 or SM4500-S2F (titration)	
Total Phosphorus	E365.3	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: 2 duplicate sample for all constituents. 2 rinse blank sample for all constituents.		

Well purge water removed from the wells will be placed into 55-gallon drums and labeled for temporary staging on the Site at a location designated by Dominion personnel. Appropriate disposition of the purge water will be determined following review of the groundwater analytical results for each well.

2.2 Decontamination

Equipment decontamination procedures (steam cleaning of augers) will be performed prior to each boring in order to prevent cross-contamination during sampling. Dedicated disposable tubing will be utilized for groundwater sampling. Submerged sampling and testing equipment (water level indicators, well development slugs, submersible pumps and slug testing equipment) will be properly decontaminated prior to each well using an Alconox/potable-water wash/rinse, followed by a 10% nitric acid/de-ionized water rinse, followed by a triple rinse with de-ionized water.

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2.3 Investigation-Derived Waste (IDW)

Soil cuttings generated during well installation outside the filled areas of the golf course (where ash fill is not present) will be placed on the ground surface at a designated location within the golf course boundary. Drill cuttings generated from soil borings inside the ash-filled areas of the golf course (where ash fill is may be encountered) will be containerized in labeled 55 gallons drums onsite.

Decontamination water from steam cleaning of drilling equipment used outside the filled areas of the golf course (where ash fill is not present) will be ground applied at a designated location within the golf course boundary. Development water, purge water and decontamination water (from sampling equipment where nitric acid was used during the rinse) will be placed in labeled drums for characterization and proper disposal.

Decontamination water from steam cleaning of drilling/test pit equipment used inside the golf course boundary will be placed in labeled drums for characterization and proper disposal. Development water, purge water and decontamination water from sampling equipment (where nitric acid was used during the rinse) will be placed in labeled drums for characterization and proper disposal. All IDW will be managed in accordance with applicable standards and with DEQ guidance.

2.4 Quality Assurance

Duplicate groundwater and surface water samples will be collected at a frequency of approximately 10 percent. One equipment rinse blank will be collected during surface-water sampling. Two equipment rinse blanks and two field blanks will also be collected during groundwater sampling to evaluate field decontamination procedures and laboratory analytical integrity.

2.5 Sample Packing and Shipping Requirements

Samples will be delivered to the designated laboratory via Federal Express shipping. During the field effort the Field Technical Lead will coordinate laboratory shipments. Samples will be placed inside designated laboratory sample coolers with a temperature blank and will be lined with

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packaging material to mitigate damage during transport. Samples will be placed on ice and a chain-of-custody will accompany each cooler. After packing is complete, the cooler will be taped shut with chain-of-custody seals affixed across the top and bottom joints (where applicable).

2.6 Data Analysis and Reporting

Following completion of Tasks 1.0 through 7.0 in the approved MACTEC proposal, MACTEC will update existing stratigraphic cross-sections, prepare boring logs, well construction diagrams, sample locations map, surface water/groundwater contour maps and representative iso-concentration maps (as deemed appropriate). MACTEC will also evaluate the field and laboratory data and provide a Phase II Southwest Quadrant Evaluation Report. The report will also include:

- A review of known project information.
- A brief review of our test procedures for the field investigation.
- Groundwater and surface water quality testing results.
- General description of the site and subsurface conditions.
- Estimated limits of the ash fill in the Southwest Quadrant of the Site.
- Discussion of results and recommendations for further assessment, if necessary.

Upon initial submittal of the report, MACTEC will complete one round of edits to incorporate recommendations provided by Dominion. Costs for additional edits and report deliverables were not included in the approved proposal; however they may be provided upon request.

**ATTORNEY-CLIENT PRIVILEGED COMMUNICATION WORK PRODUCT;
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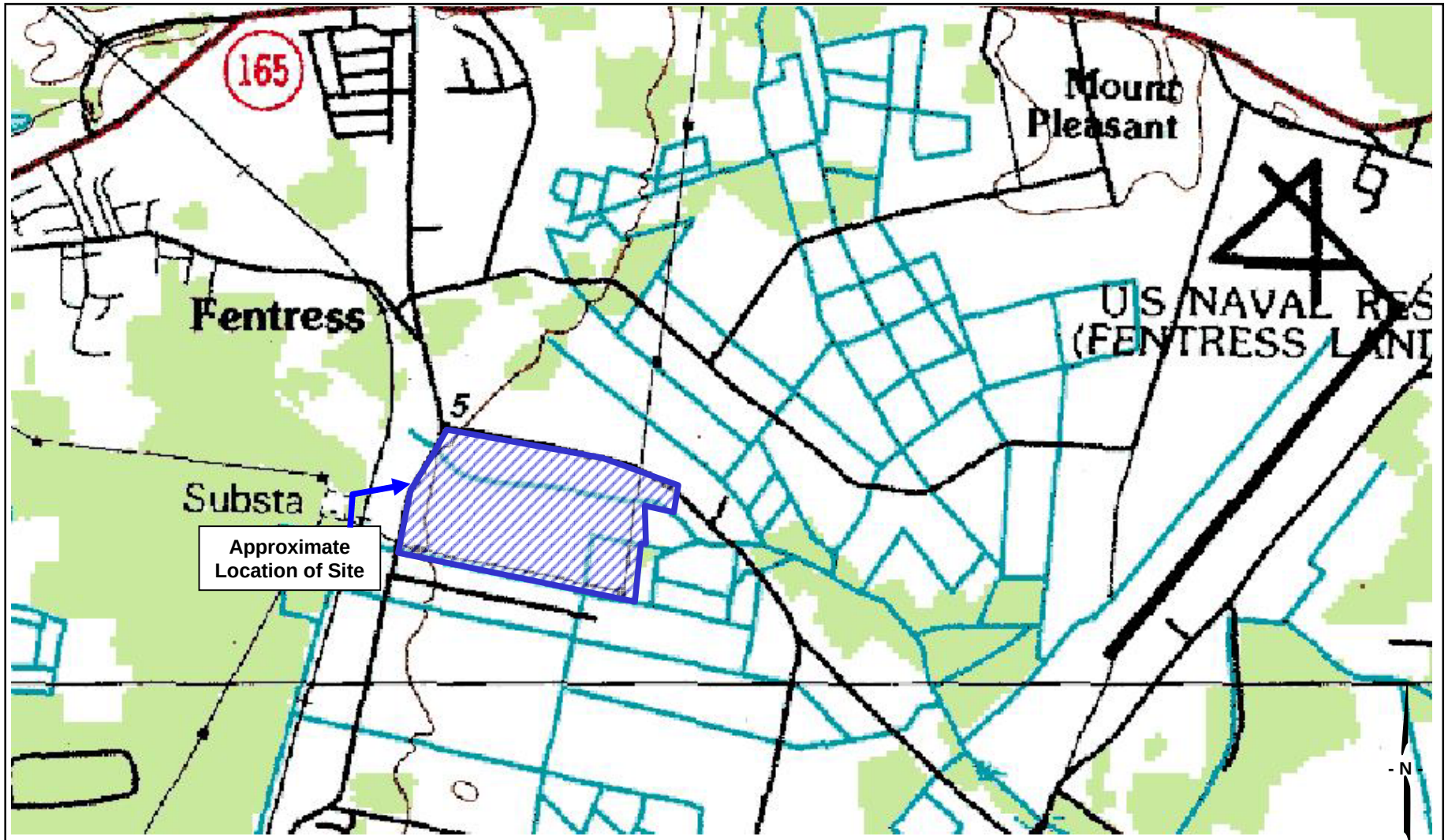
FIGURES

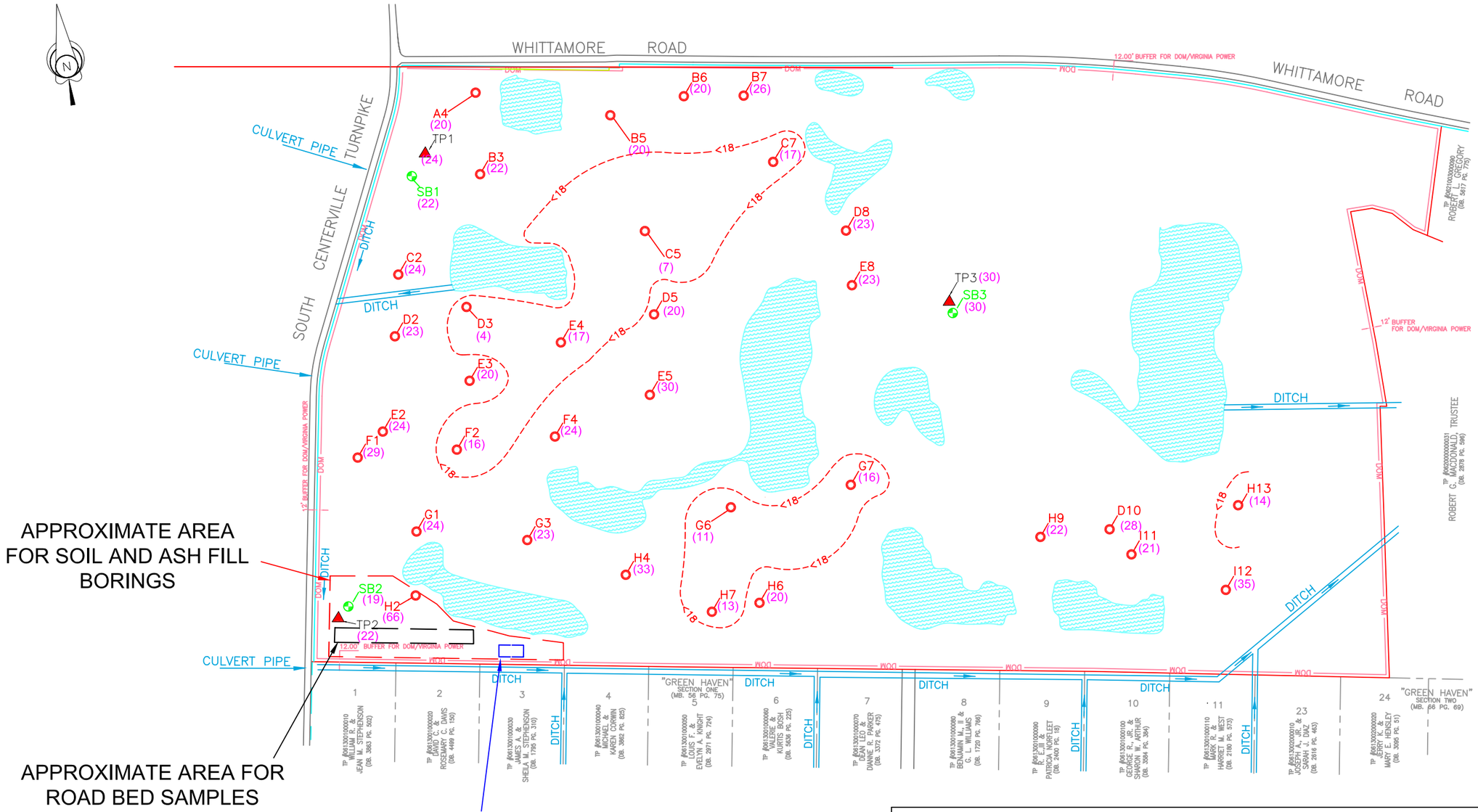


Source: USGS Topographic Map, Available online at <*http://terraserver-usa.com/image.aspx*>. July 1, 1969. Accessed October 13, 2008.

Prepared by: JES 10/13/08
Checked by: GBG 10/13/08

Battlefield Golf Club 1001 South Centerville Turnpike Chesapeake, Virginia	MACTEC 21740 Beaumeade Circle, Suite 150 Ashburn, Virginia 20147	Topographic Map Project Number 3552-08-1210 Figure 1

51142



APPROXIMATE SOIL BORING LOCATION

ARROW INDICATES SURFACE WATER FLOW DIRECTION IN DRAINAGE DITCHES

APPROXIMATE TEST PIT LOCATION

(22) ESTIMATED SOIL COVER (INCHES)

--<18-- ESTIMATED AREA OF SOIL COVER LESS THAN 18 INCHES

FIGURE 2

Proposed Soil and Ash Fill Borings, Surficial Soil, and Stockpile Sample Location Map

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-08-1210	FEBRUARY 2009	Approx. Scale: 1" = 400'

51143

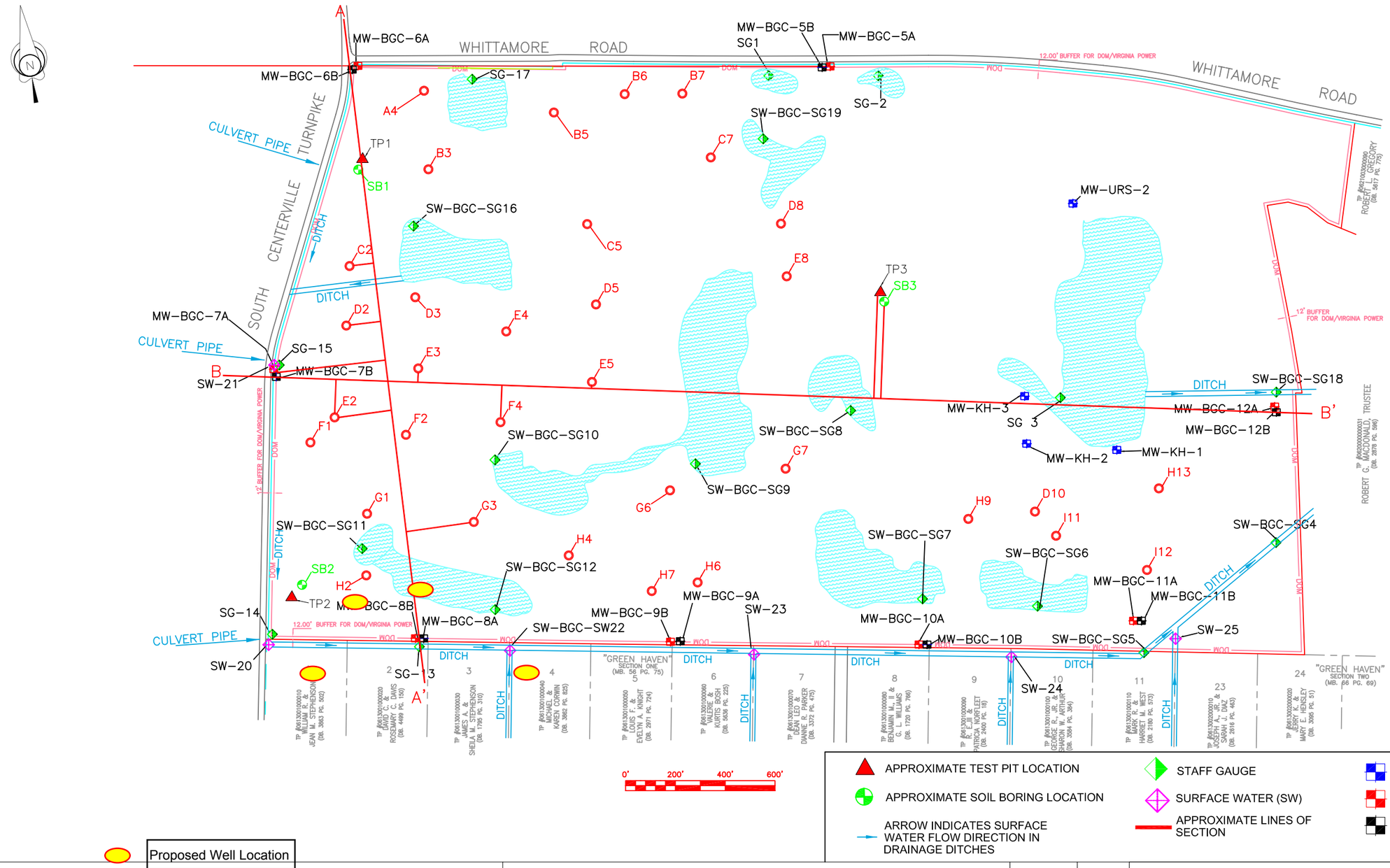


FIGURE 3
Proposed Well Location Map

MACTEC ENGINEERING AND CONSULTING, INC.
21740 BEAUMEADE CIRCLE
ASHBURN, VA 20147

Des. by	J.M.B.
Drn. by	M.R.C.
Chk. by	G.B.G.

BATTLEFIELD GOLF CLUB
1001 SOUTH CENTERVILLE TURNPIKE
CHESAPEAKE, VA.

3552-08-1210	FEBRUARY 2009	Approx. Scale: 1" = 400'

51144

APPENDIX G
WASTE DISPOSAL MANIFESTS

Soilex Corporation
Post Office Box 1444
Chesapeake, VA 23327
(757) 549-8448
FAX: (757) 549-6668

NON-HAZARDOUS SHIPPING MANIFEST

MANIFEST NO._____

GENERATOR

NAME	Dominion Virginia Power	TELEPHONE		
ADDRESS	5000 Dominion Blvd.	CITY	Glen Allen	STATE VA
SHIPMENT ORIGIN	1001 Centerville Turnpike	CITY	Chesapeake	STATE VA
AUTHORIZED AGENT	c/o Clean Harbors	FIRM		
ADDRESS		OTHER		

MATERIAL CHARACTERIZATION

ACTIVITY GENERATING THIS MATERIAL: UST/AST REMOVAL _____ OTHER Site Investigation

PETROLEUM TYPE (S): VIRGIN PRODUCT _____ NON-VIRGIN PRODUCT _____

PHYSICAL STATE: STOCKPILED _____ EXCAVATING _____ DRUMS 20 OTHER _____

HANDLING INSTRUCTIONS: **Transport To Facility Designated Below**

FIRE OR SPILL INSTRCUTIONS: **Non-Flammable / Non-Hazardous**

DESTINATION: Chesapeake Facility

I hereby certify, to the best of my knowledge, the material characterized above is non-hazardous as defined by the Virginia Hazardous Waste Management Regulations, Federal Regulations under Subtitle C – RCRA, U.S. Department of Transportation, or local / state of origin regulations.

[illegible] on behalf of Dominion
Signature of Generator / Agent

Joseph Bucky on behalf of Dominion
Printed Name / Date

TRANSPORTER

TRANSPORTER NAME Soilex Corporation TELEPHONE 549-8448 TRUCK NO. Box

I certify that the materials described above were received by me for shipment and delivered to the designated facility.

[illegible] 3-11-09
Transporter Signature / Date

FACILTIY

I certify that the materials described above were delivered to the facility and received by me.

ACCEPTED BY _____ DATE _____

REASONS FOR REJECTION _____

Gross Weight	
Tare Weight	
Net Weight	
Tons	

CUSTOMER

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DOCUMENT NO. 104851 WORK ORDER NO. _____

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Env Services INC VEHICLE ID # 5217
EPA ID # MAD039322570 TRANS. 1 PHONE _____

TRANSPORTER 2 _____ VEHICLE ID # _____
EPA ID # _____ TRANS. 2 PHONE _____

DESIGNATED FACILITY	SHIPPER
Solex	MacTech
FACILITY EPA ID #	SHIPPER EPA ID #
ADDRESS Dominion BLVD	ADDRESS 1001 Centerville Turnpike
CITY Chesapeake STATE VA ZIP 23324	CITY Chesapeake STATE VA ZIP 23327

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
55	DM		A. Non Haz Non DOT Regulated Liquid (Purge water)		
			B.		
7 / 55	DM		C. Non Haz Non DOT Regulated Liquid (Purge water)	385	G
			D.		
			E.		
			F.		
			G.		
			H.		

SPECIAL HANDLING INSTRUCTIONS

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Authorized Agent For Dominion SHIPPER	PRINT Gregory R. Grose	SIGN	DATE 7/15/09
TRANSPORTER 1	PRINT Steve Bobbitt	SIGN	DATE 7/15/09
TRANSPORTER 2	PRINT	SIGN	DATE
RECEIVED BY	PRINT	SIGN	DATE

CHI 190

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CleanHarbors ENVIRONMENTAL SERVICES®

Site Services Multi-Task Worksheet

Day & Date: Weds - 7-15-09

Sales Order #:

Job Complete: Yes / No (Circle One)

Job Description / Comments: Arrive onsite 8 Am Load Drums 7 Locations Depart 9 Am
Take to facility
Customer added 1 Extra Drum - 7 Total

Customer: Mnetech

Billing Address: 21740 Beaumeade Cir
Suite 130
Ashburn VA 20147

Contact: Randy Morrison

Job Location: 1001 Loudoun Ville Turnpike
Chesapeake VA

PO # / COD Amount:

Per Diem: Yes / No (Circle one) If yes, how many?:

Change Order Initiated: Yes / No (Circle One)

Task # / Description	Task # / Description	Task # / Description
From P/O		
Task Complete: Yes / No (Circle One)	Task Complete: Yes / No (Circle One)	Task Complete: Yes / No (Circle One)

Labor

Name	Title	ID #	ST	OT	DT	ST	OT	DT	ST	OT	DT
A. Smith	Tech	07320	4								

Disposal / Write Description/Destination	Manifest #	Amount	Manifest #	Amount	Manifest #	Amount
LIQUID: Bulk / Drum	104851	7 DMS				
SOLID: Bulk / Drum						

Equipment Type	Quantity	Fleet #	# of Hr/Day	Quantity	Fleet #	# of Hr/Day	Quantity	Fleet #	# of Hr/Day
Pickup / Van / Car / Crew Cab (Circle One)									
Vacuum Trailer									
Tractor									
Vacuum Truck, Straight									
Box Truck									
Cusco / Guzzler / Vactor (Circle One)									
Air Compressor, 175 CFM									
Backhoe Loader 1 Yd bucket									
Bobcat Loader--Mini Excavator									
Rack Truck	1	5217							
Rolloff Truck, Straight									
Pressure Washer (PSI: _____) Hot / Cold (Circle One)									
Meter Type:									

Material Description	Quantity	Size	Quantity	Size	Quantity	Size
Drum Type:						
Drum Type:						
Rope Type:						
Degreaser Type:						
Speedi Dry						
Polycoated Rain Gear, 22mil						
Poly Sheet, 6mil, 20ft x 100ft						
Poly Bags, 6mil, per roll						
Absorbent Pad (101 Grade) 100/bale						
Absorbent Boom Each						
Absorbent Boom Bale						
Duct Tape/Roll						
Safety Plan						
Rolloff Poly Liner						
5 Gal / 20 Litre Poly Drum 1H2						

Container Management	Size	Fleet #	Size	Fleet #	Size	Fleet #
Rolloff / Intermodal / Frac Tank / Tanker (circle one)						
Rolloff / Intermodal / Frac Tank / Tanker (circle one)						

PPE Sets	Task 1	Task 2	Task 3
# of Complete Sets of PPE Used:			
# of People in PPE:			

PPED1=Level D w/(Tyvek, boots, gloves)
PPEC2=Level C w/(CPF1,2 or Poly Tyvek suit)
PPEC3=Level C w/(CPF3 or Saranex suit)
PPEC4=Level C w/(CPF4 or Barricade suit)
PPEB2=Level B w/(CPF2 or Poly Tyvek suit)
PPEB3=Level B w/(CPF3 or Saranex suit)
PPEB4=Level B w/(CPF4 or Barricade suit)
PPEA5=Level A w/(Responder suit)

Type	Qty	Type	Qty	Type	Qty	Type	Qty	Type	Qty	Type	Qty
PPED1		PPEB2		PPED1		PPEB2		PPED1		PPEB2	
PPEC2		PPEB3		PPEC2		PPEB3		PPEC2		PPEB3	
PPEC3		PPEB4		PPEC3		PPEB4		PPEC3		PPEB4	
PPEC4		PPEA5		PPEC4		PPEA5		PPEC4		PPEA5	

PPE Items Used in Addition to Sets Above	Quantity	Type	Quantity	Type	Quantity	Type
Cartridge						
Respirator						
Suit						
Inner Gloves						
Outer Gloves						
Breathing Air Bottle						

Analytical - Analysis Description	# of Tests	Lab Name	# of Tests	Lab Name	# of Tests	Lab Name

Subcontractor Name	Description of Service	Description of Service	Description of Service

CHES Rep (Print): [illegible]

CHES Rep (Sign): [illegible]

Date:

Customer (Print): Authorized Agent for Dominion Gregory B. Grose

Customer (Sign): [illegible]

Date: 7/15/09

CHI 225-SS (9/07)

IMPORTANT - PAYMENT TERMS ON BACK

CUSTOMER COPY

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