MW-22 Investigation Report

Former Chevron Bulk Terminal #100-1327
1602 North Northlake Way
Seattle, Washington

August 11, 2006

Prepared for:

Chevron Environmental Management Company
6001 Bollinger Canyon Road, K2252
San Ramon, CA 94583

Prepared by:

Science Applications International Corporation
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

DCN: COI-1001327-01-10187

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August 11, 2006

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LIMITATIONS

SAIC's investigation was restricted to collection and analyses of a limited number of environmental samples, visual observations and field data, in addition to summarizing available information from previous site documents. Note that not all pertinent documents were available at the time of the investigation. SAIC cannot guarantee the accuracy or interpretation from previous site investigations. Because the current investigation consisted of collecting and evaluating a limited supply of information, SAIC may not have identified all potential items of concern and, therefore, SAIC warrants only that the project activities under this contract have been performed within the parameters and scope communicated by Chevron and reflected in the contract. This report is intended to be used in its entirety; taking or using excerpts from this report is not permitted and any party doing so does at its own risk.

1.0 INTRODUCTION

Science Applications International Corporation (SAIC) on behalf of Chevron Environmental Management Company (Chevron) and at the request of the Washington State Department of Ecology performed a limited environmental investigation at former bulk fuel terminal (100-1327) now owned by the King County METRO transit authority and currently known as Metro King County Facilities North. The purpose of this investigation was to determine if soil in the vicinity of monitor well MW-22 is acting as a source for the petroleum hydrocarbons observed in groundwater samples collected from monitor well MW-22.

2.0 PROJECT BACKGROUND

2.1 SITE DESCRIPTION

The former Chevron property at 1602 North Northlake Way is located in the northwest quarter of the northwest quarter in Section 19, Township 25 North and Range 4 East. The property is situated on the north shore of Lake Union in a mixed-use residential and industrial neighborhood (**Figure 1**). Surrounding the property is North Northlake Way to the north, a City of Seattle public park (Gas Works Park) to the east and North Northlake Place to the south and west (**Figure 2**). The former Chevron bulk terminal is now owned and operated by King County Metro Transit Division (METRO). This property is divided into two operable areas, a north yard located on the north side of N. Northlake Way and a south yard located adjacent to the north shore of Lake Union and south of N. Northlake Place (**Figure 2**). The investigation area is located slightly east of the north and south yards on property owned by the City of Seattle Department of Transportation and the Seattle Department of Parks and Recreation. Specifically, the investigation conducted was performed at locations surrounding monitoring well MW-22 (**Figure 3**) situated in a flat gravel parking lot and the western most tip of Gasworks Park between N. Northlake Way and N. Northlake Place.

2.2 FACILITY HISTORY

Between 1925 and 1927, Standard Oil of California (Chevron) developed the site as a marine bulk fuel storage and distribution facility and constructed eleven aboveground storage tanks (ASTs), transfer piping, truck loading racks and various small buildings in the north yard. Petroleum product stored in the north yard was linked to the south yard by underground piping

installed beneath N. Northlake Way that transported petroleum products from a fuel dock on Lake Union (**Figure 3**). Prior to 1925, the south yard was occupied by a sheet metal facility and a tannery. By 1960, the California Spray and Chemical Company occupied the south yard and a railroad spur located between the north and south yards (used to transport coal and later fuel oil to the old Gas Works facility) bisected the two parcels. In 1982, METRO purchased the entire property from Chevron and refurbished the seven remaining tanks, piping, fuel racks and docks for diesel fuel storage. In 1992, the bulk fuel storage tanks were cleaned and taken out of use, and the product lines connecting the north and south yards were flushed, cleaned and abandoned in-place. A 500-gallon underground heating oil tank was removed from an area adjacent to the office and the tank-truck loading rack in the north yard. Between 1998 and 1999, the seven remaining ASTs in the north yard were demolished and removed and the former tank farm area paved and converted to parking for METRO vehicles.

Currently, METRO is using the north yard for office and shop space, parking and storage. The north yard is zoned industrial/commercial 45 (I/C 45). Adjacent to the north yard are public right-of-ways, small businesses and two recently constructed mixed-use buildings. The south yard is used to store equipment, materials, and METRO vehicles. A dock extends out into Lake Union and is currently leased for private use (**Figure 2**). The south yard is currently zoned I/C 45 with an urban maritime overlay.

3.0 REGULATORY HISTORY

Chevron and METRO entered into a Consent Decree (CD) with the Washington Department of Ecology (WDOE) in 1999 to provide for remedial action at the Site. As Phase I of the CD, metals contamination present in the shallow superficial soils beneath the former AST area of the north yard was excavated and removed. Phase II of the CD addressed separate phase hydrocarbon (SPH) impacts detected in several monitoring wells in the north yard and high concentrations of dissolved phase petroleum in groundwater throughout the site. Phase II remedial activities included injection of hydrogen peroxide to address pockets of residual petroleum in soils and dissolved phase petroleum in groundwater across the site. This was later augmented by several enhanced fluid recovery events for SPH removal at select wells in the north yard, installation of a biosparge system across the south yard to treat dissolved phase petroleum that may be migrating to the surface waters of Lake Union and a small soil excavation performed in the immediate vicinity of well MW-8 in the south yard to address a pocket of residual petroleum which was acting as a source for dissolved phase hydrocarbons in groundwater at this location. As a component of the CD, routine groundwater gauging and sampling has been conducted at select compliance monitoring wells at the site since 1999.

4.0 PREVIOUS INVESTIGATIONS

A number of investigations have been conducted at this site. The most comprehensive investigation to date has been the remedial investigation/feasibility study (RI/FS) conducted by Associated Geotechnology Inc. (AGI) under contract with METRO in 1993. The RI/FS characterized the nature and extent of specific chemical compounds in soil and groundwater

resulting from activities at the site and developed and evaluated cleanup action alternatives. Supplemental investigations were conducted by AGI, Pacific Environmental Group (PEG) and Foster Wheeler Environmental Corporation (Foster Wheeler) to augment existing site data and to develop site-specific risk based cleanup levels for soil and groundwater.

Foster Wheeler prepared a draft Cleanup Action Plan (CAP) in 1998. The selected remedial alternative presented in the CAP consisted of a two-phase approach. The first phase of the cleanup addressed the Tank Farm area of the North Yard, and the second phase of the cleanup was developed to address the "Lower Areas" soil and groundwater, which includes the southern portion of the North Yard and the South Yard property.

The first phase (Phase I), which was completed in 1999, consisted of AST demolition/removal and shallow soil (metals) remediation in the tank farm area of the North Yard. The tank farm area was paved, and is currently used as parking for Metro vehicles. The second phase (Phase II) was based on Alternative 2 of the RI/FS, but was modified to include hydrogen peroxide injection in place of groundwater extraction, air stripping, and vapor extraction. The CAP established site-specific risk based cleanup levels (CULs) for the remedial action.

In 1999, Terra Vac Corp. (Terra Vac) began implementation of the Phase II remediation by performing an eight-week pilot study to evaluate the effectiveness of hydrogen peroxide injection to enhance chemical oxidation and bioremediation of the petroleum hydrocarbon plume impacting on-site groundwater. Based on the results of this study, a full-scale injection program was started in January 2000. The hydrogen peroxide injection program was discontinued in December 2000 in order collect several rounds of post injection data to evaluate the effectiveness of the program. Based on the results of post injection monitoring, it was decided that the hydrogen peroxide injection program would not be re-instated, and that alternative remediation methods would be evaluated.

Delta Environmental Consultants, Inc. (Delta) performed three enhanced fluid recovery (EFR) events for removal of separate phase petroleum hydrocarbons at monitoring wells MW-3, MW-9, MW-10, MW-12, MW-27, and MW-28 between April 4, and May 24, 2001. No measurable volume of SPH was recovered during the EFR events.

In early 2002, Delta installed a biosparge injection system, consisting of six injection wells, to address benzene at concentrations above the site-specific CULs in the South Yard of the site. The system was designed as an alternative method to peroxide injection for delivery of oxygen to the subsurface. This system was designed to enhance biological degradation of benzene in the South Yard soils. The system was operated until June 2003, when it was shut down in order to allow collection of additional groundwater monitoring data with the system off. As all wells in the South Yard are currently in compliance with the benzene cleanup level for the site, there are no current plans to restart the system.

In October 2003, Science Applications International Corporation (SAIC) directed the closure of monitoring well MW-8, and oversaw excavation of a test pit in the vicinity of the former monitoring well. The test pit was excavated in order to investigate the possible existence of a localized source contributing benzene to groundwater in that area. Approximately 350 tons of

soil was transported off-site for thermal treatment. A new monitoring well, MW-8A was installed in November 2003 at the approximate location of the former MW-8. A groundwater sample collected at MW-8A for the 4th quarter 2003 monitoring event indicated that the concentration of benzene in groundwater in that area was 14.8 ug/l, which is below the site-specific benzene CUL (43 ug/l).

5.0 PROJECT METHODOLOGY

The purpose of this investigation is to collect additional information regarding the possible existence of a discrete source of petroleum hydrocarbons in the vicinity of MW-22 that may be contributing to the elevated levels of benzene that have historically been detected in groundwater from this well. As shown in **Figure 3**, MW-22 is located in a triangular gravel parking area between N. Northlake Way and N. Northlake Place, directly southwest of a concrete wall that was formerly used as a containment wall for ASTs associated with Seattle City Light's Lake Union Gas Works (now Gas Works Park). The well was installed in August 1997 as part of a supplemental environmental investigation conducted by PEG. Analytical data collected during the installation suggests that the soils surrounding MW-22 were not significantly impacted by petroleum hydrocarbons; however, benzene has consistently been detected in groundwater samples from this well at concentrations exceeding the site-specific CULs established in the CAP. The goal of this investigation was to further examine the possible existence of a discrete source (pocket) of residual petroleum hydrocarbons that may be present in the area surrounding MW-22.

5.1 UTILITY LOCATES

Prior to the start of this investigation, SAIC contacted all public utilities and requested that any subsurface piping or lines in the vicinity of MW-22 be marked prior to the commencement of any intrusive subsurface work. On May 16, 2006 Applied Professional Services (APS) located and marked the location of the underground fuel transfer piping between the north and south yards along with several water lines that were also present within the investigation area. Each of the proposed soil boring locations was located using a Trimble GPS device and marked.

5.2 SOIL BORINGS

The investigation work plan proposed the completion of twelve soil borings (P-1 through P-12) in the vicinity of MW-22 (**Figure 4**). All soil borings either were advanced to the groundwater table or to a depth where contamination was no longer present. Soil boring logs are included with this report as **Appendix A**.

5.2.1 Boring Locations

The investigation work plan specified that the soil borings would be placed in an outwardly progressing radial pattern from MW-22 to best delineate the extent of contamination. These locations were adhered to with the exceptions of P-9, that was originally located too close to the northern park boundary wall and was re-located approximately 8 feet towards the north, and P-1

which was originally placed within five feet of the underground pipelines and was later relocated approximately 18 feet towards the east on a line directly towards MW-22. In summary, eight of the boreholes were located in the triangular parking area between the park boundary and North Northlake Place. Two borings were located in the 10-foot wide Department of Transportation (DOT) Right-of-Way between the park boundary and North Northlake Way and two borings were located inside the western tip of Gasworks Park. SAIC subcontracted Cascade Drilling Incorporated (CDI) of Woodinville, WA to perform all drilling and subsurface activities. Each boring was cleared with an air-knife and vacuum rig or hand auger to a minimum depth of 8 ft bgs prior to using any powered drilling equipment. During borehole clearance by air-knife, a 3 1/4-inch outside diameter, stainless-steel, hand auger was used to collect soil samples above a depth of 8 feet bgs at 2, 4 and 6 feet bgs respectively. The hand auger was decontaminated prior to obtaining samples at each sample depth in the same boring and decontaminated again between each boring location.

5.2.2 Soil Borings – Direct-push (Geoprobe)

On May 17, 2006, CDI completed four soil borings and collected soil samples from locations P-2, P-5, P-9 and P-11 using a direct-push Geoprobe rig. With the direct-push method, continuous soil samples were collected inside a 2-inch diameter, 4-foot long, plastic sampling tube. Soil was logged and sampled along 1-foot segments of the entire core. Soil borings advanced by the direct-push method were completed up to depths of 20, 14, 15 and 15 feet bgs. at locations P-2, P-5, P-9 and P-11 respectively.

During field activities on May 18, 2006, the Geoprobe rig experienced an equipment failure at boring location P-6 due to dense sands and slough in the borehole. As a result of this equipment failure, the Geoprobe sampler and a section of drive rod were pushed until refusal was encountered at 16 feet bgs. and left in the borehole with the upper-most section of the drive rod at a depth not less than three feet bgs. Following the equipment failure, it was decided that given the difficult soil conditions present the remaining boreholes would be completed using a hollow-stem auger drilling rig in place of the Geoprobe.

5.2.3 Soil Borings – Drilling (Hollow-stem Auger)

SAIC and CDI resumed work on June 12, 2006 to drill the remaining six boreholes in the parking lot with a hollow-stem auger rig. Once the 8.25-inch steel auger bit had been advanced to each desired sampling depth, a 2 3/8-inch split-spoon sampler was driven (hammered) 1.5 feet into the undisturbed soils ahead of the auger to collect the sample. The number of hammer blows needed to drive the spoon every 6 inches (blow count) was recorded for geotechnical information. The split-spoon sampler was then extracted from the boring and opened up for field examination and sample collection. Split-Spoon samplers were decontaminated prior to, and between use at each boring and sampled depth. Split-spoon sampling was continuous from approximately ten feet bgs up to the maximum depth explored in borings P-1b, P-3, P-4, P-6a, P-7 and P-8.

5.2.4 Soil Borings – Hand Auger

Two of the soil borings completed, P-10 and P-12, were within the boundaries of Gas Works Park, where use of mechanized drilling equipment may have resulted in damage to the turf surface and to underground utilities i.e. sprinklers system components etc. As a result, rather than attempting to position a hollow-stem auger drill rig at these two locations, hand tools were used to perform these two borings. Once each sampling location had been marked, the turf at each location was cut out with a shovel and placed on visqueen for later replacement. A post-hole digger was then used to remove the upper 6-12 inches of top-soil at each location until the Geogrid that had been placed in the park as an indicator of the contact between the landscaping top-soil and the contaminated native soils was encountered. This Geogrid was detected in boring P-10 at approximately 1-foot bgs and at approximately 8-inches bgs in boring P-12. Once encountered, the Geogrid was cut using a utility knife and the borehole was subsequently cleared using an air-knife with an extended vacuum hose. Soil samples were collected from each of these two borings by hand auger at 2-foot intervals between ground surface and 8-feet bgs and continuously below 8-feet bgs to the maximum depth explored of 16 feet bgs in boring P-10.

5.3 ORGANIC VAPOR SCREENING

Immediately following collection, soil samples from each sampled depth were field screened for organic-vapor content to aid in selecting soil samples to be preserved for later laboratory analysis. The screening procedure involved placing an aliquot of soil from each sampled interval into a Ziploc bag, resealing the bag and allowing the sample temperature to equilibrate with the ambient temperature. Immediately prior to screening, the soil within the bag was disaggregated. The bag was then partially opened and the probe end of a flame ionization detector (FID) was inserted into the open headspace of the bag and the resulting vapor concentration recorded. FID results from soil screening are presented on the soil boring logs contained in **Appendix A**.

5.4 SOIL SAMPLE COLLECTION

An SAIC field geologist, licensed in Washington State, logged each sample in accordance with the Unified Soil Classification System Visual-Manual Procedure (ASTM D-2488). Soil properties, such as color, lithology, density, texture, and moisture content, were recorded on boring logs. In addition, the presence of hydrocarbon odors and soil sheen were also noted. Samples collected for volatile organic compounds (VOCs) analysis were collected in a manner consistent with EPA Method 5035 procedures using disposable syringe samplers and placed into 40 ml VOA vials containing either methanol or sodium sulfide. Soil samples selected for semi-volatile and metals analysis were placed into laboratory supplied 4 oz glass jars. The jars were sealed, labeled, and place in a pre-cooled ice chest with wet ice while at the site and during transport to the analytical laboratory.

Soil cuttings produced during drilling activities and decontamination water from cleaning drilling augers was contained in 55-gallon DOT-approved drums, labeled and temporarily stored on plastic sheeting in the south yard of the METRO facilities north property. Upon receipt of analytical results, SAIC arranged for the pick-up and treatment/disposal of all soil and water generated by Rinker Materials of Everett, WA.

5.5 ABANDONMENT OF DIRECT-PUSH AND HOLLOW-STEM AUGER SOIL BORINGS

Following completion of each soil boring to the target depth (or refusal) and collection of soil samples, each boring was abandoned in compliance with Chapter 173-160 WAC "Minimum Standards for Construction and Maintenance of Wells" and per the previously approved work plan presented to WDOE, Seattle DOT and Seattle Parks and Recreation. Specifically, each soil boring was backfilled to within three feet of the surrounding surface with bentonite pellets and hydrated with potable water. Between two and three feet on Portland cement was then poured on top of the bentonite to form a surface seal and prevent the bentonite form expanding through to the surface. At the locations within the gravel parking area, approximately 6-inches of paving gravel (reserved to the side at the beginning of the air knife and vacuum clearance) was returned to the top of each boring location to restore the surface. At the two locations (P-10 and P-12) in the landscaped area of Gas Works Park, the soil borings were abandoned in a similar manner except three feet of sand was placed on top of the bentonite to bring the boring to above the geogrid, after which the clean top soil that had been encountered above the geogrid was returned to each bore hole and the tuff that had been cut out at each of these location restored, compacted and watered.

5.6 SOILS ANALYSIS

At a minimum, one soil sample from each boring location was collected for laboratory analysis. Additional samples were preserved and submitted for analysis when based on field screening results hydrocarbon impacts were present. All soil samples collected were submitted to TestAmerica Corp. in Bothell, WA under proper chain of custody procedures for analysis. Chain of custody forms are included in **Appendix B**.

Each of the soil sample submitted to the laboratory were analyzed for the following:

- Gasoline-range hydrocarbons by WDOE Method NWTPH-Gx
- Diesel- and oil-range hydrocarbons by WDOE Method NWTPH-Dx extended with silica gel cleanup
- Benzene, toluene, ethylbenzene and xylenes (BTEX) by USEPA Method 8021

In addition to the above listed analyses, samples were also collected and submitted to the laboratory for the following pre-disposal characterization analyses:

- Total metals analysis (Hg, Cd, Cr, Pb and As) using EPA Method 6000/7000
- Carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270
- Hydrocarbon Identification Analysis (HCID) using WDOE Method NWTPH-HCID

5.7 BORING LOCATIONS SURVEY

Following completion of all sampling activities, the relative vertical elevation and lateral position of each boring location was determined. The vertical ground surface elevation at each boring was surveyed with respect to the north side Top-of-Casing (TOC) at three existing monitor wells (MW-14, -15 and -22) with known elevations using an automatic level and survey

rod. The lateral position of each soil boring was re-verified with respect to monitor wells MW-14, -15 and -22 (used as benchmark locations) using a fiberglass surveyors' tape.

5.8 DECONTAMINATION PROCEDURES

All re-usable soil sampling equipment was decontaminated by washing with a phosphate-free detergent (Alconox) solution, followed by a tap water rinse and a final rinse with de-ionized water. Hand augers, split-spoon samplers and sample collection bowls were decontaminated immediately after collecting, logging, and screening each sample. Steel Geoprobe rods, hollow-stem augers, and drill rods were decontaminated using a hot-water pressure washer between each sampling location. All other disposable sampling equipment, such as Geoprobe sample sleeves, gloves, plastic bags etc. were discarded following use.

5.9 QUALITY CONTROL PROCEDURES

To assess sample quality during the course of this investigation, quality assurance samples (trip blanks and field blanks) along with duplicate soil samples were collected and submitted for analysis.

Two laboratory supplied trip blank samples were placed in the sample cooler with samples to be analyzed for volatile constituents during the duration of drilling activities. The trip blanks accompanied the samples as they were being collected and during shipment to the laboratory. Each trip blank was analyzed for VOCs by EPA Method 8021. None of the trip blanks submitted for analysis contained any target analyte at a concentration exceeding the laboratory reporting limits.

Two field blanks (FB-061206 and FB-061406) were filled under field conditions using distilled water. These field blanks were analyzed to determine if sample collection methods or field conditions influenced sample results. The field blanks were analyzed for VOCs by EPA 8021. None of the field blanks submitted for analysis contained any target analyte at a concentration exceeding the laboratory reporting limits.

One duplicate sample was collected from P-6 at a depth of 16 feet bgs and analyzed for the same constituents (TPH-Gx, TPH-Dx, TPH-Ox and BTEX) as the principle sample P-6-16. Analytical results for the duplicate sample D-061206 collected from P-6 were within generally acceptable limits. Based on the QA/QC sample results from this event, the data collected has been deemed valid and useable.

5.10 WELL MONUMENT REPLACEMENT

During drilling activities the well monument for monitor well MW-22 was replaced with a new flush mounted monument set in concrete. The former vault was in a raised position, the concrete pad the monument was set in had cracked through in several areas and the monument top was no longer flush with the surrounding gravel parking lot. Following replacement, the rim elevation of the new monument and the TOC elevation of the well were re-surveyed with respect to the TOC at wells MW-14 and -15.

6.0 SUBSURFACE CONDITIONS

6.1 SOIL CONDITIONS

Previous investigations have determined that the soil underlying the site generally consist of glacial till, recessional sand and a variety of fill materials. The parking area and DOT Right-Of-Way are covered with packed gravel from the surface to approximately six-inches bgs. The surface at each of the boring locations in Gasworks Park is comprised of grass sod and approximately 12-inches of landscaping soil resting on top of a plastic mesh Geogrid. The Geogrid was installed as part of the Gas Work Park cleanup action and serves two purposes 1) to stabilize the clean landscaping soil placed on top of the impacted native soils as a barrier, and 2) as an indicator of the contact between the clean upper top-soils and the contaminated native soils. The soil encountered directly beneath the Geogrid from approximately 2-4 feet bgs are comprised of gray to black silty sands informally referred to as the Gasworks Formation.

Subsurface soil encountered during drilling activities consisted primarily of various fill materials consisting of yellowish-brown to dark brown, poorly- to well-sorted sands with some organics, gravel and trace amounts of silt. Borings close to the former railroad contained a thin layer of black material at two feet bgs that may consist of coal dust and/or pitch. The depth of these fill materials in the borings ranged from 0.5 to 16 feet bgs with a consistency ranging from loose to very dense. A native recessional sand was encountered in borings P-6, P-7 and P-8. This poorly sorted, fine to medium grained sand had some rounded gravel clasts and a dense consistency with visible bedding. The depth of this layer ranged from 16 feet bgs to 21 feet bgs. This recessional sand has also been documented in the South Yard to a maximum depth of 37 feet bgs (AGI, 1993).

The underlying glacial till was encountered in borings P-6, P-7 and P-8. The very dense, pinkish gray till consisted of sandy silt or silty sand with occasional gravel clasts and greenish-brown mottling. When encountered, depth to the till ranged between 19 and 22.5 feet bgs (maximum extent of soil borings). Previous investigations have encountered the till as deep as 73 feet bgs immediately north of the North Yard. The thickness of the till layer present beneath the site has not been determined.

6.2 GROUND WATER CONDITIONS

Ground water depth was measured at 13.51 feet bgs in monitoring well MW-22 on May 17, 2006. Ground water found in the soil borings ranged from 12.5 feet bgs in boring P-1B and P-11 to 15 feet bgs at boring P-10. No ground water samples were collected as part of this investigation. Quarterly and Semi-annual ground water monitoring has been conducted at the site since 1999 with an established flow towards the southwest and Lake Union.

6.3 HYDROGEOLOGY

Ground water in the northern portion of the site is present within a discontinuous, semi-confined, water-bearing unit within the upper portion of the till. South of Northlake Way, the aquifer is comprised of assorted fill materials and the recessional sand unit until it contacts with Lake

Union. Aquifer testing previously conducted at the site has indicated a sustained yield estimated at 2 gpm and ranging from 0.5 to 3 gpm (Foster and Wheeler, 1998). WDOE has determined that this shallow aquifer is unlikely to be a potential future source of drinking water based on aquifer testing (WDOE letter dated August 10, 1998).

7.0 ANALYTICAL RESULTS

7.1 SOIL

Site-specific CULs for soil and ground water were established in the CAP for the site (Foster Wheeler Environmental, 1998). These CULs are based upon estimates of the highest beneficial use and reasonable amount of exposure expected to occur under current and future site conditions.

For benzene and cPAHs, MTCA Method C Industrial soil CULs were established for the site, while the CULs for metals in soil were based on Method A CULs.

Each of the soil samples submitted for analysis was analyzed for gasoline-, diesel- and heavy oil-range hydrocarbons and BTEX. Soil sample analytical results for these constituents are summarized in **Table 1** and the associated laboratory analytical reports are included in **Appendix B**. **Figure 5** depicts the resulting analytical data for TPH as gasoline, diesel, heavy oils and benzene respectively. Results from the samples submitted for analyses indicate the following:

- Gasoline-range hydrocarbons at concentrations exceeding the site-specific cleanup level of 4,520 mg/kg were detected in the 16 foot bgs samples from borings P-1B and P-3 located in the gravel parking area.
- Neither Diesel nor Heavy Oil-range hydrocarbons were detected at concentrations exceeding the respective site-specific cleanup levels of 5,140 mg/kg and 5,780 mg/kg in any of the samples submitted for analysis.
- Benzene was not detected in any of the samples collected at a concentration exceeding the site-specific cleanup level of 4,530 mg/kg.

Although Toluene, Ethylbenzene and Xylenes were not included as chemicals of concern (COCs) for soil when the site-specific cleanup levels were developed, Ethylbenzene and Total Xylenes were detected in three of the samples submitted for analysis at concentrations exceeding the MTCA Method A Cleanup Standards.

Analytical results from sample P-2-15 collected for soil disposal characterization indicate:

- Chromium, lead and arsenic were detected but were not present at concentrations exceeding the site-specific cleanup levels (Mercury and cadmium were not present at concentrations at or above the laboratory detection limits).

- Napthalene (18.6 mg/kg), 1-methylnaphthalene (27.5 mg/kg) and 2-methylnaphthalene (31.1 mg/kg) were present at concentrations exceeding the site-specific cleanup level of 18 mg/kg.

Sample P-2-15 was the only sample collected during this investigation analyzed for metals or cPAHs.

8.0 EXTENT OF PETROLEUM IMPACT

The lateral extent of soil contamination is well defined by analytical results and field testing such as sheen, odors and headspace vapor screening results. Soil exceeding the site-specific CULs appears to be limited to a thin smear zone at approximately 14-19 feet bgs beneath the western end of the DOT lot parking area as evidence by the sampling results from borings P-1B, P-2, P-3 and P-6A. Gasoline-range hydrocarbon contamination above the site-specific CULs was detected in borings P-1B and P-3; while gasoline range hydrocarbons exceeding MTCA Method A CULs were also detected in borings P-2 and P-6A. These borings are generally located down-gradient (southwest) from where the former tank truck loading rack in the southeast portion of the North Yard had been positioned (**Figure 5**). It is possible that impacted soil may be present at boring locations P-5 and P-9, but due to Geoprobe refusal, soil below 15 feet bgs, and representing the capillary fringe, could not be collected from these borings.

The vertical extent of the contamination is relatively thin with P-3 exceeding cleanup levels at 16 feet bgs but undetected at 14.5 feet and 19 feet bgs respectively. The vertical extent of identified impacted soils indicates that the petroleum hydrocarbon contamination is heaviest in the semi-confined aquifer above the till at the ground water table and capillary zone.

All the samples that exceeded the site-specific cleanup levels were located in the capillary zone of the semi-confined aquifer above the glacial till between 14-20 feet bgs.

9.0 CONCLUSIONS

The goal of this study was to determine the extent and possible source of impacted soil and ground water in the vicinity of monitor well MW-22. Petroleum impacted soils are primarily concentrated at the soil/ground water interface to the west of MW-22 and north of MW-15. The limited vertical extent of this contamination is likely due to transport along the water table from a source (loading racks) in the North Yard (**Figure 3**). The direction of the hydraulic gradient indicates that the underground transfer piping between the north and south yards is not acting as a source or preferential conduit for the contamination observed in well MW-22.

10.0 REFERENCES

Applied Geotechnology Inc., *Draft Remedial Investigation / Feasibility Study, Facilities North Site, Seattle, WA,* November, 1993

Foster Wheeler Environmental, *Estimate of Sustainable Well Yield and Slug Test Data, Former Chevron Bulk Terminal 100-1327 and Current King County Metro Transit Terminal, Seattle, WA,* June, 1998

Foster Wheeler Environmental, *Cleanup Level Development for the Former Chevron Bulk Terminal 100-1327 and Current King County Metro Transit Terminal, Seattle, WA,* April, 1998

TABLES

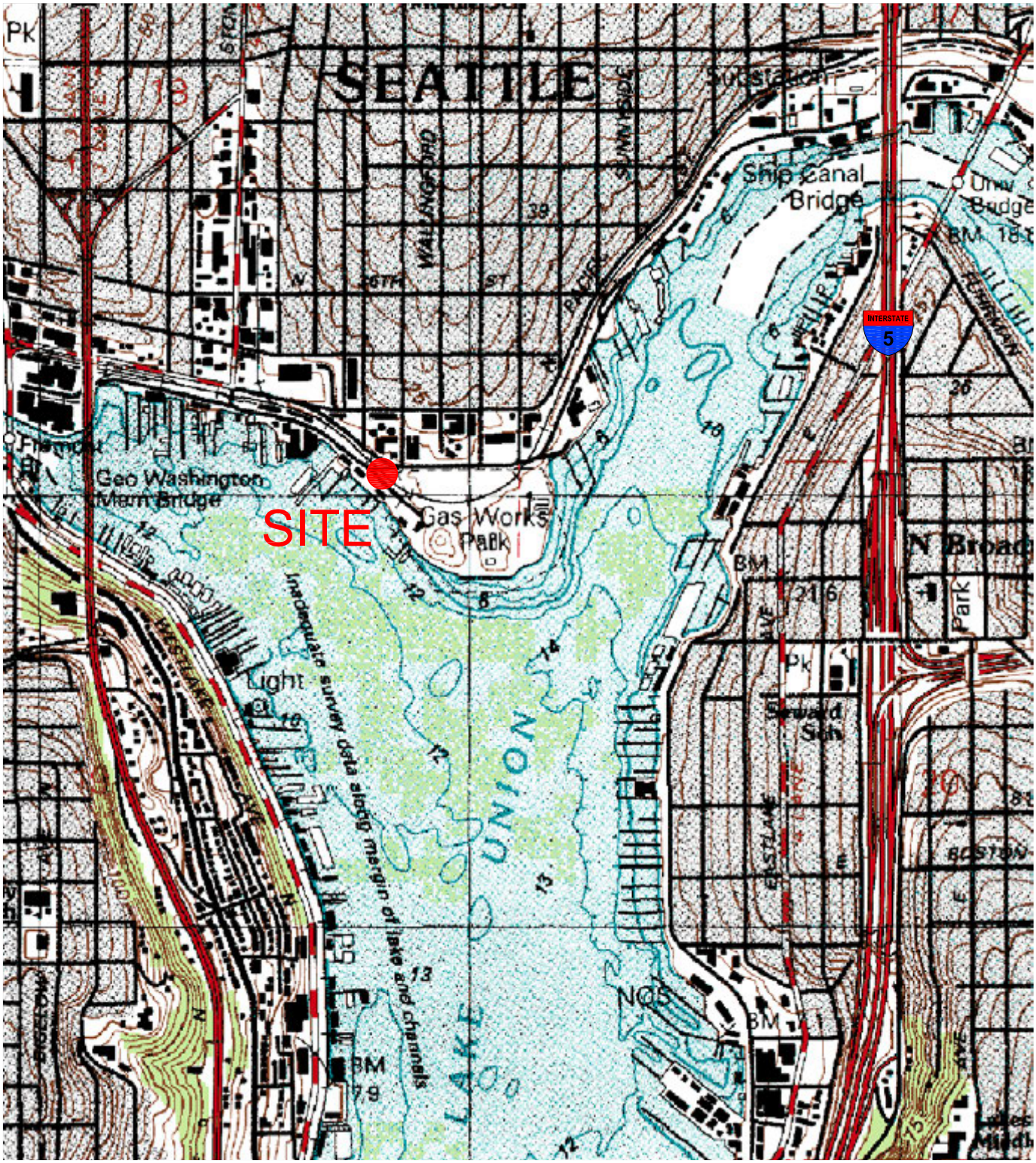
FIGURES

APPENDIX A

SOIL BORING COMPLETION LOGS

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION



FORMER CHEVRON BULK PLANT
NO. 100-1327
FACILITIES NORTH / KING COUNTY
(METRO)
SEATTLE, WASHINGTON

FIGURE 1
VICINITY MAP

FILE NAME: 10013275SeattleFigSetApr04_bdk.dwg

DATE: 08/07/2006

SAIC From Science to Solutions™

Chevron

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Chevron

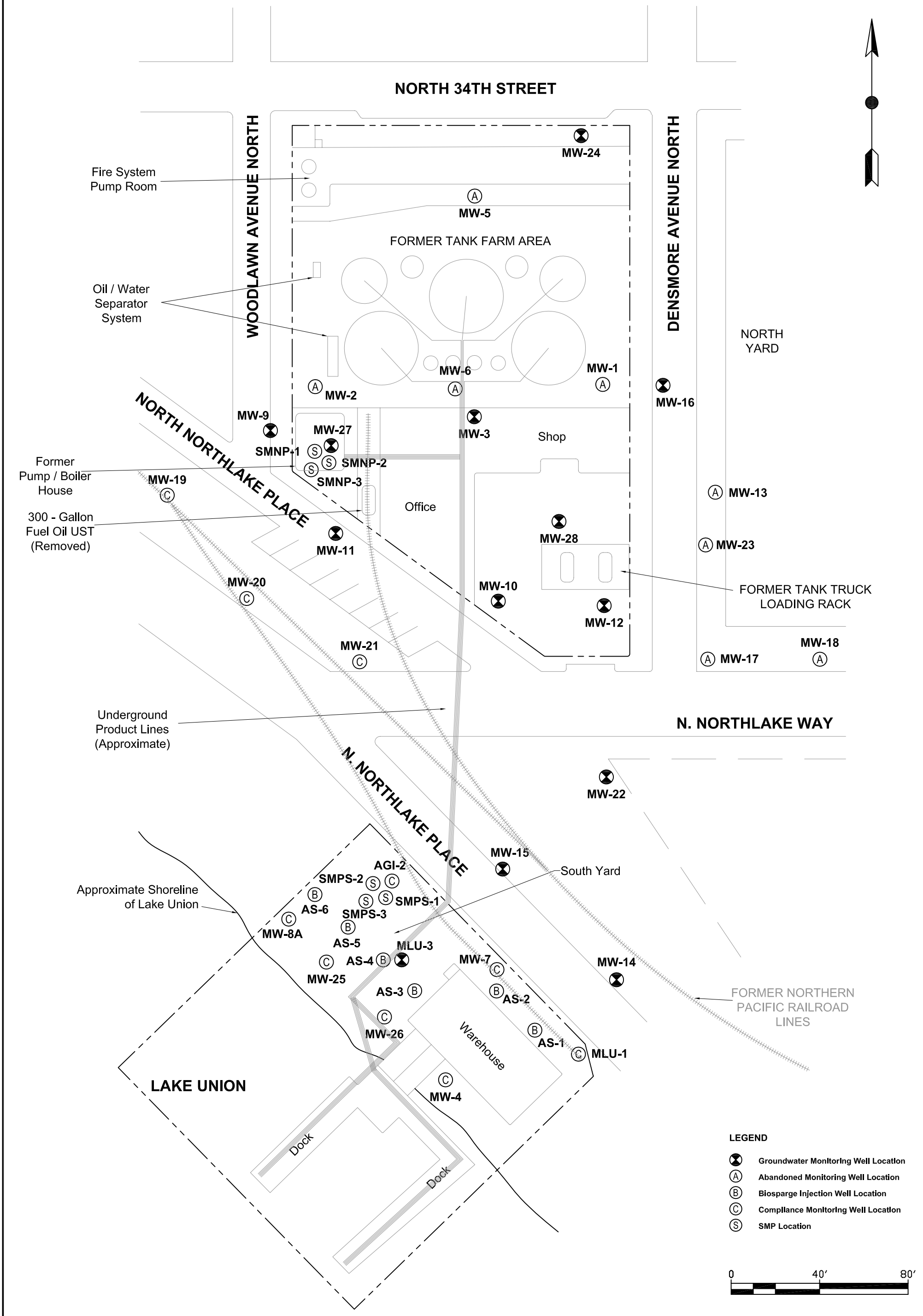
FORMER CHEVRON BULK PLANT
NO. 100-1327
FACILITIES NORTH / KING COUNTY
(METRO)
SEATTLE, WASHINGTON

FIGURE 2
AERIAL PHOTO OF SITE WITH PROPERTY BOUNDARIES

FILE NAME: Metro_Gasworks Arial Photo.DWG

DATE: 08/07/2006

Z:\ 2004 ChevronTexaco ORegan Portfolio 1001327_Metro 100-1327 Metro_Gasworks Arial Photo.dwg langem 08/08/06 - 9:24 A



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FORMER CHEVRON BULK PLANT
No. 100-1327
FACILITIES NORTH / KING COUNTY
SEATTLE, WASHINGTON

FIGURE 3
SITE MAP

FILE NAME: 1001327SeattleFigSet.DWG

DATE: 08/07/2006

Z:\2004\ChevronTexaco\Oregon\Portfolio\1001327_Metro\1001327SeattleFigSet\Lano4.dwg langem 08/08/06 - 9:33 A

N. Northlake Way

N. Northlake Place

Abandoned Railroad

P-1
P-1a
P-1b
P-2
P-3
P-4
P-5
P-6
P-6a
P-7
P-8
P-9
P-10
P-11
P-12

MW-22
MW-15
MW-14

Concrete Bollards

Concrete Containment Wall (Park Boundary)

?

0 20′ 40′

P-4 Boring Locations
MW-15 Monitoring Well Location
Water Line
Product Lines
Survey Contour Lines

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FORMER CHEVRON BULK PLANT
NO. 100-1327
FACILITIES NORTH / KING COUNTY
(METRO)
SEATTLE, WASHINGTON

FIGURE 4

INVESTIGATION AREA WITH SOIL BORINGS AND MONITOR WELL LOCATIONS

FILE NAME: METROPARCEL.DWG

DATE: 08/07/2006

Z:\ 2004 ChevronTexaco ORegon Portfolio\ 1001327_Metro Gas Works METROPARCEL.dwg langem 08/08/06 - 9:44 A

P - 1b - 14'	
B	1.27
T	0.29
E	10.9
X	8.94
G	1,810
D	10.9u

P - 1b - 16'	
B	6.53
T	2.16u
E	63.7
X	14.5
G	5,150
D	1,660

P - 5 - 13.5'	
B	0.0252u
T	0.0420u
E	0.0420u
X	0.0841u
G	4.20u
D	10.9u

P - 9 - 13'	
B	0.0231u
T	0.0385u
E	0.0385u
X	0.0771u
G	3.85u
D	10.8u

P - 11 - 12.5'	
B	0.0278u
T	0.0463u
E	0.0463u
X	0.0925u
G	4.63u
D	11.7u

P - 10 - 12'	
B	0.0286u
T	0.0477u
E	0.0477u
X	0.0953u
G	4.77u
D	10.9u

P - 10 - 15'	
B	0.0262u
T	0.0436u
E	0.0436u
X	0.0870u
G	4.36u
D	10.4u

P - 10 - 16'	
B	0.0303u
T	0.0505u
E	0.0505u
X	0.101u
G	5.05u
D	11.6u

P - 2 - 15'	
B	0.478
T	0.445u
E	3.26
X	3.67
G	766
D	4,350

P - 2 - 20'	
B	0.0456
T	0.0471u
E	0.450
X	0.536
G	51.3
D	225

P - 3 - 14.5'	
B	0.0309u
T	0.0516u
E	0.0516u
X	0.103u
G	5.16u
D	11.8u

P - 3 - 16'	
B	9.54
T	2.03u
E	9.38
X	24.2
G	4,750
D	--

P - 3 - 19'	
B	0.0252u
T	0.0421u
E	0.421u
X	0.0842u
G	4.82
D	11.4u

P - 8 - 14.5'	
B	0.0319u
T	0.0532u
E	0.0532u
X	0.106u
G	5.32u
D	11.7u

P - 7 - 14.5'	
B	0.0315u
T	0.0525u
E	0.0525u
X	0.105u
G	5.25u
D	12.1u

P - 6a - 16'	
B	1.73
T	0.923u
E	5.12
X	4.07
G	1,650
D	39.5

P - 6a - 19'	
B	1.41
T	1.92
E	3.80
X	12.3
G	2,170
D	303

P - 4 - 14'	
B	0.0286u
T	0.0477u
E	0.0477u
X	0.0954u
G	4.77u
D	11.4u

P - X - 10'	
B	0.0286u
T	0.0477u
E	0.0477u
X	0.0954u
G	4.77u
D	11.4u

Sample identification and depth
Benzene (mg/kg)
Toluene (mg/kg)
Ethylbenzene (mg/kg)
Xylenes (mg/kg)
TPH-Gasoline (mg/kg)]
TPH-Diesel (mg/kg)

Note: u = *compound not detected at or above the value indicated.*

0 20′ 40′

P-1 P-1a P-1b P-2 P-3 P-4 P-5 P-6 P-6a P-7 P-8 P-9 P-10 P-11 P-12

MW-15 MW-22 MW-14

Abandoned Railroad

Concrete Bollards

Concrete Containment Wall (Park Boundary)

orthlake Way

P-4 Boring Locations

MW-15 Monitoring Well Location

Water Line

Product Lines

Survey Contour Lines

Values exceed site specific clean-up level

No site specific clean-up level established; value exceeds MTCA Method A clean-up level

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FORMER CHEVRON BULK PLANT
NO. 100-1327
FACILITIES NORTH / KING COUNTY
(METRO)
SEATTLE, WASHINGTON

FIGURE 5

PETROLEUM HYDROCARBON CONCENTRATIONS IN SOIL

FILE NAME: METROPARCEL.DWG

DATE: 08/08/2006

Z:\ 2004 ChevronTexaco ORegon Portfolio\1001327_Metro Gas Works\METROPARCEL.dwg langern 10/08/06 – 1:11 P

Table 1.
Summary of Soil Analytical Data Results
Former Chevron Facility #100-1327
1602 North Northlake Place
Seattle, Washington

Sample ID	Sample Depth (feet)	Sample Date	Benzene[1] (mg/kg)	Toluene[1] (mg/kg)	Ethylbenzene[1] (mg/kg)	Xylene[1] (mg/kg)	Gasoline-Range Hydrocarbons[2] (mg/kg)	Diesel-Range Hydrocarbons[3] (mg/kg)	Heavy Oil-Range Hydrocarbons[3] (mg/kg)
Direct Push and Hollow Stem Auger Samples									
P-1B-14	14	06/14/06	1.27	0.286	10.9	8.94	1,810	4,590	559 U
P-1B-16	16	06/14/06	6.53	2.16 U	63.7	14.5	**5,150**	1,660	282 U
P-2-15[4]	15	05/17/06	0.478	0.445 U	3.26	3.67	766	4,350	571 U
P-2-20	20	05/17/06	0.456	0.0471 U	0.450	0.536	51.3	225	29.4 U
P-3-14.5	14.5	06/12/06	0.0309 U	0.0516 U	0.0516 U	0.103 U	5.16 U	11.8 U	29.5 U
P-3-16	16	06/12/06	9.54	2.03 U	9.38	24.2	**4,750**		
P-3-19	19	06/12/06	0.0252 U	0.041 U	0.041 U	0.0842 U	4.82	11.4 U	28.4 U
P-4-14	14	06/12/06	0.0286 U	0.0477 U	0.0477 U	0.0U954	4.77 U	11.4 U	28.6 U
P-5-13.5	13.5	05/17/06	0.0252 U	0.042 U	0.042 U	0.0841 U	4.20 U	10.9 U	27.2 U
P-6A-16	16	06/12/06	1.73	0.923 U	5.12	4.07	1,650	39.5	27.7 U
P-6A-19	19	06/12/06	1.41	1.92	3.80	12.3	2,170	303	37.0
P-7-14.5	14.5	06/13/06	0.0315 U	0.0525 U	0.0525 U	0.105 U	5.25 U	12.1 U	30.3 U
P-8-14.5	14.5	06/13/06	0.0319 U	0.0532 U	0.0532 U	0.106 U	5.32 U	11.7 U	29.3 U
P-9-13	13	05/17/06	0.0231 U	0.0385 U	0.385 U	0.771 U	3.85 U	10.8 U	26.9 U
P-10-12	12	06/14/06	0.0286 U	0.0477 U	0.0477 U	0.0953 U	4.77 U	10.6 U	26.5 U
P-10-15	15	06/14/06	0.0262 U	0.0436 U	0.0436 U	0.0872 U	4.36 U	10.4 U	25.9 U
P-10-16	16	06/14/06	0.0303 U	0.0505 U	0.0505 U	0.101 U	5.05 U	11.6 U	29.0 U
P-11-12.5	12.5	05/17/06	0.0278 U	0.0463 U	0.0463 U	0.0925 U	4.63 U	11.7 U	29.2 U

Table 1.
Summary of Soil Analytical Data Results
Former Chevron Facility #100-1327
1602 North Northlake Place
Seattle, Washington

Sample ID	Sample Depth (feet)	Sample Date	Benzene[1] (mg/kg)	Toluene[1] (mg/kg)	Ethylbenzene[1] (mg/kg)	Xylene[1] (mg/kg)	Gasoline-Range Hydrocarbons[2] (mg/kg)	Diesel-Range Hydrocarbons[3] (mg/kg)	Heavy Oil-Range Hydrocarbons[3] (mg/kg)
Duplicate Samples									
D-061206	--	06/12/06	1.70	0.443 U	1.64	1.27	623	254	28.4 U
Field Blank Samples									
FB-06/12/06	--	06/12/06	0.0300 U	0.0500 U	0.0500 U	0.100 U	5.00 U	--	--
FB-06/14/06	--	06/14/06	0.0300 U	0.0500 U	0.0500 U	0.100 U	5.00 U	--	--
Quality Assurance Samples									
QA-051706	--	05/17/06	0.0300 U	0.0500 U	0.0500 U	0.100 U	5.00 U	--	--
QA-1	--	06/12/06	0.0300 U	0.0500 U	0.0500 U	0.100 U	5.00 U	--	--
QA-1	--	06/13/06	0.0300 U	0.0500 U	0.0500 U	0.100 U	5.00 U	--	--
QA-1	--	06/14/06	0.0300 U	0.0500 U	0.0500 U	0.100 U	5.00 U	--	--
Site Specific Soil Cleanup Levels			4,530	NA	NA	NA	4,520	5,140	5,780

NOTES:

Bold highlight cells indicate the concentration exceeds the Site Specific Cleanup Level.

U = Analyte Not Detected at or Above the Reporting Limit; mg/kg = milligrams per kilogram; "--" = Not analyzed NA = Not Applicable

1 = BTEX analyzed by EPA 8021B. Collection method by EPA 5035.

2 = Gasoline-Range Hydrocarbons analyzed by Ecology Method NWTPH-Gx. Collection method by EPA 5035.

3 = Diesel- and heavy oil-range hydrocarbons analyzed by Ecology Method NWTPH-Dx ext. with Silica Gel Cleanup.

4 = Sample also analyzed for Hydrocarbon Identification (HCID) by Ecology Method NWTPH-HCID, carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270 SIM and total metals by EPA Method 6000/7000 series. Diesel-Range hydrocarbons were detected using the HCID method. Arsenic (1.37 mg/kg), Chromium (35.4 mg/kg) and Lead (16.6 mg/kg) were detected in the sample. Anthracene (5.53 mg/kg), Fluorene (4.07 mg/kg), **1-Methylnaphthalene (27.5 mg/kg), 2-Methylnaphthalene (31.1 mg/kg), Naphthalene (18.6 mg/kg),** Phenanthrene (5.69 mg/kg) and Pyrene (0.457 mg/kg) were also detected in this soil sample. All analytes listed above were detected at concentrations less than the site specific cleanup levels for soil with the exception of total naphthalenes (77.2 mg/kg), including 1- and 2-methylnaphthalene. The cleanup level for total naphthalenes is 18 mg/kg.

SOIL BORING LOG

BORING No: **P-1A**

PROJECT: 100-1327
LOCATION: Seattle, WA (Metro)
CLIENT: Chevron EMC
DATE: 05/17/06
LOGGED BY: Simon Kline

DRILLER: Cascade Drilling, Inc.
DRILL METHOD: Air Knife
SAMPLE METHOD: Hand Auger
HOLE DIAMETER: 10 inches
HOLE DEPTH: 5 feet

WELL DIAMETER: -- n/a
WELL DEPTH: -- n/a
WELL CASING: -- n/a
WELL SCREEN: -- n/a
FILTER PACK: -- n/a
CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
								GP	GRAVEL Fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
Dry			0.9				1 2	**SP**	Dark grayish-black SAND with fine gravel. Fragments of lamp black?/pitch present (fill).	Concrete
							3		Chunks of concrete blocks present (fill).	
			0.9				4	**SP/SW**	Dark grayish-brown SAND with fine gravel. No sheen, no odor.	Bentonite Chips
Moist							5		P-1 completed at 5 feet due to refusal (encountered a 6-inch concrete pipe and 1-inch steel pipe).	
							6 7 8 9 10 11			

NOTES:

SOIL BORING LOG

BORING No: **P-1B**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/14/06	HOLE DIAMETER: 8.25-to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 18 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry								**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
							1	**SW**	Dark brown fine to coarse SAND with organics and trace gravel and silt. Slight sheen, no hydrocarbon odor.	Concrete
			0.0				2			
							3		Dark yellowish-brown medium sand with trace gravel and silt. Slight sheen, no hydrocarbon odor.	
			0.0				4			
							5		Grades to brown with more coarse sand.	
Moist			0.0				6			
							7	**SP**	Grades to grayish brown color.	Bentonite Chips
			0.0				8			
							9			
							10		Grades to dark brown medium to coarse SAND with occassional gravel and trace silt. Slight sheen, slight hydrocarbon odor.	
							11			

NOTES:

SOIL BORING LOG

BORING No: **P-1B**

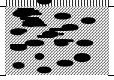
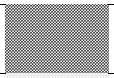
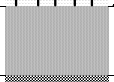
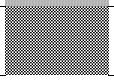
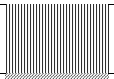
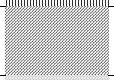
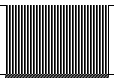
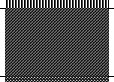
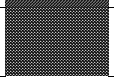
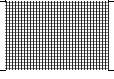
PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/14/06	HOLE DIAMETER: 8.25-to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 18 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist	100/3"		10.5	▽			12		Same as above.	
							13		Grades to blue-gray coarse SAND with trace gravel. Heavy sheen, strong hydrocarbon odor.	
	100/4"	P-1B-14	3,617				14	**SP**		
Wet							15		Grades to a gray color with occassional gravel. Heavy sheen, strong hydrocarbon odor.	
	100/5"	P-1B-16	7,314				16			
							17			
	50/6"		2,500				18			
							19		at 18 feet with field observations indicating heaving sa	
							20			
							21			
							22			

Bentonite Chips

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-2**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual-Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 1.5 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 20 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry								**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
			1.1				1		Dark yellowish brown fine to coarse SAND with gravel and trace silt. No sheen, no hydrocarbon odor.	Concrete
							2			
							3	**SP/GP**		
			1.0				4		Grades to a more reddish color.	
							5			
Moist							6			
			0.2				7	**SP/SM/GP**	Yellowish-brown coarse SAND with fine to medium sand and gravel, trace silt, no sheen and no hydrocarbon odor.	Bentonite Chips
			0.1				8		Reddish-brown fine to coarse SAND with silt and occassional gravel. Wood chips present. Slight sheen, no hydrocarbon odor.	
							9			
							10	**SW**	One inch layer of black sand at 10.5 feet.	
							11		Grades to gray color. No sheen, no hydrocarbon odor.	

NOTES:

SOIL BORING LOG

BORING No: **P-2**

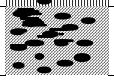
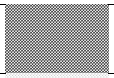
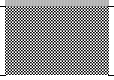
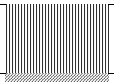
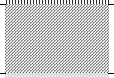
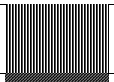
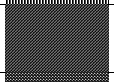
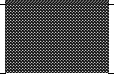
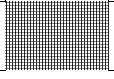
PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual-Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 1.5 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 20 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist			3.7	▽			12		Gray fine to coarse SAND with gravel. No sheen, no hydrocarbon odor.	
							13	SW/ GP		
			314				14		Grades to heavy sheen and strong hydrocarbon odor.	
Wet		P-2-15	1,740				15		Interbedded silt and sand layers from 15 to 15.5 feet.	
							16		Gray SAND with silt and occassional gravel.	
Moist							17			
							18	SP		
Wet							19			
		P-2-20	86.2				20			
							21		at 20 feet (field observations indicate refusal due to h	
							22			

Bentonite Chips

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-3**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 21 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry							0	**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
							1		Dark brown fine to coarse SAND with gravel, coal dust fragments. Slight sheen, no hydrocarbon odor.	Concrete
			0.0				2	**SW/ GP**		
							3			
			0.0				4		Yellowish-brown fine to coarse SAND with occassional gravel. Decayed wood present. Slight sheen, no hydrocarbon odor.	
							5			
Moist							6	**SW**		
			0.0						Grades to less decayed wood and trace silt.	
							7			
							8		Yellowish-brown medium to coarse SAND with occassional gravel. Slight sheen, no hydrocarbon odor.	
			0.0					**SP**		
							9			
	8		0.0						Yellowish-brown medium to coarse SAND with gravel. Decayed wood at 9.5 feet. Slight sheen, no hydrocarbon odor.	Bentonite Chips
	17									
	20						10	**SW/ GP**		
	19		0.0						Grades to larger gravel and no sheen.	
	25						11			

NOTES:

SOIL BORING LOG

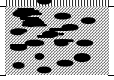
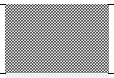
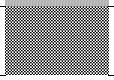
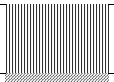
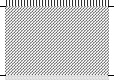
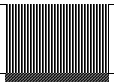
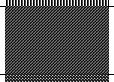
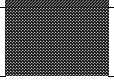
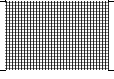
BORING No: **P-3**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 21 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist	29						12	SW/ GP		Bentonite Chips
	24		5.7					SP	Yellowish-brown coarse SAND with occassional gravel. No hydrocarbon odor, no sheen.	
	29						13			
	30			▽						
	7		166				14			
	18							SW	Gray fine to coarse SAND with occassional gravel.	
	25	P-3-14.5	747				15			
Wet	28									
	30								Grades to increasing fine gravel. Moderate sheen, moderate hydrocarbon odor.	
	50/6"	P-3-16	31.5				16			
	19							SP	Grayish-brown medium to coarse SAND. No sheen, slight hydrocarbon odor.	
	29						17			
	43									
	19						18			
	30								Grades to coarse sand.	
	50/6"	P-3-19	31.6				19			
Moist	25								Heaving sands from 19.5 to 21 feet.	
	33						20			
	50/6"									
							21		P-3 completed at 21 feet.	
							22			

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-4**

PAGE 1 of 2

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 21 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry								**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
			0.1				1		Yellowish-brown SAND with occassional fine to coarse gravel. Slight sheen, no odor.	Concrete
							2			
							3			
			0.0				4	**SP/SW**	Grades to a more reddish color.	
							5			
Moist			0.0				6		Cobbles present.	
							7			
			0.0				8		Yellowish-brown SAND with fine to coarse gravel. Slight sheen, no hydrocarbon odor.	
	10		0.0				9		Grades to brown gravelly sand with iron staining. No hydrocarbon odor, very slight sheen	
	23							**SP/GP**		
	17						10			
			0.5							
	17						11		Grades to decreasing gravel and trace silt.	Bentonite Chips

NOTES:

SOIL BORING LOG

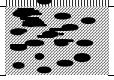
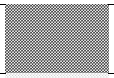
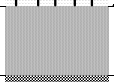
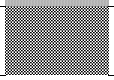
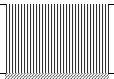
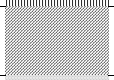
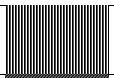
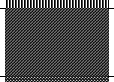
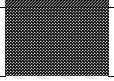
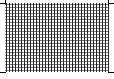
BORING No: **P-4**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 21 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist	20 24 18 25		10.1				12 13	SP/ GP	No hydrocarbon odor, no sheen	
Wet	33 17 17	P-4-14	4.2	▽			14		Brown SAND and trace silt. Slight sheen, no hydrocarbon odor.	
Moist	28 18 26 27 25 50/6" 31 50/4"		5.3 7.5 14.4				15 16 17 18	SP/SW	Grades to trace gravel. Grades to small cobbles and no sheen.	Bentonite Chips
	22 50		11.8				19 20 21			
							22		P-4 completed at 21 feet.	

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-5**

PAGE 1 of 2

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 1.5 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 14 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry							0	**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
			0.1				1	**SW/ GP**	Dark yellowish-brown fine to coarse SAND, with gravel. No sheen, no hydrocarbon odor.	Concrete
							2			
							3			
			0.1				4		Reddish-brown fine to coarse SAND with occassional gravel. No hydrocarbon odor, no sheen.	
							5			
Moist			0.5				6			
							7			
							8	**SW**	Grades to dark a yellowish-brown color with gravel lenses. No sheen, no hydrocarbon odor.	
			0.5				9			
							10			Bentonite Chips
							11			

NOTES:

SOIL BORING LOG

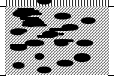
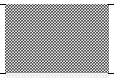
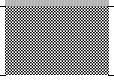
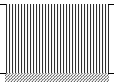
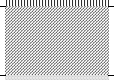
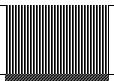
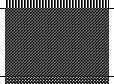
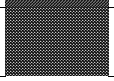
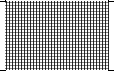
BORING No: **P-5**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 1.5 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 14 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist							12		Same as above.	
									Grades to brown with rust-colored mottling/banding at 12 feet.	
Wet		P-5-13.5	0.9	▽			13			Bentonite Chips
							14		TD at 14 feet with field observations indicating refusal due to heaving sands.	
							15			
							16			
							17			
							18			
							19			
							20			
							21			
							22			

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-6**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/18/06	HOLE DIAMETER: 1.5 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 15 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry								**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
			0.4				1	**SP**	Yellowish-brown coarse SAND with occassional gravel. No sheen, no odor.	Concrete
			0.6				2			
							3			
							4		Grades to medium to coarse sand.	
							5			
Moist			0.2				6		Yellowish-brown medium to coarse SAND with gravel. Slight sheen, no odor.	Bentonite Chips
							7			
			1.6				8	**SP/GP**	Grades to trace silt.	
							9		Increased gravel content.	
			0.0				10			
							11			

NOTES:

SOIL BORING LOG

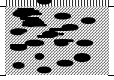
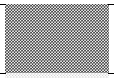
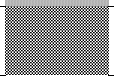
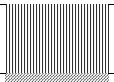
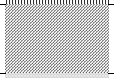
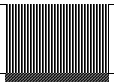
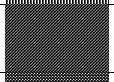
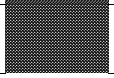
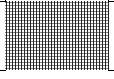
BORING No: **P-6**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/18/06	HOLE DIAMETER: 1.5 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 15 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist			0.0				12		No sample due to 4-foot length sampling rod stuck in boring.	Bentonite Chips
Unknown							13			Sampler Abandoned in Boring
							14			
							15		P-6 completed at 15 feet. Sampling rods stuck and abandoned in boring from 12 to 15 feet (gravel refusal).	
							16			
							17			
							18			
							19			
							20			
							21			
							22			

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-6A**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 22.5 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry									GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
							1		Yellowish-brown GRAVEL with coarse sand and organic wood debris. No sheen, no hydrocarbon odor.	Concrete
			0.0				2			
							3			
			0.0				4	**GP**	slight sheen, no hydrocarbon odor.	
							5			
Moist			0.0				6		Increasing fine to medium sand.	
							7			
			0.0				8		Dark brown fine to coarse SAND occassional fine gravel and trace silt. Slight sheen, no odor.	Bentonite Chips
	22						9		Grades to brownish-gray	
	50/6"							**SW**		
			0.0				10			
	21									
	30						11			

NOTES:

SOIL BORING LOG

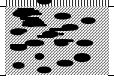
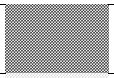
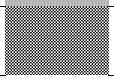
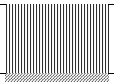
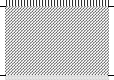
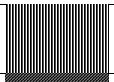
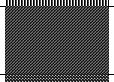
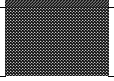
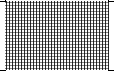
BORING No: **P-6A**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 22.5 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist	35 100/5"						12	SP	No Recovery from 12 to 13 feet.	
Wet	50/2"		23	▽			13 14	SW	Olive brown fine to coarse SAND with trace silt. No sheen, slight hydrocarbon odor.	
	20 23		98				15			
	40 21	P-6A-16.5	17.4				16		Grades to a dark gray color with a moderate sheen and moderate hydrocarbon odor.	
	50/6"						17	SP	Dark gray coarse SAND.	
	33 50/6"						18			
Moist		P-6A-19	7,617				19	ML	Greenish-brown, mottled sandy SILT (Till) with occassional gravel, no sheen, no hydrocabon odor. No Recovery from 19.5 to 21 feet.	
	49 50/2"		262.3				20 21 22			Bentonite Chips
									P-6A completed at 22.5 feet.	

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-7**

PAGE 1 of 2

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 22 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry							0	**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
							1	**SW**	Yellowish-brown fine to coarse SAND with gravel. Slight sheen, no hydrocarbon odor.	Concrete
			0.0				2			
							3	**SP**	Brown coarse SAND with trace gravel. Slight sheen, no hydrocarbon odor.	Bentonite Chips
			0.0				4			
							5			
Moist							6			
			0.3				7			
							8		Same as above but with increasing gravel.	
			0.7				9			
	19								Yellowish-brown fine to coarse SAND with gravel. Slight sheen, no hydrocarbon odor.	
	50						10	**SW**		
	17		0.0							
	34						11			
	19									

NOTES:

SOIL BORING LOG

BORING No: **P-7**

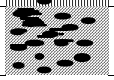
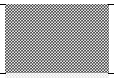
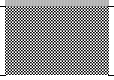
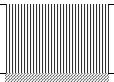
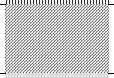
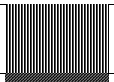
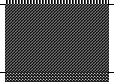
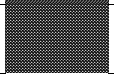
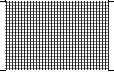
PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 22 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist	26 30 40 13		0.0 5				12 13	**SW**	Interbedded silt layers to 13.5 feet.	
Wet	13 12			▽			14		Grades to dark olive-brown color and trace gravel, no hydrocarbon odor, very slight sheen	
Moist	18 36 50/6" 26 50/4"	P-7-14.5	2.5 1.7 19.5				15 16 17		Dark olive-brown medium to coarse SAND with occassional gravel. Slight sheen, no hydrocarbon odor.	Bentonite Chips
Wet	16 50/5.5" 40 50/2"		92.7				18 19 20 21 22	**SP** **ML**	Grades to fine to medium sand with gravel. Slight sheen, no hydrocarbon odor. Sandy SILT (Till). No hydrocarbon odor, no sheen.	

P-7 completed at 22 feet.

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-8**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 19 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry								**GP**	GRAVEL fill (6 inches). Air knife to 8 feet below ground surface.	Gravel
			0.0				1	**SP**	Yellowish-brown mottled coarse SAND with occassional fine to medium sand and gravel. Slight sheen, no hydrocarbon odor.	Concrete
			0.0				4		Same as above grading to a more medium-grained sand.	
Moist			0.0				6		Yellowish-brown fine to coarse SAND with occassional gravel. Slight sheen, no hydrocarbon odor.	Bentonite Chips
			0.0				8	**SW**		
	20						9			
	25									
	30		0.0				10			
	13									
	15		0.0				11		Same as sbove with grading to trace gravel.	

NOTES:

SOIL BORING LOG

BORING No: **P-8**

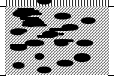
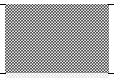
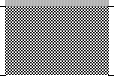
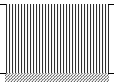
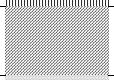
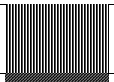
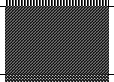
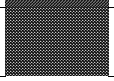
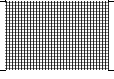
PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hollow Stem Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/D&M Sampler	WELL CASING: -- n/a
DATE: 06/12/06	HOLE DIAMETER: 8.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 19 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Blow Counts	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist	20		0.0				12		Same as above.	
	26									
	26									
	26		0.0	▽			13			
	16							**SW**		
	50/6"						14		Same as above with grading to trace silt.	
		P-8-14.5	0.0							
	23						15		Same as above with grading to trace fine sand.	
Wet	50/4"									
			0.0				16			
	27								Yellowish-brown coarse SAND with occassional gravel and trace silt. No sheen, no hydrocarbon odor.	
	34						17			
	48		27.1					**SP**		
	32						18			
Moist	50/6"		2.4				19	**ML**	Pinkish-gray sandy SILT (Till). No sheen, no odor.	
									P-8 completed at 19 feet.	
							20			
							21			
							22			

Bentonite Chips

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-9**

PAGE 1 of 2

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Hand Auger/Direct-Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 1.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 15 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Dry		0.6				1–4	SP	Yellowish-brown coarse SAND with trace gravel. No sheen, no hydrocarbon odor.	Bentonite Chips
Moist		0.6				4–6	SP	Yellowish-brown fine to coarse SAND with occasional gravel. No sheen, no hydrocarbon odor .	
		0.6				6–8	SP	Same as above, No sheen, no hydrocarbon odor.	
		0.6				8–11	SW	Yellowish-brown silty fine to coarse SAND with trace gravel. No sheen, no hydrocarbon odor.	
		0.8				10–11	SW	Grades to trace silt. No hydrocarbon odor, no sheen.	

NOTES:

SOIL BORING LOG

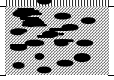
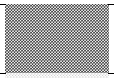
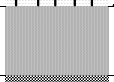
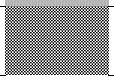
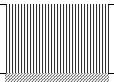
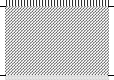
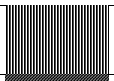
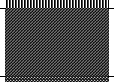
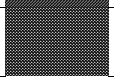
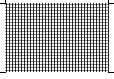
BORING No: **P-9**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Hand Auger/Direct-Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 1.25 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 15 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist						12	**SW**	Same as above. No hydrocarbon odor, no sheen. No recovery from 12 to 13 feet.	Bentonite Chips
Wet	P-9-13	0.9 0.8	▽			13 14 15	**SM**	Grayish-brown sitly fine to coarse SAND.	
						16 17 18 19 20 21 22		P-9 completed at 15 feet bgs.	

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-10**

PAGE 1 of 2

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hand Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger	WELL CASING: -- n/a
DATE: 06/14/06	HOLE DIAMETER: 2 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 16 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
						0	**TS**	Top soil and sod.	Sod
						1		Geogrid at 1 foot below surface	Top Soil
Dry		3.8				2	**SP**	Dark brown SAND (Gasworks Formation) with trace silt. No hydrocarbon odor, no sheen.	Sand
						3			
		0.0				4		Brownish-gray SAND with trace fine gravel. No hydrocarbon odor, slight sheen.	
						5			
		0.3				6		Grades to light brown color and occassional gravel. No hydrocarbon odor, slight sheen	
Moist						7	**SW**		Bentonite Chips
		0.2				8		very slight sheen, no hydrocarbon odor	
						9			
		0.4				10		Increased gravel content. No odor, no sheen.	
						11			

NOTES:

SOIL BORING LOG

BORING No: **P-10**

PROJECT: 100-1327
LOCATION: Seattle, WA (Metro)
CLIENT: Chevron EMC
DATE: 06/14/06
LOGGED BY: Simon Kline

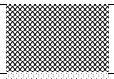
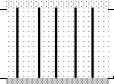
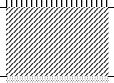
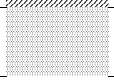
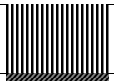
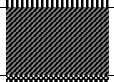
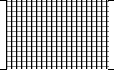
DRILLER: Cascade Drilling, Inc.
DRILL METHOD: Air Knife/Hand Auger
SAMPLE METHOD: Hand Auger
HOLE DIAMETER: 2 to 10 inches
HOLE DEPTH: 16 feet

WELL DIAMETER: -- n/a
WELL DEPTH: -- n/a
WELL CASING: -- n/a
WELL SCREEN: -- n/a
FILTER PACK: -- n/a
CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
						12		Same as above.	
Moist	P-10-12	0.4				13	**SW**	Grades to decreasing gravel. No hydrocarbon odor, very slight sheen.	Bentonite Chips
Wet	P-10-15	0.3	▽			15		Grades to increasing gravel. No hydrocarbon odor, no sheen.	
	P-10-16	0.4				16			
								P-10 completed at 16 feet bgs	
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-11**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 2-inch max.	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 15 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
						0	**GP**	Gravel surface to 6 inches. Air Knife to 8 feet below ground surface.	Bentonite Chips
Dry		1.4				1	**SP**	Yellowish-brown medium to coarse SAND with trace gravel. No hydrocarbon odor, no sheen.	
						2			
						3			
						4	**SP/ GP**	Yellowish-brown medium to coarse SAND with gravel. No sheen, no hydrocarbon odor.	
		0.9				5			
						6	**SP**	Yellowish-brown medium to coarse SAND with trace gravel. No hydrocarbon odor, no sheen.	
Moist		0.9				7			
						8			
		0.8				9			
						10			
		0.9				11	**ML**	Grayish-brown fine to coarse sandy SILT with trace gravel. No hydrocarbon odor, no sheen.	

NOTES:

SOIL BORING LOG

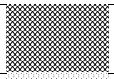
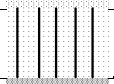
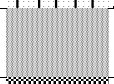
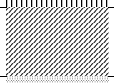
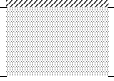
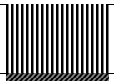
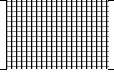
BORING No: **P-11**

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Direct Push	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger/Dual Tube Sampler	WELL CASING: -- n/a
DATE: 05/17/06	HOLE DIAMETER: 2-inch max.	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 15 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist			▽			12		Same as above.	
Wet	P-11-12.5	0.8				13	**ML**	Grades to grayish-brown color. Brownish mottling at 13 feet. No hydrocarbon odor, no sheen.	Bentonite Chips
		0.8				14			
						15		P-11 completed at 15 feet bgs.	
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

SOIL BORING LOG

BORING No: **P-12**

PAGE 1 of 2

PROJECT: 100-1327	DRILLER: Cascade Drilling, Inc.	WELL DIAMETER: -- n/a
LOCATION: Seattle, WA (Metro)	DRILL METHOD: Air Knife/Hand Auger	WELL DEPTH: -- n/a
CLIENT: Chevron EMC	SAMPLE METHOD: Hand Auger	WELL CASING: -- n/a
DATE: 06/14/06	HOLE DIAMETER: 2 to 10 inches	WELL SCREEN: -- n/a
LOGGED BY: Simon Kline	HOLE DEPTH: 12 feet	FILTER PACK: -- n/a
		CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
						0	TS	Sod to 6 inches below ground surface. Geogrid at 9 inches below ground surface.	Sod
						1		Light brown silty fine to coarse SAND with a trace of fine gravel.	Top Soil
		2.9				2		Grades to black color (Gasworks Formation). No hydrocarbon odor, no sheen.	Sand
						3	SW	Increasing gravel content. No hydrocarbon odor, slight sheen.	
		53.6				4			
Moist						5		Debris layer at 5.5 feet	
		5				6	SM	Very dark brown silty fine to medium SAND with organics and trace fine gravel.	Bentonite Chips
						7			
		0.7				8		Light grayish-brown coarse SAND and occassional gravel, no silt. Slight sheen, hydrocarbonno odor.	
						9	SP		
		1.8				10		Grades to medium sand and trace gravel. Harder and more compact at 11.5 feet. No hydrocarbon odor, no sheen.	
						11			

NOTES:

SOIL BORING LOG

BORING No: **P-12**

PROJECT: 100-1327
LOCATION: Seattle, WA (Metro)
CLIENT: Chevron EMC
DATE: 06/14/06
LOGGED BY: Simon Kline

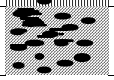
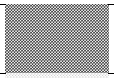
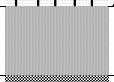
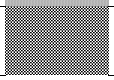
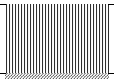
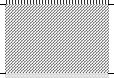
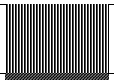
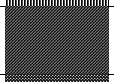
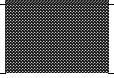
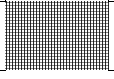
DRILLER: Cascade Drilling, Inc.
DRILL METHOD: Air Knife/Hand Auger
SAMPLE METHOD: Hand Auger
HOLE DIAMETER: 2 to 10 inches
HOLE DEPTH: 12 feet

WELL DIAMETER: -- n/a
WELL DEPTH: -- n/a
WELL CASING: -- n/a
WELL SCREEN: -- n/a
FILTER PACK: -- n/a
CASING ELEVATION: -- n/a

Moisture Content	Analytical Sample Number	FID (ppm)	Water Level	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Backfill Material
Moist							**SP**	Same as above. Refusal at 12 feet bgs. Cobbles up to 8 inches diameter.	Bentonite Chips
						12		P-12 completed at 12 feet bgs (refusal due to cobbles).	
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

SOIL CLASSIFICATION GRAPHIC SYMBOLS

MAJOR DIVISIONS	SYMBOLS		TYPICAL SOIL DESCRIPTIONS
GRAVELS	GW		Well graded gravels or gravel-sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
SANDS	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC/SM		Clayey sands with a touch of gravel
	SC		Clayey sands, sand-clay mixtures
SILTS & CLAYS LL<50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
SILTS & CLAYS LL>50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS	PT		Peat and other highly organic soils
FILL MATERIAL	FILL		
	ASPHALT		

TestAmerica
ANALYTICAL TESTING CORPORATION

SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400
BOTHELL, WA 98011-8244
PH: (425) 420.9200 FAX: (425) 420.9210

May 31, 2006

Peter Catterall
SAIC - Bothell
18912 North Creek Parkway South, Suite 101
Bothell, WA/USA 98011

RE: Metro #100-1327

Enclosed are the results of analyses for samples received by the laboratory on 05/17/06 16:35. The following list is a summary of the Work Orders contained in this report, generated on 05/31/06 17:17.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BPE0606	Metro #100-1327	100-1327

Sandra Yakamavich

Sandra Yakamavich, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400
BOTHELL, WA 98011-8244
PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-11-12.5	BPE0606-01	Soil	05/17/06 10:35	05/17/06 16:35
P-9-13	BPE0606-02	Soil	05/17/06 11:25	05/17/06 16:35
P-5-13.5	BPE0606-03	Soil	05/17/06 12:00	05/17/06 16:35
P-2-15	BPE0606-04	Soil	05/17/06 13:55	05/17/06 16:35
P-2-20	BPE0606-05	Soil	05/17/06 13:55	05/17/06 16:35
QA-051706	BPE0606-06	Soil	05/17/06 08:00	05/17/06 16:35

TestAmerica - Seattle, WA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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BOTHELL, WA 98011-8244
PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-04 (P-2-15)		**Soil**			**Sampled: 05/17/06 13:55**					
Gx Range Hydrocarbons	NWTPH-HCID	ND	-----	22.5	mg/kg dry	1x	6E20030	05/20/06 14:34	05/23/06 23:00	
Kerosene Range Hydrocarbons	"	ND	-----	56.2	"	"	"	"	"	
Diesel Range Hydrocarbons	"	**DET**	-----	56.2	"	"	"	"	"	
Insulating Oil Range Hydrocarbons	"	ND	-----	112	"	"	"	"	"	
Heavy Fuel Oil Range Hydrocarbons	"	ND	-----	112	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND	-----	112	"	"	"	"	"	
Surrogate(s): 2-FBP		*96.4%*			*50 - 150 %*	"			"	
Octacosane		*81.4%*			*50 - 150 %*	"			"	

Sandra Yakamavich

Sandra Yakamavich, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400
BOTHELL, WA 98011-8244
PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-01 (SP-11-12.5)		**Soil**			**Sampled: 05/17/06 10:35**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	4.63	mg/kg dry	1x	6E19066	05/19/06 15:45	05/20/06 02:04	
Benzene	"	ND	-----	0.0278	"	"	"	"	"	
Toluene	"	ND	-----	0.0463	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0463	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0925	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*87.8%*			*50 - 150 %*	"			"	
4-BFB (PID)		*106%*			*53 - 142 %*	"			"	
BPE0606-02 (P-9-13)		**Soil**			**Sampled: 05/17/06 11:25**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	3.85	mg/kg dry	1x	6E19066	05/19/06 15:45	05/20/06 02:35	
Benzene	"	ND	-----	0.0231	"	"	"	"	"	
Toluene	"	ND	-----	0.0385	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0385	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0771	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*89.2%*			*50 - 150 %*	"			"	
4-BFB (PID)		*106%*			*53 - 142 %*	"			"	
BPE0606-03 (P-5-13.5)		**Soil**			**Sampled: 05/17/06 12:00**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	4.20	mg/kg dry	1x	6E19066	05/19/06 15:45	05/20/06 03:35	
Benzene	"	ND	-----	0.0252	"	"	"	"	"	
Toluene	"	ND	-----	0.0420	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0420	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0841	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*85.3%*			*50 - 150 %*	"			"	
4-BFB (PID)		*105%*			*53 - 142 %*	"			"	
BPE0606-04 (P-2-15)		**Soil**			**Sampled: 05/17/06 13:55**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**766**	-----	44.5	mg/kg dry	10x	6E19066	05/19/06 15:45	05/19/06 18:09	
Benzene	"	**0.478**	-----	0.267	"	"	"	"	"	
Toluene	"	ND	-----	0.445	"	"	"	"	"	
Ethylbenzene	"	**3.26**	-----	0.445	"	"	"	"	"	
Xylenes (total)	"	**3.67**	-----	0.890	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*128%*			*50 - 150 %*	*1x*			"	
4-BFB (PID)		*114%*			*53 - 142 %*	"			"	

TestAmerica - Seattle, WA

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400
BOTHELL, WA 98011-8244
PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-05 (P-2-20)		**Soil**			**Sampled: 05/17/06 13:55**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**51.3**	-----	4.71	mg/kg dry	1x	6E19066	05/19/06 15:45	05/20/06 04:06	
Benzene	"	**0.0456**	-----	0.0283	"	"	"	"	"	
Toluene	"	ND	-----	0.0471	"	"	"	"	"	
Ethylbenzene	"	**0.450**	-----	0.0471	"	"	"	"	"	
Xylenes (total)	"	**0.536**	-----	0.0942	"	"	"	"	"	**I-06**
Surrogate(s): 4-BFB (FID)		*122%*			*50 - 150 %*	"			"	
4-BFB (PID)		*117%*			*53 - 142 %*	"			"	
BPE0606-06 (QA-051706)		**Soil**			**Sampled: 05/17/06 08:00**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.00	mg/kg wet	1x	6E19066	05/19/06 15:45	05/19/06 19:10	
Benzene	"	ND	-----	0.0300	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*91.3%*			*50 - 150 %*	"			"	
4-BFB (PID)		*106%*			*53 - 142 %*	"			"	

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-01 (SP-11-12.5)		**Soil**			**Sampled: 05/17/06 10:35**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	11.7	mg/kg dry	1x	6E20027	05/20/06 14:23	05/23/06 18:29	
Lube Oil Range Hydrocarbons	"	ND	-----	29.2	"	"	"	"	"	
Surrogate(s): 2-FBP		*88.1%*			*50 - 150 %*	"			"	
Octacosane		*90.1%*			*50 - 150 %*	"			"	
BPE0606-02 (P-9-13)		**Soil**			**Sampled: 05/17/06 11:25**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	10.8	mg/kg dry	1x	6E20027	05/20/06 14:23	05/23/06 18:58	
Lube Oil Range Hydrocarbons	"	ND	-----	26.9	"	"	"	"	"	
Surrogate(s): 2-FBP		*78.7%*			*50 - 150 %*	"			"	
Octacosane		*81.4%*			*50 - 150 %*	"			"	
BPE0606-03 (P-5-13.5)		**Soil**			**Sampled: 05/17/06 12:00**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	10.9	mg/kg dry	1x	6E20027	05/20/06 14:23	05/23/06 19:13	
Lube Oil Range Hydrocarbons	"	ND	-----	27.2	"	"	"	"	"	
Surrogate(s): 2-FBP		*68.4%*			*50 - 150 %*	"			"	
Octacosane		*81.3%*			*50 - 150 %*	"			"	
BPE0606-04 (P-2-15)		**Soil**			**Sampled: 05/17/06 13:55**					
Diesel Range Hydrocarbons	NWTPH-Dx	**4350**	-----	228	mg/kg dry	20x	6E20027	05/20/06 14:23	05/24/06 12:02	
Lube Oil Range Hydrocarbons	"	ND	-----	571	"	"	"	"	"	
Surrogate(s): 2-FBP		*NR*			*50 - 150 %*	"			"	***S-01***
Octacosane		*70.6%*			*50 - 150 %*	"			"	
BPE0606-05 (P-2-20)		**Soil**			**Sampled: 05/17/06 13:55**					
Diesel Range Hydrocarbons	NWTPH-Dx	**225**	-----	11.7	mg/kg dry	1x	6E20027	05/20/06 14:23	05/23/06 20:03	
Lube Oil Range Hydrocarbons	"	ND	-----	29.4	"	"	"	"	"	
Surrogate(s): 2-FBP		*118%*			*50 - 150 %*	"			"	
Octacosane		*88.2%*			*50 - 150 %*	"			"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Total Metals by EPA 6000/7000 Series Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-04 (P-2-15)		**Soil**				**Sampled: 05/17/06 13:55**				
Arsenic	EPA 6020	**1.37**	-----	0.490	mg/kg dry	1x	6E22004	05/22/06 08:30	05/24/06 23:11	
Chromium	"	**35.4**	-----	0.490	"	"	"	"	"	
Mercury	EPA 7471A	ND	-----	0.382	"	"	6E23027	05/23/06 10:50	05/23/06 12:45	
BPE0606-04RE1 (P-2-15)		**Soil**				**Sampled: 05/17/06 13:55**				
Cadmium	EPA 6020	ND	-----	0.644	mg/kg dry	1x	6E25050	05/25/06 14:00	05/26/06 11:45	
Lead	"	**16.6**	-----	0.644	"	"	"	"	"	

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18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-04 (P-2-15)		**Soil**			**Sampled: 05/17/06 13:55**					
Acenaphthene	8270C-SIM	ND	-----	0.227	mg/kg dry	20x	6E20025	05/20/06 14:04	05/22/06 16:20	
Acenaphthylene	"	ND	-----	0.227	"	"	"	"	"	
Anthracene	"	**5.53**	-----	0.227	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.227	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.227	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.227	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.227	"	"	"	"	"	
Benzo (b & k) fluoranthene	"	ND	-----	0.454	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.227	"	"	"	"	"	
Chrysene	"	ND	-----	0.227	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	-----	0.227	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.227	"	"	"	"	"	
Fluorene	"	**4.07**	-----	0.227	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.227	"	"	"	"	"	
1-Methylnaphthalene	"	**27.5**	-----	0.227	"	"	"	"	"	
Naphthalene	"	**18.6**	-----	0.227	"	"	"	"	"	
Phenanthrene	"	**5.69**	-----	0.227	"	"	"	"	"	
Pyrene	"	**0.457**	-----	0.227	"	"	"	"	"	
Surrogate(s): p-Terphenyl-d14		*92.1%*			*50 - 147 %*	"			"	
BPE0606-04RE1 (P-2-15)		**Soil**			**Sampled: 05/17/06 13:55**					
2-Methylnaphthalene	8270C-SIM	**31.1**	-----	0.567	mg/kg dry	50x	6E20025	05/20/06 14:04	05/23/06 13:19	
Surrogate(s): p-Terphenyl-d14		*88.4%*			*50 - 147 %*	"			"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-04 (P-2-15)		**Soil**						**Sampled: 05/17/06 13:55**		
Hexavalent Chromium	EPA 7196A	ND	-----	1.0	mg/kg dry	1x	6E30074	05/30/06 10:22	05/31/06 16:23	

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Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Physical Parameters by APHA/ASTM/EPA Methods

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Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPE0606-01 (SP-11-12.5)		**Soil**				**Sampled: 05/17/06 10:35**				
Dry Weight	BSOPSPL003R08	**86.9**	-----	1.00	%	1x	6E22039	05/22/06 13:49	05/23/06 00:00	
BPE0606-02 (P-9-13)		**Soil**				**Sampled: 05/17/06 11:25**				
Dry Weight	BSOPSPL003R08	**91.3**	-----	1.00	%	1x	6E22039	05/22/06 13:49	05/23/06 00:00	
BPE0606-03 (P-5-13.5)		**Soil**				**Sampled: 05/17/06 12:00**				
Dry Weight	BSOPSPL003R08	**93.2**	-----	1.00	%	1x	6E22039	05/22/06 13:49	05/23/06 00:00	
BPE0606-04 (P-2-15)		**Soil**				**Sampled: 05/17/06 13:55**				
Dry Weight	BSOPSPL003R08	**87.3**	-----	1.00	%	1x	6E22039	05/22/06 13:49	05/23/06 00:00	
BPE0606-05 (P-2-20)		**Soil**				**Sampled: 05/17/06 13:55**				
Dry Weight	BSOPSPL003R08	**86.6**	-----	1.00	%	1x	6E22039	05/22/06 13:49	05/23/06 00:00	

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18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E20030 **Soil Preparation Method: HCID (WA)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E20030-BLK1)								**Extracted: 05/20/06 14:34**						
Gx Range Hydrocarbons	NWTPH-HCID	ND	---	20.0	mg/kg wet	1x	--	--	--	--	--	--	05/23/06 22:00	
Kerosene Range Hydrocarbons	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Diesel Range Hydrocarbons	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Insulating Oil Range Hydrocarbons	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Heavy Fuel Oil Range Hydrocarbons	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Lube Oil Range Hydrocarbons	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 99.2%*			*Limits: 50-150%*	"							*05/23/06 22:00*	
Octacosane		*96.0%*			*50-150%*	"							"	
Duplicate (6E20030-DUP1)							**QC Source: BPE0606-04**			**Extracted: 05/20/06 14:34**				
Gx Range Hydrocarbons	NWTPH-HCID	ND	---	22.2	mg/kg dry	1x	ND	--	--	--		(50)	05/23/06 22:15	
Kerosene Range Hydrocarbons	"	ND	---	55.6	"	"	ND	--	--	--		"	"	
Diesel Range Hydrocarbons	"	DET	---	55.6	"	"	5460	--	--	--	15.8%	"	"	
Insulating Oil Range Hydrocarbons	"	ND	---	111	"	"	ND	--	--	--		"	"	
Heavy Fuel Oil Range Hydrocarbons	"	ND	---	111	"	"	ND	--	--	--		"	"	
Lube Oil Range Hydrocarbons	"	ND	---	111	"	"	ND	--	--	--		"	"	
Surrogate(s): 2-FBP		*Recovery: 98.6%*			*Limits: 50-150%*	"							*05/23/06 22:15*	
Octacosane		*82.7%*			*50-150%*	"							"	
Duplicate (6E20030-DUP2)							**QC Source: BPE0610-05**			**Extracted: 05/20/06 14:34**				
Gx Range Hydrocarbons	NWTPH-HCID	ND	---	23.1	mg/kg dry	1x	ND	--	--	--		(50)	05/23/06 22:45	
Kerosene Range Hydrocarbons	"	ND	---	57.8	"	"	ND	--	--	--		"	"	
Diesel Range Hydrocarbons	"	ND	---	57.8	"	"	ND	--	--	--		"	"	
Insulating Oil Range Hydrocarbons	"	ND	---	116	"	"	ND	--	--	--		"	"	
Heavy Fuel Oil Range Hydrocarbons	"	ND	---	116	"	"	ND	--	--	--		"	"	
Lube Oil Range Hydrocarbons	"	ND	---	116	"	"	ND	--	--	--		"	"	
Surrogate(s): 2-FBP		*Recovery: 94.4%*			*Limits: 50-150%*	"							*05/23/06 22:45*	
Octacosane		*93.1%*			*50-150%*	"							"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E19066 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E19066-BLK1)								**Extracted: 05/19/06 15:45**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	05/19/06 17:09	
Benzene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 91.3%*			*Limits: 50-150%*	"							*05/19/06 17:09*	
4-BFB (PID)		*104%*			*53-142%*	"							"	
LCS (6E19066-BS1)								**Extracted: 05/19/06 15:45**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	50.6	---	5.00	mg/kg wet	1x	--	50.0	101%	(75-125)	--	--	05/19/06 18:39	
Benzene	"	0.599	---	0.0200	"	"	--	0.482	124%	"	--	--	"	
Toluene	"	3.51	---	0.0500	"	"	--	4.18	84.0%	"	--	--	"	
Ethylbenzene	"	0.814	---	0.0500	"	"	--	0.838	97.1%	"	--	--	"	
Xylenes (total)	"	4.33	---	0.100	"	"	--	4.82	89.8%	"	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 105%*			*Limits: 50-150%*	"							*05/19/06 18:39*	
4-BFB (PID)		*106%*			*53-142%*	"							"	
Duplicate (6E19066-DUP1)					**QC Source: BPE0583-04**			**Extracted: 05/19/06 15:45**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.61	mg/kg dry	1x	ND	--	--	--	60.1%	(40)	05/19/06 22:02	RP-4
Benzene	"	ND	---	0.0185	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0461	"	"	ND	--	--	--	93.1%	"	"	RP-4
Ethylbenzene	"	ND	---	0.0461	"	"	ND	--	--	--	105%	"	"	RP-4
Xylenes (total)	"	ND	---	0.0923	"	"	ND	--	--	--	107%	"	"	RP-4
Surrogate(s): 4-BFB (FID)		*Recovery: 93.1%*			*Limits: 50-150%*	"							*05/19/06 22:02*	
4-BFB (PID)		*103%*			*53-142%*	"							"	
Matrix Spike (6E19066-MS1)					**QC Source: BPE0583-04**			**Extracted: 05/19/06 15:45**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	45.4	---	4.61	mg/kg dry	1x	0.597	46.1	97.2%	(42-125)	--	--	05/19/06 22:32	
Benzene	"	0.555	---	0.0185	"	"	ND	0.445	125%	(45-125)	--	--	"	
Toluene	"	3.24	---	0.0461	"	"	0.00817	3.85	83.9%	(55-125)	--	--	"	
Ethylbenzene	"	0.737	---	0.0461	"	"	0.00291	0.773	95.0%	(53-132)	--	--	"	
Xylenes (total)	"	3.96	---	0.0923	"	"	0.0102	4.45	88.8%	(59-125)	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 107%*			*Limits: 50-150%*	"							*05/19/06 22:32*	
4-BFB (PID)		*106%*			*53-142%*	"							"	

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18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E20027 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E20027-BLK1)									**Extracted: 05/20/06 14:23**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	05/23/06 16:44	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 86.3%*			*Limits: 50-150%*	"							*05/23/06 16:44*	
Octacosane		*85.5%*			*50-150%*	"							"	
LCS (6E20027-BS1)									**Extracted: 05/20/06 14:23**					
Diesel Range Hydrocarbons	NWTPH-Dx	58.5	---	10.0	mg/kg wet	1x	--	66.7	87.7%	(61-120)	--	--	05/23/06 16:55	
Lube Oil Range Hydrocarbons	"	54.4	---	25.0	"	"	--	"	81.6%	(50-150)	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 95.6%*			*Limits: 50-150%*	"							*05/23/06 16:55*	
Octacosane		*93.8%*			*50-150%*	"							"	
Duplicate (6E20027-DUP1)					**QC Source: BPE0618-01**				**Extracted: 05/20/06 14:23**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	13.5	mg/kg dry	1x	ND	--	--	--	NR	(50)	05/23/06 17:25	
Lube Oil Range Hydrocarbons	"	ND	---	33.7	"	"	ND	--	--	--	NR	"	"	
Surrogate(s): 2-FBP		*Recovery: 63.1%*			*Limits: 50-150%*	"							*05/23/06 17:25*	
Octacosane		*78.7%*			*50-150%*	"							"	
Duplicate (6E20027-DUP2)					**QC Source: BPE0606-04**				**Extracted: 05/20/06 14:23**					
Diesel Range Hydrocarbons	NWTPH-Dx	3660	---	226	mg/kg dry	20x	4350	--	--	--	17.2%	(50)	05/24/06 11:36	
Lube Oil Range Hydrocarbons	"	ND	---	565	"	"	ND	--	--	--	23.3%	"	"	
Surrogate(s): 2-FBP		*Recovery: NR*			*Limits: 50-150%*	"							*05/24/06 11:36*	*S-01*
Octacosane		*69.1%*			*50-150%*	"							"	
Matrix Spike (6E20027-MS1)					**QC Source: BPE0618-01**				**Extracted: 05/20/06 14:23**					
Diesel Range Hydrocarbons	NWTPH-Dx	75.8	---	13.3	mg/kg dry	1x	ND	88.8	85.4%	(45-144)	--	--	05/23/06 18:01	
Lube Oil Range Hydrocarbons	"	73.2	---	33.3	"	"	ND	"	82.4%	(50-150)	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 84.7%*			*Limits: 50-150%*	"							*05/23/06 18:01*	
Octacosane		*93.7%*			*50-150%*	"							"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E22004 **Soil Preparation Method: EPA 3050B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E22004-BLK1)								**Extracted: 05/22/06 08:30**						
Arsenic	EPA 6020	ND	---	0.500	mg/kg wet	1x	--	--	--	--	--	--	05/24/06 22:30	
Chromium	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
LCS (6E22004-BS1)								**Extracted: 05/22/06 08:30**						
Arsenic	EPA 6020	41.0	---	0.500	mg/kg wet	1x	--	40.0	102%	(80-120)	--	--	05/24/06 22:36	
Chromium	"	41.7	---	0.500	"	"	--	"	104%	"	--	--	"	
Duplicate (6E22004-DUP1)					**QC Source: BPE0610-01**			**Extracted: 05/22/06 08:30**						
Arsenic	EPA 6020	7.17	---	0.579	mg/kg dry	1x	3.22	--	--	--	76.0%	(30)	05/24/06 22:53	DP-1
Chromium	"	40.4	---	0.579	"	"	28.6	--	--	--	34.2%	"	"	DP-1
Matrix Spike (6E22004-MS1)					**QC Source: BPE0610-01**			**Extracted: 05/22/06 08:30**						
Chromium	EPA 6020	75.6	---	0.579	mg/kg dry	1x	28.6	46.3	102%	(30-163)	--	--	05/24/06 22:48	
Arsenic	"	45.1	---	0.579	"	"	3.22	"	90.5%	(57-125)	--	--	"	
Post Spike (6E22004-PS1)					**QC Source: BPE0610-01**			**Extracted: 05/22/06 08:30**						
Chromium	EPA 6020	0.151	---		ug/ml	1x	0.0494	0.100	102%	(75-125)	--	--	05/24/06 22:42	
Arsenic	"	0.109	---		"	"	0.00556	"	103%	"	--	--	"	

QC Batch: 6E23027 **Soil Preparation Method: EPA 7471A**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E23027-BLK1)								**Extracted: 05/23/06 10:50**						
Mercury	EPA 7471A	ND	---	0.400	mg/kg wet	1x	--	--	--	--	--	--	05/23/06 11:52	
LCS (6E23027-BS1)								**Extracted: 05/23/06 10:50**						
Mercury	EPA 7471A	0.669	---	0.400	mg/kg wet	1x	--	0.667	100%	(80-120)	--	--	05/23/06 11:55	
Matrix Spike (6E23027-MS1)					**QC Source: BPE0610-01**			**Extracted: 05/23/06 10:50**						
Mercury	EPA 7471A	0.829	---	0.463	mg/kg dry	1x	ND	0.772	107%	(70-130)	--	--	05/23/06 11:57	
Matrix Spike Dup (6E23027-MSD1)					**QC Source: BPE0610-01**			**Extracted: 05/23/06 10:50**						
Mercury	EPA 7471A	0.781	---	0.463	mg/kg dry	1x	ND	0.772	101%	(70-130)	5.96%	(30)	05/23/06 12:00	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E25050 **Soil Preparation Method: EPA 3050B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E25050-BLK1)								**Extracted: 05/25/06 14:00**						
Cadmium	EPA 6020	ND	---	0.515	mg/kg wet	1x	--	--	--	--	--	--	05/26/06 11:05	
Lead	"	ND	---	0.515	"	"	--	--	--	--	--	--	"	
LCS (6E25050-BS1)								**Extracted: 05/25/06 14:00**						
Cadmium	EPA 6020	42.7	---	0.510	mg/kg wet	1x	--	40.8	105%	(80-120)	--	--	05/26/06 11:11	
Lead	"	43.1	---	0.510	"	"	--	"	106%	"	--	--	"	
Duplicate (6E25050-DUP1)					**QC Source: BPE0606-04RE1**			**Extracted: 05/25/06 14:00**						
Lead	EPA 6020	17.4	---	0.644	mg/kg dry	1x	16.6	--	--	--	4.71%	(30)	05/26/06 11:28	
Cadmium	"	ND	---	0.644	"	"	ND	--	--	--	25.1%	"	"	
Matrix Spike (6E25050-MS1)					**QC Source: BPE0606-04RE1**			**Extracted: 05/25/06 14:00**						
Cadmium	EPA 6020	57.7	---	0.682	mg/kg dry	1x	0.0901	54.5	106%	(80-120)	--	--	05/26/06 11:22	
Lead	"	75.9	---	0.682	"	"	16.6	"	109%	(29-166)	--	--	"	
Post Spike (6E25050-PS1)					**QC Source: BPE0606-04RE1**			**Extracted: 05/25/06 14:00**						
Cadmium	EPA 6020	0.102	---		ug/ml	1x	0.000140	0.100	102%	(75-125)	--	--	05/26/06 11:17	
Lead	"	0.126	---		"	"	0.0258	"	100%	"	--	--	"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E20025 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E20025-BLK2)									**Extracted: 05/20/06 14:04**					
Acenaphthene	8270C-SIM	ND	---	0.0100	mg/kg wet	1x	--	--	--	--	--	--	05/22/06 13:36	
Acenaphthylene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b & k) fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenz (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
1-Methylnaphthalene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Surrogate(s): p-Terphenyl-d14		*Recovery: 127%*			*Limits: 50-147%*	"							*05/22/06 13:36*	
LCS (6E20025-BS2)									**Extracted: 05/20/06 14:04**					
Acenaphthene	8270C-SIM	0.685	---	0.0100	mg/kg wet	1x	--	0.667	103%	(70-125)	--	--	05/22/06 14:08	
Acenaphthylene	"	0.645	---	0.0100	"	"	--	"	96.7%	(70-133)	--	--	"	
Anthracene	"	0.711	---	0.0100	"	"	--	"	107%	(70-152)	--	--	"	
Benzo (a) anthracene	"	0.627	---	0.0100	"	"	--	"	94.0%	(60-125)	--	--	"	
Benzo (a) pyrene	"	0.689	---	0.0100	"	"	--	"	103%	(64-134)	--	--	"	
Benzo (b) fluoranthene	"	0.718	---	0.0100	"	"	--	"	108%	(62-147)	--	--	"	
Benzo (k) fluoranthene	"	0.696	---	0.0100	"	"	--	"	104%	(60-144)	--	--	"	
Benzo (ghi) perylene	"	0.640	---	0.0100	"	"	--	"	96.0%	(57-137)	--	--	"	
Chrysene	"	0.720	---	0.0100	"	"	--	"	108%	(70-139)	--	--	"	
Dibenz (a,h) anthracene	"	0.661	---	0.0100	"	"	--	"	99.1%	(56-140)	--	--	"	
Fluoranthene	"	0.749	---	0.0100	"	"	--	"	112%	(70-141)	--	--	"	
Fluorene	"	0.750	---	0.0100	"	"	--	"	112%	(76-132)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	0.643	---	0.0100	"	"	--	"	96.4%	(55-138)	--	--	"	
1-Methylnaphthalene	"	0.730	---	0.0100	"	"	--	"	109%	(46-128)	--	--	"	
2-Methylnaphthalene	"	0.765	---	0.0100	"	"	--	"	115%	(41-125)	--	--	"	
Naphthalene	"	0.643	---	0.0100	"	"	--	"	96.4%	(43-125)	--	--	"	
Phenanthrene	"	0.722	---	0.0100	"	"	--	"	108%	(73-125)	--	--	"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E20025 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (6E20025-BS2)								**Extracted: 05/20/06 14:04**						
Pyrene	8270C-SIM	0.679	---	0.0100	mg/kg wet	1x	--	0.667	102%	(68-140)	--	--	05/22/06 14:08	
Surrogate(s): p-Terphenyl-d14		*Recovery: 126%*			*Limits: 50-147%*	"							*05/22/06 14:08*	
Matrix Spike (6E20025-MS1)							**QC Source: BPE0618-03**						**Extracted: 05/20/06 14:04**	
Acenaphthene	8270C-SIM	0.743	---	0.0122	mg/kg dry	1x	ND	0.816	91.1%	(67-132)	--	--	05/22/06 14:41	
Acenaphthylene	"	0.698	---	0.0122	"	"	ND	"	85.5%	(65-142)	--	--	"	
Anthracene	"	0.777	---	0.0122	"	"	ND	"	95.2%	(66-158)	--	--	"	
Benzo (a) anthracene	"	0.690	---	0.0122	"	"	ND	"	84.6%	(41-156)	--	--	"	
Benzo (a) pyrene	"	0.744	---	0.0122	"	"	ND	"	91.2%	(52-148)	--	--	"	
Benzo (b) fluoranthene	"	0.791	---	0.0122	"	"	ND	"	96.9%	(53-151)	--	--	"	
Benzo (k) fluoranthene	"	0.756	---	0.0122	"	"	ND	"	92.6%	(46-161)	--	--	"	
Benzo (ghi) perylene	"	0.677	---	0.0122	"	"	ND	"	83.0%	(26-154)	--	--	"	
Chrysene	"	0.792	---	0.0122	"	"	ND	"	97.1%	(55-155)	--	--	"	
Dibenz (a,h) anthracene	"	0.709	---	0.0122	"	"	ND	"	86.9%	(27-157)	--	--	"	
Fluoranthene	"	0.827	---	0.0122	"	"	ND	"	101%	(46-172)	--	--	"	
Fluorene	"	0.808	---	0.0122	"	"	ND	"	99.0%	(66-143)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	0.688	---	0.0122	"	"	ND	"	84.3%	(24-159)	--	--	"	
1-Methylnaphthalene	"	0.835	---	0.0122	"	"	0.00252	"	102%	(39-140)	--	--	"	
2-Methylnaphthalene	"	0.879	---	0.0122	"	"	0.00187	"	107%	(32-139)	--	--	"	
Naphthalene	"	0.733	---	0.0122	"	"	0.00130	"	89.7%	(38-134)	--	--	"	
Phenanthrene	"	0.800	---	0.0122	"	"	ND	"	98.0%	(63-139)	--	--	"	
Pyrene	"	0.738	---	0.0122	"	"	ND	"	90.4%	(51-172)	--	--	"	
Surrogate(s): p-Terphenyl-d14		*Recovery: 110%*			*Limits: 50-147%*	"							*05/22/06 14:41*	
Matrix Spike Dup (6E20025-MSD1)							**QC Source: BPE0618-03**						**Extracted: 05/20/06 14:04**	
Acenaphthene	8270C-SIM	0.748	---	0.0120	mg/kg dry	1x	ND	0.800	93.5%	(67-132)	0.671%	(50)	05/22/06 15:14	
Acenaphthylene	"	0.700	---	0.0120	"	"	ND	"	87.5%	(65-142)	0.286%	"	"	
Anthracene	"	0.765	---	0.0120	"	"	ND	"	95.6%	(66-158)	1.56%	"	"	
Benzo (a) anthracene	"	0.695	---	0.0120	"	"	ND	"	86.9%	(41-156)	0.722%	"	"	
Benzo (a) pyrene	"	0.758	---	0.0120	"	"	ND	"	94.8%	(52-148)	1.86%	"	"	
Benzo (b) fluoranthene	"	0.730	---	0.0120	"	"	ND	"	91.2%	(53-151)	8.02%	"	"	
Benzo (k) fluoranthene	"	0.851	---	0.0120	"	"	ND	"	106%	(46-161)	11.8%	"	"	
Benzo (ghi) perylene	"	0.673	---	0.0120	"	"	ND	"	84.1%	(26-154)	0.593%	"	"	
Chrysene	"	0.795	---	0.0120	"	"	ND	"	99.4%	(55-155)	0.378%	(44)	"	
Dibenz (a,h) anthracene	"	0.706	---	0.0120	"	"	ND	"	88.2%	(27-157)	0.424%	(50)	"	
Fluoranthene	"	0.815	---	0.0120	"	"	ND	"	102%	(46-172)	1.46%	"	"	
Fluorene	"	0.802	---	0.0120	"	"	ND	"	100%	(66-143)	0.745%	(52)	"	
Indeno (1,2,3-cd) pyrene	"	0.688	---	0.0120	"	"	ND	"	86.0%	(24-159)	0.00%	(43)	"	
1-Methylnaphthalene	"	0.851	---	0.0120	"	"	0.00252	"	106%	(39-140)	1.90%	(50)	"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E20025 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (6E20025-MSD1)					**QC Source: BPE0618-03**				**Extracted: 05/20/06 14:04**					
2-Methylnaphthalene	8270C-SIM	0.894	---	0.0120	mg/kg dry	1x	0.00187	0.800	112%	(32-139)	1.69%	(50)	05/22/06 15:14	
Naphthalene	"	0.748	---	0.0120	"	"	0.00130	"	93.3%	(38-134)	2.03%	"	"	
Phenanthrene	"	0.793	---	0.0120	"	"	ND	"	99.1%	(63-139)	0.879%	"	"	
Pyrene	"	0.745	---	0.0120	"	"	ND	"	93.1%	(51-172)	0.944%	"	"	
Surrogate(s): p-Terphenyl-d14		*Recovery: 113%*			*Limits: 50-147%*	"							*05/22/06 15:14*	

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Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E30074 **Soil Preparation Method: Special Procedure**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E30074-BLK1)								**Extracted: 05/30/06 10:22**						
Hexavalent Chromium	EPA 7196A	ND	---	1.0	mg/kg wet	1x	--	--	--	--	--	--	05/31/06 16:23	
LCS (6E30074-BS1)								**Extracted: 05/30/06 10:22**						
Hexavalent Chromium	EPA 7196A	23	---	1.0	mg/kg wet	1x	--	24.8	92.7%	(80-120)	--	--	05/31/06 16:23	
Duplicate (6E30074-DUP1)					**QC Source: BPE0606-04**			**Extracted: 05/30/06 10:22**						
Hexavalent Chromium	EPA 7196A	ND	---	1.0	mg/kg dry	1x	ND	--	--	--	NR	(30)	05/31/06 16:23	
Matrix Spike (6E30074-MS1)					**QC Source: BPE0606-04**			**Extracted: 05/30/06 10:22**						
Hexavalent Chromium	EPA 7196A	ND	---	1.0	mg/kg dry	1x	ND	24.1	NR	(75-125)	--	--	05/31/06 16:23	MS-2

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

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PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6E22039 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E22039-BLK1)								**Extracted: 05/22/06 13:49**						
Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	05/23/06 00:00	

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18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	05/31/06 17:17

Notes and Definitions

Report Specific Notes:

DP-1	-	Sample RPD exceeded the laboratory control limit.
I-06	-	The analyte concentration may be artificially elevated due to coeluting compounds or components.
MS-2	-	The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.
RP-4	-	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
S-01	-	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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11922 E 1st Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
20332 Empire Ave, Ste F1, Bend, OR 97701-5712 541-383-9310 FAX 382-7588
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: BPE0606

NCA CLIENT: SAIC
REPORT TO: Peter Catterall
ADDRESS: 18912 North Creek PKwy Bothell WA 98011
PHONE: 425-482-3321 FAX: 425-482-5566

INVOICE TO: Peter Catterall ← SAIC
P.O. NUMBER:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: ~~5~~ STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PROJECT NAME: Metro
PROJECT NUMBER: 100-1327
SAMPLED BY: Simon Kline

PRESERVATIVE: Iced

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	REQUESTED ANALYSES: BTEX 8260	NWTPH Dx w/ SGC	HCID	cPAHs	As	Cd	Cr	Pb	Hg					MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	SP-11-12.5	5/17/06 1035	✓	✓												S	2		01
2	P-9-13	5/17/06 1125	✓	✓												S	2		02
3	P-5-13.5	5/17/06 1200	✓	✓												S	2		03
4	P-2-15	5/17/06 1355	✓	✓	✓	✓	✓	✓	✓	✓	✓					S	2		04
5	P-2-20	5/17/06 1355	✓	✓												S	2		05
6	← QA-051706	5/17/06 0800	✓	—	—	—	—	—	—	—	—	—	—	—	—	TB	1	ADDED BY SK on 5/18/06	— 06
7																			
8																			
9																			
10																			

RELEASED BY: Tina King		DATE: 5/17/06	RECEIVED BY:		DATE: 5/17/06
PRINT NAME: Tina King	FIRM: SAIC	TIME: 1615	PRINT NAME: MEGAN KING	FIRM: SAIC	TIME: 1615
RELEASED BY:		DATE: 5/17/06	RECEIVED BY: Tom Blankinship		DATE: 5/17/06
PRINT NAME: Mike King	FIRM: SAIC	TIME: 1635	PRINT NAME:	FIRM: TA	TIME: 1635

ADDITIONAL REMARKS:

TEMP: 8.4 w/o

COC REV 09/04

PAGE OF

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June 19, 2006

Peter Catterall
SAIC - Bothell
18912 North Creek Parkway South, Suite 101
Bothell, WA/USA 98011

RE: Metro #100-1327

Enclosed are the results of analyses for samples received by the laboratory on 06/12/06 16:42. The following list is a summary of the Work Orders contained in this report, generated on 06/19/06 15:52.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BPF0283	Metro #100-1327	100-1327

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P-6A-16	BPF0283-01	Soil	06/12/06 10:50	06/12/06 16:42
P-6A-19	BPF0283-02	Soil	06/12/06 11:00	06/12/06 16:42
QA-1	BPF0283-03	Soil	06/12/06 08:50	06/12/06 16:42
D-061206	BPF0283-04	Soil	06/12/06 12:00	06/12/06 16:42
FB-061206	BPF0283-05	Soil	06/12/06 10:50	06/12/06 16:42
P-3-14.5	BPF0283-06	Soil	06/12/06 12:35	06/12/06 16:42
P-3-19	BPF0283-07	Soil	06/12/06 12:59	06/12/06 16:42
P-4-14	BPF0283-08	Soil	06/12/06 14:09	06/12/06 16:42
P-3-16	BPF0283-09	Soil	06/12/06 12:40	06/12/06 16:42

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0283-01 (P-6A-16)		**Soil**			**Sampled: 06/12/06 10:50**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**1650**	-----	92.3	mg/kg dry	20x	6F14015	06/14/06 09:21	06/14/06 19:46	
Benzene	"	**1.73**	-----	0.554	"	"	"	"	"	
Toluene	"	ND	-----	0.923	"	"	"	"	"	
Ethylbenzene	"	**5.12**	-----	0.923	"	"	"	"	"	
Xylenes (total)	"	**4.07**	-----	1.85	"	"	"	"	"	I-06
Surrogate(s): 4-BFB (FID)		*127%*			*50 - 150 %*	*1x*			*"*	
4-BFB (PID)		*108%*			*53 - 142 %*	*"*			*"*	
BPF0283-02 (P-6A-19)		**Soil**			**Sampled: 06/12/06 11:00**					
Benzene	NWTPH-Gx/802 1B	**1.41**	-----	0.229	mg/kg dry	10x	6F14015	06/14/06 09:21	06/14/06 20:17	
Toluene	"	**1.92**	-----	0.382	"	"	"	"	"	I-06
Ethylbenzene	"	**3.80**	-----	0.382	"	"	"	"	"	
Xylenes (total)	"	**12.3**	-----	0.765	"	"	"	"	"	
Surrogate(s): 4-BFB (PID)		*155%*			*53 - 142 %*	*1x*			*"*	***SR-4***
BPF0283-02RE1 (P-6A-19)		**Soil**			**Sampled: 06/12/06 11:00**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**2170**	-----	76.5	mg/kg dry	20x	6F14015	06/14/06 09:21	06/15/06 03:59	
Surrogate(s): 4-BFB (FID)		*193%*			*50 - 150 %*	*1x*			*"*	***SR-4***
BPF0283-03 (QA-1)		**Soil**			**Sampled: 06/12/06 08:50**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.00	mg/kg wet	1x	6F14015	06/14/06 09:21	06/14/06 22:57	
Benzene	"	ND	-----	0.0300	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*93.0%*			*50 - 150 %*	*"*			*"*	
4-BFB (PID)		*105%*			*53 - 142 %*	*"*			*"*	
BPF0283-04 (D-061206)		**Soil**			**Sampled: 06/12/06 12:00**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**623**	-----	44.3	mg/kg dry	10x	6F14015	06/14/06 09:21	06/15/06 10:05	
Benzene	"	**1.70**	-----	0.266	"	"	"	"	"	
Toluene	"	ND	-----	0.443	"	"	"	"	"	
Ethylbenzene	"	**1.64**	-----	0.443	"	"	"	"	"	
Xylenes (total)	"	**1.27**	-----	0.887	"	"	"	"	"	I-06

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name: **Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number: 100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager: Peter Catterall	06/19/06 15:52

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0283-04 (D-061206)		**Soil**				**Sampled: 06/12/06 12:00**				
Surrogate(s): 4-BFB (FID)		*108%*			*50 - 150 %*	*1x*			*06/15/06 10:05*	
4-BFB (PID)		*104%*			*53 - 142 %*	*"*			*"*	
BPF0283-05 (FB-061206)		**Soil**				**Sampled: 06/12/06 10:50**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.00	mg/kg wet	1x	6F14015	06/14/06 09:21	06/14/06 23:57	
Benzene	"	ND	-----	0.0300	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*92.3%*			*50 - 150 %*	*"*			*"*	
4-BFB (PID)		*108%*			*53 - 142 %*	*"*			*"*	
BPF0283-06 (P-3-14.5)		**Soil**				**Sampled: 06/12/06 12:35**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.16	mg/kg dry	1x	6F14015	06/14/06 09:21	06/15/06 00:27	
Benzene	"	ND	-----	0.0309	"	"	"	"	"	
Toluene	"	ND	-----	0.0516	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0516	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.103	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*93.9%*			*50 - 150 %*	*"*			*"*	
4-BFB (PID)		*111%*			*53 - 142 %*	*"*			*"*	
BPF0283-07 (P-3-19)		**Soil**				**Sampled: 06/12/06 12:59**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**4.82**	-----	4.21	mg/kg dry	1x	6F14015	06/14/06 09:21	06/15/06 00:57	
Benzene	"	ND	-----	0.0252	"	"	"	"	"	
Toluene	"	ND	-----	0.0421	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0421	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0842	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*93.3%*			*50 - 150 %*	*"*			*"*	
4-BFB (PID)		*111%*			*53 - 142 %*	*"*			*"*	

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18912 North Creek Parkway South, Suite 101	Project Number: 100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager: Peter Catterall	06/19/06 15:52

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0283-08 (P-4-14)		**Soil**			**Sampled: 06/12/06 14:09**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	4.77	mg/kg dry	1x	6F14015	06/14/06 09:21	06/15/06 01:27	
Benzene	"	ND	-----	0.0286	"	"	"	"	"	
Toluene	"	ND	-----	0.0477	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0477	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0954	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*91.3%*			*50 - 150 %*	"			"	
4-BFB (PID)		*108%*			*53 - 142 %*	"			"	
BPF0283-09 (P-3-16)		**Soil**			**Sampled: 06/12/06 12:40**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**4750**	-----	203	mg/kg dry	50x	6F14015	06/14/06 09:21	06/15/06 10:35	
Benzene	"	**9.54**	-----	1.22	"	"	"	"	"	
Toluene	"	ND	-----	2.03	"	"	"	"	"	
Ethylbenzene	"	**9.38**	-----	2.03	"	"	"	"	"	
Xylenes (total)	"	**24.2**	-----	4.06	"	"	"	"	"	**I-06**
Surrogate(s): 4-BFB (FID)		*114%*			*50 - 150 %*	*1x*			"	
4-BFB (PID)		*93.4%*			*53 - 142 %*	"			"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0283-01 (P-6A-16)		**Soil**			**Sampled: 06/12/06 10:50**					
Diesel Range Hydrocarbons	NWTPH-Dx	**39.5**	-----	11.1	mg/kg dry	1x	6F13044	06/13/06 14:20	06/14/06 18:39	
Lube Oil Range Hydrocarbons	"	ND	-----	27.7	"	"	"	"	"	
Surrogate(s): 2-FBP		*86.0%*			*50 - 150 %*	"			"	
Octacosane		*91.5%*			*50 - 150 %*	"			"	
BPF0283-02 (P-6A-19)		**Soil**			**Sampled: 06/12/06 11:00**					
Diesel Range Hydrocarbons	NWTPH-Dx	**303**	-----	10.7	mg/kg dry	1x	6F13044	06/13/06 14:20	06/14/06 19:09	
Lube Oil Range Hydrocarbons	"	**37.0**	-----	26.8	"	"	"	"	"	
Surrogate(s): 2-FBP		*120%*			*50 - 150 %*	"			"	
Octacosane		*90.1%*			*50 - 150 %*	"			"	
BPF0283-04 (D-061206)		**Soil**			**Sampled: 06/12/06 12:00**					
Diesel Range Hydrocarbons	NWTPH-Dx	**254**	-----	11.4	mg/kg dry	1x	6F13044	06/13/06 14:20	06/14/06 13:37	
Lube Oil Range Hydrocarbons	"	ND	-----	28.4	"	"	"	"	"	
Surrogate(s): 2-FBP		*122%*			*50 - 150 %*	"			"	
Octacosane		*89.4%*			*50 - 150 %*	"			"	
BPF0283-06 (P-3-14.5)		**Soil**			**Sampled: 06/12/06 12:35**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	11.8	mg/kg dry	1x	6F13044	06/13/06 14:20	06/14/06 19:38	
Lube Oil Range Hydrocarbons	"	ND	-----	29.5	"	"	"	"	"	
Surrogate(s): 2-FBP		*97.6%*			*50 - 150 %*	"			"	
Octacosane		*94.2%*			*50 - 150 %*	"			"	
BPF0283-07 (P-3-19)		**Soil**			**Sampled: 06/12/06 12:59**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	11.4	mg/kg dry	1x	6F13044	06/13/06 14:20	06/14/06 20:07	
Lube Oil Range Hydrocarbons	"	ND	-----	28.4	"	"	"	"	"	
Surrogate(s): 2-FBP		*96.3%*			*50 - 150 %*	"			"	
Octacosane		*94.9%*			*50 - 150 %*	"			"	
BPF0283-08 (P-4-14)		**Soil**			**Sampled: 06/12/06 14:09**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	11.4	mg/kg dry	1x	6F13044	06/13/06 14:20	06/14/06 20:37	
Lube Oil Range Hydrocarbons	"	ND	-----	28.6	"	"	"	"	"	
Surrogate(s): 2-FBP		*88.8%*			*50 - 150 %*	"			"	
Octacosane		*87.1%*			*50 - 150 %*	"			"	

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Sandra Yakamavich, Project Manager

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ANALYTICAL TESTING CORPORATION

SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400
BOTHELL, WA 98011-8244
PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0283-01 (P-6A-16)		**Soil**				**Sampled: 06/12/06 10:50**				
Dry Weight	BSOPSPL003R08	**91.1**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	
BPF0283-02 (P-6A-19)		**Soil**				**Sampled: 06/12/06 11:00**				
Dry Weight	BSOPSPL003R08	**93.9**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	
BPF0283-04 (D-061206)		**Soil**				**Sampled: 06/12/06 12:00**				
Dry Weight	BSOPSPL003R08	**86.9**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	
BPF0283-06 (P-3-14.5)		**Soil**				**Sampled: 06/12/06 12:35**				
Dry Weight	BSOPSPL003R08	**84.9**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	
BPF0283-07 (P-3-19)		**Soil**				**Sampled: 06/12/06 12:59**				
Dry Weight	BSOPSPL003R08	**87.3**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	
BPF0283-08 (P-4-14)		**Soil**				**Sampled: 06/12/06 14:09**				
Dry Weight	BSOPSPL003R08	**86.1**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	
BPF0283-09 (P-3-16)		**Soil**				**Sampled: 06/12/06 12:40**				
Dry Weight	BSOPSPL003R08	**88.4**	-----	1.00	%	1x	6F14052	06/14/06 15:30	06/15/06 00:00	

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F14015 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F14015-BLK1)								**Extracted: 06/14/06 09:21**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	06/14/06 11:39	
Benzene	"	ND	---	0.0300	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 91.3%*			*Limits: 50-150%*	"							*06/14/06 11:39*	
4-BFB (PID)		*106%*			*53-142%*	"							"	
LCS (6F14015-BS1)								**Extracted: 06/14/06 09:21**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	46.3	---	5.00	mg/kg wet	1x	--	50.0	92.6%	(75-125)	--	--	06/14/06 12:40	
Benzene	"	0.574	---	0.0300	"	"	--	0.482	119%	"	--	--	"	
Toluene	"	3.43	---	0.0500	"	"	--	4.18	82.1%	"	--	--	"	
Ethylbenzene	"	0.772	---	0.0500	"	"	--	0.838	92.1%	"	--	--	"	
Xylenes (total)	"	4.18	---	0.100	"	"	--	4.82	86.7%	"	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 105%*			*Limits: 50-150%*	"							*06/14/06 12:40*	
4-BFB (PID)		*105%*			*53-142%*	"							"	
Duplicate (6F14015-DUP1)					**QC Source: BPF0163-01**			**Extracted: 06/14/06 09:21**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	13.9	---	6.00	mg/kg dry	1x	17.0	--	--	--	20.1%	(40)	06/14/06 15:19	
Benzene	"	ND	---	0.0360	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0600	"	"	ND	--	--	--	14.3%	"	"	
Ethylbenzene	"	ND	---	0.0600	"	"	ND	--	--	--	76.3%	"	"	RP-4
Xylenes (total)	"	ND	---	0.120	"	"	ND	--	--	--	57.1%	"	"	RP-4
Surrogate(s): 4-BFB (FID)		*Recovery: 104%*			*Limits: 50-150%*	"							*06/14/06 15:19*	
4-BFB (PID)		*104%*			*53-142%*	"							"	
Duplicate (6F14015-DUP2)					**QC Source: BPF0163-02**			**Extracted: 06/14/06 09:21**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.69	mg/kg dry	1x	ND	--	--	--	15.3%	(40)	06/14/06 19:16	
Benzene	"	ND	---	0.0342	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0569	"	"	ND	--	--	--	11.8%	"	"	
Ethylbenzene	"	ND	---	0.0569	"	"	ND	--	--	--	0.00%	"	"	
Xylenes (total)	"	ND	---	0.114	"	"	ND	--	--	--	2.29%	"	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 96.8%*			*Limits: 50-150%*	"							*06/14/06 19:16*	
4-BFB (PID)		*104%*			*53-142%*	"							"	

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F14015 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (6F14015-MS1)				**QC Source: BPF0163-01**					**Extracted: 06/14/06 09:21**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	68.1	---	6.00	mg/kg dry	1x	17.0	60.0	85.2%	(42-125)	--	--	06/14/06 15:50	
Benzene	"	0.663	---	0.0360	"	"	0.0142	0.579	112%	(45-125)	--	--	"	
Toluene	"	3.89	---	0.0600	"	"	0.0172	5.01	77.3%	(55-125)	--	--	"	
Ethylbenzene	"	0.873	---	0.0600	"	"	0.0217	1.00	85.1%	(53-132)	--	--	"	
Xylenes (total)	"	4.75	---	0.120	"	"	0.0878	5.79	80.5%	(59-125)	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 115%*			*Limits: 50-150%*	"							*06/14/06 15:50*	
4-BFB (PID)		*107%*			*53-142%*	"							"	

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F13044 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F13044-BLK1)								**Extracted: 06/13/06 14:20**						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	06/14/06 05:48	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 98.4%*			*Limits: 50-150%*	"							*06/14/06 05:48*	
Octacosane		*96.2%*			*50-150%*	"							"	
LCS (6F13044-BS1)								**Extracted: 06/13/06 14:20**						
Diesel Range Hydrocarbons	NWTPH-Dx	63.6	---	10.0	mg/kg wet	1x	--	66.7	95.4%	(61-120)	--	--	06/14/06 06:18	
Surrogate(s): 2-FBP		*Recovery: 101%*			*Limits: 50-150%*	"							*06/14/06 06:18*	
Octacosane		*93.2%*			*50-150%*	"							"	
Duplicate (6F13044-DUP1)					**QC Source: BPF0283-04**			**Extracted: 06/13/06 14:20**						
Diesel Range Hydrocarbons	NWTPH-Dx	72.8	---	11.5	mg/kg dry	1x	254	--	--	--	111%	(50)	06/14/06 10:14	DP-1
Lube Oil Range Hydrocarbons	"	ND	---	28.9	"	"	ND	--	--	--	83.4%	"	"	DP-1
Surrogate(s): 2-FBP		*Recovery: 95.1%*			*Limits: 50-150%*	"							*06/14/06 10:14*	
Octacosane		*91.6%*			*50-150%*	"							"	
Matrix Spike (6F13044-MS1)					**QC Source: BPF0283-04**			**Extracted: 06/13/06 14:20**						
Diesel Range Hydrocarbons	NWTPH-Dx	207	---	11.5	mg/kg dry	1x	254	76.7	-61.3%	(45-144)	--	--	06/14/06 10:44	MS-2
Surrogate(s): 2-FBP		*Recovery: 120%*			*Limits: 50-150%*	"							*06/14/06 10:44*	
Octacosane		*93.4%*			*50-150%*	"							"	

TestAmerica - Seattle, WA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F14052 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F14052-BLK1)							**Extracted: 06/14/06 15:30**							
Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	06/15/06 00:00	

TestAmerica - Seattle, WA

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/19/06 15:52

Notes and Definitions

Report Specific Notes:

DP-1	-	Sample RPD exceeded the laboratory control limit.
I-06	-	The analyte concentration may be artificially elevated due to coeluting compounds or components.
MS-2	-	The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.
RP-4	-	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
SR-4	-	Due to sample matrix effects, the surrogate recovery was outside laboratory control limits.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Sandra Yakamavich

Sandra Yakamavich, Project Manager

NCA Test Amenco

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210 X
11922 E 1st Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
20332 Empire Ave, Ste F1, Bend, OR 97701-5712 541-383-9310 FAX 382-7588
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: BPF0283

NCA CLIENT: SAIC
REPORT TO: Peter Cotterall
ADDRESS: 18912 North Creek Pkwy Ste 101 Bothell, WA 98011
PHONE: 425-485-5800 FAX: 425-485-5566
INVOICE TO:
P.O. NUMBER:
PROJECT NAME: Metro
PROJECT NUMBER: 100-1327
SAMPLED BY: Tina King / Simon Kline

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 (Std.) 7 5 4 3 2 1 <1
Petroleum Hydrocarbon Analyses: X (Std.) 4 3 2 1 <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME		[illegible]	TPH-G by 8015 NW-series	BTEX EPA 5035	Dx w/ extended silica gel cleanup										MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	P-6A-16	6/12/06	1050	2	X	X	X										S	2		01
2	P-6A-19		1100	2	X	X	X											2		02
3	QA-1		0850	1	X	X												1		03
4	D-061206		—	2	X	X	X											2		04
5	FB-061206		1050	1	X	X	X											1		05
6	P-3-14.5		1235	2	X	X	X											2		06
7	P-3-19		1259	2	X	X	X											2		07
8	P-4-14		1409	2	X	X	X											2		08
9																				
10																				

RELEASED BY: Tina King DATE: 6/12/06 RECEIVED BY: Colette Weaver DATE: 06.12.06
PRINT NAME: Tina King FIRM: SAIC TIME: 1642 PRINT NAME: Colette Weaver FIRM: TA-S TIME: 1642
RELEASED BY: DATE: RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME: PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: W/O

TEMP: 7.2

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Revised Chain of Custody

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11922 E 1st Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290 [ ]
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 [ ]
20332 Empire Ave, Ste F1, Bend, OR 97701-5712 541-383-9310 FAX 382-7588 [ ]
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210 [ ]

CHAIN OF CUSTODY REPORT

Work Order #: BPF0283

NCA CLIENT: SAIC

REPORT TO: Peter Cuttercall[?]

ADDRESS: 18912 North Creek Pkwy Ste 101, Bothell, WA 98011

PHONE: 425-485-5800 FAX: 425-485-5566

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Metro

PROJECT NUMBER: 100-1327

SAMPLED BY: Tina King / Simon Kline

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [ ] 10 STD. [ ] 7 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] <1

Petroleum Hydrocarbon Analyses: [X] 5 STD. [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	~~[illegible]~~	TPH-G by NW 5035	BTEX EPA 5035	Dx w/ acid & silica gel clean	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	P-6A-16	6/12/06 1050	~~2~~	X	X	X	S	2		01
2	P-6A-19	1100	~~2~~	X	X	X		2		02
3	GA-1	0850	~~1~~	X	X			1		03
4	D-061206	—	~~2~~	X	X	X		2		04
5	FB-061206	1050	~~1~~	X	X	X		1		05
6	P-3-14.5	1235	~~2~~	X	X	X		2		06
7	P-3-19	1259	~~2~~	X	X	X		2		07
8	P-4-14	1409	~~2~~	X	X	X	S	2		08
9	P-3-16	06.12.06 / 1240					S	2		09
10										

CW 061306

RELEASED BY: Tina King DATE: 6/12/06 RECEIVED BY: Colette Weaver DATE: 06.12.06

PRINT NAME: Tina King FIRM: SAIC TIME: 1642 PRINT NAME: Colette Weaver FIRM: TA-S TIME: 1642

RELEASED BY: DATE: RECEIVED BY: DATE:

PRINT NAME: FIRM: TIME: PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

W/O

TEMP: 7.2

COC REV 09/04

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June 23, 2006

Peter Catterall
SAIC - Bothell
18912 North Creek Parkway South, Suite 101
Bothell, WA/USA 98011

RE: Metro #100-1327

Enclosed are the results of analyses for samples received by the laboratory on 06/14/06 17:30. The following list is a summary of the Work Orders contained in this report, generated on 06/23/06 17:11.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BPF0367	Metro #100-1327	100-1327

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
QA-1	BPF0367-01	Soil	06/14/06 08:05	06/14/06 17:30
P-1B-14	BPF0367-02	Soil	06/14/06 09:27	06/14/06 17:30
FB-061406	BPF0367-03	Soil	06/14/06 09:28	06/14/06 17:30
P-1B-16	BPF0367-04	Soil	06/14/06 09:48	06/14/06 17:30
P-10-12	BPF0367-05	Soil	06/14/06 13:50	06/14/06 17:30
P-10-15	BPF0367-06	Soil	06/14/06 14:19	06/14/06 17:30
P-10-16	BPF0367-07	Soil	06/14/06 14:40	06/14/06 17:30

TestAmerica - Seattle, WA

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Sandra Yakamavich, Project Manager

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PH: (425) 420.9200 FAX: (425) 420.9210

SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0367-01 (QA-1)		**Soil**			**Sampled: 06/14/06 08:05**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.00	mg/kg wet	1x	6F16026	06/16/06 10:12	06/16/06 21:34	
Benzene	"	ND	-----	0.0300	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*90.7%*			*50 - 150 %*	"			"	
4-BFB (PID)		*104%*			*53 - 142 %*	"			"	
BPF0367-02 (P-1B-14)		**Soil**			**Sampled: 06/14/06 09:27**					
Benzene	NWTPH-Gx/802 1B	**1.27**	-----	0.132	mg/kg dry	5x	6F16026	06/16/06 10:12	06/16/06 17:32	
Toluene	"	**0.286**	-----	0.220	"	"	"	"	"	
Ethylbenzene	"	**10.9**	-----	0.220	"	"	"	"	"	
Xylenes (total)	"	**8.94**	-----	0.440	"	"	"	"	"	
Surrogate(s): 4-BFB (PID)		*130%*			*53 - 142 %*	*1x*			"	
BPF0367-02RE1 (P-1B-14)		**Soil**			**Sampled: 06/14/06 09:27**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**1810**	-----	88.1	mg/kg dry	20x	6F19035	06/19/06 10:34	06/19/06 17:02	
Surrogate(s): 4-BFB (FID)		*134%*			*50 - 150 %*	*1x*			"	
BPF0367-03 (FB-061406)		**Soil**			**Sampled: 06/14/06 09:28**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.00	mg/kg wet	1x	6F16026	06/16/06 10:12	06/16/06 22:04	
Benzene	"	ND	-----	0.0300	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*91.7%*			*50 - 150 %*	"			"	
4-BFB (PID)		*104%*			*53 - 142 %*	"			"	
BPF0367-04 (P-1B-16)		**Soil**			**Sampled: 06/14/06 09:48**					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	**5150**	-----	216	mg/kg dry	50x	6F19035	06/19/06 10:34	06/19/06 17:32	
Benzene	"	**6.53**	-----	1.29	"	"	"	"	"	
Toluene	"	ND	-----	2.16	"	"	"	"	"	
Ethylbenzene	"	**63.7**	-----	2.16	"	"	"	"	"	
Xylenes (total)	"	**14.5**	-----	4.31	"	"	"	"	"	I-06

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0367-04 (P-1B-16)		**Soil**				**Sampled: 06/14/06 09:48**				
Surrogate(s): 4-BFB (FID)			*145%*		*50 - 150 %*	*1x*			*06/19/06 17:32*	
4-BFB (PID)			*127%*		*53 - 142 %*	*"*			*"*	
BPF0367-05 (P-10-12)		**Soil**				**Sampled: 06/14/06 13:50**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	4.77	mg/kg dry	1x	6F16026	06/16/06 10:12	06/17/06 00:05	
Benzene	"	ND	-----	0.0286	"	"	"	"	"	
Toluene	"	ND	-----	0.0477	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0477	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0953	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			*94.1%*		*50 - 150 %*	*"*			*"*	
4-BFB (PID)			*108%*		*53 - 142 %*	*"*			*"*	
BPF0367-06 (P-10-15)		**Soil**				**Sampled: 06/14/06 14:19**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	4.36	mg/kg dry	1x	6F16026	06/16/06 10:12	06/17/06 01:05	
Benzene	"	ND	-----	0.0262	"	"	"	"	"	
Toluene	"	ND	-----	0.0436	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0436	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0872	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			*91.2%*		*50 - 150 %*	*"*			*"*	
4-BFB (PID)			*106%*		*53 - 142 %*	*"*			*"*	
BPF0367-07 (P-10-16)		**Soil**				**Sampled: 06/14/06 14:40**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.05	mg/kg dry	1x	6F20031	06/20/06 09:28	06/20/06 12:15	
Benzene	"	ND	-----	0.0303	"	"	"	"	"	
Toluene	"	ND	-----	0.0505	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0505	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.101	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			*92.4%*		*50 - 150 %*	*"*			*"*	
4-BFB (PID)			*96.4%*		*53 - 142 %*	*"*			*"*	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0367-02 (P-1B-14)		**Soil**			**Sampled: 06/14/06 09:27**					
Diesel Range Hydrocarbons	NWTPH-Dx	**4590**	-----	223	mg/kg dry	20x	6F16055	06/16/06 14:38	06/19/06 19:02	
Lube Oil Range Hydrocarbons	"	ND	-----	559	"	"	"	"	"	
Surrogate(s): 2-FBP		*306%*			*50 - 150 %*	"			"	***SR-4***
Octacosane		*141%*			*50 - 150 %*	"			"	
BPF0367-04 (P-1B-16)		**Soil**			**Sampled: 06/14/06 09:48**					
Diesel Range Hydrocarbons	NWTPH-Dx	**1660**	-----	113	mg/kg dry	10x	6F16055	06/16/06 14:38	06/19/06 19:30	
Lube Oil Range Hydrocarbons	"	ND	-----	282	"	"	"	"	"	
Surrogate(s): 2-FBP		*162%*			*50 - 150 %*	"			"	***SR-4***
Octacosane		*108%*			*50 - 150 %*	"			"	
BPF0367-05 (P-10-12)		**Soil**			**Sampled: 06/14/06 13:50**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	10.6	mg/kg dry	1x	6F16055	06/16/06 14:38	06/19/06 19:45	
Lube Oil Range Hydrocarbons	"	ND	-----	26.5	"	"	"	"	"	
Surrogate(s): 2-FBP		*79.9%*			*50 - 150 %*	"			"	
Octacosane		*77.8%*			*50 - 150 %*	"			"	
BPF0367-06 (P-10-15)		**Soil**			**Sampled: 06/14/06 14:19**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	10.4	mg/kg dry	1x	6F16055	06/16/06 14:38	06/19/06 14:31	
Lube Oil Range Hydrocarbons	"	ND	-----	25.9	"	"	"	"	"	
Surrogate(s): 2-FBP		*85.3%*			*50 - 150 %*	"			"	
Octacosane		*80.2%*			*50 - 150 %*	"			"	
BPF0367-07 (P-10-16)		**Soil**			**Sampled: 06/14/06 14:40**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	11.6	mg/kg dry	1x	6F16055	06/16/06 14:38	06/19/06 20:11	
Lube Oil Range Hydrocarbons	"	ND	-----	29.0	"	"	"	"	"	
Surrogate(s): 2-FBP		*79.4%*			*50 - 150 %*	"			"	
Octacosane		*76.1%*			*50 - 150 %*	"			"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Physical Parameters by APHA/ASTM/EPA Methods

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Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0367-02 (P-1B-14)		**Soil**				**Sampled: 06/14/06 09:27**				
Dry Weight	BSOPSPL003R08	**88.9**	-----	1.00	%	1x	6F16059	06/16/06 14:44	06/19/06 00:00	
BPF0367-04 (P-1B-16)		**Soil**				**Sampled: 06/14/06 09:48**				
Dry Weight	BSOPSPL003R08	**89.9**	-----	1.00	%	1x	6F16059	06/16/06 14:44	06/19/06 00:00	
BPF0367-05 (P-10-12)		**Soil**				**Sampled: 06/14/06 13:50**				
Dry Weight	BSOPSPL003R08	**93.6**	-----	1.00	%	1x	6F16059	06/16/06 14:44	06/19/06 00:00	
BPF0367-06 (P-10-15)		**Soil**				**Sampled: 06/14/06 14:19**				
Dry Weight	BSOPSPL003R08	**94.8**	-----	1.00	%	1x	6F16059	06/16/06 14:44	06/19/06 00:00	
BPF0367-07 (P-10-16)		**Soil**				**Sampled: 06/14/06 14:40**				
Dry Weight	BSOPSPL003R08	**86.9**	-----	1.00	%	1x	6F16060	06/16/06 14:44	06/19/06 00:00	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F16026 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F16026-BLK1)								**Extracted: 06/16/06 10:12**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	06/16/06 12:58	
Benzene	"	ND	---	0.0300	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 88.3%*			*Limits: 50-150%*	"							*06/16/06 12:58*	
4-BFB (PID)		*106%*			*53-142%*	"							"	
LCS (6F16026-BS1)								**Extracted: 06/16/06 10:12**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	44.7	---	5.00	mg/kg wet	1x	--	50.0	89.4%	(75-125)	--	--	06/16/06 13:59	
Benzene	"	0.570	---	0.0300	"	"	--	0.482	118%	"	--	--	"	
Toluene	"	3.32	---	0.0500	"	"	--	4.18	79.4%	"	--	--	"	
Ethylbenzene	"	0.750	---	0.0500	"	"	--	0.838	89.5%	"	--	--	"	
Xylenes (total)	"	4.04	---	0.100	"	"	--	4.82	83.8%	"	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 100%*			*Limits: 50-150%*	"							*06/16/06 13:59*	
4-BFB (PID)		*103%*			*53-142%*	"							"	
Duplicate (6F16026-DUP1)					**QC Source: BPF0231-02**			**Extracted: 06/16/06 10:12**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.31	mg/kg dry	1x	ND	--	--	--	10.6%	(40)	06/16/06 15:30	
Benzene	"	ND	---	0.0259	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0431	"	"	ND	--	--	--	82.9%	"	"	RP-4
Ethylbenzene	"	ND	---	0.0431	"	"	ND	--	--	--	83.6%	"	"	RP-4
Xylenes (total)	"	ND	---	0.0862	"	"	ND	--	--	--	106%	"	"	RP-4
Surrogate(s): 4-BFB (FID)		*Recovery: 90.3%*			*Limits: 50-150%*	"							*06/16/06 15:30*	
4-BFB (PID)		*106%*			*53-142%*	"							"	
Duplicate (6F16026-DUP2)					**QC Source: BPF0367-05**			**Extracted: 06/16/06 10:12**						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.77	mg/kg dry	1x	ND	--	--	--	67.5%	(40)	06/17/06 00:35	RP-4
Benzene	"	ND	---	0.0286	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0477	"	"	ND	--	--	--	10.9%	"	"	
Ethylbenzene	"	ND	---	0.0477	"	"	ND	--	--	--	58.5%	"	"	RP-4
Xylenes (total)	"	ND	---	0.0953	"	"	ND	--	--	--	10.1%	"	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 92.3%*			*Limits: 50-150%*	"							*06/17/06 00:35*	
4-BFB (PID)		*107%*			*53-142%*	"							"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F16026 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (6F16026-MS1)					**QC Source: BPF0231-02**				**Extracted: 06/16/06 10:12**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	41.7	---	4.31	mg/kg dry	1x	0.836	43.1	94.8%	(42-125)	--	--	06/16/06 18:02	
Benzene	"	0.497	---	0.0259	"	"	ND	0.416	119%	(45-125)	--	--	"	
Toluene	"	2.89	---	0.0431	"	"	0.0206	3.60	79.7%	(55-125)	--	--	"	
Ethylbenzene	"	0.660	---	0.0431	"	"	0.0106	0.722	89.9%	(53-132)	--	--	"	
Xylenes (total)	"	3.52	---	0.0862	"	"	0.0431	4.16	83.6%	(59-125)	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 106%*			*Limits: 50-150%*	"							*06/16/06 18:02*	
4-BFB (PID)		*105%*			*53-142%*	"							"	

QC Batch: 6F19035 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F19035-BLK1)									**Extracted: 06/19/06 10:34**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	06/19/06 12:07	
Benzene	"	ND	---	0.0300	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 92.7%*			*Limits: 50-150%*	"							*06/19/06 12:07*	
4-BFB (PID)		*102%*			*53-142%*	"							"	
LCS (6F19035-BS1)									**Extracted: 06/19/06 10:34**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	44.8	---	5.00	mg/kg wet	1x	--	50.0	89.6%	(75-125)	--	--	06/19/06 12:38	
Benzene	"	0.574	---	0.0300	"	"	--	0.482	119%	"	--	--	"	
Toluene	"	3.37	---	0.0500	"	"	--	4.18	80.6%	"	--	--	"	
Ethylbenzene	"	0.750	---	0.0500	"	"	--	0.838	89.5%	"	--	--	"	
Xylenes (total)	"	4.05	---	0.100	"	"	--	4.82	84.0%	"	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 101%*			*Limits: 50-150%*	"							*06/19/06 12:38*	
4-BFB (PID)		*104%*			*53-142%*	"							"	
Duplicate (6F19035-DUP1)					**QC Source: BPF0354-02**				**Extracted: 06/19/06 10:34**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.62	mg/kg dry	1x	ND	--	--	--	15.1%	(40)	06/19/06 14:31	
Benzene	"	ND	---	0.0277	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0462	"	"	ND	--	--	--	19.6%	"	"	
Ethylbenzene	"	ND	---	0.0462	"	"	ND	--	--	--	4.35%	"	"	
Xylenes (total)	"	ND	---	0.0924	"	"	ND	--	--	--	47.0%	"	"	RP-4
Surrogate(s): 4-BFB (FID)		*Recovery: 89.9%*			*Limits: 50-150%*	"							*06/19/06 14:31*	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F19035 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (6F19035-DUP1)					**QC Source: BPF0354-02**								**Extracted: 06/19/06 10:34**	
Surrogate(s): 4-BFB (PID)		*Recovery: 104%*			*Limits: 53-142%*	*1x*							*06/19/06 14:31*	
Matrix Spike (6F19035-MS1)					**QC Source: BPF0354-02**								**Extracted: 06/19/06 10:34**	
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	43.0	---	4.62	mg/kg dry	1x	0.868	46.2	91.2%	(42-125)	--	--	06/19/06 18:02	
Benzene	"	0.517	---	0.0277	"	"	ND	0.446	116%	(45-125)	--	--	"	
Toluene	"	3.07	---	0.0462	"	"	0.0151	3.86	79.1%	(55-125)	--	--	"	
Ethylbenzene	"	0.698	---	0.0462	"	"	0.00564	0.774	89.5%	(53-132)	--	--	"	
Xylenes (total)	"	3.76	---	0.0924	"	"	0.0255	4.46	83.7%	(59-125)	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 105%*			*Limits: 50-150%*	*"*							*06/19/06 18:02*	
4-BFB (PID)		*106%*			*53-142%*	*"*							*"*	

QC Batch: 6F20031 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F20031-BLK1)													**Extracted: 06/20/06 09:28**	
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	06/20/06 11:17	
Benzene	"	ND	---	0.0300	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 92.0%*			*Limits: 50-150%*	*"*							*06/20/06 11:17*	
4-BFB (PID)		*95.3%*			*53-142%*	*"*							*"*	
LCS (6F20031-BS1)													**Extracted: 06/20/06 09:28**	
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	51.2	---	5.00	mg/kg wet	1x	--	50.0	102%	(75-125)	--	--	06/20/06 11:46	
Benzene	"	0.592	---	0.0300	"	"	--	0.482	123%	"	--	--	"	
Toluene	"	3.44	---	0.0500	"	"	--	4.18	82.3%	"	--	--	"	
Ethylbenzene	"	0.715	---	0.0500	"	"	--	0.838	85.3%	"	--	--	"	
Xylenes (total)	"	3.88	---	0.100	"	"	--	4.82	80.5%	"	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 103%*			*Limits: 50-150%*	*"*							*06/20/06 11:46*	
4-BFB (PID)		*92.0%*			*53-142%*	*"*							*"*	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F20031 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (6F20031-DUP1)					**QC Source: BPF0367-07**				**Extracted: 06/20/06 09:28**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.05	mg/kg dry	1x	ND	--	--	--	8.00%	(40)	06/20/06 12:44	
Benzene	"	ND	---	0.0303	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0505	"	"	ND	--	--	--	35.2%	"	"	RP-4
Ethylbenzene	"	ND	---	0.0505	"	"	ND	--	--	--	4.51%	"	"	
Xylenes (total)	"	ND	---	0.101	"	"	ND	--	--	--	4.99%	"	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 91.7%*			*Limits: 50-150%*	"							*06/20/06 12:44*	
4-BFB (PID)		*96.7%*			*53-142%*	"							"	
Matrix Spike (6F20031-MS1)					**QC Source: BPF0367-07**				**Extracted: 06/20/06 09:28**					A-01
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	52.4	---	5.05	mg/kg dry	1x	1.30	50.5	101%	(42-125)	--	--	06/21/06 10:42	
Benzene	"	0.605	---	0.0303	"	"	ND	0.487	124%	(45-125)	--	--	"	
Toluene	"	3.51	---	0.0505	"	"	0.0147	4.22	82.8%	(55-125)	--	--	"	
Ethylbenzene	"	0.731	---	0.0505	"	"	0.00793	0.846	85.5%	(53-132)	--	--	"	
Xylenes (total)	"	3.95	---	0.101	"	"	0.0226	4.87	80.6%	(59-125)	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 102%*			*Limits: 50-150%*	"							*06/21/06 10:42*	
4-BFB (PID)		*91.1%*			*53-142%*	"							"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F16055 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F16055-BLK1)									**Extracted: 06/16/06 14:38**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	06/19/06 12:40	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 96.3%*			*Limits: 50-150%*	"							*06/19/06 12:40*	
Octacosane		*86.7%*			*50-150%*	"							"	
LCS (6F16055-BS1)									**Extracted: 06/16/06 14:38**					
Diesel Range Hydrocarbons	NWTPH-Dx	59.1	---	10.0	mg/kg wet	1x	--	66.7	88.6%	(61-120)	--	--	06/19/06 13:05	
Surrogate(s): 2-FBP		*Recovery: 106%*			*Limits: 50-150%*	"							*06/19/06 13:05*	
Octacosane		*84.2%*			*50-150%*	"							"	
Duplicate (6F16055-DUP1)					**QC Source: BPF0389-03**				**Extracted: 06/16/06 14:38**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	11.0	mg/kg dry	1x	ND	--	--	--	NR	(50)	06/19/06 13:34	
Lube Oil Range Hydrocarbons	"	ND	---	27.5	"	"	ND	--	--	--	NR	"	"	
Surrogate(s): 2-FBP		*Recovery: 82.9%*			*Limits: 50-150%*	"							*06/19/06 13:34*	
Octacosane		*75.2%*			*50-150%*	"							"	
Duplicate (6F16055-DUP2)					**QC Source: BPF0367-06**				**Extracted: 06/16/06 14:38**					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.5	mg/kg dry	1x	ND	--	--	--		(50)	06/19/06 13:49	
Lube Oil Range Hydrocarbons	"	ND	---	26.4	"	"	ND	--	--	--		"	"	
Surrogate(s): 2-FBP		*Recovery: 79.4%*			*Limits: 50-150%*	"							*06/19/06 13:49*	
Octacosane		*80.3%*			*50-150%*	"							"	
Matrix Spike (6F16055-MS1)					**QC Source: BPF0389-03**				**Extracted: 06/16/06 14:38**					
Diesel Range Hydrocarbons	NWTPH-Dx	58.2	---	11.2	mg/kg dry	1x	ND	74.4	78.2%	(45-144)	--	--	06/19/06 14:16	
Surrogate(s): 2-FBP		*Recovery: 93.7%*			*Limits: 50-150%*	"							*06/19/06 14:16*	
Octacosane		*75.4%*			*50-150%*	"							"	

TestAmerica - Seattle, WA

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F16059 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F16059-BLK1)													**Extracted: 06/16/06 14:44**	
Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	06/19/06 00:00	

QC Batch: 6F16060 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F16060-BLK1)													**Extracted: 06/16/06 14:44**	
Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	06/19/06 00:00	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/23/06 17:11

Notes and Definitions

Report Specific Notes:

A-01	-	Sample was shot between ccvs that were 12 hours 30 minutes apart.
I-06	-	The analyte concentration may be artificially elevated due to coeluting compounds or components.
RP-4	-	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
SR-4	-	Due to sample matrix effects, the surrogate recovery was outside laboratory control limits.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: BPF0367

CLIENT: SAIC

INVOICE TO: Chevron

REPORT TO: Peter Catterall
ADDRESS: 18912 North Creek PKwy
Bothell, WA 98011

PHONE: 425-485-5500 FAX: 425-485-5566

P.O. NUMBER:

PROJECT NAME: Metro / Seattle

PROJECT NUMBER: CVX 100-1327

SAMPLED BY: Simon Kline

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: [X] STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION Sample name	LOC ID	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: 8260 EPA 5035	NWTPH-Gx	NWTPH-Dx w/SG clean up	cPAHs	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	QA-1	QA	6/14/06 0805		X	X			W	1		01
2	P-1B-14	P-1B	0927		X	X	X		S	2		02
3	FB-061406	FB	0928		X	X			W	1		03
4	P-1B-16	P-1B	0948		X	X	X		S	2		04
5	P-10-12	P-10	1350		X	X	X		S	2		05
6	P-10-15	P-10	1419		X	X	X		S	2		06
7	P-10-16	P-10	1440		X	X	X					07
8												
9												
10												

RELEASED BY: Tina Kline
PRINT NAME: Tina Kline
FIRM: SAIC
DATE: 6/14/06
TIME: 1730

RECEIVED BY: Bethy Cramble
PRINT NAME: Bethy Cramble
FIRM: TMS
DATE: 6/14/06
TIME: 17:30

RELEASED BY:
PRINT NAME:
FIRM:
DATE:
TIME:

RECEIVED BY:
PRINT NAME:
FIRM:
DATE:
TIME:

ADDITIONAL REMARKS:

TEMP: 4-2°

COC REV 09/2004

PAGE 1 OF 1

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June 21, 2006

Peter Catterall
SAIC - Bothell
18912 North Creek Parkway South, Suite 101
Bothell, WA/USA 98011

RE: Metro #100-1327

Enclosed are the results of analyses for samples received by the laboratory on 06/13/06 12:01. The following list is a summary of the Work Orders contained in this report, generated on 06/21/06 15:54.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BPF0309	Metro #100-1327	100-1327

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400
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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
QA-1	BPF0309-01	Soil	06/13/06 08:15	06/13/06 12:01
P-7-14.5	BPF0309-02	Soil	06/13/06 08:50	06/13/06 12:01
P-8-14.5	BPF0309-03	Soil	06/13/06 10:14	06/13/06 12:01

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Sandra Yakamavich

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SAIC - Bothell	Project Name: **Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number: 100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager: Peter Catterall	06/21/06 15:54

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0309-01 (QA-1)		**Soil**				**Sampled: 06/13/06 08:15**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.00	mg/kg wet	1x	6F16026	06/16/06 10:12	06/16/06 21:04	
Benzene	"	ND	-----	0.0300	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*92.7%*			*50 - 150 %*	"			"	
4-BFB (PID)		*104%*			*53 - 142 %*	"			"	
BPF0309-02 (P-7-14.5)		**Soil**				**Sampled: 06/13/06 08:50**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.25	mg/kg dry	1x	6F16026	06/16/06 10:12	06/16/06 16:31	
Benzene	"	ND	-----	0.0315	"	"	"	"	"	
Toluene	"	ND	-----	0.0525	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0525	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.105	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*89.5%*			*50 - 150 %*	"			"	
4-BFB (PID)		*107%*			*53 - 142 %*	"			"	
BPF0309-03 (P-8-14.5)		**Soil**				**Sampled: 06/13/06 10:14**				
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	-----	5.32	mg/kg dry	1x	6F16026	06/16/06 10:12	06/16/06 17:01	
Benzene	"	ND	-----	0.0319	"	"	"	"	"	
Toluene	"	ND	-----	0.0532	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0532	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.106	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)		*89.7%*			*50 - 150 %*	"			"	
4-BFB (PID)		*107%*			*53 - 142 %*	"			"	

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0309-02 (P-7-14.5)		**Soil**					**Sampled: 06/13/06 08:50**			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	12.1	mg/kg dry	1x	6F14050	06/14/06 14:49	06/15/06 12:36	
Lube Oil Range Hydrocarbons	"	ND	-----	30.3	"	"	"	"	"	
Surrogate(s): 2-FBP		*94.3%*			*50 - 150 %*	"			"	
Octacosane		*92.9%*			*50 - 150 %*	"			"	
BPF0309-03 (P-8-14.5)		**Soil**					**Sampled: 06/13/06 10:14**			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-----	11.7	mg/kg dry	1x	6F14050	06/14/06 14:49	06/15/06 13:05	
Lube Oil Range Hydrocarbons	"	ND	-----	29.3	"	"	"	"	"	
Surrogate(s): 2-FBP		*92.0%*			*50 - 150 %*	"			"	
Octacosane		*92.8%*			*50 - 150 %*	"			"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0309-02 (P-7-14.5)		**Soil**				**Sampled: 06/13/06 08:50**				
Dry Weight	BSOPSPL003R08	**82.8**	-----	1.00	%	1x	6F14056	06/14/06 15:31	06/15/06 00:00	
BPF0309-03 (P-8-14.5)		**Soil**				**Sampled: 06/13/06 10:14**				
Dry Weight	BSOPSPL003R08	**84.6**	-----	1.00	%	1x	6F14056	06/14/06 15:31	06/15/06 00:00	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F16026 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F16026-BLK1)							**Extracted: 06/16/06 10:12**							
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	06/16/06 12:58	
Benzene	"	ND	---	0.0300	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 88.3%*			*Limits: 50-150%*	"							*06/16/06 12:58*	
4-BFB (PID)		*106%*			*53-142%*	"							"	
LCS (6F16026-BS1)							**Extracted: 06/16/06 10:12**							
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	44.7	---	5.00	mg/kg wet	1x	--	50.0	89.4%	(75-125)	--	--	06/16/06 13:59	
Benzene	"	0.570	---	0.0300	"	"	--	0.482	118%	"	--	--	"	
Toluene	"	3.32	---	0.0500	"	"	--	4.18	79.4%	"	--	--	"	
Ethylbenzene	"	0.750	---	0.0500	"	"	--	0.838	89.5%	"	--	--	"	
Xylenes (total)	"	4.04	---	0.100	"	"	--	4.82	83.8%	"	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 100%*			*Limits: 50-150%*	"							*06/16/06 13:59*	
4-BFB (PID)		*103%*			*53-142%*	"							"	
Duplicate (6F16026-DUP1)					**QC Source: BPF0231-02**		**Extracted: 06/16/06 10:12**							
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.31	mg/kg dry	1x	ND	--	--	--	10.6%	(40)	06/16/06 15:30	
Benzene	"	ND	---	0.0259	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0431	"	"	ND	--	--	--	82.9%	"	"	RP-4
Ethylbenzene	"	ND	---	0.0431	"	"	ND	--	--	--	83.6%	"	"	RP-4
Xylenes (total)	"	ND	---	0.0862	"	"	ND	--	--	--	106%	"	"	RP-4
Surrogate(s): 4-BFB (FID)		*Recovery: 90.3%*			*Limits: 50-150%*	"							*06/16/06 15:30*	
4-BFB (PID)		*106%*			*53-142%*	"							"	
Duplicate (6F16026-DUP2)					**QC Source: BPF0367-05**		**Extracted: 06/16/06 10:12**							
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.77	mg/kg dry	1x	ND	--	--	--	67.5%	(40)	06/17/06 00:35	RP-4
Benzene	"	ND	---	0.0286	"	"	ND	--	--	--	NR	(35)	"	
Toluene	"	ND	---	0.0477	"	"	ND	--	--	--	10.9%	"	"	
Ethylbenzene	"	ND	---	0.0477	"	"	ND	--	--	--	58.5%	"	"	RP-4
Xylenes (total)	"	ND	---	0.0953	"	"	ND	--	--	--	10.1%	"	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 92.3%*			*Limits: 50-150%*	"							*06/17/06 00:35*	
4-BFB (PID)		*107%*			*53-142%*	"							"	

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F16026 **Soil Preparation Method: EPA 5030B (MeOH)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (6F16026-MS1)					**QC Source: BPF0231-02**				**Extracted: 06/16/06 10:12**					
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	41.7	---	4.31	mg/kg dry	1x	0.836	43.1	94.8%	(42-125)	--	--	06/16/06 18:02	
Benzene	"	0.497	---	0.0259	"	"	ND	0.416	119%	(45-125)	--	--	"	
Toluene	"	2.89	---	0.0431	"	"	0.0206	3.60	79.7%	(55-125)	--	--	"	
Ethylbenzene	"	0.660	---	0.0431	"	"	0.0106	0.722	89.9%	(53-132)	--	--	"	
Xylenes (total)	"	3.52	---	0.0862	"	"	0.0431	4.16	83.6%	(59-125)	--	--	"	
Surrogate(s): 4-BFB (FID)		*Recovery: 106%*			*Limits: 50-150%*	"							*06/16/06 18:02*	
4-BFB (PID)		*105%*			*53-142%*	"							"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F14050 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F14050-BLK1)								**Extracted: 06/14/06 14:49**						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	06/15/06 10:37	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2-FBP		*Recovery: 94.0%*			*Limits: 50-150%*	"							*06/15/06 10:37*	
Octacosane		*95.1%*			*50-150%*	"							"	
LCS (6F14050-BS1)								**Extracted: 06/14/06 14:49**						
Diesel Range Hydrocarbons	NWTPH-Dx	65.6	---	10.0	mg/kg wet	1x	--	66.7	98.4%	(61-120)	--	--	06/15/06 11:07	
Surrogate(s): 2-FBP		*Recovery: 104%*			*Limits: 50-150%*	"							*06/15/06 11:07*	
Octacosane		*95.3%*			*50-150%*	"							"	
Duplicate (6F14050-DUP1)					**QC Source: BPF0309-02**			**Extracted: 06/14/06 14:49**						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	12.0	mg/kg dry	1x	ND	--	--	--	NR	(50)	06/15/06 11:36	
Lube Oil Range Hydrocarbons	"	ND	---	30.1	"	"	ND	--	--	--	NR	"	"	
Surrogate(s): 2-FBP		*Recovery: 89.7%*			*Limits: 50-150%*	"							*06/15/06 11:36*	
Octacosane		*93.0%*			*50-150%*	"							"	
Matrix Spike (6F14050-MS1)					**QC Source: BPF0309-02**			**Extracted: 06/14/06 14:49**						
Diesel Range Hydrocarbons	NWTPH-Dx	75.8	---	12.1	mg/kg dry	1x	ND	80.8	93.8%	(45-144)	--	--	06/15/06 12:06	
Surrogate(s): 2-FBP		*Recovery: 97.7%*			*Limits: 50-150%*	"							*06/15/06 12:06*	
Octacosane		*93.7%*			*50-150%*	"							"	

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
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Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F14056 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F14056-BLK1)								**Extracted: 06/14/06 15:31**						
Dry Weight	BSOPSPL00 3R08	99.8	---	1.00	%	1x	--	--	--	--	--	--	06/15/06 00:00	

TestAmerica - Seattle, WA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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SAIC - Bothell	Project Name:	**Metro #100-1327**	
18912 North Creek Parkway South, Suite 101	Project Number:	100-1327	Report Created:
Bothell, WA/USA 98011	Project Manager:	Peter Catterall	06/21/06 15:54

Notes and Definitions

Report Specific Notes:

RP-4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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CHAIN OF CUSTODY REPORT

Work Order #: BPF0367

CLIENT: SAIC

INVOICE TO: Chevron

REPORT TO: Peter Catterall
ADDRESS: 18912 North Creek PKwy
Bothell, WA 98011

PHONE: 425-485-5500 FAX: 425-485-5566

P.O. NUMBER:

PROJECT NAME: Metro / Seattle

PROJECT NUMBER: CVX 100-1327

SAMPLED BY: Simon Kline

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: [X] STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION Sample name	LOC ID	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: 8260 EPA 5035	NWTPH-Gx	NWTPH-Dx w/SG clean up	cPAHs	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	QA-1	QA	6/14/06 0805		X	X			W	1		01
2	P-1B-14	P-1B	0927		X	X	X		S	2		02
3	FB-061406	FB	0928		X	X			W	1		03
4	P-1B-16	P-1B	0948		X	X	X		S	2		04
5	P-10-12	P-10	1350		X	X	X		S	2		05
6	P-10-15	P-10	1419		X	X	X		S	2		06
7	P-10-16	P-10	1440		X	X	X					07
8												
9												
10												

RELEASED BY: Tina Kline
PRINT NAME: Tina Kline
FIRM: SAIC
DATE: 6/14/06
TIME: 1730

RECEIVED BY: Bethy Cramble
PRINT NAME: Bethy Cramble
FIRM: TMS
DATE: 6/14/06
TIME: 17:30

RELEASED BY:
PRINT NAME:
FIRM:
DATE:
TIME:

RECEIVED BY:
PRINT NAME:
FIRM:
DATE:
TIME:

ADDITIONAL REMARKS:

TEMP: 4-2°

COC REV 09/2004

PAGE 1 OF 1