PHASE I REPORT AND
PHASE 2 FIELD SAMPLING APPROACH

GASCO SILTRONIC GROUNDWATER SOURCE EVALUATION

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Phase I Report and
Phase 2 Field Sampling Approach

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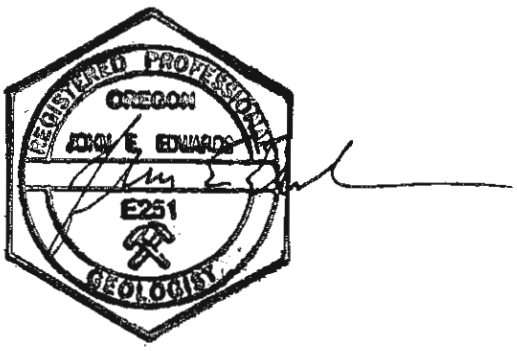
The material and data in this report were prepared under the supervision and direction of the undersigned.



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1 INTRODUCTION

1.1 Background

The Phase 1 investigation was conducted along the shoreline of the NW Natural Gasco, and Siltronic properties (Site) to further evaluate the nature and extent of contamination in groundwater and Willamette River sediments. The Phase 2 Sampling Approach is the proposed scope of work to complete this in-water study. The Site Vicinity is shown on Figure 1. General features of the Gasco and Siltronic properties are shown on Figure 2.

Information from the Phase 1 investigation is being used in NW Natural's Groundwater/NAPL Source Control Pilot Program. Specifically the information is being used to assist the design of the shoreline pilot extraction wells and in evaluating the feasibility of a shoreline subsurface barrier. A report of that work, *Groundwater Pilot Program Extraction Well and Performance Evaluation Design Report,* is scheduled for delivery to DEQ in May, 2007.

1.2 Objectives

The primary objectives of the Phase 1 investigation were presented in the *Final Phase I Field Sampling Approach, Gasco Siltronic Groundwater Source Evaluation* (Anchor, 2006) (Phase I Workplan), and are repeated below.

1. Determine how the vertical and lateral extent of chemicals in groundwater along the shoreline may be related to chemical concentrations that have already been measured in upland groundwater.
2. Define the general nature of the subsurface geotechnical conditions along the shoreline to inform feasibility of all potential source control alternatives, including a potential vertical barrier.

As described in Section 2 of this Report, these objectives were accomplished through sampling and laboratory testing of subsurface sediment and groundwater collected from borings along the shoreline.

As stated in the Phase 1 Workplan, the primary objectives of the Phase 2 offshore investigation are to understand:

1. How the vertical and lateral extent of chemicals in groundwater beneath the river and transition zone water may be related to chemical concentrations measured in

upland groundwater. This will be accomplished through sampling and laboratory testing of offshore groundwater and transition zone water.

2. How groundwater and transition zone water concentrations may be related to direct historical deposition of materials in the river. This will be accomplished through sampling and chemical analysis of bulk sediment and observations of waste material potentially present in those river sediments.
3. Determine if the chemical concentrations in the biologically active transition zone water in navigation channel sediments have been directly impacted by historical deposition of waste materials in the river. This will be accomplished through collection of transition zone water and sediment for chemical analyses.

Groundwater vertical gradients offshore influence the groundwater flow system beneath the river and may affect the direction of chemical movement from source areas. The Phase I Workplan identified a possible need to measure groundwater vertical gradients in Willamette River sediments to help define groundwater flow patterns. A technically sound method for measuring the change in groundwater vertical gradient with depth in Willamette River sediments has not been found. Until an acceptable method is found, NW Natural intends to define groundwater flow patterns in Willamette River sediments by assessing the concentration patterns of MGP-related chemicals of potential concern (COPC). The Phase 2 investigation study design and sampling plan are described in Section 3 of this Report.

2 PHASE 1 INVESTIGATION

2.1 Workplan Development and Permitting

The September 2006 Phase I Workplan describes in detail the intended Phase I investigation. Subsequent discussions and meetings with DEQ led to several modifications to the Phase I Workplan. The modifications were documented in the sequence of communications and documents listed below. The documents are reproduced for reference in Appendix A.

- September 19, 2006, *SOP for Discrete Depth Groundwater Sampling,* Anchor Memorandum from John Edwards to Matt McClincy
- September 25, 2006, *Final Phase I Field Sampling Approach Groundwater Source Evaluation Northwest Natural Gas Company Site*, DEQ letter from Matt McClincy to Bob Wyatt
- September 29, 2006, *Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon*, Anchor letter from John Edwards to Dana Bayuk
- October 4, 2006, *NWNG, Phase I Off-Shore FSA Telephone Discussions*, e-mail from Dana Bayuk to John Edwards
- December 6, 2006, *Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon*, Anchor letter from John Edwards to Dana Bayuk
- December 20, 2006, *Location of Gasco Offshore Boring GS-06 Adjacent to Pilot Cap Area*, Anchor letter from John Edwards to Matt McClincy
- December 28, 2006, *Addendum 2, Final Phase I Field Sampling Approach, Groundwater Source Evaluation, Northwest Natural Gas Company Site, Portland, Oregon, ECSI No. 84*, DEQ letter from Matt McClincy to Bob Wyatt.

The Phase I samples of groundwater and sediment were obtained using a Rotosonic drill rig operating at the Willamette River shoreline. The following environmental permits and approvals covering Phases 1 and 2 of the work were obtained prior to conducting the work.

- State of Oregon Department of State Lands Temporary Use Permit For Remedial Work, October 4, 2006
- DSL Permit Waiver No. 37238-PW, September 28, 2006

- Department of the Army, Portland District, Corps of Engineers, Letter Authorization Regional General Permit, September 20, 2006

Copies of the above listed documents are in Appendix B.

2.2 Field Sampling

The Phase I investigation consisted of thirteen borings, GS-00 through GS-12. The boring locations are shown on Figure 3.

All in water work was limited to the in-water work windows from July 1 to October 31, 2006, and from December 1, 2006 to January 31, 2007. These work windows applied to borings GS-1 through GS-12 drilled along the shoreline. The work windows did not apply to boring GS-00, which was drilled at a location on the Site upland that is above Ordinary High Water elevation. Borings GS-5, -7, -8, and -9 were completed in October 2006. Boring GS-00 was completed in November 2006. Borings GS-1, -2, -3, -4, -6, -10, -11, and -12 were completed in December 2006 and January 2007.

Field activities were conducted in accordance with the Phase I Workplan as modified by the documents described in Section 2.1. The groundwater and sediment samples were obtained with a Rotosonic drill rig operated by Pro-Sonic drilling company. All except two of the shoreline borings were completed with the drill mounted on a barge. The barge operator was Diversified Marine, Incorporated. The barge was not needed for borings GS-05 and GS-08, where the drill was set up on beach locations above the daily tidal range. Photos of the drill rig set up on the barge and at beach locations are in Appendix F.

Anchor geologists and technical staff monitored the field activities. Photos of groundwater sampling activities are in Appendix F. Field data sheets that document the daily sampling activities are in Appendix D. A table summarizing the groundwater quality field measurements obtained in each boring is also in Appendix D. Willamette River water quality observations and measurements were made upstream and downstream of the barge in accordance with the environmental permits in Appendix B. The river water quality daily monitoring logs are in Appendix E.

Oregon DEQ personnel, and/or representatives of DEQ's contractor, Ecology & Environment, Inc., were present during sampling activities. Split sediment and duplicate groundwater samples were provided to DEQ and Ecology & Environment, Inc. personnel. The lab results from testing those samples have not yet been provided to NW Natural.

Contaminated water from drilling, sampling, and equipment decontamination activities was contained in an upland tank managed by field personnel from Cherokee General Corporation. The water was pumped from the tank to the onsite carbon treatment system. The sediment waste derived from drilling operations is currently contained in a drop box on the Site. Characterization of the sediment waste is in progress to determine the appropriate offsite disposal option.

Following logging of the sediment core by Anchor geologists, the core was placed in wooden core boxes and placed in a walk-in Conex box for temporary site storage. Photos of core logging are in Appendix F. Field personnel from Hahn and Associates, Inc. (HAI) later screened the sediment cores for the presence of Non Aqueous Phase Liquid (NAPL) and tar. At the time of this Report, the sediment core and core boxes are still in temporary storage at the Site. NW Natural intends to dispose of the sediment in the core boxes by the end of May 2007, unless there is a written request from DEQ to retain the core for a specified time period.

2.3 Laboratory Testing and Data Validation

As documented in the Field Data Sheets (Appendix D), Anchor personnel prepared the daily water and sediment samples for Columbia Analytical Services, Inc (CAS), the project testing laboratory. CAS staff picked up the ice chests daily for transport to the CAS lab in Kelso, Washington. The chain of custody forms are in Appendix D. The CAS lab reports are provided on a DVD in Appendix H.

Table 1 is a comprehensive list of the laboratory analyses requested for groundwater samples submitted to CAS. Table 2a provides the same information for the sediment samples submitted to CAS. Table 2b is a list of the sediment samples submitted for testing of physical properties, such as grain size.

Final laboratory data packages were reviewed by both Anchor personnel and Laboratory Data Consultants, Inc. (LDC) of Carlsbad, California. The following documents were used as guidelines to validate each analytical methodology:

- The Phase I Workplan
- EPA SW 846 Third Edition, Test Methods for Evaluating Solid Waste, Update1, July 1992; update IIA, August IIA, August 1993; update II, September 1994; update IIB. January 1995; update III, December 1996; update IIIA, April 1998.
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. October 1999
- USEPA Contract laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
- PSEP/PSDDA – were any of these methods run if so insert reference
- American Standard Test Methods

A preliminary validation review was performed upon receipt of the data package by Anchor personnel. The preliminary data review allows the data to be evaluated quickly so that an expedited determination of acceptability of data could be made in case reanalysis is required. The following criteria are included in the preliminary data review:

- chain-of-custody
- data completeness
- holding times
- data format (e.g., significant figures, units)
- QA sample summaries (blanks, matrix spikes, matrix spike duplicates and/or laboratory replicates/duplicates)

Once the reviewed package was approved, it was forwarded to LDC for final validation. The final data validation process consists of a highly detailed and rigorous data review. The validation is designed to evaluate the data's usability, acceptability and bias that may exist in the data. The data packages submitted for validation were reviewed for the following QA criteria where applicable:

- Data completeness & evidentiary audit
- Technical holding times exceedances
- Instrument Performance before, during and at the end of the analytical sequence
- GC/MS instrument performance checks

- Initial and Continuing Calibrations
- Sample Processing/Preparation and Clean-ups
- Instrument Detection Limits and Sample Quantification Limits
- Deviations from the analytical methods
- Compounds identification and confirmation
- Laboratory Calculations
- Method Blanks
- QC Sample Results
  - surrogate recoveries
  - matrix spikes, matrix spike duplicates (MS/MSD)
  - laboratory control samples and duplicates (LCS/LCSD)
  - field duplicates/replicates
  - laboratory duplicates
  - method analytical spikes (USEPA Method 7000)
- Overall Data Assessment

Data from each lab package was evaluated and documented in a data review report by LDC. All data from the LDC reviews were considered useable as qualified. Any data qualifiers applied to the data during the final validation procedure have been incorporated into the final database for this project. Copies of the data review reports can be found in Appendix G.

2.4 Findings

2.4.1 Geology

Borings GS-01 through GS-12 were located on approximate 200 ft intervals along the shoreline, as shown on Figure 3. Boring GS-00 was sited in an upland location near the north Gasco property line.

As specified in the Workplan, the odd numbered borings were drilled through the full thickness of the Alluvium to the underlying Columbia River Basalt bedrock. The even numbered borings were drilled to a maximum depth of 150 feet below mudline, or to bedrock, whichever was encountered first. The upland boring GS-00 was drilled to bedrock.

The Rotosonic drill provided continuous sediment cores, and the percent core recovery was generally quite high as indicated on the boring logs in Appendix C. Anchor geologists examined all sediment cores and the sediment descriptions are shown on the logs. Sediment samples for laboratory chemical testing and for physical property testing were obtained from the cores.

The average ground surface elevation of the shoreline borings was about 10 feet MSL. The Upland RI and this project use the City of Portland MSL datum. Previous LWG and NW Natural in-water sediment investigations have used the NAVD88 datum. The geologic sequence encountered along the shoreline consisted of a thin surface cobble/rip-rap layer, underlain by river alluvium extending down to basalt bedrock. The geologic units are shown on the subsurface profile A-A', Figure 4. The primary difference between the shoreline geologic sequence and the upland geology is the absence of the fill layer, which overlies the alluvium in the upland portion of the Site.

The lithology of the river alluvium along the shoreline is essentially the same as present under the Site upland, consisting primarily of sand to silty-sand, interbedded with silt to sandy-silt. Sieve analyses were conducted on a representative number of the sediment samples, and the grain size data are summarized on Table 5. The grain size analyses show that the upper alluvium generally consists of very fine to fine sand and the lower alluvium is predominantly medium sand. The coarsening from fine to medium sand occurs at about -50 ft MSL in the northern reach of the Gasco shoreline, and deepens to about -70 ft MSL or deeper along the southern Gasco shoreline. The upper alluvium also has a higher percentage of silt interbeds, although silt interbeds are also present in the lower alluvium.

A layer of alluvial gravel was encountered in several borings at the contact with basalt bedrock. The depth to bedrock was highly variable at the north end of the shoreline. The highest bedrock elevation of about -70 ft was encountered in boring GS-01, and the lowest bedrock elevation was about -190 ft, in boring GS-05. From GS-05 the bedrock elevation rises gradually to about -175 ft at GS-12 on the Siltronic shoreline. In many of the borings the alluvium/bedrock contact was characterized by a layer of highly weathered basalt.

2.4.2 Groundwater Quality

Per the Workplan, groundwater samples were obtained at the following planned depths below mudline in the shoreline GS borings; 4-6 ft, 9-11 ft, and at approximate 25 ft intervals to the bottom of each boring. The actual sample depth intervals varied slightly due to conditions at each boring location, and are listed on Table 1. For upland boring GS-00, the first sample was obtained at the 23-27 ft depth interval, the depth of the water table.

Table 3 lists the lab test methods and the test results for the groundwater chemistry analyses. For the purpose of describing the nature and extent of manufactured gas plant (MGP) related COPCs, this report focuses on benzene, naphthalene, total cyanide, amenable cyanide, and free cyanide.

The groundwater concentrations of benzene, naphthalene, total cyanide, amenable and free cyanide are shown on subsurface profiles 5a through 5e. The zones where NAPL was detected by field screening of the sediment cores are also shown on the Figure 5 profiles.

The NAPL and tar screening results are listed on Table 6. In addition to visual and olfactory screening, four DNAPL screening methods were implemented by HAI staff; ultraviolet light box, Sudan dye shake kit, Sudan dye lens spray, and NAPL dye liner strip. Only the ultraviolet light box proved to be an effective screening method.

Review of the Figure 5 groundwater chemistry profiles shows additional information on the conceptual site model tying the history of MGP-related materials management with the depth and concentration profile of target COPCs. The highest shoreline groundwater concentrations of petroleum-sourced COPCs, as indicated by benzene and naphthalene; are associated with the occurrence of shallow tar or NAPL in borings GS-08 (tar), -09 and -10 (NAPL). The NAPL and tar present in shallow shoreline sediments is sourced from MGP residuals that were discharged to the river, as described in the upland RI report. This can also be seen in the high benzene and naphthalene concentrations of the shallow sediments, for example in Figures 6a (benzene) and 6b

(naphthalene). The very high concentrations in sediments are mostly likely due to discharge of MGP residuals along the shoreline. Also, given the extensive dredge, fill, and movement of soils/sediments of this shoreline over time (see RI), these materials may have been re-located to varying sediment depths. The NAPL and NAPL/water mixtures identified in the sediments may have infiltrated downward into the shallow river sediments following discharge, particularly when the mudline was exposed during low tide periods.

The depth of vertical penetration of NAPL and NAPL/water mixtures was restricted by the prevalence of silty-sand and silt interbeds in the upper alluvium. The pattern of lower groundwater concentrations of benzene and naphthalene deeper in the profiles appears consistent with the concentrations of benzene and naphthalene delineated by the upland monitoring wells. The upland plumes are associated with former process or waste management areas, as depicted in the benzene and naphthalene plume patterns on Cross Section B-B′ (Appendix J).

Cyanide aquatic toxicity criteria are based on the free cyanide concentration, therefore, the free cyanide fraction of total cyanide is further assessed herein. Cyanide was tested in 92 groundwater samples from shoreline borings GS-1 to -12, representing all depths of the alluvium. Total cyanide was detected in all samples tested, but free cyanide was only detected in 11 samples. The free cyanide laboratory MRL is 10 μg/l and the method detection limit (MDL) is 5 μg/l. Free cyanide was detected at concentrations ranging from 5 to 9 μg/l. The EPA and DEQ free cyanide aquatic toxicity criteria is 5.2 μg/l. For the eleven detections, the free cyanide concentration ranged from 0.08% to 8% of the total cyanide concentration. Of the eleven samples the average free cyanide concentration was approximately 2% of the total cyanide concentration.

The concentrations and extent of cyanide species in shoreline groundwater are reflective of a somewhat different conceptual site model than the NAPL-sourced petroleum constituents. Figures 5c, 5d, and 5e show the highest concentrations of cyanide are in shallow shoreline groundwater samples from borings GS-01 to -03, and GS-06 to -07. Whereas the highest concentrations of petroleum derived COPCs were associated with the presence of shallow NAPL in borings GS-08, -09 and -10, the highest cyanide

concentrations are correlated with nearby upland spent oxide storage area (GS-01 to GS-03) or former effluent discharge area (GS-06 to GS-07). The upland RI describes a large spent oxide pile on the north shoreline. Erosion and runoff from this spent oxide storage area may have caused spent oxide materials to concentrate along the shoreline, particularly in the areas of borings GS-01 to -03. Historical effluent discharges or overflows to the shoreline area north of the tar ponds may be a cause for the observed elevated cyanide concentrations at the GS-06 to -07 locations. As noted previously, free cyanide was detected in only about 10% of the 92 groundwater samples tested, and was detected at concentrations lower than the MRL of 10%. Lower cyanide concentrations in deeper portions of the plumes appear to reflect the cyanide plume present in the upland shoreline monitoring wells, as shown on the cyanide plume map in Appendix J.

In borings GS-01 through GS-06 benzene concentrations ranged from 1 to 100 μg/l in the 4-6 ft sample interval, but the concentrations were generally below detection or less than 1 μg/l below that depth (Figure 5a). The highest benzene concentrations were detected in borings GS-08 through GS-10. Benzene concentrations up to 710 μg/l were measured in the 9-11 ft depth interval. The 100 ft sample interval in borings GS-08, -09, and -10 had benzene concentrations ranging from 76 to 310 μg/l. Below the 100 ft interval, however, the concentrations consistently drop to less than 5 μg/l, or below detection.

Figure 5b shows that the general pattern of naphthalene detections is very similar to benzene. In general the only naphthalene detections above 1 μg/l in borings GS-01 to GS-06 were in the 4-6 or 9-11 ft samples. As with benzene, the concentrations drop under 1 μg/l at depths below 100 ft in the GS-07 to -10 borings. The laboratory method reporting limit (MRL) for naphthalene is 0.02 μg/l; more than ten times lower than the benzene MRL of 0.5 μg/l. The data show that naphthalene is present throughout the saturated thickness of the alluvium.

Amenable and free cyanide concentrations are shown on Figures 5d and 5e.
By definition the amenable and free cyanide concentrations are a fraction of the total cyanide. Figure 5c shows that total cyanide is present throughout the saturated thickness of the alluvium. Total cyanide does not appear to attenuate as quickly with depth in the alluvium as benzene and naphthalene. The highest concentrations of total

cyanide were detected in the 4-6 and 9-11 ft samples in borings GS-01 to GS-03. Total cyanide concentrations ranging from 2 to 100 µg/l were detected at the base of the alluvium, just above the bedrock contact.

2.4.3 Sediment Chemistry

The sediment chemistry data are on Table 4. Figures 6a, 6b, and 6c show the concentration and extent of benzene, naphthalene, and cyanide on cross section A-A'.

Consistent with the description of the groundwater plume in Section 2.4.2, the highest concentrations of petroleum derived COPCs, as indicated by the benzene and naphthalene concentrations, are in the shallow sediments in borings GS-07 to GS-10. The high shallow benzene and naphthalene concentrations are consistent with the NAPL detections in the shallow sediment from this area of the shoreline. The results of NAPL field screening of the sediment core are listed on Table 6. Comparison of benzene concentrations on Figures 5a and 6a show that concentrations in shallow sediment are generally higher than groundwater concentrations from similar sample intervals. These sediment concentrations are much higher than would be expected from adsorption of dissolved phase grou9ndwater contaminants moving through these sediments, indicating that they derive from the discharge of MGP materials to the sediments as discussed previously. In contrast, the benzene and naphthalene concentrations in deeper alluvial sediments are generally lower than the groundwater concentrations from similar sample intervals, because the sediment contamination at depth results from adsorption from the upland groundwater plume.

As with benzene and naphthalene, cyanide concentrations in shallow shoreline sediments are generally much higher than the groundwater concentrations from similar intervals, as shown by comparison of the concentrations on Figures 5c and 6c. Again, this indicates that the concentrations derive from MGP materials deposited or discharged to the shallow sediments along the shoreline. The groundwater cyanide concentrations in the deeper alluvium are higher than the sediment concentrations, because the sediment cyanide is likely the result of adsorption from the upland groundwater plume.

2.4.4 Sediment Physical Properties

Sediment physical properties were tested on a representative number of core samples to allow sediment grain size classification and preliminary evaluation of geotechnical properties. The sediment physical testing included grain size analysis, determination of plasticity index, and total solids content. The sediment is primarily sand, ranging from very fine to medium grained, with varying percentages of silt and clay content. Because of the low clay content in most of the samples, the sediment was found to generally be non-plastic. Total organic carbon content was generally less than 2%.

2.5 Data Gaps

All of the planned components of the Phase 1 workplan were achieved. No data gaps resulting from the Phase I borings GS-00 to GS-12 were identified. Further assessment in Phase 2 is needed to fulfill the objectives discussed previously. The proposed Phase 2 Workplan is presented in Section 3.

3 PHASE 2 SAMPLING PLAN

3.1 Phase 2 Investigation Design

Phase 2 of the investigation will be focused on defining the nature and extent of groundwater contamination beyond the shoreline, specifically in the portion of the river channel identified by the LWG as a possible groundwater discharge zone. The LWG prepared a Draft report, *Portland Harbor RI/FS Round 2 Groundwater Pathway Assessment Transition Zone Water Site Characterization Summary Report* (Integral, August, 2006). Chapter 7 of the Round 2 groundwater pathway report describes the results of a transition zone water (TZW) assessment conducted in the nearshore area adjacent to the Gasco site. That assessment found the possible presence of a groundwater discharge zone near the toe of the slope that defines the navigation channel. It should also be noted that LWG and other Site shallow sediment coring data indicate the toe of the slope is still within the zone of influence of deposited MGP wastes given that many of the cores along this toe exhibit relatively high bulk chemical concentrations as well as sporadic observations of tar particles and NAPL blebs. This may complicate assessment of any groundwater discharge of upland source chemicals through this area.

Figure 7-2 of the LWG Round 2 groundwater pathway report shows the location of six transects of trident and seepage meter sample locations adjacent to Gasco. Figure 7-2 is in Appendix I of this report. Transect A is located near the toe of the riverbank and transect F is located approximately 340 feet from transect A. Sediment pore water temperature measurements were made using the trident probes. Figure 7-2 (Appendix I) shows which of the sample locations had the highest difference between the sediment pore water temperature and the ambient Willamette River water temperature. The areas with the highest temperature difference (delta) indicate possible groundwater discharge zones. Review of Figure 7-2 shows that moderate to high temperature deltas were calculated for the samples located along transects D and E, which roughly correspond with the toe of the slope that defines the navigation channel. This area is designated as sample transect B for this Phase 2 workplan, as further explained in Section 3.1.1.

The LWG Round 2 groundwater pathway report also delineated potential groundwater discharge zones. Figure 7-7 of the report (Appendix I) shows a possible groundwater discharge zone (light orange color) in the navigation channel adjacent to the Gasco Site.

The zone of possible groundwater discharge identified on Figure 7-7 is consistent with the groundwater discharge zone identified off shore of the Siltronic property, which is described in section 8 of the LWG Round 2 groundwater pathway report.

The map boundaries of the Gasco Phase 2 investigation are roughly coincident with the possible groundwater discharge zone identified in the Round 2 groundwater pathway report on Figure 7-7, but extending farther into the channel. The planned Phase 2 sample locations are shown on Figure 7.

The Phase 2 investigation will be conducted in two field steps as described in the following sections.

3.1.1 Phase 2 Step 1, Reconnaissance Groundwater/Pore Water Sampling

The purpose of the step 1 reconnaissance sampling will be to identify the primary offshore zones of groundwater discharge to the extent practicable in the navigation channel. A total of 69 groundwater/pore water samples are proposed for the Phase 2 study, consisting of 3 samples at each of 23 boring locations. Sample location transects B, C, and D are shown on Figure 7. The transect B samples are planned to be along the toe of the slope that defines the navigation channel. The transect C samples are approximately 350 feet from the toe of the river bank, and the transect D samples are approximately 550 feet from the toe of the river bank.

A barge mounted push probe drill rig will be used to obtain groundwater/pore water samples from three depths at each of the transect B, C, and D locations on Figure 7. The proposed sample locations, depths, and intervals are provided on Table 7. The three planned sample depths below mudline will be 1-2 ft, 5-7 ft, and 10-12 ft. After each set of three samples is obtained at each location the barge will be moved to the next location and the process repeated until all 23 locations, including all three transects, have been completed.

During this step the testing lab will pick up the water samples daily and test the samples on a quick turnaround basis. From 2 to 3 sample locations are planned to be completed during each field day, which means that step 1 will take from 8 to 12 field

days, depending upon field conditions. Because of the quick lab turnaround, the plan is to have all of the water quality data available for review within three days of submitting the last samples to the lab.

NW Natural will quickly compile the water quality data and meet with DEQ to discuss the plans for Step 2. During this meeting the data will be reviewed to identify potential groundwater discharge zones. The plan is to select six locations for Step 2 drilling and sampling to define the nature and extent of dissolved phase contamination through the full thickness of alluvium in the river channel. Shallow sediment sampling is also planned to assess the potential presence of directly discharged MGP materials in the channel.

3.1.2 Phase 2, Step 2, Deep Groundwater Sampling and Sediment Profiling

After agreement is reached on the locations for the Step 2 borings, the barge mounted push probe drill will be remobilized to conduct Step 2. During Step 2 the drill rig will be set up at six of the previously sampled locations to obtain groundwater samples at approximate 25 ft depth intervals below mudline. The borings will be advanced until sampler refusal occurs, and that depth will be assumed to represent the basal alluvial gravel, or basalt bedrock.

The groundwater samples will be submitted daily to the laboratory.

The data from Step 2 is planned to allow NW Natural to prepare groundwater quality maps and subsurface profiles. These will augment the transect A-A′ shoreline profiles developed from the Phase 1 data with Phase 2 groundwater data from the new borings completed in transects B, C, and D.

Shallow sediment sampling will include sediment cores down to approximately 10 feet below mudline. The sediment samples will be laboratory tested for MGP-related chemicals. The sediment quality data will be evaluated with the groundwater/pore water data to help differentiate between impacts caused by historic Gasco discharges directly to the river and possible affects from migration of groundwater from the Gasco uplands.

While the push probe drill is set up to obtain groundwater samples in Step 2, an attempt will be made to use a push probe core barrel to obtain the sediment cores. The success of the push probe core barrel will depend upon the sediment grain size and river conditions. If the push probe core barrel is not suitable for this purpose, we will mobilize a vibracore or sonic sampling rig for sediment coring at the same six locations.

3.2 Phase 2 Water and Sediment Analysis

This section summarizes the target physical and chemical analyses for the characterization of Phase 2 groundwater/pore water and sediment samples. The analytical laboratory selected for this project is CAS in Kelso, Washington. All sample analyses will be conducted in accordance with EPA-approved methods.

Table 8 provides a detailed summary of the target analytes, sample container types, holding times, and sample preservatives for Phase 2 sample collection. The table shows which target analytes are identified for groundwater/pore water and sediment. The Step 1 groundwater samples will be tested on a fast-turnaround basis for VOCs, free, amenable, and total cyanide. Step 2 groundwater/pore water samples will be analyzed for VOCs, total PAHs, free cyanide, amenable cyanide, total cyanide total metals and ammonia. Sediment profiling samples will be analyzed for VOCs, PAHs, total cyanide, total metals and additional conventionals.

Table 9a summarizes the details of the sediment profiling chemical analytes, analysis methods, method reporting limits, method detection limits, and minimum sample mass requirements. Table 9b summarizes the details of the groundwater/pore water analytes, analysis methods, method reporting limits, method detection limits, and minimum sample mass and volume requirements.

Due to the potential inability to obtain sufficient groundwater/pore water at some of the sampling locations, a tiered analytical approach will be used for groundwater samples. The tiered approach is consistent with what the LWG was actually able to implement with the Trident probe in this area of Portland Harbor due to limited sample volumes. Thus, low

priority analytes that the LWG was not able to obtain due to volume limitations are not proposed for this effort. The prioritization of the remaining analytes is based on current understanding of potential upland groundwater COIs. During Phase 2, groundwater samples will be analyzed in this order:

1. Free cyanide
2. Amenable cyanide
3. PAHs
4. VOCs
5. Metals
6. Ammonia

3.3 Sampling Schedule

Phase 2 sampling activities will occur during the summer (July 1 through October 31) work window when listed fish species are expected to be in low numbers in the project area. Step 1 will take approximately 8 to 12 field days, depending upon field conditions. NW Natural will review the data and propose Step 2 sampling locations to DEQ within 10 days of receiving the preliminary lab data from CAS. Step 2 sampling will take approximately 12 to 18 field days following DEQ approval of Step 2 locations.

3.4 Sampling Platform

During Phase 2, the sampling platform for the drill rig will be a shallow draft barge. Sampling will be performed through a hole in the barge. Phase 2 sediment samples may be collected using vibracore sampling methods if representative samples cannot be obtained with direct push core methods. In that event, sediment vibracores will be collected from a boat.

3.5 Horizontal Positioning and Vertical Control

Horizontal positioning at each sampling location will be determined using a differential global positioning system (DGPS) with a handheld global positioning system (GPS) unit as backup if necessary. Station positions will be recorded in latitude and longitude to the nearest 0.01 second in the North American Datum (NAD) 1983. The accuracy of the horizontal coordinates will be within 3 meters.

Mudline elevation of each sampling station sampled by barge will be determined by measuring the water depth with a calibrated fathometer or lead line and corrected for river flow and tidal elevation. A pressure transducer will be placed in the river off-shore of the site at a surveyed location (either a tie-down dolphin or main pier) to provide real-time river elevations at the project site. For validation purposes, these elevations will be compared to the elevations reported by the Morrison Street elevation gauge located approximately 6.5 miles upstream from the sampling area.

3.6 Sampling Methods

This section describes the techniques for advancing test borings, sampling groundwater, and collecting subsurface soil for physical testing parameters or chemical analyses. Tasks related to drilling (reconnaissance groundwater sampling during drilling, borehole logging and soil classification) are also described. Note that the first groundwater sample interval is 1 to 2 feet below mudline. Although this is the target depth, the equipment may sink under its own weight to greater depths in soft sediments before stopping, as occurred at some stations in both the pre-construction tar removal investigations and the MFA sampling offshore from Siltronic. In these cases, the sample will be taken as shallow as possible.

3.6.1 Groundwater/Porewater Sampling

Groundwater samples will be collected using a direct push (Geoprobe) drill rig. In Phase 2, Step 1, groundwater samples will be taken at depth intervals of 1-2 ft, 5-7 feet, and 10-12 ft. An outer casing will be lowered through the water column to the mudline. The outer casing will be fitted with a plate on the bottom to minimize the depth that the casing sinks once mudline is reached and to minimize short-circuit of river water around the base of the casing during groundwater sampling. A sealed Geoprobe screen will be lowered to the target depth and the screen will be opened. Polyethylene tubing will be lowered to the well screen and a groundwater sample will be collected with either a peristaltic pump using low flow sampling techniques, or an inertia pump. After the sample is collected from the first interval, the screen will be removed from the outer casing and decontaminated. The process will be repeated for the next sample interval.

In Phase 2, Step 2, groundwater sampling will be conducted at six locations based on the results from the Step 1 sampling. Sampling will be conducted as above; however, samples will be collected at 25-foot intervals (beginning at 25 feet below mudline) until refusal.

Before sample collection, a minimum of one casing volume of water will be removed. Field water-quality parameters (pH, specific conductance, and temperature) will be measured with portable, calibrated meters during purging.

Any equipment that contacts the sample and is intended to be reused must be properly decontaminated between samples.

3.6.2 Sediment Sampling

No sediment sampling is proposed for Phase 2, Step 1. In Phase 2, Step 2, at six selected locations, borings will be advanced by a direct push (Geoprobe) drill rig as above. Decontamination of drilling and sampling equipment will be performed as described Section 3.6.4.

While the push probe drill is set up to obtain groundwater samples in Step 2, an attempt will be made to use a push probe core barrel to obtain the sediment cores. The success of the push probe core barrel will depend upon the sediment grain size and river conditions. If the push probe core barrel is not suitable for this purpose, we will mobilize a vibracore sampling rig or a sonic drill rig for sediment coring.

The core samples will be examined to develop lithologic data. The samples will be described in the field as to their color, structure, texture, mineral composition, moisture, and percent recovery, in general accordance with ASTM Method D 2488-00. Samples will also be examined for visual chemical impacts or odors and the observations noted.

3.6.3 Sediment Sample Preparation

Sediment from each of the six Step 2 boreholes will be placed in laboratory-supplied containers, and stored in an iced-cooler until transfer to the laboratory (following chain of custody procedures) for analysis. Samples will be divided into three intervals for testing (0-2 ft, 5-7 ft, and 8-10ft). The VOC sample jars will be filled first, as quickly as possible after opening the sample core to minimize volatilization, following EPA method 5035A. After logging the core is complete, the remaining sample portion will be homogenized in a stainless steel bowl and the remaining sample containers will be filled.

3.6.4 Borehole Logging and Soil Classification

A log of sediment samples from each boring will be prepared in the field by a geologist registered in Oregon, or by an environmental scientist working under the supervision of a registered Oregon geologist. Boring logs will include the project name and location, name of the drilling contractor, name of the scientist completing the log, drilling method, sampling method, boring designation, sediment and groundwater sample depths, and description of sediments encountered. Sediment samples will be described using ASTM designation D2488-00, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*. The standard involves describing color, grain size, moisture content, density, organic matter, and other observed characteristics. The information will be recorded on a standard Anchor exploratory boring log form.

3.7 Spill Prevention and Control

A spill containment system will be constructed on the barge deck to manage incidental releases that could occur from drilling operations. The containment system will include plastic sheeting under the drill rig with a raised berm around the edges. A secondary floating boom containment system will be constructed in the river around the barge at each drilling location. The secondary containment will surround the barge and include an inner ring of floating sorbent boom with an outer ring of floating boom. A supply of adsorbent pads will be kept on the barge.

3.8 Field Quality Assurance and Quality Control

Field quality assurance/quality control (QA/QC) samples will be collected and used to evaluate the variability resulting from sample handling and the efficiency of field decontamination procedures (Section 3.7.5). All field QC samples will be documented in the site logbook. Table 7 summarizes field QC sampling.

3.8.1 Field Splits

Field splits of groundwater and transition zone water and sediments will be collected (5 percent frequency) from the sampling locations. The field splits consist of collecting twice the amount of needed material from the chosen location and splitting it into two unique samples (the original sample and a duplicate). The duplicate sample will be processed in exactly the same way as the original sample and will be submitted to the laboratory as blind samples. The samples will be analyzed for the same parameters as the other regular field samples.

3.8.2 Rinsate and Field Blanks

Rinsate and field blank samples will be collected to evaluate the efficiency of field decontamination procedures. One rinsate blank and one field blank will be collected for water sampling methods. The rinsate blank will consist of rinsing down the collection equipment after sample collection and decontamination with distilled water and collecting the rinsate. The field blank will be collected by pouring distilled water directly in the sampling containers. In addition, a trip blank will be included in each container shipped to CAS containing samples to be analyzed for volatiles (i.e., BTEX). Rinsate and field blanks are normally not collected for sediments because these levels of potential contamination (even if present) are normally not detectable in sediment samples.

3.8.3 Field Documentation

A complete record of all field activities will be maintained including the following:

- Documentation of all field activities on daily log forms.
- Documentation of all samples collected for analysis.

The field coordinator (FC) or their designee will maintain field notes, which will consist of daily log forms. All on-site activities, including health and safety entries, and field observations will be documented on the daily log forms. All entries will be made in indelible ink. The field logbook is intended to provide sufficient data and observations to enable readers to reconstruct events that occurred during the sampling period. These entries will include the following:

- Date and time
- Sampling personnel
- Weather
- Sampling location
- Water depth
- Sample depth
- Characteristics or other observations of sediment sample
- Penetration depth
- Agreements reached with DEQ project manager on field decisions, including the time and method of agreement (e.g., telephone, email, etc.)
- Other comments

3.8.4 Sample Handling

This section describes the sample containers, sample handling and storage, chain-of-custody forms, and sample shipping procedures for all sediment sampling activities.

All sample containers received from the analytical lab will be pre-cleaned, certified, and EPA-approved for each particular EPA-analytical method. Prior to shipping, the analytical laboratory will add preservative, where required. Sample container types are listed in Table 8.

The guidelines for sample handling and storage for collected sediment and field QA samples are provided in Table 8. Sample containers, instruments, working surfaces, technician protective gear, and other items that may come into contact with sediment sample material must meet high standards of cleanliness. All equipment and instruments used to remove sediment from the sampler will be made of glass,

stainless steel, or PTFE, and will be cleaned prior to each day's use and between sampling or compositing events.

All working surfaces and instruments will be thoroughly cleaned and decontaminated to minimize outside contamination between sampling events. Disposable gloves will be discarded after processing each station and replaced prior to handling decontaminated instruments or work surfaces.

3.8.5 Field Equipment Decontamination

To prevent sample cross contamination, sampling and processing equipment in contact with the sediment samples will undergo the following decontamination procedures prior to and between collection activities in accordance with EPA protocols (EPA 2001). The sediment sampling equipment that will come into contact with sediment will be decontaminated prior to use by the following procedure:

1. Rinse with potable water and wash with scrub brush until free of sediment.
2. Wash with phosphate-free detergent (e.g., Alconox®).
3. Visually inspect the sampler and repeat the scrub and rinse step, if necessary. If scrubbing and rinsing with Alconox® is insufficient to remove visually observable oil-related contamination on the core tubes and extension, the equipment will be scrubbed and rinsed using hexane (or similar type solution) until all visual signs of contamination are absent.
4. Rinse with potable water.

All sample homogenizing equipment will be decontaminated prior to and between processing cores at each station using the following procedure:

1. Rinse with potable water and wash with scrub brush until free of sediment.
2. Wash with Alconox®.
3. Visually inspect the sampler and repeat the scrub and rinse step, if necessary. If scrubbing and rinsing with Alconox® is insufficient to remove visually observable oil-related contamination on the core tubes and extension, the equipment will be scrubbed and rinsed using hexane (or similar type solution) until all visual signs of contamination are absent.
4. Rinse with potable water.

5. Rinse with distilled water.

3.8.6 Sample Disposal and Waste Handling Practices

All remaining sediment, fluids used for decontamination of sampling equipment, and core collection disposable wastes (e.g., gloves, paper towels, etc.) will be placed into appropriate containers and staged on-site for disposal. Sediments remaining following collection and processing will be placed into sealable containers and disposed at the appropriate offsite facility. The decontamination fluids will be stored in sealable containers and will be disposed based on the amount of visibly apparent oil. If the fluid contains only a small amount of visibly apparent oil it will be transferred into an on-site 350-gallon aboveground storage tank (AST) for treatment using the Gasco facility carbon treatment unit. Alternatively, fluids containing a visibly appreciable amount of oil will be transferred into a 500-gallon AST located at the MW-6 NAPL extraction system, or will be placed in a drum(s) for storage at this location pending final disposition. All disposable wastes will be placed into heavy duty plastic bags (i.e., double-bagged) and disposed at a permitted offsite solid waste disposal facility.

3.8.7 Sample Transport and Chain-of-Custody Procedures

All samples will be transported in appropriate containers to the analytical laboratory after preparation is completed. Specific sample shipping procedures will be as follows:

1. The shipping containers will be clearly labeled with sufficient information (name of project, time and date container was sealed, and person sealing the container) to enable positive identification
2. Individual sample containers will be packed to prevent breakage and transported in a sealed ice chest or other suitable container
3. Glass jars will be separated in the shipping container by shock absorbent material (e.g., bubble wrap) to prevent breakage
4. Ice will be placed in separate plastic bags and sealed
5. A sealed envelope containing chain-of-custody forms will be enclosed in a plastic bag inside lid of the cooler
6. The cooler lids will be secured by wrapping the coolers in strapping tape

7. Signed and dated chain-of-custody seals will be placed on all coolers prior to shipping
8. Each cooler or container containing the samples for analysis will be either shipped to CAS or picked up at the Gasco facility by a CAS courier.

Upon transfer of sample possession to the analytical laboratory, the persons transferring custody of the sample container will sign the chain-of-custody form. Upon receipt of samples at the laboratory, the shipping container seal will be broken and the condition of the samples recorded by the recipient. Chain-of-custody forms will be used internally in the lab to track sample handling and final disposition.

4 DATA QUALITY ASSURANCE AND REPORTING

Once all data have been obtained from the laboratory and data validation is complete, a data report will be submitted to DEQ. This report will contain table summaries of lab testing results and summaries of field observations. Figures indicating the vertical and horizontal extent of target analyte concentrations will also be presented and integrated into existing groundwater and sediment data presented above. The report will also contain a summary of data validation results and a review of data quality determined from those results.

The following general schedule will be the goal for the FSA Phase 2 tasks:

1. Initiate Step 1 sampling on July 1 following DEQ acceptance of this FSA.
2. Initiate Step 2 sampling after receiving DEQ approval of the Step 2 boring locations
3. Complete data validation within 45 days of receipt of last final sample result from the laboratory.
4. Complete the Phase 2 Gasco Siltronic Groundwater Source Evaluation Data Report within 45 days of receipt of last final data validation reports.

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TABLES

TABLE 1
Analytical Sample Summary--Groundwater
Gasco Site
Portland, Oregon

				Laboratory Analysis Requested								
Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Volatile Organic Compounds[1]	Polynuclear Aromatic Hydrocarbons (Total)[2]	Polynuclear Aromatic Hydrocarbons (Dissolved)[3]	Free Cyanide[4]	Amenable Cyanide[5]	Total Metals[6]	Dissolved Metals[7]	General Chemistry[8]	Other
GS-00	5	Dry	NS									
	10	Dry	NS									
	25	23-27	GS-00-W(23-27)	X	X	X	X	X	X	X	X	
	50	48-52	GS-00-W(48-52)	X	X	X	X	X	X	X	X	
	75	65-69	GS-00-W(65-69)	X	X	X	X	X	X	X		
GS-01	5	4-6	GS-01-W(4-6)	X	X	X	X	X	X[9]	X[9]	X	
	10	9-11	GS-01-W(9-11)	X	X	X	X	X	X[9]	X[9]	X	
	25	23-27	GS-01-W(23-27)	X	X	X	X	X	X[9]	X[9]	X	
	50	48-52	GS-01-W(48-52)	X	X	X	X	X	--	--	X	
	75	73-77	GS-01-W(73-77)	X	X	X	X	X	--	--	--	
GS-02	5	4-6	GS-02-W(4-6)	X	X	X	X	X	X	X	X	
	10	9-11	GS-02-W(9-11)	X	X	X	X	X	X	X	X	
	25	23-27	GS-02-W(23-27)	X	X	X	X	X	X	X	X	
	50	48-52	GS-02-W(48-52)	X	X	X	X	X	X	X	X	
	75	73-77	GS-02-W(73-77)	X	X	X	X	X	X	X	X[9]	
GS-03	5	4-6	GS-03-W(4-6)	X	X	X	X	X	--	--	X	
	10	13-15	GS-03-W(13-15)	X	X	X	X	X	--	--	X	
	25	23-27	GS-03-W(23-27)	X	X	X	X	X	--	--	X	
	50	48-52	GS-03-W(48-52)	X	X	X	X	X	--	--	X	
	75	73-77	GS-03-W(73-77)	X	X	X	X	X	--	--	--	
	100	98-102	GS-03-W(98-102)	X	X	X	X	X	--	--	--	
	125	116-120	GS-03-W(116-120)	X	X	X	X	X	--	--	--	
GS-04	5	4-6	GS-04-W(4-6)	X	X	X	X	X	X	X	X	
	10	9-11	GS-04-W(9-11)	X	X	X	X	X	X	X	X	
	25	27-31	GS-04-W(27-31)	X	X	X	X	X	X	X	X	
	50	48-52	GS-04-W(48-52)	X	X	X	X	X	X	X	X	
	75	73-77	GS-04-W(73-77)	X	X	X	X	X	X	X	--	SVOCs-TIC[10]
	100	98-102	GS-04-W(98-102)	X	X	X	X	X	X	X	--	
	125	123-127	GS-04-W(123-127)	X	X	X	X	X	X	X	--	
	150	148-152	GS-04-W(148-152)	X	X	X	X	X	X	X	--	

TABLE 1
Analytical Sample Summary--Groundwater
Gasco Site
Portland, Oregon

				Laboratory Analysis Requested								
Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Volatile Organic Compounds[1]	Polynuclear Aromatic Hydrocarbons (Total)[2]	Polynuclear Aromatic Hydrocarbons (Dissolved)[3]	Free Cyanide[4]	Amenable Cyanide[5]	Total Metals[6]	Dissolved Metals[7]	General Chemistry[8]	Other
GS-05	5	4-6	GS-05-W(4-6)	X	X	X	X	X	--	--	X	
	10	9-11	GS-05-W(9-11)	X	X	X	X	X	--	--	X	
	25	23-27	GS-05-W(23-27)	X	X	X	X	X	--	--	X	
	50	55-59	GS-05-W(55-59)	X	X	X	X	X	--	--	X	
	75	73-77	GS-05-W(73-77)	X	X	X	X	X	--	--	--	
	100	98-102	GS-05-W(98-102)	X	X	X	X	X	--	--	--	
	125	123-127	GS-05-W(123-127)	X	X	X	X	X	--	--	--	
	150	148-152	GS-05-W(148-152)	X	X	X	X	X	--	--	--	
	175	173-177	GS-05-W(173-177)	X	X	X	X	X	--	--	--	
	--	191-195	GS-05(191-195)	X	X	X	X	X	--	--	--	
GS-06	5	4-6	GS-06-W(4-6)	X	X	X	X	X	X	X	X	
	10	9-11	GS-06-W(9-11)	X	X	X	X	X	X	X	X	
	25	23-27	GS-06-W(23-27)	X	X	X	X	X	X	X	X	
	50	48-52	GS-06-W(48-52)	X	X	X	X	X	X	X	X	
	75	73-77	GS-06-W(73-77)	X	X	X	X	X	X	X	--	
	100	98-102	GS-06-W(98-102)	X	X	X	X	X	X	X	--	VOCS + SVOCs-TIC[10]
	125	123-127	GS-06-W(123-127)	X	X	X	X	X	X	X	--	
	150	148-152	GS-06-W(148-152)	X	X	X	X	X	X	X	--	
GS-07	5	4-6	GS-07-W(4-6)	X	X	X	X	X	--	--	X	
	10	9-11	GS-07-W(9-11)	X	X	X	X	X	--	--	X	
	25	23-27	GS-07-W(23-27)	X	X	X	X	X	--	--	X	
	50	48-52	GS-07-W(48-52)	X	X	X	X	X	--	--	X	
	75	73-77	GS-07-W(73-77	X	X	X	X	X	--	--	--	
	100	98-102	GS-07-W(98-102)	X	X	X	X	X	--	--	--	
	125	123-127	GS-07-W(123-127	X	X	X	X	X	--	--	--	
	150	148-152	GS-07-W(148-152)	X	X	X	X	X	--	--	--	
	175	170-174	GS-07-W(170-174)	X	X	X	X	X	--	--	--	
GS-08	5	4-6	GS-08-W(4-6)	X	X	X	X	X	X	X	X	
	10	9-11	GS-08-W(9-11)	X	X	X	X	X	X	X	X	
	25	23-27	GS-08-W(23-27)	X	X	X	X	X	X	X	X	
	50	48-52	GS-08-W(48-52)	X	X	X	X	X	X	X	X	
	75	73-77	GS-08-W(73-77)	X	X	X	X	X	X	X	--	
	100	98-102	GS-08-W(98-102)	X	X	X	X	X	X	X	--	
	125	123-127	GS-08-W(123-127)	X	X	X	X	X	X	X	--	
	150	148-152	GS-08-W(148-152)	X	X	X	X	X	X	X	--	

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				Laboratory Analysis Requested								
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GS-09	5	4-6	GS-09-W(4-6)	X	X	X	X	X	--	--	X	
	10	9-11	GS-09-W(9-11)	X	X	X	X	X	--	--	X	
	25	23-27	GS-09-W(23-27)	X	X	X	X	X	--	--	X	
	50	48-52	GS-09-W(48-52)	X	X	X	X	X	--	--	X	
	75	73-77	GS-09-W(73-77)	X	X	X	X	X	--	--	--	
	100	98-102	GS-09-W(98-102)	X	X	X	X	X	--	--	--	
	125	123-127	GS-09-W(123-127)	X	X	X	X	X	--	--	--	
	150	148-152	GS-09-W(148-152)	X	X	X	X	X	--	--	--	
	175	173-177	GS-09-W(173-177)	X	X	X	X	X	--	--	--	
GS-10	5	4-6	GS-10-W(4-6)	X	X	X	X	X	X	X	X	
	10	9-11	GS-10-W(9-11)	X	X	X	X	X	X	X	X	
	25	23-27	GS-10-W(23-27)	X	X	X	X	X	X	X	X	
	50	48-52	GS-10-W(48-52)	X	X	X	X	X	X	X	X	
	75	73-77	GS-10-W(73-77)	X	X	X	X	X	X	X	--	
	100	98-102	GS-10-W(98-102	X	X	X	X	X	X	X	--	
	125	123-127	GS-10-W(123-127)	X	X	X	X	X	X	X	--	
	150	148-152	GS-10-W(148-152	X	X	X	X	X	X	X	--	
GS-11	5	4-6	GS-11-W(4-6)	X	X	X	X	X	--	--	X	
	10	9-11	GS-11-W(9-11)	X	X	X	X	X	--	--	X	
	25	23-27	GS-11-W(23-27)	X	X	X	X	X	--	--	X	
	50	48-52	GS-11-W(48-52)	X	X	X	X	X	--	--	X	
	75	73-77	GS-11-W(73-77)	X	X	X	X	X	--	--	--	
	100	98-102	GS-11-W(98-102)	X	X	X	X	X	--	--	--	
	125	123-127	GS-11-W(123-127)	X	X	X	X	X	--	--	--	
	150	148-152	GS-11-W(148-152)	X	X	X	X	X	--	--	--	
	175	169-173	GS-11-W(173-177)	X	X	X	X	X	--	--	--	
GS-12	5	4-6	GS-12-W(4-6)	X	X	X	X	X	X	X	X	
	10	9-11	GS-12-W(9-11)	X	X	X	X	X	X	X	X	
	25	23-27	GS-12-W(23-27)	X	X	X	X	X	X	X	X	
	50	48-52	GS-12-W(48-52)	X	X	X	X	X	X	X	X	
	75	73-77	GS-12-W(73-77)	X	X	X	X	X	X	X	--	
	100	98-102	GS-12-W(98-102)	X	X	X	X	X	X	X	--	
	125	123-127	GS-12-W(123-127)	X	X	X	X	X	X	X	--	
	150	148-152	GS-12-W(148-152)	X	X	X	X	X	X	X	--	

TABLE 1
Analytical Sample Summary--Groundwater
Gasco Site
Portland, Oregon

				Laboratory Analysis Requested								
Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Volatile Organic Compounds[1]	Polynuclear Aromatic Hydrocarbons (Total)[2]	Polynuclear Aromatic Hydrocarbons (Dissolved)[3]	Free Cyanide[4]	Amenable Cyanide[5]	Total Metals[6]	Dissolved Metals[7]	General Chemistry[8]	Other
QA/QC Samples												
GS-06	25	23-27 (FD)	GS-56-W(23-27)	X	X	X	X	X	X	X	X	
GS-06	50	48-52 (FD)	GS-56-W(48-52)	X	X	X	X	X	X	X	X	
GS-07	75	73-77 (FD)	GS-57-W(73-77)	X	X	X	X	X	--	--	--	
GS-08	50	48-52 (FD)	GS-58-W(48-52)	X	X	X	X	X	X	X	X	
GS-11	50	48-52 (FD)	GS-61-W(48-52)	X	X	X	X	X	--	--	X	
GS-12	25	23-27 (FD)	GS-62-W(23-27)	X	X	X	X	X	X	X	X	
GS-12	75	73-77 (FD)	GS-62-W(73-77)	X	X	X	X	X	X	X	--	

Notes:

1 USEPA Method 8260B
2 USEPA Method 8270C SIM
3 USEPA Method 8270C SIM (laboratory filtered)
4 ASTM Method D-4282-02
5 USEPA Method 335.1
6 Total Metals: Al, Sb, As, Ba, Be, cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, Zn
7 Dissolved Metals (field filtered): Al, Sb, As, Ba, Be, cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, Zn
8 Chloride, Nitrate, Sulfate, Alkalinity, Carbonate, Bicarbonate, Ammonia
9 additional testing requested based on significantly elevated specific conductance during field measurements
10 additional testing requested based on unidentifiable odor in soils and water at the given interval

TABLE 2a
Analytical Sample Summary--Sediment Chemistry
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Volatile Organic Compounds	Polynuclear Aromatic Hydrocarbons	Total Cyanide	Soil Metals[2]	Sulfide	Ammonia Nitrogen	Total Organic Carbon	Total Solids	Other
GS-00	5	4-6	GS-00-S(4-6)	11/1/2006	8:00	X	X	X	X	X	X	X	X	
	10	9-11	GS-00-S(9-11)	11/1/2006	8:20	X	X	X	X	X	X	X	X	
	25	20-23	GS-00-S(20-23)	11/1/2006	10:00	X	X	X	X	X	X	X	X	
	50	45-48	GS-00-S(45-48)	11/1/2006	12:00	X	X	X	X	X	X	X	X	
GS-01	5	4-6	GS-01-S(4-6)	12/21/2006	15:10	X	X	X	--	X	X	X	X	
	10	9-11	GS-01-S(9-11)	12/21/2006	15:30	X	X	X	--	X	X	X	X	
	25	20-23	GS-01-S(20-23)	12/21/2006	16:05	X	X	X	--	X	X	X	X	
	50	45-48	GS-01-S(45-48)	12/26/2006	9:05	X	X	X	--	X	X	X	X	
GS-02	5	4-6	GS-02-S(4-6)	12/27/2006	14:25	X	X	X	X	X	X	X	X	
	10	9-11	GS-02-S(9-11)	12/27/2006	14:35	X	X	X	X	X	X	X	X	
	25	20-23	GS-02-S(20-23)	12/27/2006	15:30	X	X	X	X	X	X	X	X	
	50	45-48	GS-02-S(45-48)	12/28/2006	8:50	X	X	X	X	X	X	X	X	
GS-03	5	4-6	GS-03-S(4-6)	12/18/2006	17:05	X	X	X	--	X	X	X	X	
	10	9-11	GS-03-S(9-11)	12/18/2006	17:40	X	X	X	--	X	X	X	X	
	25	20-23	GS-03-S(20-23)	12/18/2006	18:05	X	X	X	--	X	X	X	X	
	50	45-48	GS-03-S(45-48)	12/19/2006	10:10	X	X	X	--	X	X	X	X	
	100	95-98	GS-03-S(95-98)	12/19/2006	13:55	X	X	X	--	X	--	X	X	
	125	120-122	GS-03-S(120-122)	12/19/2006	15:50	X	X	X	--	X	--	X	X	
GS-04	5	4-6	GS-04-S(4-6)	12/12/2006	--	X	X	X	X	X	X	X	X	
	10	9-11	GS-04-S(9-11)	12/12/2006	--	X	X	X	X	X	X	X	X	
	25	24-27	GS-04-S(24-27)	12/12/2006	--	X	X	X	X	X	X	X	X	
	50	45-48	GS-04-S(45-48)	12/13/2006	9:45	X	X	X	X	X	X	X	X	
	--	69-70[2]	GS-04-S(69-70)	12/13/2006	11:00	--	--	--	--	--	--	--	--	[1]8270 SVOC + TICs
	100	95-98	GS-04-S(95-98)	12/13/2006	15:40	X	X	X	X	X	--	X	X	

TABLE 2a
Analytical Sample Summary--Sediment Chemistry
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Volatile Organic Compounds	Polynuclear Aromatic Hydrocarbons	Total Cyanide	Soil Metals[2]	Sulfide	Ammonia Nitrogen	Total Organic Carbon	Total Solids	Other
GS-05	5	3-4	GS-05-S(3-4)	10/24/2006	15:50	X	X	X	--	X	X	X	X	
	10	9-11	GS-05-S(9-11)	10/25/2006	9:50	X	X	X	--	X	X	X	X	
	25	20-22	GS-05-S(20-22)	10/25/2006	10:25	X	X	X	--	X	X	X	X	
	50	45-48	GS-05-S(45-48)	10/25/2006	14:55	X	X	X	--	X	X	X	X	
	100	95-98	GS-05-S(95-98)	10/26/2006	14:25	X	X	X	--	X	--	X	X	[1]8270 SVOC + TICs
	125	120-123	GS-05-S(120-123)	10/27/2006	8:00	X	X	X	--	X	--	X	X	
	150	145-148	GS-05-S(145-148)	10/27/2006	11:15	X	X	X	--	X	--	X	X	
	175	170-173	GS-05-S(170-173)	10/30/2006	10:30	X	X	X	--	X	--	X	X	
GS-06	5	4-6	GS-06-S(4-6)	1/17/2006	11:30	X	X	X	X	X	X	X	X	
	10	9-11	GS-06-S(9-11)	1/17/2006	12:00	X	X	X	X	X	X	X	X	
	25	20-23	GS-06-S(20-23)	1/17/2006	10:30	X	X	X	X	X	X	X	X	
	50	41-44	GS-06-S(41-44)	1/17/2006	13:10	X	X	X	X	X	X	X	X	
	--	65-69[2]	GS-06-S(65-69)	1/17/2006	14:55	X	X	X	X	X	--	X	X	[1]8270 SVOC + TICs
	100	95-98	GS-06-S(95-98)	1/17/2006	16:20	X	X	X	X	X	--	X	X	
GS-07	5	4-6	GS-07-S(4-6)	10/16/2006	13:30	X	X	X	--	X	X	X	X	
	10	9-11	GS-07-S(9-11)	10/16/2006	13:50	X	X	X	--	X	X	X	X	
	25	23-27	GS-07-S(23-27)	10/17/2006	13:10	X	X	X	--	X	X	X	X	
	50	48-52	GS-07-S(48-52)	10/17/2006	15:30	X	X	X	--	X	X	X	X	
	100	98-102	GS-07-S(98-102)	10/18/2006	13:15	X	X	X	--	X	--	X	X	
	125	123-127	GS-07-S(123-127)	10/18/2006	16:00	X	X	X	--	X	--	X	X	
	150	145-148	GS-07-S(145-148)	10/18/2006	16:45	X	X	X	--	X	--	X	X	
	175	170-173	GS-07-S(170-173)	10/19/2006	12:20	X	X	X	--	X	--	X	X	

TABLE 2a
Analytical Sample Summary--Sediment Chemistry
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Volatile Organic Compounds	Polynuclear Aromatic Hydrocarbons	Total Cyanide	Soil Metals[2]	Sulfide	Ammonia Nitrogen	Total Organic Carbon	Total Solids	Other
GS-08	5	3-4	GS-08-S(3-4)	10/25/2006	10:25	X	X	X	X	X	X	X	X	
	10	9-10	GS-08-S(9-10)	10/25/2006	12:30	X	X	X	X	X	X	X	X	
	25	20-23	GS-08-S(20-23)	10/25/2006	14:20	X	X	X	X	X	X	X	X	
	50	43-45	GS-08-S(43-45)	10/26/2006	8:30	X	X	X	X	X	X	X	X	
	100	95-98	GS-08-S(95-98)	10/26/2006	16:20	X	X	X	X	X	--	X	X	
GS-09	5	4-6	GS-09-S(4-6)	10/6/2006	16:20	X	X	X	--	X	X	X	X	
	10	9-11	GS-09-S(9-11)	10/9/2006	10:20	X	X	X	--	X	X	X	X	
	25	23-27	GS-09-S(23-27)	10/9/2006	14:50	X	X	X	--	X	X	X	X	
	50	48-52	GS-09-S(48-52)	10/10/2006	13:45	X	X	X	--	X	X	X	X	
	100	98-102	GS-09-S(98-102)	10/12/2006	10:45	X	X	X	--	X	--	X	X	
	125	123-127	GS-09-S(123-127)	10/12/2006	14:50	X	X	X	--	X	--	X	X	
	150	148-152	GS-09-S(148-152)	10/13/2006	9:30	X	X	X	--	X	--	X	X	
	175	173-177	GS-09-S(173-177)	10/13/2006	14:45	X	X	X	--	X	--	X	X	
GS-10	5	4-6	GS-10-S(4-6)	1/2/2007	13:00	X	X	X	X	X	X	X	X	
	10	9-11	GS-10-S(9-11)	1/2/2007	13:40	X	X	X	X	X	X	X	X	
	25	20-23	GS-10-S(20-23)	1/2/2007	14:00	X	X	X	X	X	X	X	X	
	50	45-48	GS-10-S(45-48)	1/2/2007	15:10	X	X	X	X	X	X	X	X	
	100	95-98	GS-10-S(95-98)	1/3/2007	9:45	X	X	X	X	X	X	X	X	
GS-11	5	4-6	GS-11-S(4-6)	1/5/2007	9:00	X	X	X	--	X	X	X	X	
	10	9-11	GS-11-S(9-11)	1/5/2007	9:15	X	X	X	--	X	X	X	X	
	25	20-23	GS-11-S(20-23)	1/5/2007	9:30	X	X	X	--	X	X	X	X	
	50	45-48	GS-11-S(45-48)	1/5/2007	12:00	X	X	X	--	X	X	X	X	
	100	95-98	GS-11-S(95-98)	1/8/2007	9:15	X	X	X	--	X	--	X	X	
	125	120-123	GS-11-S(120-123)	1/8/2007	10:55	X	X	X	--	X	--	X	X	
	150	145-148	GS-11-S(145-148)	1/8/2007	12:55	X	X	X	--	X	--	X	X	
	175	170-173	GS-11-S(170-173)	1/8/2007	15:15	X	X	X	--	X	--	X	X	

TABLE 2a
Analytical Sample Summary--Sediment Chemistry
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Volatile Organic Compounds	Polynuclear Aromatic Hydrocarbons	Total Cyanide	Soil Metals[2]	Sulfide	Ammonia Nitrogen	Total Organic Carbon	Total Solids	Other
GS-12	5	4-6	GS-12-S(4-6)	1/10/2007	13:04	X	X	X	X	X	X	X	X	
	10	9-11	GS-12-S(9-11)	1/10/2007	12:40	X	X	X	X	X	X	X	X	
	25	20-23	GS-12-S(20-23)	1/10/2007	12:00	X	X	X	X	X	X	X	X	
	50	45-48	GS-12-S(45-48)	1/10/2007	14:05	X	X	X	X	X	X	X	X	
	100	95-98	GS-12-S(95-98)	1/11/2007	10:30	X	X	X	X	X	--	X	X	
QA/QC Samples														
GS-06	5	4-6 (FD)	GS-56-S(4-6)	1/17/2006	11:35	X	X	X	X	X	X	X	X	
GS-06	50	41-44 (FD)	GS-56-S(41-44)	1/17/2006	13:15	X	X	X	X	X	X	X	X	
GS-08	50	43-45 (FD)	GS-58-S(43-45)	10/26/2006	8:40	X	X	X	X	X	X	X	X	
GS-12	10	9-11 (FD)	GS-62-S(9-11)	1/10/2007	12:45	X	X	X	X	X	X	X	X	
GS-12	100	95-98 (FD)	GS-62-S(95-98)	1/11/2007	10:35	X	X	X	X	X	--	X	X	

Notes:
1 additional testing requested based on unidentifiable odor in soils and water at a given interval
2 Soil Metals: Al, As, Sb, Ba, Be, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, K, Ag, Na, Se, Tl, Zn, Hg (analyzed at even numbered boring locations)
3 Sulfides, Total Organic Carbon (TOC), Total Solids, Ammonia-Nitrogen

TABLE 2b
Analytical Sample Summary--Sediment Physical Properties
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	pH	Sulfate	Total Organic Carbon	Atterberg Limits	Moisture Content	Grain Size	Specific Gravity
GS-01	0-10	10-12	GS-01-S(10-12)	12/21/2006	16:10	--	--	--	X	X	X	--
	10-20	20-23	GS-01-S(20-23)	12/21/2006	16:20	--	--	--	X	X	X	--
	0-20	20-23	GS-01-S(20-23)	12/21/2006	16:20	X	X	X	--	--	--	X
	20-30	30.5-33	GS-01-S(30.5-33)	12/26/2006	9:25	--	--	--	X	X	X	--
	30-40	40-42.5	GS-01-S(40-42.5)	12/26/2006	9:15	--	--	--	X	X	X	--
	20-40	40-42.5	GS-01-S(40-42.5)	12/26/2006	9:15	X	X	X	--	--	--	X
	40-50	50-52	GS-01-S(50-52)	12/26/2006	11:05	--	--	--	X	X	X	--
	50-60	59-61.5	GS-01-S(59-61.5)	12/26/2006	11:15	--	--	--	X	X	X	--
	40-60	59-61.5	GS-01-S(59-61.5)	12/26/2006	11:15	X	X	X	--	--	--	X
	60-70	70.5-73	GS-01-S(70.5-73)	12/26/2006	11:25	--	--	--	X	X	X	--
GS-02	0-10	9-11	GS-02-S(9-11)	12/27/2006	15:05	--	--	--	X	X	X	--
	10-20	20-23	GS-02-S(20-23)	12/27/2006	15:40	--	--	--	X	X	X	--
	0-20	20-23	GS-02-S(20-23)	12/27/2006	15:40	X	X	X	--	--	--	X
	20-30	29.5-32	GS-02-S(29.5-32)	12/28/2006	9:05	--	--	--	X	X	X	--
	30-40	40-42	GS-02-S(40-42)	12/28/2006	9:15	--	--	--	X	X	X	--
	20-40	40-42	GS-02-S(40-42)	12/28/2006	9:15	X	X	X	--	--	--	X
	40-50	53-54	GS-02-S(53-54)	12/28/2006	10:05	--	--	--	X	X	X	--
	50-60	60-63	GS-02-S(60-63)	12/28/2006	10:10	--	--	--	X	X	X	--
	40-60	60-63	GS-02-S(60-63)	12/28/2006	10:10	X	X	X	--	--	--	X
	60-70	70-73	GS-02-S(70-73)	12/28/2006	10:20	--	--	--	X	X	X	--
	70-80	78-80	GS-02-S(78-80)	12/28/2006	11:40	--	--	--	X	X	X	--
	60-80	78-80	GS-02-S(78-80)	12/28/2006	11:40	X	X	X	--	--	--	X
GS-03	0-10	9-11	GS-03-S(9-11)	12/18/2006	17:45	--	--	--	X	X	X	--
	10-20	19-20	GS-03-S(19-20)	12/18/2006	17:35	--	--	--	X	X	X	--
	0-20	19-20	GS-03-S(19-20)	12/18/2006	17:35	X	X	X	--	--	--	X
	20-30	29-32	GS-03-S(29-32)	12/19/2006	10:15	--	--	--	X	X	X	--
	30-40	39-43	GS-03-S(39-43)	12/19/2006	10:20	--	--	--	X	X	X	--
	20-40	39-43	GS-03-S(39-43)	12/19/2006	10:20	X	X	X	--	--	--	X
	40-50	50-52	GS-03-S(50-52)	12/19/2006	12:05	--	--	--	X	X	X	--
	50-60	59-61	GS-03-S(59-61)	12/19/2006	12:15	--	--	--	X	X	X	--
	40-60	59-61	GS-03-S(59-61)	12/19/2006	12:15	X	X	X	--	--	--	X
	60-70	70-73	GS-03-S(70-73)	12/19/2006	12:25	--	--	--	X	X	X	--
	70-80	78-81	GS-03-S(78-81)	12/19/2006	14:05	--	--	--	X	X	X	--
	60-80	78-81	GS-03-S(78-81)	12/19/2006	14:05	X	X	X	--	--	--	X
	80-90	89-92	GS-03-S(89-92)	12/19/2006	14:10	--	--	--	X	X	X	--
GS-04	0-10	10-11	GS-04-S(10-11)	12/12/2006	15:35	--	--	--	X	X	X	--
	10-20	19-21	GS-04-S(19-21)	12/12/2006	15:45	--	--	--	X	X	X	--
	0-20	19-21	GS-04-S(19-21)	12/12/2006	15:45	X	X	X	--	--	--	X
	20-30	30-31	GS-04-S(30-31)	12/13/2006	10:00	--	--	--	X	X	X	--
	30-40	38-40	GS-04-S(38-40)	12/13/2006	10:00	--	--	--	X	X	X	--
	20-40	38-40	GS-04-S(38-40)	12/13/2006	10:00	X	X	X	--	--	--	X
	40-50	50-51	GS-04-S(50-51)	12/13/2006	11:00	--	--	--	X	X	X	--
	50-60	60-61	GS-04-S(60-61)	12/13/2006	11:00	--	--	--	X	X	X	--
	40-60	60-61	GS-04-S(60-61)	12/13/2006	11:00	X	X	X	--	--	--	X
	60-70	70-71	GS-04-S(70-71)	12/13/2006	11:00	--	--	--	X	X	X	--
	70-80	78-81	GS-04-S(78-81)	12/13/2006	16:55	--	--	--	X	X	X	--
	60-80	78-81	GS-04-S(78-81)	12/13/2006	16:55	X	X	X	--	--	--	X
	80-90	91-93	GS-04-S(91-93)	12/13/2006	16:50	--	--	--	X	X	X	--

TABLE 2b
Analytical Sample Summary--Sediment Physical Properties
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	pH	Sulfate	Total Organic Carbon	Atterberg Limits	Moisture Content	Grain Size	Specific Gravity
GS-05	0-10	4-11	GS-05-S(4-11)	10/25/2006	10:35	--	--	--	X	X	X	--
	10-20	--	--	--	--	--	--	--	--	--	--	--
	0-20	--	--	--	--	--	--	--	--	--	--	--
	20-30	20-22	GS-05-S(20-22)	10/25/2006	10:45	--	--	--	X	X	X	--
	30-40	33-36	GS-05-S(33-36)	10/25/2006	15:30	--	--	--	X	X	X	--
	20-40	20-22	GS-05-S(20-22)	10/25/2006	10:45	X	X	X	--	--	--	X
	40-50	39-42	GS-05-S(39-42)	10/25/2006	15:30	--	--	--	X	X	X	--
	50-60	45-48	GS-05-S(45-48)	10/25/2006	14:55	--	--	--	X	X	X	--
	40-60	39-42	GS-05-S(39-42)	10/25/2006	15:30	X	X	X	--	--	--	X
	60-70	59-64	GS-05-S(59-64)	10/26/2006	9:10	--	--	--	X	X	X	--
	70-80	69-73	GS-05-S(70-80)	10/26/2006	9:15	--	--	--	X	X	X	--
	60-80	59-64	GS-05-S(59-64)	10/26/2006	9:10	X	X	X	--	--	--	X
	80-90	79-82	GS-05-S(79-82)	10/26/2006	15:00	--	--	--	X	X	X	--
	90-100	89-92	GS-05-S(89-92)	10/26/2006	15:55	--	--	--	X	X	X	--
	80-100	79-82	GS-05-S(79-82)	10/26/2006	15:00	X	X	X	--	--	--	X
GS-06	0-10	7-20	GS-06-S(7-20)	1/17/2007	12:05	--	--	--	X	X	X	--
	10-20	20-23	GS-06-S(20-23)	1/17/2007	10:45	--	--	--	X	X	X	--
	0-20	20-23	GS-06-S(20-23)	1/17/2007	10:45	X	X	X	--	--	--	X
	20-30	28-33	GS-06-S(28-33)	1/17/2007	13:30	--	--	--	X	X	X	--
	30-40	41-44	GS-06-S(41-44)	1/17/2007	13:20	--	--	--	X	X	X	--
	20-40	41-44	GS-06-S(41-44)	1/17/2007	13:20	X	X	X	--	--	--	X
	40-50	48-52	GS-06-S(48-52)	1/17/2007	15:15	--	--	--	X	X	X	--
	50-60	61-64	GS-06-S(61-64)	1/17/2007	15:20	--	--	--	X	X	X	--
	40-60	61-64	GS-06-S(61-64)	1/17/2007	15:20	X	X	X	--	--	--	X
	60-70	69-73	GS-06-S(69-73)	1/17/2007	15:30	--	--	--	X	X	X	--
	70-80	80-83	GS-06-S(80-83)	1/17/2007	16:10	--	--	--	X	X	X	--
	60-80	80-83	GS-06-S(80-83)	1/17/2007	16:10	X	X	X	--	--	--	X
	80-90	90-92	GS-06-S(90-92)	1/17/2007	16:30	--	--	--	X	X	X	--
GS-07	0-10	4-6	GS-07-S(4-6)	10/16/2006	13:30	--	--	--	X	X	X	--
	10-20	15-18	GS-07-S(15-18)	10/16/2006	14:10	--	--	--	X	X	X	--
	0-20	15-18	GS-07-S(15-18)	10/16/2006	14:10	X	X	X	--	--	--	X
	20-30	28-30	GS-07-S(28-30)	10/17/2006	13:21	--	--	--	X	X	X	--
	30-40	--	--	--	--	--	--	--	--	--	--	--
	20-40	--	--	--	--	--	--	--	--	--	--	--
	40-50	41-43	GS-07-S(41-43)	10/17/2006	14:00	--	--	--	X	X	X	--
	50-60	53-55	GS-07-S(53-55)	10/17/2006	15:35	--	--	--	X	X	X	--
	40-60	41-43	GS-07-S(41-43)	10/17/2006	14:00	X	X	X	--	--	--	X
	60-70	62-63	GS-07-S(62-63)	10/17/2006	15:40	--	--	--	X	X	X	--
	70-80	70-72	GS-07-S(70-72)	10/17/2006	16:20	--	--	--	X	X	X	--
	60-80	62-63	GS-07-S(62-63)	10/17/2006	15:40	X	X	X	--	--	--	X
	80-90	80-82	GS-07-S(80-82)	10/18/2006	10:00	--	--	--	X	X	X	--
	90-100	90-92	GS-07-S(90-92)	10/18/2006	10:30	--	--	--	X	X	X	--
	80-100	80-82	GS-07-S(80-82)	10/18/2006	10:00	X	X	X	--	--	--	X
GS-08	0-10	6-8	GS-08-S(6-8)	10/25/2006	12:00	--	--	--	X	X	X	--
	10-20	--	--	--	--	--	--	--	--	--	--	--
	0-20	--	--	--	--	--	--	--	--	--	--	--
	20-30	20-23	GS-08-S(20-23)	10/25/2006	14:20	--	--	--	X	X	X	--
	30-40	29-30	GS-08-S(29-30)	10/25/2006	16:45	--	--	--	X	X	X	--
	20-40	20-23	GS-08-S(20-23)	10/25/2006	14:20	X	X	X	--	--	--	X
	40-50	40-43	GS-08-S(40-43)	10/25/2006	17:00	--	--	--	X	X	X	--
	50-60	50-53	GS-08-S(50-53)	10/25/2006	12:20	--	--	--	X	X	X	--
	40-60	40-43	GS-08-S(40-43)	10/25/2006	17:00	X	X	X	--	--	--	X
	60-70	63-65	GS-08-S(63-65)	10/26/2006	13:00	--	--	--	X	X	X	--
	70-80	69-70	GS-08-S(69-70)	10/26/2006	13:30	--	--	--	X	X	X	--
	60-80	63-65	GS-08-S(63-65)	10/26/2006	13:00	X	X	X	--	--	--	X
	80-90	82-84	GS-08-S(82-84)	10/26/2006	15:15	--	--	--	X	X	X	--
	90-100	90-92	GS-08-S(90-92)	10/26/2006	16:45	--	--	--	X	X	X	--
	80-100	82-84	GS-08-S(82-84)	10/26/2006	15:15	X	X	X	--	--	--	X

TABLE 2b
Analytical Sample Summary--Sediment Physical Properties
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	pH	Sulfate	Total Organic Carbon	Atterberg Limits	Moisture Content	Grain Size	Specific Gravity
GS-09	0-10	4-6	GS-09-S(4-6)	10/6/2006	16:20	--	--	--	X	X	X	--
	10-20	--	--	--	--	--	--	--	--	--	--	--
	0-20	4-6	GS-09-S(4-6)	10/6/2006	16:20	X	X	X	--	--	--	X
	20-30	23-27	GS-09-S(23-27)	10/9/2006	14:50	--	--	--	X	X	X	--
	30-40	--	--	--	--	--	--	--	--	--	--	--
	20-40	23-27	GS-09-S(23-27)	10/9/2006	14:50	X	X	X	--	--	--	X
	40-50	--	--	--	--	--	--	--	--	--	--	--
	50-60	--	--	--	--	--	--	--	--	--	--	--
	40-60	--	--	--	--	--	--	--	--	--	--	--
	60-70	65-66	GS-09-S(65-66)	10/10/2006	14:15	--	--	--	X	X	X	--
	70-80	--	--	--	--	--	--	--	--	--	--	--
	60-80	65-66	GS-09-S(65-66)	10/10/2006	14:15	X	X	X	--	--	--	X
	80-90	--	--	--	--	--	--	--	--	--	--	--
	90-100	97-98	GS-09-S(97-98)	10/11/2006	12:30	--	--	--	X	X	X	--
	80-100	97-98	GS-09-S(97-98)	10/11/2006	12:30	X	X	X	--	--	--	X
GS-10	0-10	9-11	GS-10-S(9-11)	1/2/2007	13:40	--	--	--	X	X	X	--
	10-20	20-23	GS-10-S(20-23)	1/2/2007	14:00	--	--	--	X	X	X	--
	0-20	20-23	GS-10-S(20-23)	1/2/2007	14:00	X	X	X	--	--	--	X
	20-30	29-31	GS-10-S(29-31)	1/2/2007	15:30	--	--	--	X	X	X	--
	30-40	39-41	GS-10-S(39-41)	1/2/2007	15:45	--	--	--	X	X	X	--
	20-40	39-41	GS-10-S(39-41)	1/2/2007	15:45	X	X	X	--	--	--	X
	40-50	48-50	GS-10-S(48-50)	1/2/2007	16:25	--	--	--	X	X	X	--
	50-60	59-61	GS-10-S(59-61)	1/2/2007	16:45	--	--	--	X	X	X	--
	40-60	59-61	GS-10-S(59-61)	1/2/2007	16:45	X	X	X	--	--	--	X
	60-70	69-71	GS-10-S(69-71)	1/2/2007	16:35	--	--	--	X	X	X	--
	70-80	--	--	--	--	--	--	--	--	--	--	--
	60-80	--	--	--	--	--	--	--	--	--	--	--
	80-90	80-83	GS-10-S(80-83)	1/3/2007	11:15	--	--	--	X	X	X	--
	90-100	90-93	GS-10-S(90-93)	--	--	--	--	--	X	X	X	--
	80-100	80-83	GS-10-S(80-83)	1/3/2007	11:15	X	X	X	--	--	--	X
GS-11	0-10	9-11	GS-11-S(9-11)	1/5/2007	9:15	--	--	--	X	X	X	--
	10-20	20-23	GS-11-S(20-23)	1/5/2007	10:00	--	--	--	X	X	X	--
	0-20	20-23	GS-11-S(20-23)	1/5/2007	10:00	X	X	X	--	--	--	X
	20-30	30-32	GS-11-S(30-32)	1/5/2007	12:20	--	--	--	X	X	X	--
	30-40	40-42	GS-11-S(40-42)	1/5/2007	12:40	--	--	--	X	X	X	--
	20-40	40-42	GS-11-S(40-42)	1/5/2007	12:40	X	X	X	--	--	--	X
	40-50	49-51	GS-11-S(49-51)	1/5/2007	13:30	--	--	--	X	X	X	--
	50-60	59-61	GS-11-S(59-61)	1/5/2007	13:40	--	--	--	X	X	X	--
	40-60	59-61	GS-11-S(59-61)	1/5/2007	13:40	X	X	X	--	--	--	X
	60-70	68-70	GS-11-S(68-70)	1/5/2007	13:50	--	--	--	X	X	X	--
QA/QC Samples												
GS-03	20-30 (FD)	29-32	GS-53-S(29-32)	12/19/2006	10:15	--	--	--	X	X	X	--
GS-06	20-30 (FD)	28-33	GS-56-S(28-33)	1/17/2007	13:35	--	--	--	X	X	X	--
GS-06	50-60 (FD)	61-64	GS-56-S(61-64)	1/17/2007	15:25	--	--	--	X	X	X	--
GS-06	40-60 (FD)	61-64	GS-56-S(61-64)	1/17/2007	15:25	X	X	X	--	--	--	X

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-00	GS-00	GS-00	GS-01	GS-01	GS-01	GS-01	GS-01	GS-02	GS-02	GS-02	GS-02	GS-02
	Sample ID	GS-00-W (23-27)	GS-00-W (48-52)	GS-00-W (65-69)	GS-01-W (4-6)	GS-01-W (9-11)	GS-01-W (23-27)	GS-01-W (48-52)	GS-01-W (73-77)	GS-02-W (4-6)	GS-02-W (9-11)	GS-02-W (23-27)	GS-02-W (48-52)	GS-02-W (73-77)
	Sample Date	11/1/2006	11/1/2006	11/2/2006	12/21/2006	12/21/2006	12/21/2006	12/26/2006	12/26/2006	12/27/2006	12/27/2006	12/27/2006	12/28/2006	12/28/2006
	Depth Interval	23-27 ft	48-52 ft	65-69 ft	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**													
Conventionals														
Ammonia	mg/l	4.4	5	--	66.6	60.1	88.5	1.93	--	10.4	84.4	30.1	6.15	20.8
Carbonate	mg/l	2 U	2 U	--	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U
Total Chloride	mg/l	3.9	5.4	--	4.4	3.8	3.7	4.8	--	5.7	8.5	7.2	5.4	5.5
Total Cyanide	mg/l	0.62 J	0.19 J	0.008 J	3.7	1.3	1.9	0.13	0.1	2.61	1.15	1.52	0.87	1.15
Amenable cyanide	mg/l	0.01 U	0.01 U	0.01 UJ	0.79 J	0.31 J	0.26 J	0.01 UJ	0.01 UJ	0.28 J	0.01 UJ	0.47 J	0.01 UJ	0.05 J
Cyanide Free	mg/l	0.01 U	0.01 U	0.0054 J	0.005 J	0.007 J	0.01 U	0.005 J	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.006 J
Sulfate	mg/l	173	1,080	--	2,430	4,500	1,320	717	--	664	1,970	1,730	345	742
Alkalinity, Total as CaCO3	mg/l	2 U	78	--	86	196	112	115	--	2 U	2 U	93	217	116
Bicarbonate as CaCO3	mg/l	2 U	2 U	--	86	196	112	115	--	2 U	2 U	93	217	116
Nitrate as Nitrogen	mg/l	0.1 U	2 Ui	--	0.1 U	0.1 U	0.1 U	0.5 U	--	0.5 U	2 U	2 U	0.5 U	0.5 U
Metals (Dissolved)														
Aluminum	ug/l	4,260	1.4 B	2.6	299	11.9	3 B	1.7 B	--	4,170	47.8	31.5	2.1	2.3
Antimony	ug/l	0.05 UN	0.05 UN	0.23 UJ	0.08 J	0.1 J	0.1 UJ	0.05 U	--	0.05 U	0.08 U	0.05 U	0.05 U	0.05 U
Arsenic	ug/l	0.7	1.8	1.64	2.19	5.34	4.61	1.51	--	3.89	5.02	3.48	3.41	4.92
Barium	ug/l	19	60	20.1	28.9 J	33.9 J	22.1 J	182	--	12.6	107	51.4	205	47.3
Beryllium	ug/l	0.754	0.02 U	0.005 B	0.396	0.068	0.057	0.02 U	--	0.735	0.05	0.006 B	0.02 U	0.007 B
Cadmium	ug/l	0.02 U	0.02 U	0.02 U	0.04 U	0.04 U	0.04 U	0.05 U	--	0.05 U	0.07	0.1	0.05 U	0.05 U
Calcium metal	ug/l	35,300	202,000	19,900	368,000	476,000	455,000	161,000	--	149,000	311,000	290,000	117,000	86,300
Chromium	ug/l	9.23	0.3 U	0.19 B	3.47	3.11	1.92	0.21	--	12.5	1.48	1.14	0.38	0.45
Copper	ug/l	0.3	1.14	0.11	2.32	4.2	3.53	1.71	--	1.6	3.72	3.54	1.25	1.64
Iron	ug/l	24,400	155,000	12,000	811,000	2,490,000	1,720,000	66,600	--	95,700	538,000	537,000	102,000	221,000
Lead	ug/l	0.02 U	0.029	0.013 B	0.018 B	0.017 B	0.04 U	0.02 U	--	0.07	0.036	0.02 B	0.017 B	0.012 B
Magnesium	ug/l	4,750	85,800	7,600	69,300	271,000	154,000	81,000	--	17,200	56,900	143,000	47,700	58,000
Manganese	ug/l	452	13,700	874	6,650	23,100	14,200	3,700	--	1,950	4,950	18,600	6,870	4,900
Mercury	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	4.48	7.3	1.7	12.7	27.8	6.5	2.3	--	47.4	33.6	28.4	4.5	8.2
Potassium	ug/l	3,620	4,780	2,030 U	9,530	15,500	14,300	8,070	--	3,120	14,400	9,340	6,000	7,670
Selenium	ug/l	0.8 B	1.5	1.3 B	1.5 B	0.6 B	0.6 B	2 U	--	10 U	10 U	10 U	10 U	2 U
Silver	ug/l	0.02 U	0.02 U	0.02 U	0.04 U	0.04 U	0.04 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	10,500	25,600	8,560	46,400	230,000	136,000	24,500	--	23,900	52,900	163,000	37,800	47,700
Thallium	ug/l	0.02 U	0.02 U	0.02 U	0.04 U	0.04 U	0.04 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc	ug/l	3.6	6.9	72	20.3	38.2	8.3	4.9	--	13.5	22.1	10.2	5	7.5
Metals (Total)														
Aluminum	ug/l	4,980	4,460	17,000	8,880	4,020	14,400	265	--	201,000	23,800	14,100	6,900	611
Antimony	ug/l	0.05 UJ	0.05 UJ	0.37 UJ	0.27 J	0.13 J	0.04 J	0.05 U	--	0.1 U	0.09 U	0.05 U	0.05 U	0.05 U
Arsenic	ug/l	0.8	2.5	4.06	4.4	6.29	6.34	1.66	--	16.8	7.74	6.17	4.03	4.97
Barium	ug/l	26.6	87.5	170	127 J	70 J	227 J	182	--	762	321	170	248	56.9
Beryllium	ug/l	0.815	0.095	0.742	0.742	0.183	0.577	0.02 U	--	4.58	0.588	0.322	0.168	0.024
Cadmium	ug/l	0.02	0.03	0.37	0.26	0.07	0.13	0.05 U	--	2.54	0.2	0.17	0.05	0.05 U
Calcium metal	ug/l	34,300	206,000	31,600	356,000	458,000	435,000	150,000	--	173,000	291,000	274,000	112,000	82,500
Chromium	ug/l	10.3	4.09	33.5	24.6	9.03	17.9	0.63	--	231	29.1	12.7	6.47	1.05
Copper	ug/l	0.85 J	6.85 J	58	52.7	18.8	33.9	1.97	--	208	25.5	23.9	10.5	2.34
Iron	ug/l	24,800	165,000	87,500	774,000	2,540,000	1,650,000	63,500	--	206,000	528,000	527,000	109,000	217,000
Lead	ug/l	0.13	1.38	14.2	79.6	17.9	5.06	0.098	--	108	9.28	3.74	1.6	0.132
Magnesium	ug/l	4,820	88,700	13,200	68,400	260,000	153,000	77,200	--	53,700	57,800	138,000	48,500	58,100
Manganese	ug/l	415	13,900	2,040	6,410	21,600	13,700	3,480	--	2,590	4,940	17,700	6,740	4,770
Mercury	ug/l	0.2 U	0.2 U	0.04 B	0.17 B	0.02 B	0.2 U	0.2 U	--	0.4	0.04 B	0.2 U	0.2 U	0.2 U
Nickel	ug/l	3.26	14.2	30	44.5	45.5	27.6	3.3	--	745	80.6	39	12.6	9.5
Potassium	ug/l	4,000	5,110	3,110 U	9,230	14,700	14,200	7,540	--	7,230	13,500	9,050	6,120	7,200
Selenium	ug/l	0.7 B	1.6	1.8 B	1.5 B	1.5 B	3.3 B	2 U	--	10 U	10 U	10 U	10 U	2 U
Silver	ug/l	0.02 U	0.02 U	0.067	0.07 U	0.04 U	0.064 U	0.02 U	--	0.22	0.033	0.119	0.02 U	0.02 U
Sodium	ug/l	10,700	26,000	11,400	45,000	219,000	129,000	23,500	--	27,600	52,400	159,000	37,900	48,700
Thallium	ug/l	0.02 U	0.018 B	0.128	0.032 B	0.01 B	0.062	0.02 U	--	0.345	0.067	0.047	0.019 B	0.02 U
Zinc	ug/l	12.8 J	34.2 J	1,540	112	76.7	51.8	3.9	--	640	79.9	36.4	21.3	6.3

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-00	GS-00	GS-00	GS-01	GS-01	GS-01	GS-01	GS-01	GS-02	GS-02	GS-02	GS-02	GS-02
	Sample ID	GS-00-W (23-27)	GS-00-W (48-52)	GS-00-W (65-69)	GS-01-W (4-6)	GS-01-W (9-11)	GS-01-W (23-27)	GS-01-W (48-52)	GS-01-W (73-77)	GS-02-W (4-6)	GS-02-W (9-11)	GS-02-W (23-27)	GS-02-W (48-52)	GS-02-W (73-77)
	Sample Date	11/1/2006	11/1/2006	11/2/2006	12/21/2006	12/21/2006	12/21/2006	12/26/2006	12/26/2006	12/27/2006	12/27/2006	12/27/2006	12/28/2006	12/28/2006
	Depth Interval	23-27 ft	48-52 ft	65-69 ft	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
SVOC (Dissolved)														
2-Methylnaphthalene	ug/l	0.8	0.0089 J	0.02 U	2.2	0.42	0.023	0.025	0.067	40 D	6.4	0.016 J	0.0072 J	0.021 U
Acenaphthene	ug/l	0.26	0.0061 J	0.023	4.4	0.8	0.52	0.017 J	0.077	24 D	5.9	0.021 Ui	0.0096 J	0.021 U
Acenaphthylene	ug/l	0.018 J	0.023 U	0.0024 J	0.23	0.056	0.015 J	0.0099 J	0.012 J	0.26	0.086	0.0095 J	0.021 U	0.021 U
Anthracene	ug/l	0.029	0.023 U	0.02 U	0.56	0.14	0.11	0.022 U	0.011 J	0.36	0.088	0.026	0.0055 J	0.0046 J
Benzo(a)anthracene	ug/l	0.02 U	0.023 U	0.0056 J	0.015 J	0.015 J	0.037	0.022 U	0.01 J	0.047	0.034 U	0.011 J	0.021 U	0.021 U
Benzo(a)pyrene	ug/l	0.02 U	0.023 U	0.02 U	0.0049 J	0.028 U	0.015 J	0.022 U	0.0079 J	0.05	0.034 U	0.0052 J	0.021 U	0.021 U
Benzo(b)fluoranthene	ug/l	0.02 U	0.023 U	0.02 U	0.0051 J	0.028 U	0.016 J	0.022 U	0.006 J	0.035	0.034 U	0.006 J	0.021 U	0.021 U
Benzo(g,h,i)perylene	ug/l	0.02 U	0.023 U	0.02 U	0.02 U	0.028 U	0.011 J	0.022 U	0.0068 J	0.033	0.034 U	0.0044 J	0.021 U	0.021 U
Benzo(k)fluoranthene	ug/l	0.02 U	0.023 U	0.02 U	0.02 U	0.028 U	0.015 J	0.022 U	0.021 U	0.028	0.034 U	0.0062 J	0.021 U	0.021 U
Chrysene	ug/l	0.02 U	0.023 U	0.02 U	0.02 J	0.021 J	0.062	0.022 U	0.0099 J	0.061	0.034 U	0.016 J	0.021 U	0.021 U
Dibenzo(a,h)anthracene	ug/l	0.02 U	0.023 U	0.02 U	0.02 U	0.028 U	0.021 U	0.022 U	0.021 U	0.0044 J	0.0081 J	0.021 U	0.021 U	0.021 U
Dibenzofuran	ug/l	0.24	0.023 U	0.0098 J	1	0.11	0.021 U	0.022 U	0.01 J	1.9	0.45	0.021 U	0.021 U	0.021 U
Fluoranthene	ug/l	0.011 J	0.023 U	0.0062 J	0.13	0.094	0.29	0.014 J	0.037	0.38	0.041	0.051	0.01 J	0.0058 J
Fluorene	ug/l	4.8	0.0052 J	0.012 J	5.2	0.69	0.067	0.015 J	0.058	11 D	3.1	0.021	0.0097 J	0.021 U
Indeno(1,2,3-cd)pyrene	ug/l	0.02 U	0.023 U	0.02 U	0.02 U	0.028 U	0.008 J	0.022 U	0.0062 J	0.034	0.034 U	0.0046 J	0.021 U	0.021 U
Naphthalene	ug/l	22	0.024	0.083 U	7.7	1.4	0.098	0.25	0.95	1000 D	150 D	0.1	0.053	0.014 J
Phenanthrene	ug/l	0.57	0.02 J	0.019 J	8.8	1	0.55	0.037	0.12	5	1.4	0.1	0.03	0.012 J
Pyrene	ug/l	0.0088 J	0.023 U	0.02 U	0.1	0.091	0.29	0.014 J	0.041	0.41	0.039	0.051	0.0082 J	0.021 U
SVOC (Total)														
2-Methylnaphthalene	ug/l	0.93	0.011 J	0.023 U	3 D	0.67	0.01 J	0.0054 J	0.035	62 D	12	0.014 J	0.0071 J	0.02 U
Acenaphthene	ug/l	0.36	0.0065 J	0.054	6.8 D	1.3	0.77	0.02 U	0.059	51 D	14	0.022 U	0.0082 J	0.02 U
Acenaphthylene	ug/l	0.025	0.0052 J	0.0064 J	0.88 D	0.19	0.02 U	0.02 U	0.015 J	1.5 D	1.5	0.022 U	0.02 U	0.02 U
Anthracene	ug/l	0.13	0.0044 J	0.012 J	5 D	0.84	0.036	0.02 U	0.032	7.3 D	6.8	0.017 J	0.0051 J	0.0056 J
Benzo(a)anthracene	ug/l	0.018 J	0.009 J	0.025	2.3 D	0.35	0.011 J	0.02 U	0.04	5 D	5.5	0.022 U	0.022 U	0.02 U
Benzo(a)pyrene	ug/l	0.01 J	0.0085 J	0.025	2.2 D	0.31	0.0053 J	0.02 U	0.036	6.6 D	6.8	0.022 U	0.022 U	0.02 U
Benzo(b)fluoranthene	ug/l	0.0095 J	0.0066 J	0.023	1.8 D	0.25	0.0052 J	0.02 U	0.029	4.8 D	4.5	0.022 U	0.022 U	0.02 U
Benzo(g,h,i)perylene	ug/l	0.008 J	0.0073 J	0.025	2.2 D	0.25	0.0055 J	0.02 U	0.032	6.4 D	5.9	0.022 U	0.022 U	0.02 U
Benzo(k)fluoranthene	ug/l	0.007 J	0.0065 J	0.019 J	1.6 D	0.2	0.02 U	0.02 U	0.027	4 D	3.9	0.022 U	0.022 U	0.02 U
Chrysene	ug/l	0.018 J	0.011 J	0.036	3.2 D	0.47	0.016 J	0.0056 J	0.054	7.9 D	6.8	0.0059 J	0.022 U	0.02 U
Dibenzo(a,h)anthracene	ug/l	0.02 U	0.02 U	0.0039 J	0.2 D	0.025 J	0.02 U	0.02 U	0.004 J	0.64 D	0.63	0.0052 J	0.0046 J	0.02 U
Dibenzofuran	ug/l	0.37	0.02 U	0.028	1.9 D	0.25	0.02 U	0.02 U	0.012 J	5.8 D	1.7	0.022 U	0.022 U	0.02 U
Fluoranthene	ug/l	0.12	0.027	0.098	15 D	2.1	0.078	0.016 J	0.16	26 D	23 D	0.04	0.015 J	0.0062 J
Fluorene	ug/l	7.9	0.0062 J	0.039	10 D	1.7	0.011 J	0.02 U	0.049	34 D	13	0.02 J	0.0081 J	0.02 U
Hexachlorobutadiene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	0.0062 J	0.0061 J	0.022	1.8 D	0.2	0.0038 J	0.02 U	0.03	5.7 D	5.2	0.022 U	0.022 U	0.02 U
Naphthalene	ug/l	24	0.027	0.12 U	9.1 D	1.5	0.02	0.02 U	0.074	1,400 D	170 D	0.11	0.048	0.012 J
Phenanthrene	ug/l	1.4	0.042	0.23	43 D	6	0.091	0.021	0.24	88 D	54 D	0.084	0.031	0.013 J
Pyrene	ug/l	0.14	0.03	0.096	16 D	2.5	0.091	0.02 J	0.2	29 D	26 D	0.047	0.015 J	0.0052 J

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
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	Location ID	GS-00	GS-00	GS-00	GS-01	GS-01	GS-01	GS-01	GS-01	GS-02	GS-02	GS-02	GS-02	GS-02
	Sample ID	GS-00-W (23-27)	GS-00-W (48-52)	GS-00-W (65-69)	GS-01-W (4-6)	GS-01-W (9-11)	GS-01-W (23-27)	GS-01-W (48-52)	GS-01-W (73-77)	GS-02-W (4-6)	GS-02-W (9-11)	GS-02-W (23-27)	GS-02-W (48-52)	GS-02-W (73-77)
	Sample Date	11/1/2006	11/1/2006	11/2/2006	12/21/2006	12/21/2006	12/21/2006	12/26/2006	12/26/2006	12/27/2006	12/27/2006	12/27/2006	12/28/2006	12/28/2006
	Depth Interval	23-27 ft	48-52 ft	65-69 ft	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC														
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	200 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	200 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	200 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	200 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrolein	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	200 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	50 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	**0.28 J**	0.5 U	0.5 U	**1**	0.5 U	0.5 U	0.5 U	0.5 U	**18 D**	**0.29 J**	0.5 U	0.5 U	0.5 U
Bromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.41 J**	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	**16**	**0.18 J**	0.5 U	**1.7**	**0.44 J**	0.5 U	0.5 U	0.5 U	**130 D**	**2**	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	0.5 U	0.5 U	**0.15 J**	0.5 U	0.5 U	**0.84**	**0.39 J**	**13**	**1.4 JD**	**0.35 J**	**0.34 J**	**1.2**	**0.62**
Chloromethane	ug/l	**2.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Dichloromethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**2 JD**	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**0.5**	0.5 U	0.5 U	**0.63**	0.5 U	0.5 U	0.5 U	0.5 U	**6.4 D**	**0.37 J**	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U	2 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	ug/l	0.5 U	0.5 U	0.5 U	**0.16 J**	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/l	**0.29 J**	0.5 U	0.5 U	**0.47 J**	0.5 U	0.5 U	0.5 U	0.5 U	**3.9 JD**	**0.28 J**	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	0.5 U	0.5 U	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	50 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**0.24 J**	0.5 U	0.5 U	**0.24 J**	0.5 U	0.5 U	0.5 U	0.5 U	**5 D**	**0.49 J**	0.5 U	0.5 U	0.5 U
o-Xylene	ug/l	0.5 U	0.5 U	0.5 U	**0.17 J**	0.5 U	0.5 U	0.5 U	0.5 U	**3.9 JD**	**0.27 J**	0.5 U	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
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	Location ID	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04
	Sample ID	GS-03-W (4-6)	GS-03-W (13-15)	GS-03-W (23-27)	GS-03-W (48-52)	GS-03-W (73-77)	GS-03-W (98-102)	GS-03-W (116-120)	GS-04-W (4-6)	GS-04-W (9-11)	GS-04-W (27-31)	GS-04-W (48-52)	GS-04-W (73-77)	GS-04-W (98-102)	GS-04-W (123-127)	GS-04-W (148-152)
	Sample Date	12/18/2006	12/18/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/20/2006	12/12/2006	12/12/2006	12/12/2006	12/13/2006	12/13/2006	12/13/2006	12/14/2006	12/15/2006
	Depth Interval	4-6 ft	13-15 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	116-120 ft	4-6 ft	9-11 ft	27-31 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**															
Conventionals																
Ammonia	mg/l	2.89	13.2	3.05	13.3	--	--	--	3.02	5.92	1.9	3.61	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	--	--	--	2 U	2 U	2 U	2 U	--	--	--	--
Total Chloride	mg/l	3.4	5.9	4.4	4.7	--	--	--	42.8	18	18.9	7	--	--	--	--
Total Cyanide	mg/l	8.9 J	3.6 J	1.6 J	2.2 J	0.2 J	0.01 J	0.01 J	0.34 J	0.36 J	0.19 J	0.21 J	0.11 J	0.01 J	0.003 J	0.003 J
Amenable cyanide	mg/l	3.22 J	0.06 J	0.08 J	1.37 J	0.01 J	0.01 UJ	0.01 UJ	0.05 U	0.05 U	0.05 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Cyanide Free	mg/l	0.008 J	0.01 U	0.01 U	0.009 J	0.01 U	0.01 U	0.01 U	0.01 UJ	0.005 J	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	--	--
Sulfate	mg/l	2.1	1.9	5.2	4,210	--	--	--	0.7	0.3	0.3	0.16 J	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	206	397	278	28	--	--	--	231	330	298	392	--	--	--	--
Bicarbonate as CaCO3	mg/l	206	397	278	28	--	--	--	231	330	298	392	--	--	--	--
Nitrate as Nitrogen	mg/l	0.007 J	0.016 J	0.046 J	0.009 J	--	--	--	0.006 J	0.007 J	0.007 J	0.012 J	--	--	--	--
Metals (Dissolved)																
Aluminum	ug/l	--	--	--	4 U	--	--	--	2.1	1.9 B	1.7 B	1.7 B	1.6 B	152	5.6	1.6 B
Antimony	ug/l	--	--	--	0.1 UJ	--	--	--	0.1 U	0.07 U	0.14 U	0.08 U	0.1 U	0.58	0.08 U	0.08 U
Arsenic	ug/l	--	--	--	2.58	--	--	--	10.8	10.7	4.89	17.3	5.71	1.82	1.19	2.38
Barium	ug/l	--	--	--	22.9 J	--	--	--	73.6	81	86.2	99.4	101	68	29.1	27.4
Beryllium	ug/l	--	--	--	0.04 U	--	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Cadmium	ug/l	--	--	--	0.04 U	--	--	--	0.03	0.02 U	0.02 U	0.02 U	0.02 U	0.03	0.02 U	0.02 U
Calcium metal	ug/l	--	--	--	234,000	--	--	--	51,200	56,200	40,600	80,700	67,000	65,000	60,600	64,000
Chromium	ug/l	--	--	--	0.38 B	--	--	--	4.1	0.99	0.65 U	0.22 U	0.2 U	0.91	0.2 U	0.2 U
Copper	ug/l	--	--	--	2.45	--	--	--	0.97	0.73	0.47	0.4	0.35	1.4	0.54	0.36
Iron	ug/l	--	--	--	1,290,000	--	--	--	71,000	75,300	59,200	35,700	25,400	9,720	8,780	1,610
Lead	ug/l	--	--	--	0.04 U	--	--	--	0.206	0.125	0.055 U	0.01 B	0.02 U	0.206	0.061	0.073
Magnesium	ug/l	--	--	--	173,000	--	--	--	16,400	17,700	26,000	27,700	22,400	33,500	24,700	11,300
Manganese	ug/l	--	--	--	13,000	--	--	--	5,600	5,440	2,530	5,070	3,440	929	298	261
Mercury	ug/l	--	--	--	0.2 U	--	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	--	--	--	7.2	--	--	--	34.5	4.13	3.94	10	7.2	16.5	7.14	4.85
Potassium	ug/l	--	--	--	12,500	--	--	--	2,990 U	3,190 U	2,830 U	6,020 U	8,600	6,860	6,260 U	10,500
Selenium	ug/l	--	--	--	0.6 B	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	ug/l	--	--	--	0.04 U	--	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	--	--	--	260,000	--	--	--	16,000	16,200	26,200	15,900	17,700	22,000	18,200	39,700
Thallium	ug/l	--	--	--	0.04 U	--	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc	ug/l	--	--	--	7.6	--	--	--	19,200	172	119	248	542	995	4.9	1.8
Metals (Total)																
Aluminum	ug/l	--	--	--	6,010	--	--	--	7,650	39,100	56,400	10,600	9,700	10,800	16,900	1000
Antimony	ug/l	--	--	--	0.04 J	--	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.06 U	0.06 U	0.17 U	0.08 U
Arsenic	ug/l	--	--	--	10.6	--	--	--	9.5	14.1	6.22	14.1	5.14	17.5	3.47	2.67
Barium	ug/l	--	--	--	125 J	--	--	--	158	684	633	251	176	1,300	175	34.2
Beryllium	ug/l	--	--	--	0.252	--	--	--	0.335	2.89	3.01	0.781	0.398	7.49	0.632	0.038 U
Cadmium	ug/l	--	--	--	0.04	--	--	--	0.09	0.44	0.59	0.09	0.05	0.82	0.17	0.02 U
Calcium metal	ug/l	--	--	--	230,000	--	--	--	55,200	95,000	68,800	85,500	69,600	163,000	61,400	66,700
Chromium	ug/l	--	--	--	7.16	--	--	--	14.4	45.3	66.5	15.5	11.6	143	38.3	1.32
Copper	ug/l	--	--	--	7.86	--	--	--	16.7	136	163	28.7	24.3	434	84.7	2.74
Iron	ug/l	--	--	--	1,320,000	--	--	--	90,400	270,000	218,000	69,300	50,300	545,000	65,300	4,370
Lead	ug/l	--	--	--	1.85	--	--	--	2.89	18.4	26.2	2.65	2.68	45.8	6.41	0.604
Magnesium	ug/l	--	--	--	174,000	--	--	--	20,500	47,400	57,600	31,400	25,600	113,000	28,600	12,100
Manganese	ug/l	--	--	--	12,900	--	--	--	5,790	9,210	4,210	5,390	3,550	11,900	847	299
Mercury	ug/l	--	--	--	0.2 U	--	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.3	0.2 U	0.2 U
Nickel	ug/l	--	--	--	16.3	--	--	--	43.8	68.6	78.4	37.3	22.7	199	34.6	3.74
Potassium	ug/l	--	--	--	12,700	--	--	--	3,670 U	5,880 U	6,120 U	6,430	8,790	17,100	7,780	10,300
Selenium	ug/l	--	--	--	2 B	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	ug/l	--	--	--	0.07 U	--	--	--	0.029 U	0.158	0.173	0.025 U	0.02 U	0.259	0.042 U	0.02 U
Sodium	ug/l	--	--	--	258,000	--	--	--	16,000	20,100	30,200	15,300	17,300	32,200	18,000	39,800
Thallium	ug/l	--	--	--	0.023 B	--	--	--	0.044	0.163	0.311	0.061	0.039	0.575	0.082	0.011 B
Zinc	ug/l	--	--	--	21.2	--	--	--	17,400	492	525	436	879	13,800	109	5.3

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

Location ID		GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04
Sample ID		GS-03-W (4-6)	GS-03-W (13-15)	GS-03-W (23-27)	GS-03-W (48-52)	GS-03-W (73-77)	GS-03-W (98-102)	GS-03-W (116-120)	GS-04-W (4-6)	GS-04-W (9-11)	GS-04-W (27-31)	GS-04-W (48-52)	GS-04-W (73-77)	GS-04-W (98-102)	GS-04-W (123-127)	GS-04-W (148-152)
Sample Date		12/18/2006	12/18/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/20/2006	12/12/2006	12/12/2006	12/12/2006	12/13/2006	12/13/2006	12/13/2006	12/14/2006	12/15/2006
Depth Interval		4-6 ft	13-15 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	116-120 ft	4-6 ft	9-11 ft	27-31 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
Sample Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
SVOC (Dissolved)																
2-Methylnaphthalene	ug/l	24 D	0.15	0.018 J	0.017 J	0.012 J	0.016 J	0.011 J	0.75	0.027	0.13	0.061	0.087	0.035 J	0.02 U	0.02 U
Acenaphthene	ug/l	5.3 D	0.15	0.019 J	0.072 Ui	0.068	0.021	0.014 J	0.37	0.016 J	0.36	0.031	0.034	0.03 J	0.0069 J	0.0057 J
Acenaphthylene	ug/l	0.49 D	0.0087 J	0.013 J	0.02 U	0.021 U	0.0097 J	0.0031 J	0.035	0.018 J	0.016 J	0.013 J	0.009 J	0.012 J	0.027	0.006 J
Anthracene	ug/l	3.2 D	0.036	0.013 J	0.04	0.013 J	0.012 J	0.014 J	0.023 J	0.0091 J	0.019 J	0.0094 J	0.0089 J	0.037 U	0.0054 J	0.02 U
Benzo(a)anthracene	ug/l	1.8 D	0.02 U	0.0051 J	0.0076 J	0.006 J	0.011 J	0.0045 J	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Benzo(a)pyrene	ug/l	1.2 D	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	1.1 D	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	1.3 D	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	0.99 D	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Chrysene	ug/l	2.7 D	0.02 U	0.0082 J	0.0065 J	0.01 J	0.014 J	0.0082 J	0.023 J	0.02	0.007 J	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	ug/l	0.13 JD	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Dibenzofuran	ug/l	1 D	0.023	0.02 U	0.02 U	0.0057 J	0.0061 J	0.0052 J	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Fluoranthene	ug/l	12 D	0.02 U	0.023 U	0.02 U	0.03	0.046	0.03	0.073	0.051	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Fluorene	ug/l	6.9 D	0.17	0.019 J	0.01 J	0.014 J	0.021	0.022	0.88	0.024	0.08	0.07	0.08	0.037 U	0.02 U	0.02 U
Indeno(1,2,3-cd)pyrene	ug/l	1 D	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
Naphthalene	ug/l	2,000 D	2	0.16	0.038	0.057	0.091	0.026	1.2	0.038 U	0.19	0.19 B	0.22 B	0.12 U	0.071 U	0.023 U
Phenanthrene	ug/l	26 D	0.51	0.048	0.032	0.05	0.1	0.094	0.21	0.02 U	0.042	0.062 U	0.076 U	0.037 U	0.02 U	0.02 U
Pyrene	ug/l	13 D	0.02 U	0.019 J	0.017 J	0.026	0.046	0.03	0.081	0.055	0.02 U	0.02 U	0.02 U	0.037 U	0.02 U	0.02 U
SVOC (Total)																
2-Methylnaphthalene	ug/l	260 D	0.37	0.026	0.029	0.018 J	0.019 J	0.0077 J	1.8	0.045	0.37	0.93	0.13	0.43 J	0.046	0.02 U
Acenaphthene	ug/l	62 D	0.35	0.03	0.2 Ui	0.079	0.02 J	0.02 U	0.93	0.048	1	0.45	0.05	0.13 J	0.014 J	0.0054 J
Acenaphthylene	ug/l	9.4 D	0.051	0.0088 J	0.027 U	0.015 J	0.0076 J	0.02 U	0.17	0.12	0.055	0.25	0.036	0.036 J	0.03	0.02 U
Anthracene	ug/l	37 D	0.34	0.021	0.044	0.02 J	0.018 J	0.008 J	0.25	0.073	0.16	0.32	0.067	0.17 J	0.04	0.02 U
Benzo(a)anthracene	ug/l	31 D	0.27	0.017 J	0.016 J	0.049	0.04	0.0041 J	0.65	0.38	0.15	0.75	0.21	0.33 J	0.14	0.02 U
Benzo(a)pyrene	ug/l	34 D	0.19	0.011 J	0.0097 J	0.034	0.026	0.02 U	0.8	0.53	0.12	0.57	0.15	0.19 J	0.088	0.02 U
Benzo(b)fluoranthene	ug/l	29 D	0.16	0.012 J	0.0095 J	0.041	0.022	0.02 U	0.52	0.37	0.1	0.78	0.14	0.16 J	0.087	0.02 U
Benzo(g,h,i)perylene	ug/l	36 D	0.19	0.018 J	0.014 J	0.034	0.028	0.02 U	0.64	0.4	0.11	0.81	0.14	0.2 J	0.092	0.02 U
Benzo(k)fluoranthene	ug/l	22 D	0.14	0.011 J	0.0076 J	0.027	0.024	0.02 U	0.48	0.29	0.093	0.75	0.14	0.11 J	0.076	0.02 U
Chrysene	ug/l	45 D	0.43	0.021 J	0.024 J	0.12	0.077	0.02 U	0.82	0.57	0.34	1.8	0.46	1.1 J	0.29	0.02 U
Dibenzo(a,h)anthracene	ug/l	3.8 D	0.021	0.0089 J	0.027 U	0.023 U	0.02 U	0.02 U	0.059	0.042	0.012 J	0.18 J	0.015 J	0.091 J	0.01 J	0.02 U
Dibenzofuran	ug/l	13 D	0.059	0.0079 J	0.027 U	0.0063 J	0.008 J	0.02 U	0.0097 J	0.004 J	0.0052 J	0.2 U	0.0038 J	0.015 J	0.0059 J	0.02 U
Fluoranthene	ug/l	130 D	1.9	0.065	0.053	0.12	0.15	0.025 U	2.3	1.3	0.8	2.5	0.61	0.45 J	0.45	0.029 U
Fluorene	ug/l	80 D	0.44	0.027	0.034	0.02 J	0.011 J	0.02 U	2.5	0.069	0.37	1.2	0.14	0.54 J	0.02 U	0.02 U
Hexachlorobutadiene	ug/l	50 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	31 D	0.16	0.014 J	0.0095 J	0.024	0.019 J	0.02 U	0.53	0.36	0.094	0.62	0.1	0.085 J	0.074	0.02 U
Naphthalene	ug/l	5,700 D	3.8	0.22	0.076	0.076	0.11	0.02 J	2.2	0.065 U	0.39	2.7	0.33 B	2.2 J	0.16 B	0.02 U
Phenanthrene	ug/l	280 D	2.8	0.096	0.082	0.047	0.064	0.02 U	1.3	0.12	0.9	2	0.36 B	1.6 J	0.15 B	0.02 U
Pyrene	ug/l	140 D	2.8	0.076	0.067	0.15	0.19	0.026	3	1.6	0.91	2.9	0.83	0.63 J	0.64	0.029 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04
	Sample ID	GS-03-W (4-6)	GS-03-W (13-15)	GS-03-W (23-27)	GS-03-W (48-52)	GS-03-W (73-77)	GS-03-W (98-102)	GS-03-W (116-120)	GS-04-W (4-6)	GS-04-W (9-11)	GS-04-W (27-31)	GS-04-W (48-52)	GS-04-W (73-77)	GS-04-W (98-102)	GS-04-W (123-127)	GS-04-W (148-152)
	Sample Date	12/18/2006	12/18/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/20/2006	12/12/2006	12/12/2006	12/12/2006	12/13/2006	12/13/2006	12/13/2006	12/14/2006	12/15/2006
	Depth Interval	4-6 ft	13-15 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	116-120 ft	4-6 ft	9-11 ft	27-31 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC																
1,1,1,2-Tetrachloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.13 J**	**0.27 J**	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	50 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	50 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	ug/l	500 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	**5.5 J**	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	130 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ
2-Hexanone	ug/l	500 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	500 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	500 UJ	20 UJ	20 UJ	20 UJ	**4.7 J**	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	**4.4 J**	**4.3 J**	20 UJ	20 UJ
Acrolein	ug/l	500 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	**1.7 J**	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	130 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	**36 D**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.2**	0.5 U	**0.38 J**	**0.21 J**	**0.8**	**2.9**	0.5 U	0.5 U
Bromochloromethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.13 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	13 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	**5.5 JD**	0.5 U	0.5 U	0.5 U	0.5 U	**0.2 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	13 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Chlorobenzene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.33 J**	0.5 U	0.5 U
Chloroform	ug/l	13 U	0.5 U	0.5 U	**0.28 J**	**1.5**	**2.7**	**0.16 J**	0.5 U	0.5 U	0.5 U	0.5 U	**0.76**	**0.72**	**0.16 J**	0.5 U
Chloromethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.27 J**	0.5 UJ	**0.18 J**	0.5 U	0.5 U	**1.1**	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Dichloromethane	ug/l	50 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**350 D**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	130 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**6.5 JD**	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**0.36 J**	2 U	2 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/l	**12 JD**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.33 J**	0.5 U	**0.15 J**	0.5 U	**0.11 J**	**0.21 J**	**0.25 J**	0.5 U
trans-1,2-Dichloroethene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	250 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	130 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	13 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**73 D**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.3 J**	0.5 U
o-Xylene	ug/l	**44 D**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.14 J**	0.5 U	**0.12 J**	0.5 U	0.5 U	**0.16 J**	**0.11 J**	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05
	Sample ID	GS-05-W (4-6)	GS-05-W (9-11)	GS-05-W (23-27)	GS-05-W (55-59)	GS-05-W (73-77)	GS-05-W (98-102)	GS-05-W (123-127)	GS-05-W (148-152)	GS-05-W (173-177)	GS-05-W (191-195)
	Sample Date	10/24/2006	10/24/2006	10/25/2006	10/25/2006	10/26/2006	10/26/2006	10/27/2006	10/27/2006	10/30/2006	10/31/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	55-59 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	173-177 ft	191-195 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**										
Conventionals											
Ammonia	mg/l	**2.68**	**1.77**	**2.12**	**13.3**	--	--	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	--	--	--	--	--	--
Total Chloride	mg/l	**2.3**	**2.5**	**2.6**	**8.9**	--	--	--	--	--	--
Total Cyanide	mg/l	**0.03**	**0.03**	**0.02**	**0.13**	**0.03**	**0.04**	**0.1**	**0.02**	**0.005 J**	**0.09**
Amenable cyanide	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 UJ	**0.02 J**
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.005 J**	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	0.2 U	**0.07 J**	0.2 U	**0.14 J**	--	--	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	**156**	**144**	**154**	**371**	--	--	--	--	--	--
Bicarbonate as CaCO3	mg/l	**156**	**144**	**154**	**371**	--	--	--	--	--	--
Nitrate as Nitrogen	mg/l	0.1 U	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--
Metals (Dissolved)											
Aluminum	ug/l	--	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--	--
Metals (Total)											
Aluminum	ug/l	--	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--	--

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID Sample ID Sample Date Depth Interval Sample Matrix	GS-05 GS-05-W (4-6) 10/24/2006 4-6 ft Water	GS-05 GS-05-W (9-11) 10/24/2006 9-11 ft Water	GS-05 GS-05-W (23-27) 10/25/2006 23-27 ft Water	GS-05 GS-05-W (55-59) 10/25/2006 55-59 ft Water	GS-05 GS-05-W (73-77) 10/26/2006 73-77 ft Water	GS-05 GS-05-W (98-102) 10/26/2006 98-102 ft Water	GS-05 GS-05-W (123-127) 10/27/2006 123-127 ft Water	GS-05 GS-05-W (148-152) 10/27/2006 148-152 ft Water	GS-05 GS-05-W (173-177) 10/30/2006 173-177 ft Water	GS-05 GS-05-W (191-195) 10/31/2006 191-195 ft Water
SVOC (Dissolved)											
2-Methylnaphthalene	ug/l	0.66	4.4	13	0.19	0.024	0.029	0.063	0.027	0.021	0.021 J
Acenaphthene	ug/l	13	5.1	5.6	0.33	0.12	0.058	0.087	0.031	0.059	0.023 J
Acenaphthylene	ug/l	0.065	0.094	0.16	0.013 J	0.0069 J	0.0078 J	0.019 J	0.01 J	0.006 J	0.05 U
Anthracene	ug/l	0.046	0.092	0.37	0.24	0.046	0.05	0.024 J	0.017 J	0.0076 J	0.05 U
Benzo(a)anthracene	ug/l	0.029 U	0.025 J	0.0042 J	0.0097 J	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Benzo(a)pyrene	ug/l	0.029 U	0.017 J	0.02 U	0.02 U	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Benzo(b)fluoranthene	ug/l	0.029 U	0.012 J	0.02 U	0.02 U	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Benzo(g,h,i)perylene	ug/l	0.029 U	0.012 J	0.02 U	0.02 U	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Benzo(k)fluoranthene	ug/l	0.029 U	0.012 J	0.02 U	0.02 U	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Chrysene	ug/l	0.029 U	0.033	0.0068 J	0.01 J	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Dibenzo(a,h)anthracene	ug/l	0.029 U	0.029 U	0.02 U	0.02 U	0.0039 J	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Dibenzofuran	ug/l	0.034	0.15	0.41	0.023	0.01 J	0.011 J	0.014 J	0.0064 J	--	0.05 U
Fluoranthene	ug/l	0.023 J	0.14	0.23	0.22	0.046	0.031	0.022 J	0.015 J	0.0087 J	0.013 J
Fluorene	ug/l	1.2	1.1	2.3	0.27	0.048	0.059	0.078	0.028	0.02 J	0.05 U
Indeno(1,2,3-cd)pyrene	ug/l	0.029 U	0.0099 J	0.02 U	0.02 U	0.02 U	0.02 U	0.034 U	0.02 U	0.02 U	0.05 U
Naphthalene	ug/l	1.4	30	53	0.41	0.092	0.054	0.3	0.36	0.13	0.13
Phenanthrene	ug/l	0.32	0.94	5	2.7	0.46	0.55	0.28	0.26	0.065	0.032 J
Pyrene	ug/l	0.019 J	0.14	0.15	0.16	0.035	0.019 J	0.01 J	0.0084 J	0.0065 J	0.05 U
SVOC (Total)											
2-Methylnaphthalene	ug/l	1.1	5.2	16	0.21	0.026	0.029	0.19	0.038	0.044	0.041
Acenaphthene	ug/l	28	6.6	6.9	0.38	0.14	0.056	0.28	0.045	0.12	0.063
Acenaphthylene	ug/l	0.14	0.14	0.22	0.038	0.015 J	0.0079 J	0.057	0.0081 J	0.04	0.012 J
Anthracene	ug/l	0.28	0.43	1	0.75	0.082	0.11	0.4	0.055	0.12	0.035
Benzo(a)anthracene	ug/l	0.11	0.16	0.3	0.26	0.013 J	0.016 J	0.044	0.012 J	0.1	0.011 J
Benzo(a)pyrene	ug/l	0.081	0.15	0.25	0.2	0.0084 J	0.0088 J	0.037	0.0059 J	0.099	0.0047 J
Benzo(b)fluoranthene	ug/l	0.049	0.11	0.16	0.14	0.005 J	0.0073 J	0.022 J	0.0054 J	0.069	0.021 U
Benzo(g,h,i)perylene	ug/l	0.046	0.091	0.19	0.14	0.0055 J	0.0081 J	0.041	0.02 U	0.077	0.021 U
Benzo(k)fluoranthene	ug/l	0.043	0.094	0.15	0.13	0.02 U	0.0063 J	0.025 J	0.02 U	0.059	0.021 U
Chrysene	ug/l	0.15	0.21	0.42	0.48	0.014 J	0.019 J	0.062	0.014 J	0.15	0.013 J
Dibenzo(a,h)anthracene	ug/l	0.029 U	0.0077 J	0.018 J	0.014 J	0.0038 J	0.02 U	0.027 U	0.02 U	0.0071 J	0.021 U
Dibenzofuran	ug/l	0.07	0.23	0.54	0.029	0.0099 J	0.011 J	0.053	0.0088 J	0.015 J	0.0088 J
Fluoranthene	ug/l	0.67	0.86	2	1.7	0.15	0.21	0.42	0.091	0.48	0.1
Fluorene	ug/l	3.6	1.8	3	0.41	0.063	0.067	0.3	0.045	0.061	0.032
Hexachlorobutadiene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	0.04	0.074	0.16	0.12	0.0042 J	0.0067 J	0.039	0.02 U	0.062	0.021 U
Naphthalene	ug/l	1.7	26	65	0.42	0.095 U	0.049 U	0.43	0.14	0.19	0.18
Phenanthrene	ug/l	2	3.3	9.2	5.8	0.74	0.94	3.2	0.57	0.88	0.31
Pyrene	ug/l	0.76	1	2.1	1.8	0.15	0.21	0.47	0.12	0.62	0.1

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05
	Sample ID	GS-05-W (4-6)	GS-05-W (9-11)	GS-05-W (23-27)	GS-05-W (55-59)	GS-05-W (73-77)	GS-05-W (98-102)	GS-05-W (123-127)	GS-05-W (148-152)	GS-05-W (173-177)	GS-05-W (191-195)
	Sample Date	10/24/2006	10/24/2006	10/25/2006	10/25/2006	10/26/2006	10/26/2006	10/27/2006	10/27/2006	10/30/2006	10/31/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	55-59 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	173-177 ft	191-195 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC											
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	**0.13 J**	**0.29 J**	**0.21 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.12 J**	0.5 U
1,2-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
2-Hexanone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	20 UJ	20 UJ	**4.7 J**	**5.3 J**	**6.8 J**	**5.4 J**	20 UJ	**6.3 J**	**6 J**	20 UJ
Acrolein	ug/l	20 UJ	20 UJ	**2.6 J**	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	**1**	**1**	**0.79**	0.5 U	0.5 U	0.5 U	**0.73**	0.5 U	0.5 U	**0.69**
Bromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	**0.56**	**0.2 J**	0.5 U	0.5 U	**0.23 J**	0.5 U	**0.21 J**	0.5 U	**0.74**	**0.94**
Carbon tetrachloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	ug/l	**0.23 J**	**0.25 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.51**	**0.4 J**
Chloromethane	ug/l	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	**0.25 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**0.28 J**	**1.3**	**1.8**	0.5 U	0.5 U	0.5 U	**0.17 J**	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**6.8**	**7**	**3.6**	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	ug/l	0.5 U	0.5 U	**0.3 J**	0.5 U	**0.11 J**	0.5 U	**0.39 J**	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/l	**0.59**	**0.56**	**0.47 J**	0.5 U	0.5 U	0.5 U	**0.47 J**	0.5 U	0.5 U	**1.4**
trans-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 UJ	5 UJ
Vinyl chloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**1.5**	**1.4**	**1.2**	0.5 U	0.5 U	0.5 U	**0.24 J**	0.5 U	0.5 U	0.5 U
o-Xylene	ug/l	**0.36 J**	**1.2**	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-06	GS-06	GS-06	GS-06 (Dup)	GS-06	GS-06 (Dup)	GS-06	GS-06	GS-06	GS-06
	Sample ID	GS-06-W (4-6)	GS-06-W (9-11)	GS-06-W (23-27)	GS-56-W (23-27)	GS-06-W (48-52)	GS-56-W (48-52)	GS-06-W (73-77)	GS-06-W (98-102)	GS-06-W (123-127)	GS-06-W (148-152)
	Sample Date	1/15/2007	1/15/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/18/2007	1/18/2007	1/18/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**										
Conventionals											
Ammonia	mg/l	2.1	2.83	2.18	2.19	14.1	14.2	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--
Total Chloride	mg/l	3.3	7.2	4.1	4.1	7.3	7.4	--	--	--	--
Total Cyanide	mg/l	0.85	0.68	0.05	0.05	0.18	0.17	0.07	0.13	0.05	0.05
Amenable cyanide	mg/l	0.09 J	0.02 J	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	0.23 J	0.27 J	0.09 J	0.09 J	0.12 J	0.13 J	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	272	275	277	270	355	350	--	--	--	--
Bicarbonate as CaCO3	mg/l	272	275	277	270	355	350	--	--	--	--
Nitrate as Nitrogen	mg/l	0.01 J	0.01 J	0.006 J	0.007 J	0.007 J	0.008 J	--	--	--	--
Metals (Dissolved)											
Aluminum	ug/l	4	2.8	1.9 B	1.8 B	2	1.8 B	1.8 B	2.7	2.1	2.8
Antimony	ug/l	0.06 J	0.04 J	0.02 J	0.02 J	0.05 UJ	0.05 Uj	0.02 J	0.11 J	0.05 UJ	0.03 J
Arsenic	ug/l	5.22	7.59	4.96	5.05	6.26	6.32	11.2	6.66	9.56	1.05
Barium	ug/l	72.1	66.2	48.9	48.3	73.6	71.3	85.4	87.6	58.6	19.5
Beryllium	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Cadmium	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Calcium metal	ug/l	44,500	51,600	49,300	49,200	69,500	69,100	66,200	76,000	62,200	43,900
Chromium	ug/l	0.97	1.05	0.44 U	0.38 U	0.45 U	0.48 U	0.39 U	0.56 U	0.38 U	0.24 U
Copper	ug/l	0.57	0.66	0.34	0.29	0.45	0.42	0.38	0.44	0.38	0.32
Iron	ug/l	80,900	89,100	38,000	38,000	18,100	18,000	31,900	33,700	21,300	13,300
Lead	ug/l	0.098	0.128	0.011 B	0.019 B	0.014 B	0.02 U	0.02 U	0.013 B	0.01 B	0.016 B
Magnesium	ug/l	22,700	24,300	23,000	22,900	31,700	31,600	23,800	28,500	22,700	28,700
Manganese	ug/l	2,930	3,640	4,310	4,300	1,580	1,560	2,610	2,210	1,080	364
Mercury	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	5	11.4	1.1	1.4	0.3	0.4	0.3	1.1	0.6	1.1
Potassium	ug/l	1,880 B	2,110	2,170	2,240	3,790	4,060	4,560	7,120	5,240	4,890
Selenium	ug/l	1 U	0.2 B	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	ug/l	0.029 UJ	0.024 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.051 UJ
Sodium	ug/l	24,400	17,600	14,800	14,700	12,000	12,000	12,300	23,100	17,200	15,800
Thallium	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc	ug/l	12	14.7	3.4	2.3	4.2	5	4	4.1	2.5	6
Metals (Total)											
Aluminum	ug/l	71,100	12,300	3,020	2,720	4,450	4,930	4,830	1,240	645	652
Antimony	ug/l	0.15 J	0.08 J	0.02 J	0.03 J	0.03 J	0.03 J	0.03 J	0.1 J	0.05 UJ	0.03 J
Arsenic	ug/l	7.99	6.29	4.55	4.36	6.29	6.18	10.4	6.86	8.89	1.21
Barium	ug/l	658	146	66.9	65	109	107	117	101	61.5	23
Beryllium	ug/l	3.13	0.496	0.097	0.099	0.152	0.157	0.153	0.049	0.025	0.024
Cadmium	ug/l	1.16	0.09	0.02	0.02	0.02	0.02	0.02	0.02 U	0.02 U	0.02 U
Calcium metal	ug/l	69,000	53,700	49,800	50,300	70,800	70,600	68,000	76,700	61,300	43,400
Chromium	ug/l	78.4	15.5	3.24	3.21	5.01	4.72	5.03	2.04	1.1	1.07
Copper	ug/l	133	36.9	7	6.71	7.98	7.62	7.28	2.81	1.9	2.01
Iron	ug/l	194,000	111,000	41,900	42,200	26,500	27,100	39,700	36,600	22,000	13,900
Lead	ug/l	59.9	4.13	1	0.969	1.05	1.02	1.16	0.325	0.186	0.19
Magnesium	ug/l	46,600	28,700	23,500	23,700	32,900	33,000	26,600	28,700	22,400	28,400
Manganese	ug/l	4,580	3,740	4,320	4,370	1,710	1,710	2,780	2,240	1,070	357
Mercury	ug/l	0.32	0.02 B	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	90	20.9	4.2	4	7.5	7	6	2.7	1.5	1.9
Potassium	ug/l	4,680	2,980	2,670	2,300	4,350	4,710	5,160	7,270	5,290	5,020
Selenium	ug/l	7.9	1.6	0.4 B	0.6 B	0.3 B	0.4 B	0.5 B	0.3 B	1 U	1 U
Silver	ug/l	0.17 UJ	0.04 UJ	0.081 UJ	0.021 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.063 UJ
Sodium	ug/l	26,900	17,400	14,600	14,700	12,100	12,100	12,600	23,000	16,900	15,500
Thallium	ug/l	0.322	0.044	0.012 B	0.011 B	0.019 B	0.016 B	0.017 B	0.006 B	0.02 U	0.02 U
Zinc	ug/l	403	47.7	10.1	9.1	16.6	16.9	13.1	6.5	5.2	7.6

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID Sample ID Sample Date Depth Interval Sample Matrix	GS-06 GS-06-W (4-6) 1/15/2007 4-6 ft Water	GS-06 GS-06-W (9-11) 1/15/2007 9-11 ft Water	GS-06 GS-06-W (23-27) 1/17/2007 23-27 ft Water	GS-06 (Dup) GS-56-W (23-27) 1/17/2007 23-27 ft Water	GS-06 GS-06-W (48-52) 1/17/2007 48-52 ft Water	GS-06 (Dup) GS-56-W (48-52) 1/17/2007 48-52 ft Water	GS-06 GS-06-W (73-77) 1/17/2007 73-77 ft Water	GS-06 GS-06-W (98-102) 1/18/2007 98-102 ft Water	GS-06 GS-06-W (123-127) 1/18/2007 123-127 ft Water	GS-06 GS-06-W (148-152) 1/18/2007 148-152 ft Water
SVOC (Dissolved)											
2-Methylnaphthalene	ug/l	**25 D**	**840 D**	**0.048**	**0.052**	**0.027**	**0.029**	**0.014 J**	**0.12**	**0.014 J**	**0.02**
Acenaphthene	ug/l	**39 D**	**92 D**	**0.083**	**0.092**	**0.023**	**0.026**	**0.015 J**	**0.1**	**0.013 J**	**0.017 J**
Acenaphthylene	ug/l	**1.4**	**68 D**	**0.013 J**	**0.015 J**	**0.0083 J**	**0.024**	**0.0056 J**	0.02 U	**0.0051 J**	**0.01 J**
Anthracene	ug/l	**0.55**	**1.9 D**	**0.0076 J**	**0.0085 J**	0.021 U	**0.0047 J**	0.02 U	**0.0063 J**	0.02 U	**0.0042 J**
Benzo(a)anthracene	ug/l	**0.017 J**	**0.19 JD**	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(a)pyrene	ug/l	**0.0093 J**	**0.081 JD**	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	0.033 U	0.33 U	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	0.033 U	0.33 U	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	0.033 U	0.33 U	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Chrysene	ug/l	**0.016 J**	**0.16 JD**	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	ug/l	**0.033 U**	**0.33 U**	0.022 U	**0.0046 J**	**0.0048 J**	0.023 U	0.02 U	0.02 U	**0.0037 J**	0.02 U
Dibenzofuran	ug/l	**1.8**	**14 D**	**0.0076 J**	**0.0092 J**	**0.0051 J**	**0.0051 J**	0.02 U	**0.012 J**	0.02 U	**0.0052 J**
Fluoranthene	ug/l	**0.084**	**0.64 D**	**0.0098 J**	**0.014 J**	**0.0081 J**	**0.011 J**	**0.0088 J**	**0.014 J**	0.02 U	**0.0084 J**
Fluorene	ug/l	**9.6**	**26 D**	**0.04**	**0.043**	**0.012 J**	**0.012 J**	**0.0072 J**	**0.028**	**0.0051 J**	**0.014 J**
Indeno(1,2,3-cd)pyrene	ug/l	**0.0061 J**	**0.069 JD**	0.022 U	0.023 U	0.021 U	0.023 U	0.02 U	0.02 U	0.02 U	0.02 U
Naphthalene	ug/l	**350 D**	**5,300 D**	**0.18**	**0.19**	**0.088**	**0.096**	**0.054**	**0.54**	**0.044**	**0.033**
Phenanthrene	ug/l	**8.4**	**9.1 D**	**0.09**	**0.11**	**0.042**	**0.052**	**0.019 J**	**0.056**	**0.015 J**	**0.03**
Pyrene	ug/l	**0.079**	**0.65 D**	0.022 U	0.023 U	0.021 U	**0.0057 J**	0.02 U	0.02 U	0.02 U	**0.0081 J**
SVOC (Total)											
2-Methylnaphthalene	ug/l	**110 D**	**4.3 D**	**0.084**	**0.062**	**0.027**	**0.03**	**0.013 J**	**0.12**	**0.015 J**	**0.0076 J**
Acenaphthene	ug/l	**200 D**	**8.4 D**	**0.15**	**0.11**	**0.023 J**	**0.026**	**0.015 J**	**0.1**	**0.015 J**	**0.008 J**
Acenaphthylene	ug/l	**27 D**	**1 D**	**0.016 J**	**0.011 J**	**0.0048 J**	**0.0055 J**	**0.0037 J**	**0.0063 J**	0.02 U	0.02 U
Anthracene	ug/l	**76 D**	**2.9 D**	**0.018 J**	**0.017 J**	**0.0069 J**	**0.0075 J**	0.02 U	**0.0086 J**	0.02 U	0.02 U
Benzo(a)anthracene	ug/l	**71 D**	**2.9 D**	**0.0068 J**	**0.005 J**	**0.0073 J**	**0.0082 J**	**0.0041 J**	0.02 U	**0.0041 J**	0.02 U
Benzo(a)pyrene	ug/l	**110 D**	**4 D**	**0.0049 J**	0.021 U	0.023 U	0.022 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	**66 D**	**2.8 D**	**0.0085 J**	0.021 U	**0.0067 J**	**0.0099 J**	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	**89 D**	**3.5 D**	**0.0046 J**	0.021 U	0.023 U	**0.0052 J**	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	**57 D**	**2 D**	0.021 U	0.021 U	0.023 U	0.022 U	0.02 U	0.02 U	0.02 U	0.02 U
Chrysene	ug/l	**96 D**	**3.7 D**	**0.011 J**	**0.0057 J**	**0.017 J**	**0.02 J**	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	ug/l	**8.9 D**	**0.4 D**	**0.0054 J**	0.021 U	**0.0046 J**	0.022 U	**0.0037 J**	0.02 U	**0.0045 J**	**0.004 J**
Dibenzofuran	ug/l	**14 D**	**0.61 D**	**0.015 J**	**0.011 J**	**0.0053 J**	**0.0059 J**	0.02 U	**0.0086 J**	0.02 U	0.02 U
Fluoranthene	ug/l	**240 D**	**9.8 D**	**0.06**	**0.054**	**0.039**	**0.046**	**0.023**	**0.035**	**0.016 J**	**0.013 J**
Fluorene	ug/l	**85 D**	**3.6 D**	**0.069**	**0.057**	**0.014 J**	**0.018 J**	**0.0059 J**	**0.027**	**0.0059 J**	**0.0052 J**
Hexachlorobutadiene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	9.9 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	**78 D**	**2.9 D**	**0.0048 J**	0.021 U	0.023 U	**0.0036 J**	0.02 U	0.02 U	0.02 U	0.02 U
Naphthalene	ug/l	**910 D**	**28 D**	**0.28**	**0.21**	**0.084**	**0.094**	**0.048**	**0.49**	**0.051**	**0.015 J**
Phenanthrene	ug/l	**370 D**	**15 D**	**0.23**	**0.21**	**0.074**	**0.084**	**0.031**	**0.093**	**0.025**	**0.019 J**
Pyrene	ug/l	**270 D**	**12 D**	**0.056**	**0.047**	**0.041**	**0.048**	**0.02 J**	**0.029**	**0.018 J**	**0.012 J**

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-06	GS-06	GS-06	GS-06 (Dup)	GS-06	GS-06 (Dup)	GS-06	GS-06	GS-06	GS-06
	Sample ID	GS-06-W (4-6)	GS-06-W (9-11)	GS-06-W (23-27)	GS-56-W (23-27)	GS-06-W (48-52)	GS-56-W (48-52)	GS-06-W (73-77)	GS-06-W (98-102)	GS-06-W (123-127)	GS-06-W (148-152)
	Sample Date	1/15/2007	1/15/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/18/2007	1/18/2007	1/18/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC											
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	0.5 U	**0.5**	**0.52**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	9.9 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	9.9 U	0.5 U	**3.3**
1,2-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	9.9 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/l	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	9.9 U	0.5 U	**0.34 J**
2-Butanone (MEK)	ug/l	20 U	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	**6.4 UJ**	20 UJ	20 UJ	20 UJ
Acrolein	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	**100 D**	**0.7**	**0.61**	**0.63**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ
Carbon disulfide	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ
Chlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.42 J**
Chloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	0.5 U	0.5 U	**0.57**	**0.62**	**0.25 J**	**0.37 J**	**0.46 J**	**0.28 J**	**0.36 J**	**0.25 J**
Chloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Dichloromethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**32**	**0.54**	**0.86**	**0.85**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**15**	**1 J**	**0.11 J**	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	ug/l	**0.13 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/l	**2.1**	**0.69**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**6.7**	**0.4 J**	**0.6**	**0.59**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	ug/l	**11**	**0.49 J**	**0.35 J**	**0.35 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07 (Dup)	GS-07	GS-07	GS-07	GS-07
	Sample ID	GS-07-W (4-6)	GS-07-W (9-11)	GS-07-W (23-27)	GS-07-W (48-52)	GS-07-W (73-77)	GS-57-W (73-77)	GS-07-W (98-102)	GS-07-W (123-127)	GS-07-W (148-152)	GS-07-W (170-174)
	Sample Date	10/16/2006	10/16/2006	10/17/2006	10/17/2006	10/18/2006	10/18/2006	10/18/2006	10/18/2006	10/19/2006	10/19/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	170-174 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**										
Conventionals											
Ammonia	mg/l	**20.8**	**9**	**2.3**	**2.3**	--	--	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	--	--	--	--	--	--
Total Chloride	mg/l	**9.9 J**	**10.8**	**10.3**	**6**	--	--	--	--	--	--
Total Cyanide	mg/l	**1.2**	**1.3**	**1**	**0.6**	**0.39**	**0.4**	**0.01**	**0.002 J**	**0.07**	**0.03**
Amenable cyanide	mg/l	**0.02**	**0.06**	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 U
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.0063 J**	0.01 U
Sulfate	mg/l	40 U	**0.11 J**	**0.9**	**18.7**	--	--	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	**548**	**603**	**482**	**217**	--	--	--	--	--	--
Bicarbonate as CaCO3	mg/l	**548**	**603**	**482**	**217**	--	--	--	--	--	--
Nitrate as Nitrogen	mg/l	20 U	0.2 U	0.1 U	**0.2**	--	--	--	--	--	--
Metals (Dissolved)											
Aluminum	ug/l	--	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--	--
Metals (Total)											
Aluminum	ug/l	--	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--	--

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID Sample ID Sample Date Depth Interval Sample Matrix	GS-07 GS-07-W (4-6) 10/16/2006 4-6 ft Water	GS-07 GS-07-W (9-11) 10/16/2006 9-11 ft Water	GS-07 GS-07-W (23-27) 10/17/2006 23-27 ft Water	GS-07 GS-07-W (48-52) 10/17/2006 48-52 ft Water	GS-07 GS-07-W (73-77) 10/18/2006 73-77 ft Water	GS-07 (Dup) GS-57-W (73-77) 10/18/2006 73-77 ft Water	GS-07 GS-07-W (98-102) 10/18/2006 98-102 ft Water	GS-07 GS-07-W (123-127) 10/18/2006 123-127 ft Water	GS-07 GS-07-W (148-152) 10/19/2006 148-152 ft Water	GS-07 GS-07-W (170-174) 10/19/2006 170-174 ft Water
SVOC (Dissolved)											
2-Methylnaphthalene	ug/l	5,700	130	380	40	1.6	2.2	0.16	0.13	0.049	0.11
Acenaphthene	ug/l	1,600	92	140	27	4.1	5	0.5	0.64	0.39	0.19
Acenaphthylene	ug/l	180	1.8	30	7.4	1	1.3	0.079	0.13	0.06	0.021
Anthracene	ug/l	1,500	10	5.1	1.1	0.64	0.6	0.16	0.087	0.078	0.028
Benzo(a)anthracene	ug/l	1000	5	1.6	0.05	0.046	0.004 J	0.02 U	0.02 U	0.0068 J	0.02 U
Benzo(a)pyrene	ug/l	990	4.2	1.3	0.034	0.021	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	530	2.5	0.79	0.022 J	0.017 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	580	2.9	0.93	0.024 J	0.015 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	520	2.6	0.79	0.02 J	0.014 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Chrysene	ug/l	1,200	6.3	2.3	0.065	0.057	0.0056 J	0.02 U	0.02 U	0.0055 J	0.0059 J
Dibenzo(a,h)anthracene	ug/l	81	0.33 J	0.11	0.029 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzofuran	ug/l	220	4.2	6	1.4	0.31	0.36	0.041	0.05	0.038	0.016 J
Fluoranthene	ug/l	3,700	20	9.5	0.33	0.82	0.32	0.13	0.07	0.055	0.036
Fluorene	ug/l	1,400	27	40	10	2.8	3.2	0.43	0.47	0.36	0.16
Indeno(1,2,3-cd)pyrene	ug/l	510	2.4	0.84	0.021 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Naphthalene	ug/l	15,000	3,000	3,900	200	7.8	10	0.35	0.47	0.16	0.29
Phenanthrene	ug/l	8,700	61	40	13	7.2	7.6	1.9	1.3	1	0.53
Pyrene	ug/l	4,300	23	12	0.33	0.86	0.23	0.098	0.051	0.045	0.032
SVOC (Total)											
2-Methylnaphthalene	ug/l	200	180	1,100	87	2.2	2.1	0.13	0.16	0.025	0.12
Acenaphthene	ug/l	97	170	680	75	5.2	5	0.45	0.76	0.46	0.23
Acenaphthylene	ug/l	9	4.4	140	21	1.3	1.3	0.13	0.16	0.07	0.025
Anthracene	ug/l	70	57	400	49	1.5	1.3	0.55	0.23	0.19	0.095
Benzo(a)anthracene	ug/l	34	28	260	31	0.73	0.67	0.28	0.078	0.03	0.015 J
Benzo(a)pyrene	ug/l	34	30	330	32	0.82	0.72	0.27	0.072	0.017 J	0.0073 J
Benzo(b)fluoranthene	ug/l	17	18	180	19	0.5	0.45	0.16	0.051	0.014 J	0.0064 J
Benzo(g,h,i)perylene	ug/l	17	21	240	22	0.62	0.57	0.21	0.059	0.016 J	0.0073 J
Benzo(k)fluoranthene	ug/l	21	17	170	17	0.49	0.47	0.16	0.048	0.013 J	0.0067 J
Chrysene	ug/l	44	39	350	43	0.7	0.65	0.48	0.074	0.038	0.016 J
Dibenzo(a,h)anthracene	ug/l	2.5	2	27	2.5	0.059	0.056	0.02	0.0057 J	0.02 U	0.02 U
Dibenzofuran	ug/l	12	9.4	49	5.7	0.39	0.39	0.046	0.06	0.044	0.019 J
Fluoranthene	ug/l	120	120	820	100	3.4	3.1	1.2	0.48	0.31	0.15
Fluorene	ug/l	71	60	380	46	3.6	3.6	0.49	0.58	0.46	0.21
Hexachlorobutadiene	ug/l	2 U	100 U	50 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	15	18	220	20	0.57	0.52	0.19	0.053	0.02 U	0.02 U
Naphthalene	ug/l	480	2,800	6,100	250	9.7	9.2	0.28	0.54	0.059	0.25
Phenanthrene	ug/l	310	290	1,700	230	12	12	3.2	2.3	1.9	0.93
Pyrene	ug/l	150	140	1000	130	3.8	3.5	1.5	0.53	0.33	0.16

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07 (Dup)	GS-07	GS-07	GS-07	GS-07
	Sample ID	GS-07-W (4-6)	GS-07-W (9-11)	GS-07-W (23-27)	GS-07-W (48-52)	GS-07-W (73-77)	GS-57-W (73-77)	GS-07-W (98-102)	GS-07-W (123-127)	GS-07-W (148-152)	GS-07-W (170-174)
	Sample Date	10/16/2006	10/16/2006	10/17/2006	10/17/2006	10/18/2006	10/18/2006	10/18/2006	10/18/2006	10/19/2006	10/19/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	170-174 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC											
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	25 U	13 U	**0.24 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	100 U	50 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	100 U	50 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	**0.18 J**	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	**3.5**	0.5 U
1,2-Dichloroethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.12 J**	0.5 U
1,4-Dichlorobenzene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.3**	0.5 U
2-Butanone (MEK)	ug/l	20 UJ	1000 UJ	500 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	5 U	250 U	130 UJ	10 UJ	5 UJ	5 UJ	5 UJ	5 U	5 UJ	5 UJ
2-Hexanone	ug/l	20 UJ	1000 UJ	500 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	1000 UJ	500 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	**7.3 J**	1000 UJ	500 UJ	**15 J**	20 UJ	**4.3 J**	20 UJ	20 UJ	20 UJ	20 UJ
Acrolein	ug/l	20 UJ	1000 UJ	500 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	5 UJ	250 UJ	130 UJ	10 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	**19**	**220**	**64**	**600**	**0.34 J**	**0.33 J**	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	25 U	13 U	**0.32 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.85**	0.5 U
Chloroethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	0.5 U	25 U	13 U	**4.1**	**0.14 J**	**0.14 J**	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	ug/l	0.5 U	25 U	13 UJ	1 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	ug/l	2 U	100 U	**13 J**	**1.1 J**	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**24**	**120**	**89**	**8.8**	**0.16 J**	**0.16 J**	0.5 U	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	250 U	130 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**4.5**	**7 J**	**8.8 J**	**2.2 J**	**0.71 J**	**0.64 J**	2 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	25 U	13 UJ	1 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	**0.25 J**	0.5 U
Styrene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	25 U	13 U	**0.4 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/l	**3**	**15 J**	**12 J**	**0.58 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	500 U	250 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	250 UJ	130 UJ	10 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	0.5 U	25 U	13 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**17**	**32**	**68**	**3.9**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	ug/l	**30**	**49**	**47**	**4.2**	**0.62**	**0.54**	**0.16 J**	0.5 U	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-08	GS-08	GS-08	GS-08	GS-08 (Dup)	GS-08	GS-08	GS-08	GS-08
	Sample ID	GS-08-W (4-6)	GS-08-W (9-11)	GS-08-W (23-27)	GS-08-W (48-52)	GS-58-W (48-52)	GS-08-W (73-77)	GS-08-W (98-102)	GS-08-W (123-127)	GS-08-W (148-152)
	Sample Date	10/25/2006	10/25/2006	10/25/2006	10/26/2006	10/26/2006	10/26/2006	10/27/2006	10/27/2006	10/27/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**									
Conventionals										
Ammonia	mg/l	5.4	1.62	2.27	4.2	13.1	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	2 U	--	--	--	--
Total Chloride	mg/l	3	6.9	6.2	6.9	7	--	--	--	--
Total Cyanide	mg/l	0.16	0.11	0.11	0.51	0.53	0.67	0.55	0.15	0.18
Amenable cyanide	mg/l	0.01 U	0.01 U	0.01	0.07 J	0.06 J	0.08 J	0.01 U	0.01 U	0.01 U
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	0.9	0.09 J	0.13 J	0.2 J	0.16 J	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	440	262	294	315	314	--	--	--	--
Bicarbonate as CaCO3	mg/l	440	262	294	315	314	--	--	--	--
Nitrate as Nitrogen	mg/l	0.029 J	0.2	0.1 U	0.09	0.09	--	--	--	--
Metals (Dissolved)										
Aluminum	ug/l	5.7	0.9 B	4 U	4 U	4 U	1.7 B	1.1 B	1.9 B	3.2
Antimony	ug/l	0.11	0.1	0.02 B	0.02 BN	0.05 UN	0.05 UN	0.03 B	0.05 U	0.04 B
Arsenic	ug/l	3.4	5.9	3.9	6.9	6.7	7.6	8.32	1.2	1.73
Barium	ug/l	175	75	59	88.6	85	66.7	61.4	20.3	20.9
Beryllium	ug/l	0.02 U	0.02 U	0.04 U	0.04 U	0.04 U	0.04 U	0.005 B	0.007 B	0.005 B
Cadmium	ug/l	0.02 U	0.07	0.03	0.02 U	0.05	0.02 U	0.02 U	0.02 U	0.03
Calcium metal	ug/l	86,400	45,300	52,800	67,300	67,400	64,600	69,700	60,300	67,000
Chromium	ug/l	0.79	0.37 U	0.2 U	0.2 U	0.27 U	0.26 U	0.74	0.55	1.11
Copper	ug/l	0.59	0.29	0.24	0.26	0.34	0.24	0.19	0.26	0.35
Iron	ug/l	56,500	90,500	47,900	29,400	29,300	28,600	43,200	17,000	9,190
Lead	ug/l	0.069	0.02 B	0.02 U	0.02 U	0.025	0.02 U	0.008 B	0.015 B	0.02 U
Magnesium	ug/l	33,600	30,200	28,400	25,700	25,800	29,200	27,700	38,300	38,200
Manganese	ug/l	7,270	3,290	4,900	3,950	3,960	1,530	2,690	676	520
Mercury	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	9.52	23.5	5.22	3.51	3.44	2.97	4.74	3.62	6.01
Potassium	ug/l	3,830	2,310	3,340	4,520	4,450	3,900	4,650	5,070	5,450
Selenium	ug/l	0.8 B	0.9 B	0.6 B	1.5	1.5	1.5	0.2 B	0.4 B	0.2 B
Silver	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	26,900	14,500	13,400	13,100	13,100	11,500	11,600	19,800	23,300
Thallium	ug/l	0.02 U	0.008 B	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc	ug/l	129	490	12.3	8.4	6.1	37	49.2	13.5	197
Metals (Total)										
Aluminum	ug/l	5,030 J	368 J	2,840 J	5,060	5,950	6,650	2,050	422	15,000
Antimony	ug/l	0.14 J	0.05 J	0.04 J	0.12 UJ	0.12 UJ	0.1 UJ	0.03 B	0.02 B	0.06
Arsenic	ug/l	3.7	6.5	4	5	5	8.3	8.76	1.32	3.08
Barium	ug/l	227	56.3	91.1	116	116	103	75.4	23.4	108
Beryllium	ug/l	0.216	0.1 U	0.136	0.125	0.141	0.155	0.066	0.02 B	0.475
Cadmium	ug/l	0.12	0.03	0.16	0.15	0.24	0.05	0.05	0.03	0.19
Calcium metal	ug/l	92,000	46,300	55,300	66,800	68,400	68,100	71,500	62,200	75,500
Chromium	ug/l	7.15	1.04	5.08	8.44	9.12	5	3.33	1.49	28.6
Copper	ug/l	9.54 J	1.88 J	10.5 J	14.2 J	16.1 J	9 J	4.13	1.04	28.9
Iron	ug/l	71,800	97,400	62,000	51,000	55,000	39,600	47,600	18,900	38,500
Lead	ug/l	11	0.343	1.99	4.59	8	1.71	1.49	0.752	7
Magnesium	ug/l	36,500	30,700	30,600	26,800	27,700	32,300	29,000	39,400	44,100
Manganese	ug/l	7,750	3,350	5,280	4,180	4,300	1,750	2,750	700	737
Mercury	ug/l	0.04 B	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.08 B
Nickel	ug/l	14.4	13.5	12.9	16.8	18	11	8.45	5.1	25.1
Potassium	ug/l	4,720	2,240	2,720	5,360	5,300	4,480	4,910	5,210	6,530
Selenium	ug/l	0.8 B	1.1	0.8 B	1.8 B	1.8 B	2	0.5 B	0.3 B	2 B
Silver	ug/l	0.077	0.02 U	0.02 U	0.04 U	0.04 U	0.04 U	0.02 U	0.02 U	0.047 U
Sodium	ug/l	28,100	14,900	13,900	13,400	13,700	12,100	11,900	20,300	24,700
Thallium	ug/l	0.049	0.01 B	0.021	0.024 B	0.025 B	0.02 B	0.011 B	0.009 B	0.06
Zinc	ug/l	176 J	138 J	49.9 J	393 J	737 J	117 J	122	89.3	696

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

Location ID Sample ID Sample Date Depth Interval Sample Matrix		GS-08 GS-08-W (4-6) 10/25/2006 4-6 ft Water	GS-08 GS-08-W (9-11) 10/25/2006 9-11 ft Water	GS-08 GS-08-W (23-27) 10/25/2006 23-27 ft Water	GS-08 GS-08-W (48-52) 10/26/2006 48-52 ft Water	GS-08 (Dup) GS-58-W (48-52) 10/26/2006 48-52 ft Water	GS-08 GS-08-W (73-77) 10/26/2006 73-77 ft Water	GS-08 GS-08-W (98-102) 10/27/2006 98-102 ft Water	GS-08 GS-08-W (123-127) 10/27/2006 123-127 ft Water	GS-08 GS-08-W (148-152) 10/27/2006 148-152 ft Water
SVOC (Dissolved)										
2-Methylnaphthalene	ug/l	260	18	3.5	0.16	0.14	0.1	0.88	0.023	0.021 J
Acenaphthene	ug/l	200	19	4.6	0.32	0.28	0.061	0.057	0.04	0.04
Acenaphthylene	ug/l	1.1	0.12	0.04	0.013 J	0.0083 J	0.018 J	0.016 J	0.02 U	0.0031 J
Anthracene	ug/l	6	1.3	0.35	0.037	0.029	0.0074 J	0.01 J	0.02 U	0.0061 J
Benzo(a)anthracene	ug/l	0.033	0.027 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Benzo(a)pyrene	ug/l	0.019 J	0.022 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Benzo(b)fluoranthene	ug/l	0.01 J	0.014 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Benzo(g,h,i)perylene	ug/l	0.0067 J	0.017 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Benzo(k)fluoranthene	ug/l	0.012 J	0.011 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Chrysene	ug/l	0.034	0.023 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Dibenzo(a,h)anthracene	ug/l	0.027 U	0.03 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Dibenzofuran	ug/l	7.2	1.1	0.26	0.024	0.021	0.0068 J	0.0066 J	0.0039 J	0.0048 J
Fluoranthene	ug/l	0.73	0.48	0.22	0.025	0.022	0.022	0.016 J	0.02 U	0.008 J
Fluorene	ug/l	44	6.9	1.7	0.15	0.13	0.033	0.031	0.018 J	0.022
Indeno(1,2,3-cd)pyrene	ug/l	0.007 J	0.014 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.022 U
Naphthalene	ug/l	4,400	140	21	0.66	0.57	0.72	140	0.79	0.11
Phenanthrene	ug/l	57	16	4.3	0.36	0.31	0.065	0.086	0.052	0.066
Pyrene	ug/l	0.46	0.3	0.14	0.01 J	0.01 J	0.0068 J	0.0071 J	0.02 U	0.0062 J
SVOC (Total)										
2-Methylnaphthalene	ug/l	720	18	3.5	0.17	0.17	0.14	1.2	0.039	0.041
Acenaphthene	ug/l	720	19	4.3	0.4	0.37	0.082	0.075	0.065	0.084
Acenaphthylene	ug/l	21	0.75	0.15	0.031	0.023	0.02	0.03	0.029	0.013 J
Anthracene	ug/l	250	5.8	1.1	0.17	0.13	0.021	0.023	0.026	0.049
Benzo(a)anthracene	ug/l	130	4.9	0.86	0.098	0.066	0.017 J	0.024	0.03	0.049
Benzo(a)pyrene	ug/l	170	5.9	1	0.098	0.063	0.017 J	0.025	0.031	0.055
Benzo(b)fluoranthene	ug/l	94	3.2	0.55	0.06	0.04	0.012 J	0.014 J	0.019 J	0.037
Benzo(g,h,i)perylene	ug/l	130	3.6	0.6	0.072	0.045	0.013 J	0.014 J	0.021	0.042
Benzo(k)fluoranthene	ug/l	77	3.1	0.53	0.052	0.036	0.011 J	0.013 J	0.016 J	0.031
Chrysene	ug/l	180	5.7	1.1	0.12	0.082	0.019 J	0.028	0.033	0.067
Dibenzo(a,h)anthracene	ug/l	12	0.38	0.063	0.0066 J	0.005 J	0.02 U	0.02 U	0.02 U	0.023 U
Dibenzofuran	ug/l	42	1.2	0.26	0.036	0.032	0.0056 J	0.02 U	0.0071 J	0.011 J
Fluoranthene	ug/l	520	20	3.4	0.48	0.36	0.08	0.078	0.093	0.16
Fluorene	ug/l	270	7.4	1.7	0.23	0.2	0.043	0.034	0.036	0.054
Hexachlorobutadiene	ug/l	100 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	120	3.3	0.52	0.057	0.038	0.012 J	0.015 J	0.02	0.038
Naphthalene	ug/l	7,200	120	16	0.53	0.56	0.89	180	0.92	0.15
Phenanthrene	ug/l	1,100	40	8.1	1.3	1	0.16	0.17	0.21	0.37
Pyrene	ug/l	550	22	4.1	0.58	0.43	0.073	0.1	0.12	0.23

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-08	GS-08	GS-08	GS-08	GS-08 (Dup)	GS-08	GS-08	GS-08	GS-08
	Sample ID	GS-08-W (4-6)	GS-08-W (9-11)	GS-08-W (23-27)	GS-08-W (48-52)	GS-58-W (48-52)	GS-08-W (73-77)	GS-08-W (98-102)	GS-08-W (123-127)	GS-08-W (148-152)
	Sample Date	10/25/2006	10/25/2006	10/25/2006	10/26/2006	10/26/2006	10/26/2006	10/27/2006	10/27/2006	10/27/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC										
1,1,1,2-Tetrachloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	100 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	100 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**11**	**7**
1,2-Dichloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.25 J**	**0.27 J**
1,4-Dichlorobenzene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.5**	**2.9**
2-Butanone (MEK)	ug/l	1000 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	1000 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
2-Hexanone	ug/l	1000 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	1000 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	1000 UJ	20 UJ	20 UJ	**4.8 J**	**4.4 J**	20 UJ	20 UJ	20 UJ	20 UJ
Acrolein	ug/l	1000 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	250 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	**560**	**1.3**	0.5 U	0.5 U	0.5 U	**1.2**	**310**	**0.33 J**	0.5 U
Bromochloromethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.7**	**2.2**
Chloroethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.34 J**	**0.35 J**
cis-1,3-Dichloropropene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	ug/l	100 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**170**	**2.9**	0.5 U	0.5 U	0.5 U	**0.37 J**	**7.6**	0.5 U	0.5 U
Iodomethane	ug/l	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**24 J**	**0.65 J**	2 U	2 U	2 U	**1.6 J**	**8.3**	2 U	2 U
Methyltert-butylether	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2**	**2.8**
Styrene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.73**	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/l	**13 J**	**0.3 J**	0.5 U	0.5 U	0.5 U	**0.3 J**	**0.87**	0.5 U	0.5 U
trans-1,2-Dichloroethene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	500 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	250 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**54**	**1.1**	0.5 U	0.5 U	0.5 U	**7.4**	**70**	0.5 U	0.5 U
o-Xylene	ug/l	**79**	**1.6**	0.5 U	0.5 U	0.5 U	**3.2**	**11**	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09
	Sample ID	GS-09-W (4-6)	GS-09-W (9-11)	GS-09-W(23-27)	GS-09-W(48-52)	GS-09-W(73-77)	GS-09-W (98-102)	GS-09-W (123-127)	GS-09-W (148-152)	GS-09-W (173-177)
	Sample Date	10/5/2006	10/5/2006	10/9/2006	10/10/2006	10/10/2006	10/11/2006	10/12/2006	10/12/2006	10/13/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	173-177 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**									
Conventionals										
Ammonia	mg/l	**5.2**	**2.69**	**1.72**	**2.43**	--	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	--	--	--	--	--
Total Chloride	mg/l	**3**	**2.3**	**7.4**	**8.3**	--	--	--	--	--
Total Cyanide	mg/l	**0.34**	**0.43**	**0.26**	--	**1.2**	**0.24**	**0.02**	**0.13**	**0.1**
Amenable cyanide	mg/l	**0.01**	**0.02**	**0.03**	**0.04**	**0.13**	**0.03**	**0.01**	**0.02**	**0.01 J**
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	**0.0065 J**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	**0.12 J**	**0.13 J**	**0.4**	0.2 U	--	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	**254**	**222**	**418**	**286**	--	--	--	--	--
Bicarbonate as CaCO3	mg/l	**254**	**222**	**418**	**286**	--	--	--	--	--
Nitrate as Nitrogen	mg/l	0.1 U	0.1 U	0.1 U	0.1 U	--	--	--	--	--
Metals (Dissolved)										
Aluminum	ug/l	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--
Metals (Total)										
Aluminum	ug/l	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID Sample ID Sample Date Depth Interval Sample Matrix	GS-09 GS-09-W (4-6) 10/5/2006 4-6 ft Water	GS-09 GS-09-W (9-11) 10/5/2006 9-11 ft Water	GS-09 GS-09-W(23-27) 10/9/2006 23-27 ft Water	GS-09 GS-09-W(48-52) 10/10/2006 48-52 ft Water	GS-09 GS-09-W(73-77) 10/10/2006 73-77 ft Water	GS-09 GS-09-W (98-102) 10/11/2006 98-102 ft Water	GS-09 GS-09-W (123-127) 10/12/2006 123-127 ft Water	GS-09 GS-09-W (148-152) 10/12/2006 148-152 ft Water	GS-09 GS-09-W (173-177) 10/13/2006 173-177 ft Water
SVOC (Dissolved)										
2-Methylnaphthalene	ug/l	0.15	350	20	0.47	2.8	0.42	0.35	0.11	0.12
Acenaphthene	ug/l	27	250	17	0.44	1.1	0.39	0.26	0.08	0.15
Acenaphthylene	ug/l	0.3	1.8	0.11	0.015 J	0.054	0.0099 J	0.0068 J	0.0042 J	0.0074 J
Anthracene	ug/l	0.19	10	0.62	0.025	0.11	0.1	0.025	0.02 U	0.046
Benzo(a)anthracene	ug/l	0.26	4	0.058	0.0075 J	0.036	0.0099 J	0.0082 J	0.02 U	0.012 J
Benzo(a)pyrene	ug/l	0.39	4.2	0.035	0.005 J	0.023	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	0.28	2.5	0.023	0.02 U	0.015 J	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	0.36	2.7	0.023	0.0054 J	0.017 J	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	0.23	2.5	0.023	0.02 U	0.021	0.02 U	0.02 U	0.02 U	0.02 U
Chrysene	ug/l	0.36	6.1	0.078	0.0061 J	0.043	0.012 J	0.009 J	0.02 U	0.012 J
Dibenzo(a,h)anthracene	ug/l	0.034	0.28	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzofuran	ug/l	0.064	10	0.63	0.024	0.056	0.024	0.021	0.006 J	0.017 J
Fluoranthene	ug/l	1.2	19	0.58	0.039	0.19	0.16	0.05	0.0092 J	0.11
Fluorene	ug/l	4.4	53	4.1	0.14	0.38	0.25	0.12	0.023	0.086
Indeno(1,2,3-cd)pyrene	ug/l	0.31	2.4	0.018 J	0.0043 J	0.015 J	0.02 U	0.02 U	0.02 U	0.02 U
Naphthalene	ug/l	0.51	740	44	13	880	39	16	4.4	5
Phenanthrene	ug/l	3.4	69	6.9	0.24	0.81	1.1	0.3	0.046	0.54
Pyrene	ug/l	1.3	22	0.63	0.03	0.21	0.16	0.05	0.0058 J	0.12
SVOC (Total)										
2-Methylnaphthalene	ug/l	0.54	670	22	0.57	3.1	0.57	0.45	0.16	0.24
Acenaphthene	ug/l	40	540	19	0.54	0.97	0.54	0.34	0.12	0.28
Acenaphthylene	ug/l	1.4	11	0.23	0.027	0.031	0.03	0.011 J	0.0042 J	0.013 J
Anthracene	ug/l	1.6	96	1.2	0.051	0.047	0.17	0.072	0.013 J	0.096
Benzo(a)anthracene	ug/l	3.8	52	0.44	0.014 J	0.02 U	0.093	0.038	0.011 J	0.045
Benzo(a)pyrene	ug/l	6.4	64	0.5	0.013 J	0.02 U	0.088	0.03	0.0076 J	0.035
Benzo(b)fluoranthene	ug/l	4.3	36	0.3	0.0099 J	0.02 U	0.055	0.023	0.0065 J	0.03
Benzo(g,h,i)perylene	ug/l	5.3	46	0.4	0.013 J	0.02 U	0.072	0.025	0.007 J	0.031
Benzo(k)fluoranthene	ug/l	3.5	34	0.31	0.0089 J	0.02 U	0.056	0.019 J	0.0054 J	0.021
Chrysene	ug/l	5.1	73	0.59	0.016 J	0.02 U	0.12	0.056	0.013 J	0.064
Dibenzo(a,h)anthracene	ug/l	0.61	5.8	0.046	0.02 U	0.02 U	0.008 J	0.02 U	0.02 U	0.02 U
Dibenzofuran	ug/l	0.16	26	0.75	0.03	0.053	0.035	0.028	0.0094 J	0.035
Fluoranthene	ug/l	13	210	2.2	0.07	0.051	0.59	0.25	0.058	0.3
Fluorene	ug/l	8.8	170	4.8	0.18	0.31	0.36	0.16	0.043	0.16
Hexachlorobutadiene	ug/l	2 U	20 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	4.7	41	0.37	0.011 J	0.02 U	0.061	0.019 J	0.0059 J	0.025
Naphthalene	ug/l	1.8	1000	44	14	920	86	21	5.9	7.7
Phenanthrene	ug/l	18	530	11	0.37	0.43	2.1	0.73	0.19	0.97
Pyrene	ug/l	15	250	2.5	0.072	0.044	0.65	0.29	0.059	0.38

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09
	Sample ID	GS-09-W (4-6)	GS-09-W (9-11)	GS-09-W(23-27)	GS-09-W(48-52)	GS-09-W(73-77)	GS-09-W (98-102)	GS-09-W (123-127)	GS-09-W (148-152)	GS-09-W (173-177)
	Sample Date	10/5/2006	10/5/2006	10/9/2006	10/10/2006	10/10/2006	10/11/2006	10/12/2006	10/12/2006	10/13/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	173-177 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC										
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	20 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	20 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	**8.5**	**18**
1,2-Dichloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	**0.71**
1,4-Dichlorobenzene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	**1.1**	**6.5**
2-Butanone (MEK)	ug/l	20 UJ	200 UJ	20 UJ	20 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	5 UJ	50 UJ	5 UJ	5 UJ	10 UJ	5 UJ	5 U	5 U	5 U
2-Hexanone	ug/l	20 UJ	200 UJ	20 UJ	20 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	200 UJ	20 UJ	20 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acetone	ug/l	20 UJ	200 UJ	20 UJ	20 UJ	9.8 UJ	20 UJ	20 UJ	20 UJ	4.3 UJ
Acrolein	ug/l	20 UJ	200 UJ	20 UJ	20 UJ	40 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Acrylonitrile	ug/l	5 UJ	50 UJ	5 UJ	5 UJ	10 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzene	ug/l	0.5 U	**370**	**70**	**160**	**470**	**60**	**1.7**	**0.83**	**1.7**
Bromochloromethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 UJ	5 UJ	0.5 U	0.5 UJ	1 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	**0.16 J**
Carbon tetrachloride	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	0.5 U	5 U	**0.14 J**	0.5 U	1 U	0.5 U	0.5 U	**8**	**10**
Chloroethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	0.5 U	5 U	**0.6**	0.5 U	1 U	0.5 U	**0.49 J**	**0.23 J**	**0.83**
Chloromethane	ug/l	0.5 UJ	5 UJ	0.5 UJ	0.5 UJ	1 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	5 U	**0.27 J**	0.5 U	**0.32 J**	0.5 U	0.5 U	**0.57**	**0.5**
cis-1,3-Dichloropropene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	ug/l	2 U	**2.3 J**	2 U	2 U	**0.68 J**	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	0.5 U	**130**	**9.1**	**7.8**	**12**	**3**	**0.21 J**	0.5 U	**0.16 J**
Iodomethane	ug/l	5 U	50 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**0.72 J**	**13 J**	**4.2**	**0.47 J**	**7.7**	**0.68 J**	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	**5.2**	**6.5**
Styrene	ug/l	**0.1 J**	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	5 U	0.5 U	0.5 U	**1.6**	0.5 U	0.5 U	**0.22 J**	**0.41 J**
Toluene	ug/l	**0.13 J**	**6.5**	**0.55**	**2.4**	**2.8**	**0.48 J**	**0.11 J**	**0.14 J**	**0.11 J**
trans-1,2-Dichloroethene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 UJ	100 UJ	10 U	10 UJ	20 UJ	10 UJ	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	50 UJ	5 UJ	5 UJ	10 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	0.5 U	5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylenes	ug/l	**0.64**	**17**	**20**	**64**	**130**	**14**	**0.22 J**	0.5 U	0.5 U
o-Xylene	ug/l	**0.32 J**	**58**	**6.1**	**79**	**120**	**4.8**	**0.24 J**	**0.12 J**	**0.17 J**

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-10	GS-10	GS-10	GS-10	GS-10	GS-10	GS-10	GS-10
	Sample ID	GS-10W (4-6)	GS-10W (9-11)	GS-10W (23-27)	GS-10W (48-52)	GS-10W (73-77)	GS-10W (98-102)	GS-10W (123-127)	GS-10W (148-152)
	Sample Date	1/2/2007	1/2/2007	1/2/2007	1/2/2007	1/3/2007	1/3/2007	1/3/2007	1/3/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**								
Conventionals									
Ammonia	mg/l	6.63	34.1	3.93	1.64	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	--	--	--	--
Total Chloride	mg/l	6.1	5.4	9.1	42.3	--	--	--	--
Total Cyanide	mg/l	0.29	0.2	0.24	0.37	0.58	0.36	0.03	0.06
Amenable cyanide	mg/l	0.01 U	0.01 U	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	2.5	1.1	0.15 J	0.08 J	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	260	296	386	336	--	--	--	--
Bicarbonate as CaCO3	mg/l	260	296	386	336	--	--	--	--
Nitrate as Nitrogen	mg/l	0.06 J	0.1	0.1 U	0.1 U	--	--	--	--
Metals (Dissolved)									
Aluminum	ug/l	4.3	5.2	4	2.6	5.1	2.2	4.2	3.6
Antimony	ug/l	0.05 J	0.14 J	0.05 UJ	0.05 UJ	0.05 UJ	0.02 J	0.05 UJ	0.02 J
Arsenic	ug/l	9.2 N	6.1 N	9.4 N	4.5 N	8.8 N	7.5 N	6.9 N	2.1 N
Barium	ug/l	137	245	91.6	86.9	83.2	65.8	72.6	75.6
Beryllium	ug/l	0.012 B	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Cadmium	ug/l	0.02 U	0.03	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Calcium metal	ug/l	55,900	84,000	70,000	62,100	81,600	67,300	65,000	63,100
Chromium	ug/l	10.6	1.97	0.7 U	0.64 U	0.52 U	0.51 U	0.5 U	0.41 U
Copper	ug/l	0.37 J	0.69 J	0.68 J	0.42 J	0.4 J	0.36 J	0.4 J	0.34 J
Iron	ug/l	81,900	69,600	80,900	47,300	38,700	41,100	28,200	29,000
Lead	ug/l	0.045	0.105	0.067	0.011 B	0.02 U	0.023	0.01 B	0.02 U
Magnesium	ug/l	16,200	28,200	34,200	37,200	29,300	23,300	24,400	26,100
Manganese	ug/l	3,600	1,350	4,520	3,500	3,160	3,720	2,660	3,000
Mercury	ug/l	0.02 B	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.02 B	0.2 U
Nickel	ug/l	7.7	13.6	3.1	1.1	0.8	2.4	1.7	1.9
Potassium	ug/l	3,200	5,320	2,610	3,250	3,850	3,440	4,140	4,180
Selenium	ug/l	1 UJ	0.5 J	1 UJ	0.6 J	0.5 J	0.5 J	1 J	0.7 J
Silver	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	18,800	15,800	13,900	26,200	13,300	14,100	14,000	18,600
Thallium	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc	ug/l	11	12.1	3.4	1.8	2.2	3.2	2.5	3.1
Metals (Total)									
Aluminum	ug/l	19,900	144,000	23,900	4,080	1,490	824	6,870	5,720
Antimony	ug/l	0.17 J	0.31 J	0.06 J	0.03 J	0.02 J	0.02 J	0.03 J	0.04 J
Arsenic	ug/l	10.1 N	20 N	13.2 N	4.5 N	8.6 N	7.5 N	6.8 N	3.3 N
Barium	ug/l	302	1,300	246	124	95.7	69.4	116	101
Beryllium	ug/l	0.718	5.26	0.847	0.213	0.065	0.035	0.243	0.199
Cadmium	ug/l	0.73	2.35	0.14	0.04	0.02	0.02 U	0.03	0.03
Calcium metal	ug/l	61,000	83,100	72,500	67,400	79,700	66,000	67,900	64,000
Chromium	ug/l	26.4	152	21.4	5.16	2.09	1.33	7.58	5.82
Copper	ug/l	42.8 J	255 J	41.6 J	9.66 J	3.38 J	2.26 J	11 J	8.89 J
Iron	ug/l	116,000	239,000	113,000	59,000	41,400	42,700	43,500	39,700
Lead	ug/l	48.3	168	7.29	1.46	0.502	0.255	1.75	1.35
Magnesium	ug/l	19,700	49,000	42,100	36,100	28,000	22,600	25,800	27,000
Manganese	ug/l	3,950	5,130	4,950	3,930	3,140	3,710	3,130	3,120
Mercury	ug/l	0.15 B	0.96	0.03 B	0.02 B	0.2 U	0.2 U	0.02 B	0.2 U
Nickel	ug/l	28.5	145	25.4	7.7	3.1	3.7	10.3	8.6
Potassium	ug/l	3,950 B	8,550	3,420 B	3,450	3,830	3,510	4,530	4,560
Selenium	ug/l	1.8 J	14.5 J	2.5 J	1.3 J	0.8 J	0.5 J	1.5 J	1.1 J
Silver	ug/l	0.207	1.92	0.077 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	19,800	13,500	13,900	26,900	13,000	13,900	14,700	19,400
Thallium	ug/l	0.114	0.565	0.097	0.022	0.006 B	0.02 U	0.023	0.021
Zinc	ug/l	201	638	59.7	15.1	7.5	4.5	19.1	16.9

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-10		GS-10		GS-10		GS-10		GS-10		GS-10		GS-10		GS-10	
	Sample ID	GS-10W (4-6)		GS-10W (9-11)		GS-10W (23-27)		GS-10W (48-52)		GS-10W (73-77)		GS-10W (98-102)		GS-10W (123-127)		GS-10W (148-152)	
	Sample Date	1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/3/2007		1/3/2007		1/3/2007		1/3/2007	
	Depth Interval	4-6 ft		9-11 ft		23-27 ft		48-52 ft		73-77 ft		98-102 ft		123-127 ft		148-152 ft	
	Sample Matrix	Water		Water		Water		Water		Water		Water		Water		Water	
SVOC (Dissolved)																	
2-Methylnaphthalene	ug/l	46	D	290	D	7.7		1.7		0.57		0.93		0.086		0.11	
Acenaphthene	ug/l	93	D	150	D	6.7		1.6		0.58		0.68		0.11		0.15	
Acenaphthylene	ug/l	1.2	D	0.81	D	0.038		0.013	J	0.0083	J	0.013	J	0.0088	J	0.012	J
Anthracene	ug/l	2	D	5.6	D	0.098		0.022	J	0.0055	J	0.0065	J	0.023	U	0.052	
Benzo(a)anthracene	ug/l	0.72	D	2	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.035	
Benzo(a)pyrene	ug/l	0.71	D	2.2	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.024	
Benzo(b)fluoranthene	ug/l	0.44	D	1.3	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.015	J
Benzo(g,h,i)perylene	ug/l	0.49	D	1.6	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.016	J
Benzo(k)fluoranthene	ug/l	0.44	D	1.2	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.015	J
Chrysene	ug/l	0.92	D	2.8	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.043	
Dibenzo(a,h)anthracene	ug/l	0.26	U	0.29	U	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.022	U
Dibenzofuran	ug/l	4.4	D	6.7	D	0.34		0.08		0.03		0.031		0.007	J	0.013	J
Fluoranthene	ug/l	3.4	D	11	D	0.038		0.0098	J	0.0057	J	0.0088	J	0.0093	J	0.13	
Fluorene	ug/l	27	D	31	D	1.9		0.47		0.16		0.19		0.033		0.075	
Indeno(1,2,3-cd)pyrene	ug/l	0.45	D	1.4	D	0.023	U	0.023	U	0.02	U	0.02	U	0.023	U	0.014	J
Naphthalene	ug/l	400	D	5,800	D	56	D	8.7		2.6		9.7	D	0.4		0.23	
Phenanthrene	ug/l	16	D	39	D	1.9		0.45		0.12		0.16		0.045		0.33	
Pyrene	ug/l	3.6	D	12	D	0.043		0.0076	J	0.02	U	0.0054	J	0.0074	J	0.16	
SVOC (Total)																	
2-Methylnaphthalene	ug/l	76	D	2,500	D	9.9		2.1		0.99		1.4		0.17		0.069	
Acenaphthene	ug/l	200	D	2,400	D	9.2		2.3		1.1		1.1		0.22		0.097	
Acenaphthylene	ug/l	10	D	75	D	0.14		0.051		0.025		0.017	J	0.0061	J	0.0026	J
Anthracene	ug/l	48	D	850	D	1.1		0.55		0.25		0.096		0.042		0.016	J
Benzo(a)anthracene	ug/l	30	D	540	D	0.82		0.39		0.18		0.069		0.023		0.0096	J
Benzo(a)pyrene	ug/l	31	D	760	D	0.99		0.48		0.21		0.077		0.023		0.0068	J
Benzo(b)fluoranthene	ug/l	20	D	430	D	0.59		0.31		0.14		0.054		0.014	J	0.0058	J
Benzo(g,h,i)perylene	ug/l	19	D	650	D	0.83		0.41		0.18		0.068		0.019	J	0.0067	J
Benzo(k)fluoranthene	ug/l	18	D	450	D	0.59		0.28		0.11		0.053		0.016	J	0.023	U
Chrysene	ug/l	39	D	740	D	1		0.45		0.2		0.086		0.03		0.014	J
Dibenzo(a,h)anthracene	ug/l	2.6	D	63	D	0.076		0.041		0.02	U	0.02	U	0.022	U	0.023	U
Dibenzofuran	ug/l	14	D	180	D	0.58		0.16		0.077		0.064		0.017	J	0.0085	J
Fluoranthene	ug/l	120	D	2,400	D	3.9		1.7		0.74		0.31		0.1		0.041	
Fluorene	ug/l	92	D	1000	D	3.3		0.99		0.47		0.39		0.093		0.043	
Hexachlorobutadiene	ug/l	2	U	100	U	2	U	2	U	2	U	40	U	2	U	2	U
Indeno(1,2,3-cd)pyrene	ug/l	18	D	550	D	0.72		0.36		0.15		0.058		0.022	U	0.0067	J
Naphthalene	ug/l	400	D	16,000	D	63	D	9.1		3.6		11	D	0.55		0.24	
Phenanthrene	ug/l	270	D	4,900	D	11	D	4.3		1.9		1.1		0.34		0.16	
Pyrene	ug/l	130	D	2,500	D	4.5		2		0.84		0.39		0.12		0.047	

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-10	GS-10	GS-10	GS-10	GS-10	GS-10	GS-10	GS-10
	Sample ID	GS-10W (4-6)	GS-10W (9-11)	GS-10W (23-27)	GS-10W (48-52)	GS-10W (73-77)	GS-10W (98-102)	GS-10W (123-127)	GS-10W (148-152)
	Sample Date	1/2/2007	1/2/2007	1/2/2007	1/2/2007	1/3/2007	1/3/2007	1/3/2007	1/3/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water
VOC									
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	25 U	0.5 U	**0.15 J**	0.5 U	10 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	**10 D**	**0.19 J**	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	100 U	2 U	2 U	2 U	40 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	100 U	2 U	2 U	2 U	40 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	**6.3**
1,2-Dichloroethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	**0.13 J**
1,2-Dichloropropane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	**0.95**
2-Butanone (MEK)	ug/l	**9.2 J**	1000 UJ	20 UJ	20 UJ	20 UJ	400 UJ	20 UJ	20 UJ
2-Chloroethylvinylether	ug/l	5 U	250 U	5 U	5 U	5 U	100 U	5 U	5 U
2-Hexanone	ug/l	20 UJ	1000 UJ	20 UJ	20 UJ	20 UJ	400 UJ	20 UJ	20 UJ
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	1000 UJ	20 UJ	20 UJ	20 UJ	400 UJ	20 UJ	20 UJ
Acetone	ug/l	**4.9 J**	1000 UJ	20 UJ	20 UJ	20 UJ	400 UJ	20 UJ	20 UJ
Acrolein	ug/l	20 UJ	1000 UJ	20 UJ	20 UJ	20 UJ	400 UJ	20 UJ	**20 UJ**
Acrylonitrile	ug/l	5 UJ	250 UJ	5 UJ	5 UJ	5 UJ	100 UJ	5 UJ	5 UJ
Benzene	ug/l	**16**	**710 D**	**0.5**	**1**	0.5 U	**76 D**	**1.3**	**0.47 J**
Bromochloromethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Carbon disulfide	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Chlorobenzene	ug/l	**0.2 J**	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	**7.7**
Chloroethane	ug/l	0.5 U	25 U	0.5 U	**0.31 J**	**0.63**	10 U	0.5 U	0.5 U
Chloroform	ug/l	**1.4**	**7.5 JD**	**0.14 J**	0.5 U	0.5 U	10 U	**0.37 J**	**0.81**
Chloromethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	**0.2 J**	25 U	0.5 U	**22**	**0.21 J**	**5,500 D**	**54 D**	**56**
cis-1,3-Dichloropropene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 UJ	25 UJ	0.5 UJ	0.5 UJ	0.5 UJ	10 UJ	0.5 UJ	0.5 UJ
Dichloromethane	ug/l	2 U	**13 JD**	2 U	2 U	2 U	**8.6 JD**	2 U	2 U
Ethylbenzene	ug/l	**33**	**220 D**	**0.76**	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	250 U	5 U	5 U	5 U	100 U	5 U	5 U
Isopropylbenzene	ug/l	**4.3**	**11 JD**	2 U	2 U	2 U	40 U	2 U	2 U
Methyltert-butylether	ug/l	**0.52**	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	**6.8**
Styrene	ug/l	**0.26 J**	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Trichloroethene	ug/l	**0.24 J**	25 U	0.5 U	0.5 U	0.5 U	**2,400 D**	**240 D**	**23**
Toluene	ug/l	**2.2**	**28 D**	0.5 U	0.5 U	0.5 U	10 U	**0.28 J**	0.5 U
trans-1,2-Dichloroethene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	**11 D**	**0.89**	**0.19 J**
trans-1,3-Dichloropropene	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	500 U	10 U	10 U	10 U	200 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	25 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	250 U	5 UJ	5 UJ	5 UJ	100 UJ	5 UJ	5 UJ
Vinyl chloride	ug/l	**0.1 J**	25 UJ	**0.27 J**	**0.69**	**31**	**980 D**	**5.3**	**2.5**
m,p-Xylenes	ug/l	**14**	**120 D**	**0.43 J**	0.5 U	0.5 U	10 U	0.5 U	0.5 U
o-Xylene	ug/l	**16**	**71 D**	**0.26 J**	0.5 U	0.5 U	10 U	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-11	GS-11	GS-11	GS-11	GS-11 (Dup)	GS-11	GS-11	GS-11	GS-11	GS-11
	Sample ID	GS-11-W (4-6)	GS-11-W (9-11)	GS-11-W (23-27)	GS-11-W (48-52)	GS-61-W (48-52)	GS-11-W (73-77)	GS-11-W (98-102)	GS-11-W (123-127)	GS-11-W (148-152)	GS-11-W (173-177)
	Sample Date	1/4/2007	1/4/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/8/2007	1/8/2007	1/8/2007	1/8/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	169-173 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**										
Conventionals											
Ammonia	mg/l	**1.54**	**9.17**	**0.46**	**2.85**	**2.85**	--	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--
Total Chloride	mg/l	**2.7**	**4.8**	**9.3**	**41.3**	**41.8**	--	--	--	--	--
Total Cyanide	mg/l	**0.11**	**1.04**	**0.62**	**0.35**	**0.38 J**	**0.51 J**	**0.42**	**0.01**	0.01 U	**0.002 J**
Amenable cyanide	mg/l	**0.1**	**0.2**	0.01 U	0.01 U	0.01 UJ	0.01 UJ	**0.03 J**	0.01 UJ	0.01 UJ	0.01 UJ
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	**2**	**0.2**	**0.09 J**	**0.18 J**	**0.18 J**	--	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	**93**	**391**	**127**	**307**	**312**	--	--	--	--	--
Bicarbonate as CaCO3	mg/l	**93**	**391**	**127**	**307**	**312**	--	--	--	--	--
Nitrate as Nitrogen	mg/l	**0.4**	**0.01 J**	**0.16**	**0.17**	**0.17**	--	--	--	--	--
Metals (Dissolved)											
Aluminum	ug/l	--	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--	--
Metals (Total)											
Aluminum	ug/l	--	--	--	--	--	--	--	--	--	--
Antimony	ug/l	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/l	--	--	--	--	--	--	--	--	--	--
Barium	ug/l	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/l	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/l	--	--	--	--	--	--	--	--	--	--
Calcium metal	ug/l	--	--	--	--	--	--	--	--	--	--
Chromium	ug/l	--	--	--	--	--	--	--	--	--	--
Copper	ug/l	--	--	--	--	--	--	--	--	--	--
Iron	ug/l	--	--	--	--	--	--	--	--	--	--
Lead	ug/l	--	--	--	--	--	--	--	--	--	--
Magnesium	ug/l	--	--	--	--	--	--	--	--	--	--
Manganese	ug/l	--	--	--	--	--	--	--	--	--	--
Mercury	ug/l	--	--	--	--	--	--	--	--	--	--
Nickel	ug/l	--	--	--	--	--	--	--	--	--	--
Potassium	ug/l	--	--	--	--	--	--	--	--	--	--
Selenium	ug/l	--	--	--	--	--	--	--	--	--	--
Silver	ug/l	--	--	--	--	--	--	--	--	--	--
Sodium	ug/l	--	--	--	--	--	--	--	--	--	--
Thallium	ug/l	--	--	--	--	--	--	--	--	--	--
Zinc	ug/l	--	--	--	--	--	--	--	--	--	--

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

Location ID		GS-11	GS-11	GS-11	GS-11	GS-11 (Dup)	GS-11	GS-11	GS-11	GS-11	GS-11
Sample ID		GS-11-W (4-6)	GS-11-W (9-11)	GS-11-W (23-27)	GS-11-W (48-52)	GS-61-W (48-52)	GS-11-W (73-77)	GS-11-W (98-102)	GS-11-W (123-127)	GS-11-W (148-152)	GS-11-W (173-177)
Sample Date		1/4/2007	1/4/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/8/2007	1/8/2007	1/8/2007	1/8/2007
Depth Interval		4-6 ft	9-11 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	169-173 ft
Sample Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
SVOC (Dissolved)											
2-Methylnaphthalene	ug/l	53 D	14 D	0.02 J	0.012 J	0.011 J	0.024	0.0061 J	0.021 U	0.012 J	0.011 J
Acenaphthene	ug/l	35 D	61 D	0.028	0.026	0.023	0.047	0.0046 J	0.021 U	0.016 J	0.023
Acenaphthylene	ug/l	0.36	0.47	0.014 J	0.0055 J	0.0053 J	0.011 J	0.0092 J	0.0068 J	0.01 J	0.009 J
Anthracene	ug/l	1.1	1.1	0.012 J	0.0053 J	0.0059 J	0.025	0.02 U	0.021 U	0.0056 J	0.015 J
Benzo(a)anthracene	ug/l	0.26	0.011 J	0.011 J	0.022 U	0.022 U	0.018 J	0.02 U	0.021 U	0.022 U	0.0055 J
Benzo(a)pyrene	ug/l	0.2	0.006 J	0.0081 J	0.022 U	0.022 U	0.0096 J	0.02 U	0.021 U	0.022 U	0.02 U
Benzo(b)fluoranthene	ug/l	0.12	0.024 U	0.0055 J	0.022 U	0.022 U	0.006 J	0.02 U	0.021 U	0.022 U	0.02 U
Benzo(g,h,i)perylene	ug/l	0.12	0.024 U	0.0075 J	0.022 U	0.022 U	0.0066 J	0.02 U	0.021 U	0.022 U	0.02 U
Benzo(k)fluoranthene	ug/l	0.12	0.024 U	0.0054 J	0.022 U	0.022 U	0.0073 J	0.02 U	0.021 U	0.022 U	0.02 U
Chrysene	ug/l	0.33	0.01 J	0.014 J	0.022 U	0.022 U	0.02	0.02 U	0.021 U	0.022 U	0.0056 J
Dibenzo(a,h)anthracene	ug/l	0.02 U	0.024 U	0.021 U	0.022 U	0.022 U	0.02 U	0.02 U	0.021 U	0.022 U	0.02 U
Dibenzofuran	ug/l	1.8	4.2	0.0044 J	0.022 U	0.022 U	0.0059 J	0.02 U	0.021 U	0.0049 J	0.004 J
Fluoranthene	ug/l	1.2	0.12	0.031	0.017 J	0.015 J	0.084	0.0071 J	0.0057 J	0.015 J	0.042
Fluorene	ug/l	10 D	22 D	0.025	0.016 J	0.017 J	0.032	0.02 U	0.021 U	0.0076 J	0.019 J
Indeno(1,2,3-cd)pyrene	ug/l	0.11	0.0044 J	0.007 J	0.022 U	0.022 U	0.0062 J	0.02 U	0.021 U	0.022 U	0.02 U
Naphthalene	ug/l	36 D	10	0.055	0.025	0.025	0.074	0.0088 J	0.0084 J	0.059	0.03
Phenanthrene	ug/l	10 D	20 D	0.11	0.055	0.051	0.18	0.02 U	0.021 U	0.029	0.11
Pyrene	ug/l	1.3	0.1	0.03	0.016 J	0.014 J	0.092	0.005 J	0.0053 J	0.015 J	0.048
SVOC (Total)											
2-Methylnaphthalene	ug/l	80 D	26 D	0.016 J	0.011 J	0.011 J	0.028	0.0047 J	0.02 U	0.019 J	0.005 J
Acenaphthene	ug/l	80 D	95 D	0.036	0.025	0.023 J	0.045	0.0038 J	0.02 U	0.024 J	0.0051 J
Acenaphthylene	ug/l	4.9 D	3 D	0.0024 J	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.0049 J	0.02 U
Anthracene	ug/l	33 D	25 D	0.022	0.0071 J	0.0055 J	0.013 J	0.02 U	0.02 U	0.0072 J	0.02 U
Benzo(a)anthracene	ug/l	23 D	11 D	0.011 J	0.02 U	0.023 U	0.0045 J	0.02 U	0.02 U	0.01 J	0.02 U
Benzo(a)pyrene	ug/l	21 D	11 D	0.0049 J	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.025 U	0.02 U
Benzo(b)fluoranthene	ug/l	13 D	7.5 D	0.02 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.0072 J	0.02 U
Benzo(g,h,i)perylene	ug/l	16 D	8.8 D	0.02 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.0064 J	0.02 U
Benzo(k)fluoranthene	ug/l	13 D	6 D	0.02 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.025 U	0.02 U
Chrysene	ug/l	30 D	14 D	0.013 J	0.02 U	0.023 U	0.0083 J	0.02 U	0.02 U	0.017 J	0.02 U
Dibenzo(a,h)anthracene	ug/l	2 D	1.1 JD	0.02 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.0066 J	0.02 U
Dibenzofuran	ug/l	6.3 D	9.9 D	0.0056 J	0.0043 J	0.023 U	0.0082 J	0.02 U	0.02 U	0.01 J	0.02 U
Fluoranthene	ug/l	76 D	55 D	0.067	0.019 J	0.018 J	0.045	0.017 J	0.006 J	0.057	0.015 J
Fluorene	ug/l	37 D	48 D	0.036	0.02 J	0.017 J	0.032	0.0056 J	0.02 U	0.016 J	0.0059 J
Hexachlorobutadiene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	13 D	7.2 D	0.0044 J	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.025 U	0.02 U
Naphthalene	ug/l	44 D	24 D	0.024	0.021	0.022 J	0.066	0.0072 J	0.0071 J	0.07	0.025
Phenanthrene	ug/l	180 D	170 D	0.28	0.1	0.084	0.17	0.047	0.021	0.13	0.046
Pyrene	ug/l	91 D	62 D	0.078	0.018 J	0.017 J	0.044	0.016 J	0.0048 J	0.065	0.014 J

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

Location ID		GS-11	GS-11	GS-11	GS-11	GS-11 (Dup)	GS-11	GS-11	GS-11	GS-11	GS-11
Sample ID		GS-11-W (4-6)	GS-11-W (9-11)	GS-11-W (23-27)	GS-11-W (48-52)	GS-61-W (48-52)	GS-11-W (73-77)	GS-11-W (98-102)	GS-11-W (123-127)	GS-11-W (148-152)	GS-11-W (173-177)
Sample Date		1/4/2007	1/4/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/8/2007	1/8/2007	1/8/2007	1/8/2007
Depth Interval		4-6 ft	9-11 ft	23-27 ft	48-52 ft	48-52 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft	169-173 ft
Sample Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC											
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	**0.47 J**	**0.45 J**	**0.18 J**	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	**0.43 J**	**0.41 J**	**0.27 J**	**3.4**	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**59**
1,2-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.26 J**	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.1**
1,4-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**23**
2-Butanone (MEK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 U	20 U	20 U	20 U
2-Chloroethylvinylether	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 U	20 U	20 U	20 U
4-Methyl-2-pentanone (MIBK)	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 U	20 U	20 U	20 U
Acetone	ug/l	20 UJ	20 UJ	20 UJ	20 UJ	**5.9 J**	**7.8 J**	20 U	20 U	20 U	20 U
Acrolein	ug/l	20 UJ	**2 J**	20 UJ	20 UJ	20 UJ	20 UJ	20 U	20 U	20 U	**3.1 J**
Acrylonitrile	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	**2 J**	5 U	5 U
Benzene	ug/l	**2.5**	**0.41 J**	0.5 U	**5.9**	**6**	**6.4**	**17**	0.5 U	0.5 U	0.5 U
Bromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.59**	0.5 U
Bromoform	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**21**
Chloroethane	ug/l	0.5 U	0.5 U	**0.65**	**0.74**	**0.69**	**0.38 J**	**0.28 J**	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	**0.87**	**0.25 J**	**0.64**	**1**	**1.1**	**1.1**	0.5 U	0.5 U	**14**	**1.3**
Chloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	**4.1**	**4**	**4.8**	**1,700 D**	**0.26 J**	0.5 U	**0.76**
cis-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	ug/l	**11**	**2.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**2.2**	**0.71 J**	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**9.8**	0.5 U	**21**
Styrene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	0.5 U	0.5 U	**1.3**	**1.2**	**1.2**	**49**	0.5 U	0.5 U	**0.4 J**
Toluene	ug/l	**0.39 J**	**0.29 J**	0.5 U	**0.12 J**	**0.12 J**	**0.23 J**	**0.11 J**	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**4.6**	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U
Vinyl chloride	ug/l	0.5 U	0.5 U	**0.48 J**	**26**	**26**	**39**	**200 D**	**0.05 J**	0.5 U	0.5 U
m,p-Xylenes	ug/l	**3.2**	**0.74**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	ug/l	**5.6**	**1.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-12	GS-12	GS-12	GS-12 (Dup)	GS-12	GS-12	GS-12 (Dup)	GS-12	GS-12	GS-12
	Sample ID	GS-12-W (4-6)	GS-12-W (9-11)	GS-12-W (23-27)	GS-62-W (23-27)	GS-12-W (48-52)	GS-12-W (73-77)	GS-62-W (73-77)	GS-12-W (98-102)	GS-12-W (123-127)	GS-12-W (148-152)
	Sample Date	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/11/2007	1/11/2007	1/11/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	23-27 ft	48-52 ft	73-77 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Chemical Name	**Unit**										
Conventionals											
Ammonia	mg/l	3.93	2.77	1.14	1.14	2.67	--	--	--	--	--
Carbonate	mg/l	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--
Total Chloride	mg/l	3.6	4.8	7.1	7.3	8.8	--	--	--	--	--
Total Cyanide	mg/l	0.26	0.01	0.07	0.08	0.36	0.43	0.45	0.34	0.01 J	0.003 J
Amenable cyanide	mg/l	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.14 J	0.08 J	0.06 J	0.14 J	0.01 UJ	0.01 UJ
Cyanide Free	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sulfate	mg/l	0.18 J	0.09 J	0.06 J	0.05 J	0.09 J	--	--	--	--	--
Alkalinity, Total as CaCO3	mg/l	202	239	308	301	372	--	--	--	--	--
Bicarbonate as CaCO3	mg/l	202	239	308	301	372	--	--	--	--	--
Nitrate as Nitrogen	mg/l	0.03 J	0.02 J	0.1 U	0.1 U	0.1 U	--	--	--	--	--
Metals (Dissolved)											
Aluminum	ug/l	5.4	3.6	1.9 B	2.3	3.7	1.6 B	2 B	2	1.7 B	2.4
Antimony	ug/l	0.06	0.03 B	0.05 U	0.05 U	0.02 B	0.05 U	0.05 U	0.05	0.05 U	0.05 U
Arsenic	ug/l	5.3	10.4	5.09	5.09	7.02	6.91	6.96	3.78	2.48	0.41 B
Barium	ug/l	85.5	67.5	51.8	51.2	85.3	67.8	67.1	69.3	65.6	44
Beryllium	ug/l	0.009 B	0.02 U	0.02 U	0.02 U	0.014 B	0.012 B	0.02 U	0.02 U	0.02 U	0.02 U
Cadmium	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Calcium metal	ug/l	42,000	47,500	48,700	48,700	68,400	61,300	61,100	60,800	58,000	59,200
Chromium	ug/l	0.99	0.93	0.34	0.49	1.39	1.16	0.99	0.83	0.47	0.48
Copper	ug/l	0.33	0.33	0.42	0.33	0.38	0.34	0.37	0.44	0.3	0.32
Iron	ug/l	52,000	70,200	46,400	46,100	62,000	46,500	47,200	41,100	19,200	4,810
Lead	ug/l	0.041	0.031	0.02 U	0.02 U	0.008 B	0.02 U	0.018 B	0.016 B	0.02 U	0.02 U
Magnesium	ug/l	16,800	19,800	32,100	33,900	32,300	34,400	34,500	25,100	29,200	26,500
Manganese	ug/l	3,060	4,140	2,570	2,560	4,340	2,240	2,230	1,650	949	92
Mercury	ug/l	0.2 U	0.2 U	0.2 U	0.02 B	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	1.8	3.2	1.7	1.8	2.9	1.4	1.5	4.9	0.6	0.6
Potassium	ug/l	2,200 J	2,180 J	1,870 J	1,820 J	2,890 J	2,690 J	2,730 J	2,620 J	4,990 J	5,020 J
Selenium	ug/l	1 U	1 U	1 U	1 U	1 U	0.3 B	0.3 B	1	0.4 B	0.2 B
Silver	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	11,500	10,900	12,300	12,200	15,300	13,800	13,700	14,700	19,200	18,900
Thallium	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc	ug/l	7.8 J	4.9 J	2.6 J	2.6 J	3.7 J	1.8 J	2.5 J	15.8 J	1.3 J	2.8 J
Metals (Total)											
Aluminum	ug/l	88,800	42,500	1,470	1,530	3,590	993	1,230	4,340	572	794
Antimony	ug/l	0.11	0.05 B	0.05 U	0.05 U	0.05 U	0.03 B	0.03 B	0.07	0.05 U	0.05 U
Arsenic	ug/l	8.81	11.2	4.76	5.01	6.23	6.97	6.93	4.83	2.57	0.51
Barium	ug/l	838	562	62.3	68.2	110	77.4	74.6	106	72.5	48.1
Beryllium	ug/l	3.07	2.52	0.066	0.064	0.154	0.055	0.052	0.146	0.026	0.026
Cadmium	ug/l	0.84	0.38	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.04	0.02 U	0.02 U
Calcium metal	ug/l	76,800	61,600	50,600	49,800	70,400	63,100	63,700	64,900	58,500	60,200
Chromium	ug/l	54.9	45.1	1.36	1.49	4.97	2.03	2.01	6.04	0.86	0.95
Copper	ug/l	80.6	90.4	3.11	3.28	6.17	3.5	3.22	12.6	1.35	1.77
Iron	ug/l	234,000	152,000	50,400	49,000	69,900	53,200	53,800	54,200	20,300	5,920
Lead	ug/l	94.5	14.7	0.433	0.465	0.845	0.28	0.307	1.72	0.156	0.218
Magnesium	ug/l	43,300	37,100	33,700	34,800	34,400	33,500	34,800	27,400	29,700	27,000
Manganese	ug/l	5,230	4,920	2,600	2,570	4,350	2,320	2,360	1,850	961	103
Mercury	ug/l	0.43	0.04 B	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	ug/l	73.3	57.7	3.3	3.5	7.5	3.5	3.4	8.7	1.6	1.6
Potassium	ug/l	5,450 J	3,520 J	1,940 J	1,940 J	3,050 J	2,710 J	2,810 J	2,900 J	4,920 J	5,000 J
Selenium	ug/l	5.8	5.1	0.3 B	1 U	0.4 B	0.4 B	1 U	0.6 B	0.4 B	0.5 B
Silver	ug/l	0.229	0.094 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Sodium	ug/l	14,000	11,200	12,400	12,300	15,500	14,000	14,300	15,600	19,300	19,200
Thallium	ug/l	0.217	0.195	0.006 B	0.006 B	0.014 B	0.02 U	0.02 U	0.017 B	0.02 U	0.02 U
Zinc	ug/l	484 J	153 J	6.8 J	8.7 J	13.1 J	7.4 J	7.4 J	28 J	3.8 J	3.5 J

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-12	GS-12	GS-12	GS-12 (Dup)	GS-12	GS-12	GS-12 (Dup)	GS-12	GS-12	GS-12
	Sample ID	GS-12-W (4-6)	GS-12-W (9-11)	GS-12-W (23-27)	GS-62-W (23-27)	GS-12-W (48-52)	GS-12-W (73-77)	GS-62-W (73-77)	GS-12-W (98-102)	GS-12-W (123-127)	GS-12-W (148-152)
	Sample Date	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/11/2007	1/11/2007	1/11/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	23-27 ft	48-52 ft	73-77 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
SVOC (Dissolved)											
2-Methylnaphthalene	ug/l	4.4	0.31	0.014 J	0.012 J	0.01 J	0.007 J	0.0088 J	0.069	0.093	0.2
Acenaphthene	ug/l	49 D	1.5	0.05	0.052	0.031	0.0081 J	0.01 J	0.024	0.029	0.075
Acenaphthylene	ug/l	0.48	0.018 J	0.0075 J	0.0054 J	0.004 J	0.0039 J	0.0071 J	0.019 J	0.018 J	0.028
Anthracene	ug/l	1.2	0.026	0.02 U	0.023 U	0.0047 J	0.005 J	0.0066 J	0.02 J	0.0044 J	0.007 J
Benzo(a)anthracene	ug/l	0.17	0.0049 J	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Benzo(a)pyrene	ug/l	0.13	0.025 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	0.09	0.025 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	0.082	0.025 U	0.02 U	0.023 U	0.0046 J	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	0.083	0.025 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Chrysene	ug/l	0.21	0.025 U	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	ug/l	0.012 J	0.0058 J	0.0047 J	0.0052 J	0.0069 J	0.02 U	0.02 U	0.021 U	0.02 U	0.02 U
Dibenzofuran	ug/l	2	0.063	0.0055 J	0.0049 J	0.005 J	0.02 U	0.02 U	0.0062 J	0.0059 J	0.013 J
Fluoranthene	ug/l	0.76	0.029	0.0057 J	0.023 U	0.0067 J	0.0082 J	0.014 J	0.014 J	0.01 J	0.011 J
Fluorene	ug/l	14 D	0.45	0.017 J	0.017 J	0.0098 J	0.02 U	0.0053 J	0.016 J	0.014 J	0.033
Indeno(1,2,3-cd)pyrene	ug/l	0.07	0.025 U	0.02 U	0.023 U	0.005 J	0.02 U	0.02 U	0.0036 J	0.02 U	0.02 U
Naphthalene	ug/l	0.71	0.05	0.02 U	0.023 U	0.02 U	0.02 U	0.02 U	0.26	0.38	0.85
Phenanthrene	ug/l	15 D	0.5	0.033	0.028 U	0.022 U	0.02 U	0.029	0.035	0.033	0.076
Pyrene	ug/l	0.83	0.029	0.02 U	0.023 U	0.0048 J	0.0051 J	0.013 J	0.0095 J	0.0088 J	0.01 J
SVOC (Total)											
2-Methylnaphthalene	ug/l	12 D	0.32	0.013 J	0.017 J	0.018 J	0.0077 J	0.0075 J	0.021 U	0.02 U	0.02 U
Acenaphthene	ug/l	120 D	1.4	0.067	0.087	0.04	0.0092 J	0.0087 J	0.0082 J	0.02 U	0.02 U
Acenaphthylene	ug/l	8.6 D	0.12	0.022 U	0.0037 J	0.013 J	0.0036 J	0.0035 J	0.0068 J	0.02 U	0.02 U
Anthracene	ug/l	46 D	0.44	0.0059 J	0.013 J	0.008 J	0.02 U	0.022 U	0.014 J	0.02 U	0.02 U
Benzo(a)anthracene	ug/l	42 D	0.52	0.022 U	0.016 J	0.02 U	0.0094 J	0.0092 J	0.021 U	0.02 U	0.02 U
Benzo(a)pyrene	ug/l	51 D	0.52	0.022 U	0.013 J	0.02 U	0.02 U	0.022 U	0.021 U	0.02 U	0.02 U
Benzo(b)fluoranthene	ug/l	36 D	0.45	0.022 U	0.01 J	0.02 U	0.0096 J	0.0077 J	0.021 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	ug/l	29 D	0.51	0.022 U	0.01 J	0.02 U	0.0077 J	0.0073 J	0.0069 J	0.02 U	0.02 U
Benzo(k)fluoranthene	ug/l	24 D	0.35	0.022 U	0.011 J	0.02 U	0.0063 J	0.006 J	0.021 U	0.02 U	0.02 U
Chrysene	ug/l	56 D	0.71	0.022 U	0.017 J	0.02 U	0.025	0.021 J	0.0062 J	0.02 U	0.02 U
Dibenzo(a,h)anthracene	ug/l	3.3 D	0.061	0.0045 J	0.005 J	0.0053 J	0.0049 J	0.0055 J	0.021 U	0.02 U	0.02 U
Dibenzofuran	ug/l	8.7 D	0.11	0.0068 J	0.0096 J	0.0062 J	0.02 U	0.022 U	0.021 U	0.02 U	0.02 U
Fluoranthene	ug/l	140 D	1.8	0.018 J	0.055	0.017 J	0.031	0.03	0.02 J	0.0055 J	0.0061 J
Fluorene	ug/l	55 D	0.65	0.027	0.036	0.016 J	0.0046 J	0.022 U	0.0051 J	0.02 U	0.02 U
Hexachlorobutadiene	ug/l	2 U	2 U	2 U	2 U	2 U	10 U	10 U	2 U	2 U	2 U
Indeno(1,2,3-cd)pyrene	ug/l	27 D	0.43	0.022 U	0.0098 J	0.02 U	0.0062 J	0.0047 J	0.0076 J	0.02 U	0.02 U
Naphthalene	ug/l	7.2 D	0.13	0.022 U	0.02 U	0.045	0.02 U	0.022 U	0.027 U	0.02 U	0.02 U
Phenanthrene	ug/l	250 D	3	0.078	0.14	0.056	0.024 U	0.023 U	0.028	0.0077 J	0.0064 J
Pyrene	ug/l	200 D	2.4	0.017 J	0.07	0.014 J	0.039	0.031	0.017 J	0.02 U	0.02 U

Table 3
Groundwater Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-12	GS-12	GS-12	GS-12 (Dup)	GS-12	GS-12	GS-12 (Dup)	GS-12	GS-12	GS-12
	Sample ID	GS-12-W (4-6)	GS-12-W (9-11)	GS-12-W (23-27)	GS-62-W (23-27)	GS-12-W (48-52)	GS-12-W (73-77)	GS-62-W (73-77)	GS-12-W (98-102)	GS-12-W (123-127)	GS-12-W (148-152)
	Sample Date	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/10/2007	1/11/2007	1/11/2007	1/11/2007
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	23-27 ft	48-52 ft	73-77 ft	73-77 ft	98-102 ft	123-127 ft	148-152 ft
	Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
VOC											
1,1,1,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	ug/l	0.5 U	0.5 U	**0.32 J**	**0.34 J**	**0.42 J**	**3 D**	**3 D**	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/l	2 U	2 U	2 U	2 U	2 U	10 U	10 U	2 U	2 U	2 U
1,2-Dibromoethane	ug/l	2 U	2 U	2 U	2 U	2 U	10 U	10 U	2 U	2 U	2 U
1,2-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	**140 D**
1,2-Dichloroethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	**3.9**
1,4-Dichlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	**47**
2-Butanone (MEK)	ug/l	**8.9 J**	**2.5 J**	20 U	20 U	20 U	100 U	100 U	20 U	20 U	20 U
2-Chloroethylvinylether	ug/l	5 U	5 U	5 U	5 U	5 U	25 U	25 U	5 U	5 U	5 U
2-Hexanone	ug/l	20 U	20 U	20 U	20 U	20 U	100 U	100 U	20 U	20 U	20 U
4-Methyl-2-pentanone (MIBK)	ug/l	20 U	20 U	20 U	20 U	20 U	100 U	100 U	20 U	20 U	20 U
Acetone	ug/l	20 U	20 U	20 U	20 U	20 U	100 U	100 U	20 U	20 U	20 U
Acrolein	ug/l	20 U	20 U	20 U	20 U	20 U	100 U	**13 JD**	20 U	20 U	20 U
Acrylonitrile	ug/l	5 U	5 U	5 U	5 U	5 U	25 U	25 U	5 U	5 U	5 U
Benzene	ug/l	**0.17 J**	0.5 U	**0.15 J**	**0.15 J**	**22**	**12 D**	**12 D**	**1.1**	0.5 U	0.5 U
Bromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	**0.13 J**	0.5 U	0.5 U
Bromoform	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	**56**
Chloroethane	ug/l	0.5 U	0.5 U	**0.56**	**0.56**	**0.54**	2.5 U	**1.3 JD**	0.5 U	0.5 U	0.5 U
Chloroform	ug/l	**2.5**	**0.61**	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	**3**	0.5 U	**0.14 J**
Chloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	**150 D**	**150 D**	**170 D**	**1,500 D**	**1,600 D**	**7.7**	0.5 U	**0.51**
cis-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	ug/l	2 U	2 U	**0.22 J**	**0.23 J**	**0.21 J**	**7.3 JD**	**7.5 JD**	2 U	2 U	2 U
Ethylbenzene	ug/l	**0.15 J**	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Iodomethane	ug/l	5 U	5 U	5 U	5 U	5 U	25 U	25 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	**1.7 J**	2 U	2 U	2 U	2 U	10 U	10 U	2 U	2 U	2 U
Methyltert-butylether	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	**7.7**	**24**
Styrene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	**0.28 J**	2.5 U	**0.75 JD**	**0.14 J**	0.5 U	**0.68**
Toluene	ug/l	**0.35 J**	**0.18 J**	0.5 U	0.5 U	**0.14 J**	2.5 U	2.5 U	**0.2 J**	0.5 U	0.5 U
trans-1,2-Dichloroethene	ug/l	0.5 U	0.5 U	**0.31 J**	**0.31 J**	**0.37 J**	**2.4 JD**	**2.3 JD**	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	ug/l	10 U	10 U	10 U	10 U	10 U	50 U	50 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/l	5 U	5 U	5 U	5 U	5 U	25 U	25 U	5 U	5 U	5 U
Vinyl chloride	ug/l	**0.11 J**	0.5 U	**56 D**	**57 D**	**320 D**	**1,300 D**	**1,400 D**	**0.43 J**	0.5 U	0.5 U
m,p-Xylenes	ug/l	**1.7**	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	ug/l	**1.7**	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U

ANALYTICAL DATA QUALIFIERS

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-00		GS-00		GS-00		GS-00		GS-01		GS-01		GS-01		GS-01	
	Sample ID	GS-00-S (4-6)		GS-00-S (9-11)		GS-00-S (20-23)		GS-00-S (45-48)		GS-01-S (4-6)		GS-01-S (9-11)		GS-01-S (20-23)		GS-01-S (45-48)	
	Sample Date	11/1/2006		11/1/2006		11/1/2006		11/1/2006		12/21/2006		12/21/2006		12/21/2006		12/26/2006	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		4-6 ft		9-11 ft		20-23 ft		45-48 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
Conventionals																	
Total organic carbon	%	0.79		3.49		0.44		0.33		0.79		0.85		0.66		0.05	U
Total solids	%	91.4		80.4		73.7		74		64.3		67.4		67.5		79.2	
Ammonia	mg/kg	1.1		32.2		67.2		58.6		--		--		--		26.1	
Cyanide	mg/kg	0.5		19		6.1		0.07	J	0.6	J	0.2	J	1.5	J	0.3	U
Sulfide	mg/kg	0.67	J	14.2		477		1.4		40.5		44		58.3		0.8	U
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--		--		--	
Metals																	
Aluminum	mg/kg	9,580		12,500		25,400		12,800		--		--		--		--	
Antimony	mg/kg	0.1		0.1		0.05	B	0.05	B	--		--		--		--	
Arsenic	mg/kg	12.6		3.9		2.1		1.71		--		--		--		--	
Barium	mg/kg	156		104		125		114		--		--		--		--	
Beryllium	mg/kg	0.315		0.537		0.413		0.381		--		--		--		--	
Cadmium	mg/kg	5.92		0.148		0.384		0.07	B	--		--		--		--	
Calcium metal	mg/kg	7,590		28,800		2,750		4,260		--		--		--		--	
Chromium	mg/kg	13.2	J	16.1	J	31.8	J	13.9	J	--		--		--		--	
Copper	mg/kg	19.5	J	19.8	J	18.9	J	17.9	J	--		--		--		--	
Iron	mg/kg	22,500		21,500		17,700		25,700		--		--		--		--	
Lead	mg/kg	78		42.6		5.14		3.04		--		--		--		--	
Magnesium	mg/kg	2,130		2,880		3,280		4,580		--		--		--		--	
Manganese	mg/kg	297		456		96.7		443		--		--		--		--	
Mercury	mg/kg	0.073		0.043		0.025		0.028		--		--		--		--	
Nickel	mg/kg	18.6	J	18.6	J	25.7	J	21	J	--		--		--		--	
Potassium	mg/kg	865		926		721		694		--		--		--		--	
Selenium	mg/kg	0.04	B	0.09	B	0.1	B	0.05	B	--		--		--		--	
Silver	mg/kg	0.084		0.127		0.132		0.089		--		--		--		--	
Sodium	mg/kg	235	J	312	J	366	J	371	J	--		--		--		--	
Thallium	mg/kg	0.109		0.094		0.058		0.049		--		--		--		--	
Zinc	mg/kg	668		57.4		300		50.2		--		--		--		--	
SVOC																	
2-Methylnaphthalene	ug/kg	61		400		16		1.2	J	9.7		0.55	J	0.68	J	5.1	U
Acenaphthene	ug/kg	56		99		5.5		5	U	24		5	U	1.3	J	5.1	U
Acenaphthylene	ug/kg	120		290		2.6	J	5	U	11		5	U	5	U	5.1	U
Anthracene	ug/kg	200		450		13		5	U	43		5	U	0.91	J	5.1	U
Benzo(a)anthracene	ug/kg	880	J	2,200		29		0.43	J	88		0.46	J	2.1	J	5.1	U
Benzo(a)pyrene	ug/kg	1,400		3,000		28		0.4	J	100		0.53	J	1.7	J	5.1	U
Benzo(b)fluoranthene	ug/kg	910	J	2,800		17		5	U	90		5	U	1.8	J	5.1	U
Benzo(g,h,i)perylene	ug/kg	1,100		3,100		13		0.71	J	120		0.8	J	2.7	J	5.1	U
Benzo(k)fluoranthene	ug/kg	730		2,300		21		5	U	73		5	U	1.3	J	5.1	U
Chrysene	ug/kg	1,200	J	3,500		32		0.57	J	130		0.79	J	2.2	J	5.1	U
Dibenzo(a,h)anthracene	ug/kg	140		310		2.6	J	5	U	9.5		5	U	5	U	5.1	U
Dibenzofuran	ug/kg	14		180		6.8		0.76	J	6.5		5	U	0.3	J	5.1	U
Fluoranthene	ug/kg	1,800	J	6,200		45		0.86	J	320		1.6	J	4.4	J	5.1	U
Fluorene	ug/kg	92		960		120		5	U	31		0.35	J	0.59	J	5.1	U
Indeno(1,2,3-cd)pyrene	ug/kg	1000		2,700		12		0.45	J	97		0.54	J	1.8	J	5.1	U
Naphthalene	ug/kg	140		5,500		250		5	U	33		5	U	5	U	5.1	U
Phenanthrene	ug/kg	1,200	J	12,000		58		2.3	J	320		1.9	J	5.5		5.1	U
Pyrene	ug/kg	2,300	J	6,600		55		0.82	J	370		1.8	J	5.4		5.1	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-00		GS-00		GS-00		GS-00		GS-01		GS-01		GS-01		GS-01	
	Sample ID	GS-00-S (4-6)		GS-00-S (9-11)		GS-00-S (20-23)		GS-00-S (45-48)		GS-01-S (4-6)		GS-01-S (9-11)		GS-01-S (20-23)		GS-01-S (45-48)	
	Sample Date	11/1/2006		11/1/2006		11/1/2006		11/1/2006		12/21/2006		12/21/2006		12/21/2006		12/26/2006	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		4-6 ft		9-11 ft		20-23 ft		45-48 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
VOC																	
1,1,1,2-Tetrachloroethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,1,1-Trichloroethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,1,2,2-Tetrachloroethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,1,2-Trichloroethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,2,3-Trichloropropane	ug/kg	3.3	U	3.4	UJ	3.5	UJ	3.4	U	1.4	U	1.4	U	1.4	U	6.4	U
1,1-Dichloroethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,1-Dichloroethene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,2,4-Trichlorobenzene	ug/kg	26	U	27	UJ	28	UJ	27	U	28	U	27	U	27	U	26	U
1,2-Dibromoethane	ug/kg	26	U	27	UJ	28	UJ	27	U	28	U	27	U	27	U	26	U
1,2-Dichlorobenzene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,2-Dichloroethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,2-Dichloropropane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,3-Dichlorobenzene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
1,4-Dichlorobenzene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	**0.43**	**J**
2-Butanone (MEK)	ug/kg	13	UJ	14	UJ	14	UJ	14	UJ	5.5	UJ	**4.6**	**J**	**3**	**J**	6.4	UJ
2-Chloroethylvinylether	ug/kg	6.5	U	6.7	UJ	7	UJ	6.7	U	6.8	U	6.6	U	6.6	U	6.4	U
2-Hexanone	ug/kg	6.5	U	6.7	UJ	7	UJ	6.7	U	6.8	U	6.6	U	6.6	U	13	U
4-Methyl-2-pentanone (MIBK)	ug/kg	26	U	27	UJ	28	UJ	27	U	2.8	U	2.7	U	2.7	U	2.6	U
Acetone	ug/kg	26	U	27	UJ	32	UJ	31	U	14	UJ	14	UJ	14	UJ	26	UJ
Acrolein	ug/kg	130	UJ	140	UJ	140	UJ	140	UJ	140	UJ	140	UJ	140	UJ	130	UJ
Acrylonitrile	ug/kg	2.6	U	2.7	UJ	2.8	UJ	2.7	U	5.5	UJ	5.3	UJ	5.3	UJ	2.6	U
Benzene	ug/kg	1.3	U	**7.6**	**J**	1.4	UJ	1.4	U	**0.31**	**J**	**0.17**	**J**	**0.34**	**J**	1.3	U
Bromochloromethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Bromodichloromethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Bromoform	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	2.8	U	2.7	U	2.7	U	1.3	U
Bromomethane	ug/kg	6.5	U	6.7	UJ	7	UJ	6.7	U	2.8	UJ	2.7	UJ	2.7	UJ	1.3	U
Carbon disulfide	ug/kg	**0.35**	**J**	**63**	**J**	**5.6**	**J**	**1**	**J**	**0.23**	**J**	**0.2**	**J**	**0.24**	**J**	**0.23**	**J**
Carbon tetrachloride	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	6.8	U	6.6	U	6.6	U	1.3	U
Chlorobenzene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Chloroethane	ug/kg	6.5	U	6.7	UJ	7	UJ	6.7	U	6.8	U	6.6	U	6.6	U	1.3	U
Chloroform	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Chloromethane	ug/kg	6.5	U	6.7	UJ	7	UJ	6.7	U	1.4	U	1.4	U	1.4	U	1.3	U
cis-1,2-Dichloroethene	ug/kg	1.3	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
cis-1,3-Dichloropropene	ug/kg	6.5	U	6.7	UJ	7	UJ	6.7	U	6.8	U	6.6	U	6.6	U	1.3	U
Dibromochloromethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	2.8	U	2.7	U	2.7	U	1.3	U
Dibromomethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Dichlorodifluoromethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	UJ
Dichloromethane	ug/kg	6.5	U	6.7	UJ	7	U	6.7	U	6.8	U	6.6	U	6.6	U	6.4	U
Ethylbenzene	ug/kg	1.3	U	**0.79**	**J**	**0.8**	**J**	1.4	U	**0.33**	**J**	1.4	U	1.4	U	1.3	U
Iodomethane	ug/kg	13	U	14	UJ	14	UJ	14	U	14	UJ	14	UJ	14	UJ	13	UJ
Isopropylbenzene	ug/kg	3.3	U	3.4	UJ	3.5	UJ	3.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Methyltert-butylether	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	2.8	U	2.7	U	2.7	U	1.3	U
Styrene	ug/kg	3.3	U	3.4	UJ	3.5	UJ	3.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Tetrachloroethene	ug/kg	**0.85**	**J**	**2.1**	**J**	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Trichloroethene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Toluene	ug/kg	**0.37**	**J**	**2**	**J**	**0.46**	**J**	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
trans-1,2-Dichloroethene	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
trans-1,3-Dichloropropene	ug/kg	3.3	U	3.4	UJ	3.5	UJ	3.4	U	6.8	U	6.6	U	6.6	U	1.3	U
trans-1,4-Dichloro-2-butene	ug/kg	3.3	U	3.4	UJ	3.5	UJ	3.4	U	2.8	UJ	2.7	UJ	2.7	UJ	2.6	U
Trichlorofluoromethane	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
Vinyl acetate	ug/kg	3.3	UJ	3.4	UJ	3.5	UJ	3.4	UJ	14	UJ	14	UJ	14	UJ	3.2	UJ
Vinyl chloride	ug/kg	1.3	U	1.4	UJ	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U
m,p-Xylenes	ug/kg	2.6	U	**1.6**	**J**	**0.69**	**J**	2.7	U	2.8	U	2.7	U	2.7	U	1.3	U
o-Xylene	ug/kg	1.3	U	**0.8**	**J**	1.4	UJ	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-02		GS-02		GS-02		GS-02		GS-03		GS-03		GS-03		GS-03		GS-03		GS-03	
	Sample ID	GS-02-S (4-6)		GS-02-S (9-11)		GS-02-S (20-23)		GS-02-S (45-48)		GS-03-S (4-6		GS-03-S (9-11)		GS-03-S (20-2		GS-03-S (45-48)		GS-03-S (95-98)		GS-03-S (120-122)	
	Sample Date	12/27/2006		12/27/2006		12/27/2006		12/28/2006		12/18/2006		12/18/2006		12/18/2006		12/19/2006		12/19/2006		12/19/2006	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		4-6 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft		120-122 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																				
Conventionals																					
Total organic carbon	%	**1.11**		**1.05**		**0.91**		**0.32**		**2.07**		**1.06**		**0.66**		**0.55**		**0.08**		0.05	U
Total solids	%	**65.7**		**67.4**		**69.3**		**77.9**		**64.3**		**66.8**		**67.6**		**70.2**		**80.5**		**84.1**	
Ammonia	mg/kg	**538**		**703**		**210**		**65.4**		**119**		**143**		**109**		**127**		--		--	
Cyanide	mg/kg	**0.2**	J	**0.6**		**0.2**	J	**0.4**		**26.9**	J	**0.4**	J	**0.5**	J	**2.9**	J	0.3	UJ	0.3	UJ
Sulfide	mg/kg	**98.2**		**74**		**75.8**		**0.5**	J	**388**		**27.7**		**48.7**		**17.6**		**1.2**		0.8	U
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--		--		--		--		--	
Metals																					
Aluminum	mg/kg	**26,900**		**27,800**		**23,700**		**18,200**		--		--		--		--		--		--	
Antimony	mg/kg	0.05	U	0.05	U	**0.05**	B	0.05	U	--		--		--		--		--		--	
Arsenic	mg/kg	**3.19**		**3.4**		**3.17**		**2.12**		--		--		--		--		--		--	
Barium	mg/kg	**175**		**175**		**161**		**130**		--		--		--		--		--		--	
Beryllium	mg/kg	**0.59**		**0.64**		**0.53**		**0.4**		--		--		--		--		--		--	
Cadmium	mg/kg	**0.13**		**0.14**		**0.14**		**0.07**		--		--		--		--		--		--	
Calcium metal	mg/kg	**5,860**		**5,810**		**5,900**		**4,930**		--		--		--		--		--		--	
Chromium	mg/kg	**27.2**		**28.8**		**26.5**		**16.1**		--		--		--		--		--		--	
Copper	mg/kg	**27.2**		**28.4**		**26.9**		**17.4**		--		--		--		--		--		--	
Iron	mg/kg	**38,400**		**38,500**		**36,100**		**30,800**		--		--		--		--		--		--	
Lead	mg/kg	**5.55**		**6.05**		**5.23**		**3.24**		--		--		--		--		--		--	
Magnesium	mg/kg	**5,960**		**5,930**		**6,180**		**4,960**		--		--		--		--		--		--	
Manganese	mg/kg	**382**		**525**		**422**		**337**		--		--		--		--		--		--	
Mercury	mg/kg	**0.067**		**2.03**		**0.029**		**0.043**		--		--		--		--		--		--	
Nickel	mg/kg	**25.4**		**25**		**24.5**		**19.2**		--		--		--		--		--		--	
Potassium	mg/kg	1,110	U	950	U	967	U	622	U	--		--		--		--		--		--	
Selenium	mg/kg	**0.08**	B	**0.08**	B	**0.16**		**0.04**	B	--		--		--		--		--		--	
Silver	mg/kg	**0.138**		**0.133**		**0.132**		**0.1**		--		--		--		--		--		--	
Sodium	mg/kg	**739**		**826**		**841**		**598**		--		--		--		--		--		--	
Thallium	mg/kg	**0.09**		**0.1**		**0.08**		**0.06**		--		--		--		--		--		--	
Zinc	mg/kg	**72.7**		**69.9**		**70.4**		**58.4**		--		--		--		--		--		--	
SVOC																					
2-Methylnaphthalene	ug/kg	4.9	U	**5.4**		5.1	U	5	U	**1,300**	D	**5.4**		0.72	U	4.9	U	5	U	5	U
Acenaphthene	ug/kg	**2.1**	J	**4.8**	J	**1.9**	J	5	U	**8,800**	D	**14**		**0.47**	J	4.9	U	5	U	5	U
Acenaphthylene	ug/kg	**1.4**	J	**2.3**	J	**1.5**	J	5	U	**540**	D	**1.1**	J	5	U	4.9	U	5	U	5	U
Anthracene	ug/kg	**6.2**		**12**		**6.4**		**2.7**	J	**9,500**	D	**12**		5	U	4.9	U	5	U	5	U
Benzo(a)anthracene	ug/kg	**8.7**		**13**		**6.3**		**7.5**		**9,900**	D	**13**		**1.8**	J	4.9	U	5	U	5	U
Benzo(a)pyrene	ug/kg	**8.7**		**15**		**7.7**		**6.2**		**12,000**	D	**14**		**1.3**	J	4.9	U	5	U	5	U
Benzo(b)fluoranthene	ug/kg	**6.2**		**11**		**5.9**		**6.6**		**8,000**	D	**11**		**1.3**	J	4.9	U	5	U	5	U
Benzo(g,h,i)perylene	ug/kg	**6.1**		**9.7**		**5.9**		**5.2**		**9,800**	D	**14**		**1.3**	J	4.9	U	5	U	5	U
Benzo(k)fluoranthene	ug/kg	**7.1**		**10**		**5.3**		**6.8**		**7,100**	D	**11**		**1.1**	J	4.9	U	5	U	5	U
Chrysene	ug/kg	**12**		**18**		**8.5**		**7.1**		**13,000**	D	**20**		**1.9**	J	4.9	U	5	U	5	U
Dibenzo(a,h)anthracene	ug/kg	**0.81**	J	**1.2**	J	**0.72**	J	**6.1**		**1000**	D	5	U	5	U	4.9	U	5	U	5	U
Dibenzofuran	ug/kg	**0.75**	J	**1.3**	J	**0.61**	J	5	U	**860**	D	**2.1**	J	5	U	4.9	U	5	U	5	U
Fluoranthene	ug/kg	**28**		**45**		**22**		**6**		**39,000**	D	**53**		**2.7**	J	4.9	U	5	U	5	U
Fluorene	ug/kg	**4.1**	J	**8.9**		**3.5**	J	**0.49**	J	**7,200**	D	**12**		5	U	4.9	U	5	U	5	U
Indeno(1,2,3-cd)pyrene	ug/kg	**5.6**		**9.1**		**5.3**		**4.5**	J	**8,100**	D	**11**		**1.2**	J	4.9	U	5	U	5	U
Naphthalene	ug/kg	**8.8**		**27**		**8.5**		5	U	**5,500**	D	**22**		5	U	4.9	U	5	U	5	U
Phenanthrene	ug/kg	**37**		**61**		**28**		**3.3**	J	**52,000**	D	**79**		**3.5**	J	4.9	U	5	U	5	U
Pyrene	ug/kg	**38**		**58**		**28**		**6.8**		**44,000**	D	**62**		**3.6**	J	4.9	U	5	U	5	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-02		GS-02		GS-02		GS-02		GS-03		GS-03		GS-03		GS-03		GS-03		GS-03	
	Sample ID	GS-02-S (4-6)		GS-02-S (9-11)		GS-02-S (20-23)		GS-02-S (45-48)		GS-03-S (4-6		GS-03-S (9-11)		GS-03-S (20-2		GS-03-S (45-48)		GS-03-S (95-98)		GS-03-S (120-122)	
	Sample Date	12/27/2006		12/27/2006		12/27/2006		12/28/2006		12/18/2006		12/18/2006		12/18/2006		12/19/2006		12/19/2006		12/19/2006	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		4-6 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft		120-122 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																				
VOC																					
1,1,1,2-Tetrachloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,1,1-Trichloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,1,2,2-Tetrachloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,1,2-Trichloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,2,3-Trichloropropane	ug/kg	7.6	U	7.8	U	7.3	U	5.5	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,1-Dichloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,1-Dichloroethene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,2,4-Trichlorobenzene	ug/kg	31	U	32	U	29	U	22	U	330	U	28	U	27	U	25	U	21	U	21	U
1,2-Dibromoethane	ug/kg	31	U	32	U	29	U	22	U	330	U	28	U	27	U	25	U	21	U	21	U
1,2-Dichlorobenzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,2-Dichloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,2-Dichloropropane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,3-Dichlorobenzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
1,4-Dichlorobenzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
2-Butanone (MEK)	ug/kg	7.6	UJ	7.8	UJ	7.3	UJ	5.5	UJ	3,300	UJ	5.6	UJ	**2.6**	**J**	5	UJ	4.2	UJ	4.2	UJ
2-Chloroethylvinylether	ug/kg	7.6	U	7.8	U	7.3	U	5.5	U	810	U	7	U	6.6	U	6.3	U	5.2	U	5.3	U
2-Hexanone	ug/kg	16	U	16	U	15	U	11	U	3,300	UJ	7	U	6.6	U	6.3	U	5.2	U	5.3	U
4-Methyl-2-pentanone (MIBK)	ug/kg	3.1	U	3.2	U	2.9	U	2.2	U	3,300	UJ	2.8	U	2.7	U	2.5	U	2.1	U	2.1	U
Acetone	ug/kg	31	UJ	41	UJ	**27**	**J**	22	UJ	3,300	UJ	14	UJ	14	UJ	13	UJ	11	UJ	11	UJ
Acrolein	ug/kg	160	UJ	160	UJ	150	UJ	110	UJ	3,300	UJ	140	UJ	140	UJ	130	UJ	110	UJ	110	UJ
Acrylonitrile	ug/kg	3.1	U	3.2	U	2.9	U	2.2	U	3,300	UJ	5.6	UJ	5.3	UJ	5	UJ	4.2	UJ	4.2	UJ
Benzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	**0.2**	**J**	**0.2**	**J**	**0.11**	**J**	**0.14**	**J**	**0.12**	**J**
Bromochloromethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Bromodichloromethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Bromoform	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	2.8	U	2.7	U	2.5	U	2.1	U	2.1	U
Bromomethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	2.8	UJ	2.7	UJ	2.5	UJ	2.1	UJ	2.1	UJ
Carbon disulfide	ug/kg	**0.26**	**J**	**0.81**	**J**	**0.25**	**J**	1.1	U	81	U	**0.2**	**J**	**0.22**	**J**	**0.16**	**J**	**0.31**	**J**	1.1	U
Carbon tetrachloride	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	7	U	6.6	U	6.3	U	5.2	U	5.3	U
Chlorobenzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Chloroethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	7	U	6.6	U	6.3	U	5.2	U	5.3	U
Chloroform	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Chloromethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
cis-1,2-Dichloroethene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
cis-1,3-Dichloropropene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	7	U	6.6	U	6.3	U	5.2	U	5.3	U
Dibromochloromethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	2.8	U	2.7	U	2.5	U	2.1	U	2.1	U
Dibromomethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Dichlorodifluoromethane	ug/kg	1.6	UJ	1.6	UJ	1.5	U	1.1	UJ	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Dichloromethane	ug/kg	7.6	U	7.8	U	7.3	U	5.5	U	330	U	7	U	6.6	U	6.3	U	5.2	U	5.3	U
Ethylbenzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	**66**	**J**	**0.38**	**J**	**0.12**	**J**	1.3	U	1.1	U	1.1	U
Iodomethane	ug/kg	16	UJ	16	UJ	15	UJ	11	UJ	810	U	14	UJ	14	UJ	13	UJ	11	UJ	11	UJ
Isopropylbenzene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	**53**	**J**	**0.21**	**J**	1.4	U	1.3	U	1.1	U	1.1	U
Methyltert-butylether	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	2.8	U	2.7	U	2.5	U	2.1	U	2.1	U
Styrene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Tetrachloroethene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Trichloroethene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Toluene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
trans-1,2-Dichloroethene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
trans-1,3-Dichloropropene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	7	U	6.6	U	6.3	U	5.2	U	5.3	U
trans-1,4-Dichloro-2-butene	ug/kg	3.1	U	3.2	U	2.9	U	2.2	U	1,700	U	2.8	UJ	2.7	UJ	2.5	UJ	2.1	UJ	2.1	UJ
Trichlorofluoromethane	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
Vinyl acetate	ug/kg	3.9	UJ	3.9	UJ	3.7	UJ	3.3	UJ	810	UJ	14	UJ	14	UJ	13	UJ	11	UJ	11	UJ
Vinyl chloride	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U
m,p-Xylenes	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	81	U	**0.2**	**J**	2.7	U	2.5	U	2.1	U	2.1	U
o-Xylene	ug/kg	1.6	U	1.6	U	1.5	U	1.1	U	**18**	**J**	1.4	U	1.4	U	1.3	U	1.1	U	1.1	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-04		GS-04		GS-04		GS-04		GS-04		GS-04	
	Sample ID	GS-04-S (4-6)		GS-04-S (9-11)		GS-04-S (24-2		GS-04-S (45-4		GS-04-S (69-70)		GS-04-S (95-98)	
	Sample Date	12/12/2006		12/12/2006		12/12/2006		12/13/2006		12/13/2006		12/13/2006	
	Depth Interval	4-6 ft		9-11 ft		24-27 ft		45-48 ft		69-70 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**												
Conventionals													
Total organic carbon	%	0.99		0.33		0.29		0.08		--		0.08	
Total solids	%	63.5		67.5		71.9		75.6		80.3		81.8	
Ammonia	mg/kg	111		88.3		34.6		40.8		--		16.8	
Cyanide	mg/kg	0.3	J	2.1	J	0.1	J	0.3	UJ	--		0.3	UJ
Sulfide	mg/kg	0.9		0.5	U	0.5	U	0.5	U	--		0.5	U
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--	
Metals													
Aluminum	mg/kg	26,100		19,900		14,100		10,700		--		13,000	
Antimony	mg/kg	0.05	B	0.05	U	0.06	U	0.06	U	--		0.06	U
Arsenic	mg/kg	2.84		1.9		1.66		1.79		--		2.07	
Barium	mg/kg	183		162		145		107		--		103	
Beryllium	mg/kg	0.64		0.52		0.45		0.32		--		0.33	
Cadmium	mg/kg	0.13		0.09		0.09		0.05		--		0.06	
Calcium metal	mg/kg	6,110		5,070		4,220		4,130		--		4,870	
Chromium	mg/kg	23.3		18.3		14.9		11.5		--		13.6	
Copper	mg/kg	27.7		18.6		17.9		13.6		--		16.3	
Iron	mg/kg	35,400		32,300		28,400		25,000		--		27,000	
Lead	mg/kg	6.06		4.1		3.64		2.67		--		2.71	
Magnesium	mg/kg	6,340		5,160		4,860		3,890		--		4,650	
Manganese	mg/kg	410		348		255		281		--		256	
Mercury	mg/kg	0.026		0.016	B	0.027		0.013	B	--		0.087	
Nickel	mg/kg	23.4		21.1		20		17.3		--		21.2	
Potassium	mg/kg	894	U	814	U	734	U	755	U	--		801	U
Selenium	mg/kg	0.14		0.04	B	0.04	B	0.02	B	--		0.12	U
Silver	mg/kg	0.13		0.106		0.085		0.065		--		0.07	
Sodium	mg/kg	618		461		399		357		--		514	
Thallium	mg/kg	0.11		0.07		0.06		0.05		--		0.05	
Zinc	mg/kg	70.4		60.4		74		49.6		--		50.7	
SVOC													
2-Methylnaphthalene	ug/kg	5	U	5	U	5	U	5	U	340	U	5	U
Acenaphthene	ug/kg	4.3	J	0.28	J	4.4	J	0.33	J	340	U	5	U
Acenaphthylene	ug/kg	9.9		0.46	J	5	U	5	U	340	U	5	U
Anthracene	ug/kg	9.4		0.62	J	5	U	5	U	340	U	5	U
Benzo(a)anthracene	ug/kg	160		3.2	J	5	U	5	U	340	U	5	U
Benzo(a)pyrene	ug/kg	170		3.5	J	5	U	5	U	340	U	5	U
Benzo(b)fluoranthene	ug/kg	130		3.2	J	5	U	5	U	340	U	5	U
Benzo(g,h,i)perylene	ug/kg	130		5	U	5	U	5	U	R		5	U
Benzo(k)fluoranthene	ug/kg	120		2.4	J	5	U	5	U	340	U	5	U
Chrysene	ug/kg	210		4.3	J	5	U	5	U	340	U	5	U
Dibenzo(a,h)anthracene	ug/kg	16		5	U	5	U	5	U	340	U	5	U
Dibenzofuran	ug/kg	5	U	5	U	5	U	5	U	340	U	5	U
Fluoranthene	ug/kg	560		11		5	U	4.5	J	340	U	5	U
Fluorene	ug/kg	5.9		0.41	J	5	U	5	U	340	U	5	U
Indeno(1,2,3-cd)pyrene	ug/kg	110		5	U	5	U	5	U	340	U	5	U
Naphthalene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	340	U	1.1	U
Phenanthrene	ug/kg	18		5	U	5	U	5	U	340	U	5	U
Pyrene	ug/kg	660		14		5	U	5.4		340	U	5	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-04		GS-04		GS-04		GS-04		GS-04		GS-04	
	Sample ID	GS-04-S (4-6)		GS-04-S (9-11)		GS-04-S (24-2		GS-04-S (45-4		GS-04-S (69-70)		GS-04-S (95-98)	
	Sample Date	12/12/2006		12/12/2006		12/12/2006		12/13/2006		12/13/2006		12/13/2006	
	Depth Interval	4-6 ft		9-11 ft		24-27 ft		45-48 ft		69-70 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**												
VOC													
1,1,1,2-Tetrachloroethane	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
1,1,1-Trichloroethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
1,1,2,2-Tetrachloroethane	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
1,1,2-Trichloroethane	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
1,2,3-Trichloropropane	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
1,1-Dichloroethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
1,1-Dichloroethene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
1,2,4-Trichlorobenzene	ug/kg	34	UJ	28	U	25	U	24	U	--		22	U
1,2-Dibromoethane	ug/kg	34	UJ	28	U	25	U	24	U	--		22	U
1,2-Dichlorobenzene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
1,2-Dichloroethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
1,2-Dichloropropane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
1,3-Dichlorobenzene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
1,4-Dichlorobenzene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
2-Butanone (MEK)	ug/kg	17	UJ	14	UJ	13	UJ	12	UJ	--		11	UJ
2-Chloroethylvinylether	ug/kg	8.3	U	7	U	6.1	U	5.8	U	--		5.4	U
2-Hexanone	ug/kg	8.3	UJ	7	U	6.1	U	5.8	U	--		5.4	U
4-Methyl-2-pentanone (MIBK)	ug/kg	3.4	U	2.8	U	2.5	U	2.4	U	--		2.2	U
Acetone	ug/kg	49	U	28	U	25	U	24	U	--		22	U
Acrolein	ug/kg	170	UJ	140	UJ	130	UJ	120	UJ	--		110	UJ
Acrylonitrile	ug/kg	3.4	U	2.8	U	2.5	U	2.4	U	--		2.2	U
Benzene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Bromochloromethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Bromodichloromethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Bromoform	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Bromomethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Carbon disulfide	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		**0.51**	**J**
Carbon tetrachloride	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Chlorobenzene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Chloroethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Chloroform	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Chloromethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
cis-1,2-Dichloroethene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
cis-1,3-Dichloropropene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Dibromochloromethane	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Dibromomethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Dichlorodifluoromethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Dichloromethane	ug/kg	8.3	U	7	U	6.1	U	5.8	U	--		5.4	U
Ethylbenzene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Iodomethane	ug/kg	17	U	14	U	13	U	12	U	--		11	U
Isopropylbenzene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Methyltert-butylether	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Styrene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Tetrachloroethene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
Trichloroethene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Toluene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
trans-1,2-Dichloroethene	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
trans-1,3-Dichloropropene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U
trans-1,4-Dichloro-2-butene	ug/kg	4.2	UJ	3.5	U	3.1	U	2.9	U	--		2.7	U
Trichlorofluoromethane	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
Vinyl acetate	ug/kg	4.2	UJ	3.5	UJ	3.1	UJ	2.9	UJ	--		2.7	UJ
Vinyl chloride	ug/kg	1.7	U	1.4	U	1.3	U	1.2	U	--		1.1	U
m,p-Xylenes	ug/kg	3.4	UJ	2.8	U	2.5	U	2.4	U	--		2.2	U
o-Xylene	ug/kg	1.7	UJ	1.4	U	1.3	U	1.2	U	--		1.1	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-05		GS-05		GS-05		GS-05		GS-05		GS-05		GS-05		GS-05	
	Sample ID	GS-05-S (3-4)		GS-05-S (9-11)		GS-05-S (20-22)		GS-05-S (45-48)		GS-05-S (95-98)		GS-05-S (120-123)		GS-05-S (145-148)		GS-05-S (170-173)	
	Sample Date	10/24/2006		10/25/2006		10/25/2006		10/25/2006		10/26/2006		10/27/2006		10/27/2006		10/30/2006	
	Depth Interval	3-4 ft		9-11 ft		20-22 ft		45-48 ft		95-98 ft		120-123 ft		145-148 ft		170-173 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
Conventionals																	
Total organic carbon	%	**4.63**	**J**	1.02	UJ	0.93	UJ	--		**0.19**	**J**	**0.07**	**J**	**0.06**	**J**	**0.08**	**J**
Total solids	%	**60.6**		**68**		**68.6**		**76.5**		**75**		**78**		**79.1**		**79.3**	
Ammonia	mg/kg	**161**		**35.2**		**48.8**		**55.9**		--		--		--		--	
Cyanide	mg/kg	**10.7**	**J**	**0.3**		**0.15**	**J**	**0.07**	**J**	0.25	U	0.22	U	0.22	U	0.17	U
Sulfide	mg/kg	**159**		**3.4**		**0.9**		**0.48**	**J**	**0.7**	**J**	**0.7**		0.7	U	0.7	U
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--		--		--	
Metals																	
Aluminum	mg/kg	--		--		--		--		--		--		--		--	
Antimony	mg/kg	--		--		--		--		--		--		--		--	
Arsenic	mg/kg	--		--		--		--		--		--		--		--	
Barium	mg/kg	--		--		--		--		--		--		--		--	
Beryllium	mg/kg	--		--		--		--		--		--		--		--	
Cadmium	mg/kg	--		--		--		--		--		--		--		--	
Calcium metal	mg/kg	--		--		--		--		--		--		--		--	
Chromium	mg/kg	--		--		--		--		--		--		--		--	
Copper	mg/kg	--		--		--		--		--		--		--		--	
Iron	mg/kg	--		--		--		--		--		--		--		--	
Lead	mg/kg	--		--		--		--		--		--		--		--	
Magnesium	mg/kg	--		--		--		--		--		--		--		--	
Manganese	mg/kg	--		--		--		--		--		--		--		--	
Mercury	mg/kg	--		--		--		--		--		--		--		--	
Nickel	mg/kg	--		--		--		--		--		--		--		--	
Potassium	mg/kg	--		--		--		--		--		--		--		--	
Selenium	mg/kg	--		--		--		--		--		--		--		--	
Silver	mg/kg	--		--		--		--		--		--		--		--	
Sodium	mg/kg	--		--		--		--		--		--		--		--	
Thallium	mg/kg	--		--		--		--		--		--		--		--	
Zinc	mg/kg	--		--		--		--		--		--		--		--	
SVOC																	
2-Methylnaphthalene	ug/kg	**16,000**		**7,300**		**24**		**1**	**J**	**0.79**	**J**	**0.74**	**J**	**0.66**	**J**	**0.7**	**J**
Acenaphthene	ug/kg	**62,000**		**8,000**		**29**		**0.42**	**J**	**0.24**	**J**	5	U	5	U	5	U
Acenaphthylene	ug/kg	**5,700**		**890**		**4.5**	**J**	5	U	5	U	5	U	5	U	5	U
Anthracene	ug/kg	**44,000**		**6,400**		**33**		**0.39**	**J**	5	U	5	U	5	U	5	U
Benzo(a)anthracene	ug/kg	**58,000**		**5,300**		**36**		**0.44**	**J**	**0.33**	**J**	5	U	5	U	5	U
Benzo(a)pyrene	ug/kg	**77,000**		**6,200**		**46**		**0.61**	**J**	**0.47**	**J**	5	U	5	U	5	U
Benzo(b)fluoranthene	ug/kg	**48,000**		**3,400**		**27**		5	U	5	U	5	U	5	U	5	U
Benzo(g,h,i)perylene	ug/kg	**53,000**		**4,800**		**26**		**0.59**	**J**	**0.47**	**J**	5	U	5	U	5	U
Benzo(k)fluoranthene	ug/kg	**40,000**		**3,500**		**24**		5	U	5	U	5	U	5	U	5	U
Chrysene	ug/kg	**69,000**		**6,900**		**49**		**0.61**	**J**	5	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	ug/kg	**6,300**		**520**		**2.9**	**J**	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	ug/kg	**6,700**		**860**		**3.5**	**J**	5	U	5	U	5	U	5	U	5	U
Fluoranthene	ug/kg	**190,000**		**20,000**		**120**		**1.7**	**J**	**1.1**	**J**	5	U	5	U	**0.56**	**J**
Fluorene	ug/kg	**39,000**		**5,500**		**21**		**0.3**	**J**	5	U	5	U	5	U	5	U
Indeno(1,2,3-cd)pyrene	ug/kg	**51,000**		**4,300**		**24**		**0.66**	**J**	5	U	5	U	5	U	5	U
Naphthalene	ug/kg	**15,000**		**4,100**		**22**		5	U	5	U	5	U	5	U	5	U
Phenanthrene	ug/kg	**250,000**		**40,000**		**180**		**2.5**	**J**	**0.86**	**J**	**0.46**	**J**	5	U	**0.75**	**J**
Pyrene	ug/kg	**220,000**		**24,000**		**150**		**1.6**	**J**	**1.2**	**J**	5	U	5	U	5	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-05		GS-05		GS-05		GS-05		GS-05		GS-05		GS-05		GS-05	
	Sample ID	GS-05-S (3-4)		GS-05-S (9-11)		GS-05-S (20-22)		GS-05-S (45-48)		GS-05-S (95-98)		GS-05-S (120-123)		GS-05-S (145-148)		GS-05-S (170-173)	
	Sample Date	10/24/2006		10/25/2006		10/25/2006		10/25/2006		10/26/2006		10/27/2006		10/27/2006		10/30/2006	
	Depth Interval	3-4 ft		9-11 ft		20-22 ft		45-48 ft		95-98 ft		120-123 ft		145-148 ft		170-173 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
VOC																	
1,1,1,2-Tetrachloroethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,1,1-Trichloroethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,1,2,2-Tetrachloroethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,1,2-Trichloroethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,2,3-Trichloropropane	ug/kg	430	U	3.9	U	3.7	U	3.3	U	3.3	U	3	U	3.3	U	3.1	U
1,1-Dichloroethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,1-Dichloroethene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,2,4-Trichlorobenzene	ug/kg	1,700	U	32	U	29	U	27	U	26	U	24	U	27	U	25	U
1,2-Dibromoethane	ug/kg	1,700	U	32	U	29	U	27	U	26	U	24	U	27	U	25	U
1,2-Dichlorobenzene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,2-Dichloroethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,2-Dichloropropane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,3-Dichlorobenzene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
1,4-Dichlorobenzene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
2-Butanone (MEK)	ug/kg	17,000	UJ	**7.7**	**J**	**7.4**	**J**	14	UJ	13	UJ	12	UJ	14	UJ	13	UJ
2-Chloroethylvinylether	ug/kg	4,300	U	7.8	UJ	7.3	UJ	6.6	UJ	6.5	U	5.9	U	6.6	UJ	6.2	UJ
2-Hexanone	ug/kg	17,000	UJ	7.8	U	7.3	U	6.6	U	6.5	U	5.9	U	6.6	U	6.2	U
4-Methyl-2-pentanone (MIBK)	ug/kg	17,000	UJ	32	U	29	U	27	U	26	U	24	U	27	U	25	U
Acetone	ug/kg	17,000	UJ	43	U	43	U	27	U	26	U	12	UJ	27	U	25	U
Acrolein	ug/kg	17,000	UJ	160	UJ	150	UJ	140	UJ	130	UJ	120	UJ	140	UJ	130	UJ
Acrylonitrile	ug/kg	17,000	UJ	3.2	U	2.9	U	2.7	U	2.6	U	2.4	U	2.7	U	2.5	U
Benzene	ug/kg	430	U	**3.6**		1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Bromochloromethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Bromodichloromethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Bromoform	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Bromomethane	ug/kg	430	U	7.8	U	7.3	U	6.6	U	6.5	U	5.9	U	6.6	U	6.2	U
Carbon disulfide	ug/kg	430	U	**0.19**	**J**	**0.12**	**J**	1.4	U	**0.32**	**J**	**0.5**	**J**	**0.34**	**J**	**2.3**	
Carbon tetrachloride	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Chlorobenzene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Chloroethane	ug/kg	430	U	7.8	U	7.3	U	6.6	U	6.5	U	5.9	U	6.6	U	6.2	U
Chloroform	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Chloromethane	ug/kg	430	U	7.8	U	7.3	U	6.6	U	6.5	U	5.9	U	6.6	U	6.2	U
cis-1,2-Dichloroethene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
cis-1,3-Dichloropropene	ug/kg	430	U	7.8	U	7.3	U	6.6	U	6.5	U	5.9	U	6.6	U	6.2	U
Dibromochloromethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Dibromomethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Dichlorodifluoromethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Dichloromethane	ug/kg	**440**	**J**	7.8	U	7.3	U	6.6	U	6.5	U	5.9	UJ	6.6	U	6.2	U
Ethylbenzene	ug/kg	**1,900**		**88**		**1.1**	**J**	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Iodomethane	ug/kg	4,300	U	16	U	15	U	14	U	13	U	12	U	14	U	13	U
Isopropylbenzene	ug/kg	**1,100**	**J**	**86**		**0.38**	**J**	**0.29**	**J**	3.3	U	3	U	3.3	U	3.1	U
Methyltert-butylether	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Styrene	ug/kg	430	U	3.9	U	3.7	U	3.3	U	3.3	U	3	U	3.3	U	3.1	U
Tetrachloroethene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Trichloroethene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Toluene	ug/kg	430	U	**2.7**		1.5	U	**0.16**	**J**	**0.21**	**J**	**0.17**	**J**	1.4	U	1.3	U
trans-1,2-Dichloroethene	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
trans-1,3-Dichloropropene	ug/kg	430	U	3.9	U	3.7	U	3.3	U	3.3	U	3	U	3.3	U	3.1	U
trans-1,4-Dichloro-2-butene	ug/kg	8,500	U	3.9	U	3.7	U	3.3	U	3.3	U	3	U	3.3	U	3.1	U
Trichlorofluoromethane	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
Vinyl acetate	ug/kg	4,300	UJ	3.9	UJ	3.7	UJ	3.3	UJ	3.3	UJ	3	UJ	3.3	UJ	3.1	UJ
Vinyl chloride	ug/kg	430	U	1.6	U	1.5	U	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U
m,p-Xylenes	ug/kg	**930**		**48**		**0.46**	**J**	**0.33**	**J**	2.6	U	2.4	U	2.7	U	2.5	U
o-Xylene	ug/kg	**1,200**		**64**		**0.56**	**J**	1.4	U	1.3	U	1.2	U	1.4	U	1.3	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-06		GS-06 (Dup)		GS-06		GS-06		GS-06		GS-06 (Dup)		GS-06		GS-06	
	Sample ID	GS-06-S (4-6)		GS-56-S (4-6)		GS-06-S (9-11)		GS-06-S (20-23)		GS-06-S (41-44)		GS-56-S (41-44)		GS-06-S (65-69)		GS-06-S (95-98)	
	Sample Date	1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007	
	Depth Interval	4-6 ft		4-6 ft		9-11 ft		20-23 ft		41-44 ft		41-44 ft		65-69 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
Conventionals																	
Total organic carbon	%	0.88		1.17		1.06		0.71		0.4		0.35		0.19		0.05	U
Total solids	%	69.5		68.6		65.7		69.8		70		69.2		76.6		82.1	
Ammonia	mg/kg	50.4		49.3		47.4		52.7		43.6		44.7		--		--	
Cyanide	mg/kg	1.2		1.6		0.8		0.3		0.11	J	0.13	J	0.12	J	0.2	J
Sulfide	mg/kg	2.8		1.4		2.5		11.5		0.8	U	1		0.8	U	0.8	U
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--		--		--	
Metals																	
Aluminum	mg/kg	18,000		23,200		21,100		26,200		21,900		15,200		10,900		7,910	
Antimony	mg/kg	0.11	J	0.11	J	0.11	J	0.09	J	0.09	J	0.07	J	0.08	J	0.07	J
Arsenic	mg/kg	2.44		2.61		2.53		2.37		2.46		2.46		2.1		1.93	
Barium	mg/kg	138		148		148		151		159		131		85		79.2	
Beryllium	mg/kg	0.58		0.58		0.58		0.52		0.59		0.58		0.35		0.33	
Cadmium	mg/kg	0.14		0.14		0.15		0.13		0.12		0.11		0.07		0.07	
Calcium metal	mg/kg	5,040		5,730		5,400		6,430		6,380		5,140		4,110		3,670	
Chromium	mg/kg	25.6		31.1		28.9		34.9		26.3		20.5		16.2		11.9	
Copper	mg/kg	26.1	J	27.1	J	27.7	J	25.8	J	26.2	J	24.1	J	16.4	J	15.1	J
Iron	mg/kg	29,500		34,100		33,500		36,300		33,200		27,700		24,300		22,000	
Lead	mg/kg	6.7		6.79		6.06		5.47		5.89		5.45		3.08		2.73	
Magnesium	mg/kg	5,480		5,920		5,910		6,330		6,280		5,460		3,830		3,440	
Manganese	mg/kg	350	J	375	J	368	J	471	J	677	J	616	J	299	J	251	J
Mercury	mg/kg	0.029		0.032		0.026		0.034		0.12		0.033		0.013	B	0.044	
Nickel	mg/kg	22.3	J	24	J	23.8	J	23.5	J	24.6	J	23.6	J	18.5	J	18.1	J
Potassium	mg/kg	693		766		737		662		861		591		383	B	461	B
Selenium	mg/kg	0.13		0.13		0.11	B	0.13		0.09	B	0.06	B	0.04	B	0.12	U
Silver	mg/kg	0.131		0.135		0.13		0.131		0.144		0.101		0.077		0.066	
Sodium	mg/kg	516		733		659		923		688		416		389		291	
Thallium	mg/kg	0.09		0.1		0.11		0.09		0.1		0.1		0.06		0.06	
Zinc	mg/kg	62.7		69.6		65.3		68		61.6		54.5		48.4		44.3	
SVOC																	
2-Methylnaphthalene	ug/kg	14,000	D	6,500	D	3,400	D	1,700		4.4	J	3.8	J	4.9	U	5	U
Acenaphthene	ug/kg	21,000	D	9,600	D	4,300	D	1,300		7.8		9.3		0.26	UJ	0.23	J
Acenaphthylene	ug/kg	1,100	D	820	D	470	D	190		5	U	5	U	4.9	U	5	U
Anthracene	ug/kg	12,000	D	5,200	D	2,900	D	1,100		5	U	5	U	4.9	U	5	U
Benzo(a)anthracene	ug/kg	12,000	D	6,200	D	3,500	D	1,900		0.31	J	5	U	4.9	U	5	U
Benzo(a)pyrene	ug/kg	15,000	D	8,200	D	4,400	D	2,200	D	0.38	J	5	U	4.9	U	5	U
Benzo(b)fluoranthene	ug/kg	10,000	D	5,700	D	2,800	D	1,300		5	U	5	U	4.9	U	5	U
Benzo(g,h,i)perylene	ug/kg	11,000	D	6,200	D	2,900	D	1,600		5	U	5	U	4.9	U	5	U
Benzo(k)fluoranthene	ug/kg	7,000	D	3,700	D	2,300	D	1,200		5	U	5	U	4.9	U	5	U
Chrysene	ug/kg	14,000	D	7,400	D	4,300	D	2,300	D	5	U	5	U	4.9	U	5	U
Dibenzo(a,h)anthracene	ug/kg	1,300	D	690	D	360	D	180		5	U	5	U	4.9	U	5	U
Dibenzofuran	ug/kg	2,100	D	1,300	D	440	D	130		1.1	J	1.2	J	4.9	U	0.24	J
Fluoranthene	ug/kg	42,000	D	19,000	D	11,000	D	5,500	D	5	U	5	U	4.9	U	5	U
Fluorene	ug/kg	12,000	D	5,600	D	2,700	D	860		1.3	J	1.4	J	4.9	U	5	U
Indeno(1,2,3-cd)pyrene	ug/kg	10,000	D	5,700	D	2,900	D	1,300		0.58	J	5	U	4.9	U	5	U
Naphthalene	ug/kg	13,000	D	7,300	D	4,400	D	370		270		260		4.9	U	5	U
Phenanthrene	ug/kg	73,000	D	32,000	D	16,000	D	5,600	D	5	U	5	U	4.9	U	5	U
Pyrene	ug/kg	50,000	D	25,000	D	14,000	D	7,200	D	1.2	J	5	U	4.9	UJ	0.57	J

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-06		GS-06 (Dup)		GS-06		GS-06		GS-06		GS-06 (Dup)		GS-06		GS-06	
	Sample ID	GS-06-S (4-6)		GS-56-S (4-6)		GS-06-S (9-11)		GS-06-S (20-23)		GS-06-S (41-44)		GS-56-S (41-44)		GS-06-S (65-69)		GS-06-S (95-98)	
	Sample Date	1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007		1/17/2007	
	Depth Interval	4-6 ft		4-6 ft		9-11 ft		20-23 ft		41-44 ft		41-44 ft		65-69 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
VOC																	
1,1,1,2-Tetrachloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,1,1-Trichloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,1,2,2-Tetrachloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,1,2-Trichloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,2,3-Trichloropropane	ug/kg	6	U	7.8	U	8	U	6.7	U	6.7	U	6.9	U	6.3	U	5.7	U
1,1-Dichloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,1-Dichloroethene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,2,4-Trichlorobenzene	ug/kg	24	U	31	U	32	U	27	U	27	U	28	U	330	UJ	23	U
1,2-Dibromoethane	ug/kg	24	U	31	U	32	U	27	U	27	U	28	U	25	U	23	U
1,2-Dichlorobenzene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	330	U	1.2	U
1,2-Dichloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,2-Dichloropropane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
1,3-Dichlorobenzene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	330	U	1.2	U
1,4-Dichlorobenzene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	**1.44**	**J**	1.34	UJ	**1.24**	**J**
2-Butanone (MEK)	ug/kg	**4.5**	**J**	**9.1**	**J**	**8.7**	**J**	6.7	UJ	6.7	UJ	6.9	UJ	6.3	UJ	5.7	U
2-Chloroethylvinylether	ug/kg	6	U	7.8	U	8	U	6.7	U	6.7	U	6.9	U	6.3	U	5.7	U
2-Hexanone	ug/kg	12	U	16	U	16	U	14	U	14	U	14	U	13	U	12	U
4-Methyl-2-pentanone (MIBK)	ug/kg	2.4	U	3.1	U	3.2	U	2.7	U	2.7	U	2.8	U	2.5	U	2.3	UJ
Acetone	ug/kg	**20**	**J**	**37**	**J**	**34**	**J**	**10**	**J**	**15**	**J**	**20**	**J**	**15**	**J**	**11**	**J**
Acrolein	ug/kg	120	UJ	160	UJ	160	UJ	140	UJ	140	UJ	140	UJ	130	UJ	120	UJ
Acrylonitrile	ug/kg	2.4	U	3.1	U	3.2	U	2.7	U	2.7	U	2.8	U	2.5	U	2.3	U
Benzene	ug/kg	**33**		**5.2**		**18**		**2.3**		**4.2**		**6.9**		1.3	U	1.2	U
Bromochloromethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Bromodichloromethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Bromoform	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Bromomethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Carbon disulfide	ug/kg	1.2	UJ	1.6	UJ	1.6	UJ	1.4	UJ	1.4	UJ	1.4	Uj	1.3	UJ	**0.99**	**J**
Carbon tetrachloride	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Chlorobenzene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Chloroethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Chloroform	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Chloromethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
cis-1,2-Dichloroethene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
cis-1,3-Dichloropropene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Dibromochloromethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Dibromomethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Dichlorodifluoromethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Dichloromethane	ug/kg	6	U	7.8	U	8	U	6.7	U	6.7	U	6.9	U	6.3	U	5.7	U
Ethylbenzene	ug/kg	**39**		**13**		**49**		**2.7**		**3.8**		**6.2**		1.3	U	1.2	U
Iodomethane	ug/kg	12	U	16	U	16	U	14	U	14	U	14	U	13	U	12	U
Isopropylbenzene	ug/kg	**6.7**		**3.5**		**13**		**0.66**	**J**	**0.91**	**J**	**1.3**	**J**	1.3	U	1.2	U
Methyltert-butylether	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Styrene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	**1.24**	**J**
Tetrachloroethene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Trichloroethene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Toluene	ug/kg	**1.6**		**1.64**	**J**	**1.5**	**J**	**1.44**	**J**	**1.44**	**J**	**1.44**	**J**	**1.34**	**J**	**1.24**	**J**
trans-1,2-Dichloroethene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
trans-1,3-Dichloropropene	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
trans-1,4-Dichloro-2-butene	ug/kg	3	U	3.9	U	4	U	3.4	U	3.4	U	3.5	U	3.2	U	2.9	U
Trichlorofluoromethane	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
Vinyl acetate	ug/kg	3.6	UJ	3.9	UJ	4	UJ	3.6	UJ	3.6	UJ	3.7	UJ	3.3	UJ	3.1	UJ
Vinyl chloride	ug/kg	1.2	U	1.6	U	1.6	U	1.4	U	1.4	U	1.4	U	1.3	U	1.2	U
m,p-Xylenes	ug/kg	**11**		**3.5**		**15**		**1.1**	**J**	**4.8**		**6.6**		1.3	U	**1.24**	**J**
o-Xylene	ug/kg	**15**		**5.2**		**21**		**1.5**		**3**		**4.2**		1.3	U	1.2	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07
	Sample ID	GS-07-S (4-6)	GS-07-S (9-11)	GS-07-S (23-27)	GS-07-S (48-52)	GS-07-S (98-102)	GS-07-S (123-127)	GS-07-S (145-148)	GS-07-S (170-173)
	Sample Date	10/16/2006	10/16/2006	10/17/2006	10/17/2006	10/18/2006	10/18/2006	10/18/2006	10/19/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	98-102 ft	123-127 ft	145-148 ft	170-173 ft
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Chemical Name	**Unit**								
Conventionals									
Total organic carbon	%	14.6	4.1	5.2 J	0.69 J	0.08 J	0.17 J	0.16 J	0.06 J
Total solids	%	62.4	68.5	74.3	69.9	76	72.5	78.1	88
Ammonia	mg/kg	233	122	72.1	51	--	--	--	--
Cyanide	mg/kg	4.7	2.2	1.5	0.5	0.3 U	0.04 J	0.3 U	0.2 U
Sulfide	mg/kg	213	3.6	13.7	18.1	0.7 U	0.8	2.7	0.6 U
Nitrate as Nitrogen	ug/kg	--	--	--	--	--	--	--	--
Metals									
Aluminum	mg/kg	--	--	--	--	--	--	--	--
Antimony	mg/kg	--	--	--	--	--	--	--	--
Arsenic	mg/kg	--	--	--	--	--	--	--	--
Barium	mg/kg	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	--	--	--	--	--	--	--
Calcium metal	mg/kg	--	--	--	--	--	--	--	--
Chromium	mg/kg	--	--	--	--	--	--	--	--
Copper	mg/kg	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--
Lead	mg/kg	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--
Mercury	mg/kg	--	--	--	--	--	--	--	--
Nickel	mg/kg	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--
Selenium	mg/kg	--	--	--	--	--	--	--	--
Silver	mg/kg	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--
Thallium	mg/kg	--	--	--	--	--	--	--	--
Zinc	mg/kg	--	--	--	--	--	--	--	--
SVOC									
2-Methylnaphthalene	ug/kg	1,400,000	49,000	190,000	51	3.3 U	3.5 U	3.2 U	2.9 U
Acenaphthene	ug/kg	550,000	32,000	120,000	48	1.3 J	0.67 J	3.2 U	2.9 U
Acenaphthylene	ug/kg	42,000	110,000	48,000	7.9	0.77 J	3.5 U	3.2 U	2.9 U
Anthracene	ug/kg	490,000	99,000	110,000	46	3.9	0.75 J	3.2 U	2.9 U
Benzo(a)anthracene	ug/kg	300,000	68,000	90,000	36	3.5	0.91 J	3.2 U	0.21 J
Benzo(a)pyrene	ug/kg	290,000	85,000	100,000	42	3.6	0.65 J	3.2 U	0.26 J
Benzo(b)fluoranthene	ug/kg	160,000	49,000	56,000	26	2.5 J	3.5 U	3.2 U	2.9 U
Benzo(g,h,i)perylene	ug/kg	170,000	58,000	65,000	34	3.3	0.76 J	3.2 U	0.35 J
Benzo(k)fluoranthene	ug/kg	150,000	48,000	52,000	25	2.4 J	0.58 J	3.2 U	2.9 U
Chrysene	ug/kg	350,000	83,000	110,000	50	4.7	1.1 J	3.2 U	2.9 U
Dibenzo(a,h)anthracene	ug/kg	20,000	6,000	7,100	3.5 J	3.3 U	3.5 U	3.2 U	2.9 U
Dibenzofuran	ug/kg	64,000	8,600	14,000	6.1	0.28 J	3.5 U	3.2 U	2.9 U
Fluoranthene	ug/kg	920,000	260,000	320,000	130	13	2.6 J	3.2 U	0.91 J
Fluorene	ug/kg	390,000	67,000	95,000	36	1.6 J	0.66 J	3.2 U	0.23 J
Indeno(1,2,3-cd)pyrene	ug/kg	160,000	54,000	60,000	29	2.4 J	0.58 J	3.2 U	2.9 U
Naphthalene	ug/kg	2,500,000	150,000	370,000	110	3.5 U	3.5 U	3.2 U	2.9 U
Phenanthrene	ug/kg	2,300,000	460,000	590,000	230	20	4.8	0.46 J	1.5 J
Pyrene	ug/kg	1,200,000	280,000	360,000	150	16	3 J	3.2 U	1 J

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-07		GS-07		GS-07		GS-07		GS-07		GS-07		GS-07		GS-07	
	Sample ID	GS-07-S (4-6)		GS-07-S (9-11)		GS-07-S (23-27)		GS-07-S (48-52)		GS-07-S (98-102)		GS-07-S (123-127)		GS-07-S (145-148)		GS-07-S (170-173)	
	Sample Date	10/16/2006		10/16/2006		10/17/2006		10/17/2006		10/18/2006		10/18/2006		10/18/2006		10/19/2006	
	Depth Interval	4-6 ft		9-11 ft		23-27 ft		48-52 ft		98-102 ft		123-127 ft		145-148 ft		170-173 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
VOC																	
1,1,1,2-Tetrachloroethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,1,1-Trichloroethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,1,2,2-Tetrachloroethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,1,2-Trichloroethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,2,3-Trichloropropane	ug/kg	2,300	U	400	U	770	U	3.6	U	3.1	U	3.5	U	3.3	U	3	U
1,1-Dichloroethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,1-Dichloroethene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,2,4-Trichlorobenzene	ug/kg	8,900	U	1,600	U	3,100	U	29	U	25	U	28	U	27	U	24	U
1,2-Dibromoethane	ug/kg	8,900	U	1,600	U	3,100	U	29	U	25	U	28	U	27	U	24	U
1,2-Dichlorobenzene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,2-Dichloroethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,2-Dichloropropane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,3-Dichlorobenzene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
1,4-Dichlorobenzene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
2-Butanone (MEK)	ug/kg	89,000	UJ	16,000	UJ	31,000	UJ	15	UJ	13	UJ	14	UJ	14	UJ	12	UJ
2-Chloroethylvinylether	ug/kg	23,000	U	4,000	U	7,700	U	7.1	U	6.2	U	6.9	U	6.6	U	5.9	U
2-Hexanone	ug/kg	89,000	UJ	16,000	UJ	31,000	UJ	7.1	UJ	6.2	UJ	6.9	UJ	6.6	UJ	5.9	UJ
4-Methyl-2-pentanone (MIBK)	ug/kg	89,000	UJ	16,000	UJ	31,000	UJ	29	U	25	U	28	U	27	U	24	U
Acetone	ug/kg	89,000	UJ	16,000	UJ	31,000	UJ	29	UJ	26	UJ	28	UJ	34	UJ	24	UJ
Acrolein	ug/kg	89,000	UJ	16,000	UJ	31,000	UJ	150	UJ	130	UJ	140	UJ	140	UJ	120	UJ
Acrylonitrile	ug/kg	89,000	UJ	16,000	UJ	31,000	UJ	2.9	UJ	2.5	UJ	2.8	UJ	2.7	UJ	2.4	UJ
Benzene	ug/kg	**3,000**		**150**	**J**	**590**	**J**	**140**		1.3	U	1.4	U	1.4	U	1.2	U
Bromochloromethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Bromodichloromethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Bromoform	ug/kg	2,300	U	400	U	770	U	3.6	U	3.1	U	3.5	U	3.3	U	3	U
Bromomethane	ug/kg	2,300	U	400	U	770	U	7.1	U	6.2	U	6.9	U	6.6	U	5.9	U
Carbon disulfide	ug/kg	2,300	U	400	U	770	U	**0.51**	**J**	**0.47**	**J**	**0.12**	**J**	**0.48**	**J**	1.2	U
Carbon tetrachloride	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Chlorobenzene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Chloroethane	ug/kg	2,300	U	400	U	770	U	7.1	U	6.2	U	6.9	U	6.6	U	5.9	U
Chloroform	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Chloromethane	ug/kg	2,300	U	400	U	770	U	7.1	UJ	6.2	UJ	6.9	UJ	6.6	UJ	5.9	UJ
cis-1,2-Dichloroethene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
cis-1,3-Dichloropropene	ug/kg	2,300	U	400	U	770	U	7.1	U	6.2	U	6.9	U	6.6	U	5.9	U
Dibromochloromethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Dibromomethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Dichlorodifluoromethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Dichloromethane	ug/kg	8,900	U	1,600	U	3,100	U	7.1	UJ	13	UJ	13	UJ	14	UJ	12	UJ
Ethylbenzene	ug/kg	**14,000**		**130**	**J**	**3,500**		**6**		1.3	U	1.4	U	1.4	U	1.2	U
Iodomethane	ug/kg	23,000	U	4,000	U	7,700	U	15	U	13	U	14	U	14	U	12	U
Isopropylbenzene	ug/kg	**3,000**	**J**	1,600	U	**820**	**J**	**1.2**	**J**	3.1	U	3.5	U	3.3	U	3	U
Methyltert-butylether	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Styrene	ug/kg	2,300	U	400	U	770	U	3.6	U	3.1	U	3.5	U	3.3	U	3	U
Tetrachloroethene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Trichloroethene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Toluene	ug/kg	**1,200**	**J**	400	U	**210**	**J**	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
trans-1,2-Dichloroethene	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
trans-1,3-Dichloropropene	ug/kg	2,300	U	400	U	770	U	3.6	U	3.1	U	3.5	U	3.3	U	3	U
trans-1,4-Dichloro-2-butene	ug/kg	45,000	U	8,000	U	16,000	U	3.6	UJ	3.1	UJ	3.5	UJ	3.3	UJ	3	UJ
Trichlorofluoromethane	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
Vinyl acetate	ug/kg	23,000	UJ	4,000	UJ	7,700	UJ	3.6	UJ	3.1	UJ	3.5	UJ	3.3	UJ	3	UJ
Vinyl chloride	ug/kg	2,300	U	400	U	770	U	1.5	U	1.3	U	1.4	U	1.4	U	1.2	U
m,p-Xylenes	ug/kg	**16,000**		**270**	**J**	**3,500**		**1.7**	**J**	2.5	U	2.8	U	2.7	U	2.4	U
o-Xylene	ug/kg	**9,000**		**220**	**J**	**2,100**		**1.5**	**J**	1.3	U	1.4	U	1.4	U	1.2	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-08		GS-08		GS-08		GS-08		GS-08 (Dup)		GS-08	
	Sample ID	GS-08-S (3-4)		GS-08-S (8-9)		GS-08-S (20-23)		GS-58-S (43-45)		GS-8-S (43-45)		GS-8-S (95-98)	
	Sample Date	10/25/2006		10/25/2006		10/25/2006		10/26/2006		10/26/2006		10/26/2006	
	Depth Interval	3-4 ft		8-9 ft		20-23 ft		43-45 ft		43-45 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**												
Conventionals													
Total organic carbon	%	0.19	UJ	0.77	UJ	1.05	UJ	0.74	J	0.62	J	0.74	J
Total solids	%	79		69.8		71.1		68.9		71.1		74.5	
Ammonia	mg/kg	3.2		29.5		90.4		41.8		40.1		--	
Cyanide	mg/kg	0.34		0.21		0.03	J	0.26		0.25		0.22	J
Sulfide	mg/kg	9.7		0.59	J	0.7	J	1.3		1.4		1.5	
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--	
Metals													
Aluminum	mg/kg	15,600		22,000		19,700		19,900		17,400		18,300	
Antimony	mg/kg	0.108		0.058		0.06		0.04	B	0.06	B	0.06	B
Arsenic	mg/kg	0.7	B	1.83		2.1		2.98		2.7		1.96	
Barium	mg/kg	148		166		145		150		144		130	
Beryllium	mg/kg	0.472		0.468		0.427		0.509		0.465		0.438	
Cadmium	mg/kg	0.148		0.109		0.116		0.133		0.113	B	0.105	B
Calcium metal	mg/kg	4,050		4,950		5,100		5,840		5,550		5,500	
Chromium	mg/kg	7.06	J	18.6	J	20.2	J	21	J	19.9	J	18.2	J
Copper	mg/kg	13.7	J	21.4	J	22.6	J	26.8	J	24.2	J	24.1	J
Iron	mg/kg	45,600		32,500		33,200		30,400		29,800		28,900	
Lead	mg/kg	12.6		4.86		4.74		4.77		4.25		3.93	
Magnesium	mg/kg	2,310		6,610		5,990		5,870		5,890		5,690	
Manganese	mg/kg	714		289		420		718		626		304	
Mercury	mg/kg	0.019	U	0.04		0.032		0.057		0.028		0.03	
Nickel	mg/kg	5.99	J	18.3	J	19.7	J	23.7	J	23.5	J	21.5	J
Potassium	mg/kg	467		755		717		654		652		936	
Selenium	mg/kg	0.11	U	0.1	U	0.12	U	0.11		0.12	U	0.11	U
Silver	mg/kg	0.156		0.123		0.114		0.123		0.131		0.11	
Sodium	mg/kg	167	J	593	J	463	J	542	J	481	J	542	J
Thallium	mg/kg	0.151		0.08		0.078		0.082		0.071		0.073	
Zinc	mg/kg	66.9		66.1		70		60.3		57.6		59	
SVOC													
2-Methylnaphthalene	ug/kg	0.53	J	200		18		1.6	J	1.7	J	0.88	J
Acenaphthene	ug/kg	12		170		23		1.1	J	0.9	J	4.9	U
Acenaphthylene	ug/kg	1.2	J	2.1	J	1.4	J	5	U	5	U	4.9	U
Anthracene	ug/kg	5.8		17		13		0.39	J	0.62	J	4.9	U
Benzo(a)anthracene	ug/kg	20		12		13		0.4	J	0.4	J	4.9	U
Benzo(a)pyrene	ug/kg	26		15		17		0.5	J	0.49	J	4.9	U
Benzo(b)fluoranthene	ug/kg	23		9.3		9.9		5	U	5	U	4.9	U
Benzo(g,h,i)perylene	ug/kg	25		9.3		13		0.63	J	0.47	J	0.4	J
Benzo(k)fluoranthene	ug/kg	17		7.6		9.6		5	U	5	U	4.9	U
Chrysene	ug/kg	32		15		16		0.61	J	0.77	J	4.9	U
Dibenzo(a,h)anthracene	ug/kg	3.4	J	1.1	J	1.4	J	5	U	5	U	4.9	U
Dibenzofuran	ug/kg	3.2	J	8		1.7	J	5	U	5	U	4.9	U
Fluoranthene	ug/kg	44		52		48		1.4	J	1.4	J	4.9	U
Fluorene	ug/kg	12		45		12		0.52	J	0.46	J	4.9	U
Indeno(1,2,3-cd)pyrene	ug/kg	23		9.5		13		0.42	J	0.4	J	4.9	U
Naphthalene	ug/kg	4.9	U	830		68		9		10		4	J
Phenanthrene	ug/kg	26		140		74		2.4	J	2.5	J	0.74	J
Pyrene	ug/kg	65		57		53		1.4	J	1.4	J	0.58	J

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-08		GS-08		GS-08		GS-08		GS-08 (Dup)		GS-08	
	Sample ID	GS-08-S (3-4)		GS-08-S (8-9)		GS-08-S (20-23)		GS-58-S (43-45)		GS-8-S (43-45)		GS-8-S (95-98)	
	Sample Date	10/25/2006		10/25/2006		10/25/2006		10/26/2006		10/26/2006		10/26/2006	
	Depth Interval	3-4 ft		8-9 ft		20-23 ft		43-45 ft		43-45 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**												
VOC													
1,1,1,2-Tetrachloroethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,1,1-Trichloroethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,1,2,2-Tetrachloroethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,1,2-Trichloroethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,2,3-Trichloropropane	ug/kg	2.9	U	3.7	U	3.4	U	3.3	U	3.2	UJ	3	U
1,1-Dichloroethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,1-Dichloroethene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	U	1.2	U
1,2,4-Trichlorobenzene	ug/kg	24	U	30	U	27	U	26	U	26	U	24	U
1,2-Dibromoethane	ug/kg	24	U	30	U	27	U	26	U	26	UJ	24	U
1,2-Dichlorobenzene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	U	1.2	U
1,2-Dichloroethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,2-Dichloropropane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
1,3-Dichlorobenzene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	U	1.2	U
1,4-Dichlorobenzene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
2-Butanone (MEK)	ug/kg	12	UJ	**6.3**	**J**	**6.7**	**J**	13	UJ	13	UJ	12	UJ
2-Chloroethylvinylether	ug/kg	5.8	UJ	7.4	UJ	6.8	UJ	6.5	U	6.4	UJ	5.9	U
2-Hexanone	ug/kg	5.8	U	7.4	U	6.8	U	6.5	U	6.4	UJ	5.9	U
4-Methyl-2-pentanone (MIBK)	ug/kg	24	U	30	U	27	U	26	U	26	UJ	24	U
Acetone	ug/kg	24	U	31	U	34	U	26	U	26	UJ	24	U
Acrolein	ug/kg	120	UJ	150	UJ	140	UJ	130	UJ	130	UJ	120	UJ
Acrylonitrile	ug/kg	2.4	U	3	U	2.7	U	2.6	U	2.6	UJ	2.4	U
Benzene	ug/kg	1.2	U	**3.6**		**4.2**		1.3	U	1.3	UJ	1.2	U
Bromochloromethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Bromodichloromethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Bromoform	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Bromomethane	ug/kg	5.8	U	7.4	U	6.8	U	6.5	U	6.4	UJ	5.9	U
Carbon disulfide	ug/kg	**0.18**	**J**	**0.15**	**J**	**0.13**	**J**	1.3	U	**0.31**	**J**	**0.14**	**J**
Carbon tetrachloride	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Chlorobenzene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Chloroethane	ug/kg	5.8	U	7.4	U	6.8	U	6.5	U	6.4	UJ	5.9	U
Chloroform	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Chloromethane	ug/kg	5.8	U	7.4	U	6.8	U	6.5	U	6.4	UJ	5.9	U
cis-1,2-Dichloroethene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	U	1.2	U
cis-1,3-Dichloropropene	ug/kg	5.8	U	7.4	U	6.8	U	6.5	U	6.4	UJ	5.9	U
Dibromochloromethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Dibromomethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Dichlorodifluoromethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Dichloromethane	ug/kg	5.8	U	7.4	U	6.8	U	6.5	U	6.4	UJ	5.9	U
Ethylbenzene	ug/kg	1.2	U	**17**		**18**		1.3	U	1.3	UJ	1.2	U
Iodomethane	ug/kg	12	U	15	U	14	U	13	U	13	UJ	12	U
Isopropylbenzene	ug/kg	2.9	U	**3.3**	**J**	**3**	**J**	3.3	U	3.2	UJ	**0.29**	**J**
Methyltert-butylether	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Styrene	ug/kg	2.9	U	3.7	U	3.4	U	3.3	U	3.2	UJ	3	U
Tetrachloroethene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Trichloroethene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Toluene	ug/kg	**0.14**	**J**	**0.6**	**J**	**0.56**	**J**	**0.18**	**J**	**0.24**	**J**	**0.21**	**J**
trans-1,2-Dichloroethene	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
trans-1,3-Dichloropropene	ug/kg	2.9	U	3.7	U	3.4	U	3.3	U	3.2	UJ	3	U
trans-1,4-Dichloro-2-butene	ug/kg	2.9	U	3.7	U	3.4	U	3.3	U	3.2	UJ	3	U
Trichlorofluoromethane	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
Vinyl acetate	ug/kg	2.9	UJ	3.7	UJ	3.4	UJ	3.3	UJ	3.2	UJ	3	UJ
Vinyl chloride	ug/kg	1.2	U	1.5	U	1.4	U	1.3	U	1.3	UJ	1.2	U
m,p-Xylenes	ug/kg	2.4	U	**14**		**10**		2.6	U	2.6	UJ	**0.59**	**J**
o-Xylene	ug/kg	1.2	U	**8.9**		**8.6**		1.3	U	1.3	UJ	**0.39**	**J**

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09	GS-09
	Sample ID	GS-09-S(4-6)	GS-09-S(9-11)	GS-09-S(23-27)	GS-09-S(48-52)	GS-09-S (98-102)	GS-09-S (123-127)	GS-09-S (148-152)	GS-09-S (173-177)
	Sample Date	10/5/2006	10/9/2006	10/9/2006	10/10/2006	10/12/2006	10/12/2006	10/13/2006	10/13/2006
	Depth Interval	4-6 ft	9-11 ft	23-27 ft	48-52 ft	98-102 ft	123-127 ft	148-152 ft	173-177 ft
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Chemical Name	**Unit**								
Conventionals									
Total organic carbon	%	1.05	2.55	1.67	0.21	0.08	0.09 U	0.04 U	0.05 U
Total solids	%	79.8	80.8	76.3	72.1	74.9	74.5	81.7	91.1
Ammonia	mg/kg	25.7	25.9	37.8	--	--	--	--	--
Cyanide	mg/kg	0.6 UJ	1.1	0.5	0.3	0.1 J	0.3 U	0.05 J	0.04 J
Sulfide	mg/kg	2.1	2.8	6.1	2.4	0.48 J	0.7 U	0.7 U	0.43 J
Nitrate as Nitrogen	ug/kg	--	500	370 J	--	--	--	--	--
Metals									
Aluminum	mg/kg	--	--	--	--	--	--	--	--
Antimony	mg/kg	--	--	--	--	--	--	--	--
Arsenic	mg/kg	--	--	--	--	--	--	--	--
Barium	mg/kg	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	--	--	--	--	--	--	--
Calcium metal	mg/kg	--	--	--	--	--	--	--	--
Chromium	mg/kg	--	--	--	--	--	--	--	--
Copper	mg/kg	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--
Lead	mg/kg	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--
Mercury	mg/kg	--	--	--	--	--	--	--	--
Nickel	mg/kg	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--
Selenium	mg/kg	--	--	--	--	--	--	--	--
Silver	mg/kg	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--
Thallium	mg/kg	--	--	--	--	--	--	--	--
Zinc	mg/kg	--	--	--	--	--	--	--	--
SVOC									
2-Methylnaphthalene	ug/kg	21,000	35,000	18,000	200	25	5 U	5 U	5 U
Acenaphthene	ug/kg	31,000	50,000	26,000	370	13	0.81 J	5 U	0.55 J
Acenaphthylene	ug/kg	2,000	2,400	1,500	24	0.86 J	0.37 J	5 U	1.6 J
Anthracene	ug/kg	17,000	25,000	12,000	210	2.6 J	0.9 J	5 U	2.6 J
Benzo(a)anthracene	ug/kg	12,000	17,000	8,800	160	2.5 J	1.7 J	5 U	7.9
Benzo(a)pyrene	ug/kg	15,000	22,000	11,000	200	2 J	1.8 J	0.34 J	8.4
Benzo(b)fluoranthene	ug/kg	8,700	12,000	6,500	120	1.8 J	1.4 J	5 U	6.8
Benzo(g,h,i)perylene	ug/kg	10,000	14,000	7,800	140	2.4 J	2.1 J	1.1 J	10
Benzo(k)fluoranthene	ug/kg	8,400	12,000	6,100	110	1.2 J	1.2 J	5 U	6.2
Chrysene	ug/kg	15,000	22,000	11,000	200	2.9 J	2.1 J	5 U	12
Dibenzo(a,h)anthracene	ug/kg	1000	1,500	790	15	5 U	0.39 J	5 U	0.98 J
Dibenzofuran	ug/kg	2,400	3,700	1,900	29	1.1 J	5 U	5 U	0.24 J
Fluoranthene	ug/kg	44,000	66,000	35,000	630	9.5	4.8 J	0.75 J	27
Fluorene	ug/kg	15,000	24,000	12,000	200	3.8 J	0.6 J	5 U	0.55 J
Indeno(1,2,3-cd)pyrene	ug/kg	9,600	13,000	7,100	130	1.7 J	1.7 J	0.56 J	8
Naphthalene	ug/kg	5,000	43,000	11,000	160	240	5 U	5 U	5 U
Phenanthrene	ug/kg	85,000	130,000	67,000	1,200	19	5.4	0.95 J	18
Pyrene	ug/kg	49,000	74,000	40,000	700	11	5.5	0.68 J	34

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-09		GS-09		GS-09		GS-09		GS-09		GS-09		GS-09		GS-09	
	Sample ID	GS-09-S(4-6)		GS-09-S(9-11)		GS-09-S(23-27)		GS-09-S(48-52)		GS-09-S (98-102)		GS-09-S (123-127)		GS-09-S (148-152)		GS-09-S (173-177)	
	Sample Date	10/5/2006		10/9/2006		10/9/2006		10/10/2006		10/12/2006		10/12/2006		10/13/2006		10/13/2006	
	Depth Interval	4-6 ft		9-11 ft		23-27 ft		48-52 ft		98-102 ft		123-127 ft		148-152 ft		173-177 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
VOC																	
1,1,1,2-Tetrachloroethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,1,1-Trichloroethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,1,2,2-Tetrachloroethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,1,2-Trichloroethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,2,3-Trichloropropane	ug/kg	69	U	58	U	64	U	3.7	U	3.4	U	3.9	U	3.4	U	2.2	UJ
1,1-Dichloroethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,1-Dichloroethene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,2,4-Trichlorobenzene	ug/kg	280	U	240	U	260	U	30	U	28	U	31	U	27	U	18	UJ
1,2-Dibromoethane	ug/kg	280	U	240	U	260	U	30	U	28	U	31	U	27	U	18	UJ
1,2-Dichlorobenzene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	**1.4**	**J**	**2.4**	**J**
1,2-Dichloroethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,2-Dichloropropane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
1,3-Dichlorobenzene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	**0.23**	**J**
1,4-Dichlorobenzene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
2-Butanone (MEK)	ug/kg	2,800	UJ	2,400	UJ	2,600	UJ	15	UJ	14	UJ	16	UJ	14	UJ	8.7	UJ
2-Chloroethylvinylether	ug/kg	690	UJ	580	UJ	640	UJ	7.4	U	6.8	U	7.8	U	6.7	U	4.4	UJ
2-Hexanone	ug/kg	2,800	UJ	2,400	UJ	2,600	UJ	7.4	U	6.8	U	7.8	U	6.7	UJ	4.4	UJ
4-Methyl-2-pentanone (MIBK)	ug/kg	2,800	UJ	2,400	UJ	2,600	UJ	30	U	28	U	31	U	27	U	18	UJ
Acetone	ug/kg	2,800	UJ	2,400	UJ	2,600	UJ	30	UJ	8	UJ	31	UJ	27	UJ	18	UJ
Acrolein	ug/kg	2,800	UJ	2,400	UJ	2,600	UJ	150	UJ	140	UJ	160	UJ	140	UJ	87	UJ
Acrylonitrile	ug/kg	2,800	U	2,400	U	2,600	U	3	UJ	2.8	UJ	3.1	UJ	2.7	UJ	1.8	UJ
Benzene	ug/kg	69	U	**150**		**27**	**J**	1.5	U	**280**		1.6	U	1.4	U	0.87	UJ
Bromochloromethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Bromodichloromethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Bromoform	ug/kg	69	U	58	U	64	U	3.7	U	3.4	U	3.9	U	3.4	U	2.2	UJ
Bromomethane	ug/kg	69	U	58	U	64	U	7.4	U	6.8	U	7.8	U	6.7	U	4.4	UJ
Carbon disulfide	ug/kg	69	U	58	U	64	U	**0.41**	**J**	**0.57**	**J**	**0.37**	**J**	**0.2**	**J**	**0.53**	**J**
Carbon tetrachloride	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Chlorobenzene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	**0.85**	**J**	0.87	UJ
Chloroethane	ug/kg	69	U	58	U	64	U	7.4	U	6.8	U	7.8	U	6.7	U	4.4	UJ
Chloroform	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Chloromethane	ug/kg	69	U	58	U	64	U	7.4	U	6.8	U	7.8	U	6.7	UJ	4.4	UJ
cis-1,2-Dichloroethene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	U
cis-1,3-Dichloropropene	ug/kg	69	UJ	58	UJ	64	UJ	7.4	U	6.8	U	7.8	U	6.7	U	4.4	UJ
Dibromochloromethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Dibromomethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Dichlorodifluoromethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Dichloromethane	ug/kg	**27**	**J**	240	U	260	U	7.4	U	6.8	U	7.8	UJ	12	UJ	7.5	UJ
Ethylbenzene	ug/kg	**56**	**J**	**800**		**85**		**1.9**		**37**		1.6	U	1.4	U	0.87	UJ
Iodomethane	ug/kg	690	U	580	U	640	U	15	UJ	14	UJ	16	UJ	14	U	8.7	UJ
Isopropylbenzene	ug/kg	**29**	**J**	**240**	**J**	**25**	**J**	**0.5**	**J**	**2.3**	**J**	3.9	U	3.4	U	2.2	UJ
Methyltert-butylether	ug/kg	**14**	**J**	58	UJ	64	UJ	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Styrene	ug/kg	69	U	58	U	64	U	3.7	U	3.4	U	3.9	U	3.4	U	2.2	UJ
Tetrachloroethene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Trichloroethene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Toluene	ug/kg	69	U	**20**	**J**	64	U	**0.25**	**J**	**0.59**	**J**	1.6	U	1.4	U	**0.33**	**J**
trans-1,2-Dichloroethene	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
trans-1,3-Dichloropropene	ug/kg	69	U	58	U	64	U	3.7	U	3.4	U	3.9	U	3.4	U	2.2	UJ
trans-1,4-Dichloro-2-butene	ug/kg	1,400	U	1,200	U	1,300	U	3.7	U	3.4	U	3.9	U	3.4	UJ	2.2	UJ
Trichlorofluoromethane	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
Vinyl acetate	ug/kg	690	UJ	580	UJ	640	UJ	3.7	UJ	3.4	UJ	3.9	UJ	3.4	UJ	2.2	UJ
Vinyl chloride	ug/kg	69	U	58	U	64	U	1.5	U	1.4	U	1.6	U	1.4	U	0.87	UJ
m,p-Xylenes	ug/kg	69	U	**150**		64	U	**0.88**	**J**	**28**		3.1	U	2.7	U	1.8	UJ
o-Xylene	ug/kg	**30**	**J**	**340**		**37**	**J**	**1.3**	**J**	**29**		1.6	U	1.4	U	0.87	UJ

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-10		GS-10		GS-10		GS-10		GS-10	
	Sample ID	GS-10-S (4-6)		GS-10-S (9-11)		GS-10-S (20-23)		GS-10-S (45-48)		GS-10-S (95-98)	
	Sample Date	1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/3/2007	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**										
Conventionals											
Total organic carbon	%	11.2		2.97		0.96		0.16		0.67	
Total solids	%	64		62.6		67.9		79.2		73.5	
Ammonia	mg/kg	289		301		107		23.4		80.7	
Cyanide	mg/kg	0.8	J	0.4	J	0.12	J	0.3	U	0.24	J
Sulfide	mg/kg	41		57.4		7.2		0.8	U	2.4	
Nitrate as Nitrogen	ug/kg	--		--		--		--		--	
Metals											
Aluminum	mg/kg	26,800		28,600		26,900		19,900		20,600	
Antimony	mg/kg	0.21	J	0.18	J	0.06	J	0.06	J	0.06	J
Arsenic	mg/kg	3.3		3.47		2.5		1.41		2.78	
Barium	mg/kg	146		147		129		108		102	
Beryllium	mg/kg	0.49		0.58		0.5		0.39		0.46	
Cadmium	mg/kg	0.5		0.36		0.1		0.07		0.09	
Calcium metal	mg/kg	5,440		5,990		6,250		5,340		5,830	
Chromium	mg/kg	27.5		29.5		29.7		19.9		21	
Copper	mg/kg	34.4	J	39.3	J	24.6	J	16.4	J	22.5	J
Iron	mg/kg	30,500		35,200		34,400		29,400		29,600	
Lead	mg/kg	27.8		23.5		4.85		3.19		3.97	
Magnesium	mg/kg	5,230		6,170		6,110		5,420		5,440	
Manganese	mg/kg	416		520		452		268		342	
Mercury	mg/kg	0.127		0.194		0.022		0.02		0.022	
Nickel	mg/kg	22.7	J	23.2	J	25.1	J	20.8	J	22.7	J
Potassium	mg/kg	848		1,030		839		734		771	
Selenium	mg/kg	0.09	B	0.12	B	0.05	B	0.09	U	0.07	B
Silver	mg/kg	0.613		0.445		0.134		0.081		0.12	
Sodium	mg/kg	604		538		774		690		645	
Thallium	mg/kg	0.08		0.1		0.08		0.06		0.07	
Zinc	mg/kg	107		112		62.2		49.9		53.6	
SVOC											
2-Methylnaphthalene	ug/kg	1,600,000	D	31,000	D	270		4.9	U	7.5	
Acenaphthene	ug/kg	1,300,000	D	50,000	D	460		2.5	J	3.4	J
Acenaphthylene	ug/kg	21,000	D	1,500	D	23		4.9	U	5	U
Anthracene	ug/kg	450,000	D	28,000	D	270		0.91	J	0.35	J
Benzo(a)anthracene	ug/kg	290,000	D	23,000	D	240		0.51	J	0.33	J
Benzo(a)pyrene	ug/kg	370,000	D	32,000	D	280		0.86	J	5	U
Benzo(b)fluoranthene	ug/kg	180,000	D	20,000	D	190		4.9	U	5	U
Benzo(g,h,i)perylene	ug/kg	180,000	D	25,000	D	240		1.3	J	0.61	J
Benzo(k)fluoranthene	ug/kg	140,000	D	16,000	D	160		0.58	J	5	U
Chrysene	ug/kg	380,000	D	30,000	D	320		1.1	J	5	U
Dibenzo(a,h)anthracene	ug/kg	27,000	D	2,500	D	26		4.9	U	0.56	J
Dibenzofuran	ug/kg	78,000	D	3,900	D	36		0.31	J	0.4	J
Fluoranthene	ug/kg	1,400,000	D	90,000	D	870		2.2	J	1.2	J
Fluorene	ug/kg	580,000	D	26,000	D	260		0.98	J	1.1	J
Indeno(1,2,3-cd)pyrene	ug/kg	180,000	D	22,000	D	220		4.9	U	5	U
Naphthalene	ug/kg	5,700,000	D	91,000	D	760		19	U	38	B
Phenanthrene	ug/kg	2,800,000	D	170,000	D	1,600		4	J	3	J
Pyrene	ug/kg	1,400,000	D	99,000	D	1,100		2.3	J	1.2	J

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-10		GS-10		GS-10		GS-10		GS-10	
	Sample ID	GS-10-S (4-6)		GS-10-S (9-11)		GS-10-S (20-23)		GS-10-S (45-48)		GS-10-S (95-98)	
	Sample Date	1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/3/2007	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**										
VOC											
1,1,1,2-Tetrachloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,1,1-Trichloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,1,2,2-Tetrachloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,1,2-Trichloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,2,3-Trichloropropane	ug/kg	8,600	U	1,800	U	70	U	6.1	U	60	U
1,1-Dichloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,1-Dichloroethene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,2,4-Trichlorobenzene	ug/kg	35,000	U	7,200	U	280	U	25	U	240	U
1,2-Dibromoethane	ug/kg	35,000	U	7,200	U	280	U	25	U	240	U
1,2-Dichlorobenzene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,2-Dichloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,2-Dichloropropane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,3-Dichlorobenzene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
1,4-Dichlorobenzene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
2-Butanone (MEK)	ug/kg	350,000	UJ	72,000	UJ	2,800	UJ	6.1	UJ	2,400	UJ
2-Chloroethylvinylether	ug/kg	86,000	U	18,000	U	700	U	6.1	U	600	U
2-Hexanone	ug/kg	350,000	UJ	72,000	UJ	2,800	UJ	13	U	2,400	UJ
4-Methyl-2-pentanone (MIBK)	ug/kg	350,000	UJ	72,000	UJ	2,800	UJ	2.5	U	2,400	UJ
Acetone	ug/kg	**44,000**	**J**	**8,500**	**J**	2.8	UJ	25	UJ	2,400	UJ
Acrolein	ug/kg	350,000	UJ	72,000	UJ	2,800	UJ	130	UJ	2,400	UJ
Acrylonitrile	ug/kg	350,000	UJ	72,000	UJ	2,800	UJ	2.5	U	2,400	UJ
Benzene	ug/kg	**28,000**	**D**	**3,600**		**36**	**J**	1.3	U	**63**	
Bromochloromethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Bromodichloromethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Bromoform	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Bromomethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Carbon disulfide	ug/kg	8,600	U	1,800	U	70	U	**0.15**	**J**	60	U
Carbon tetrachloride	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Chlorobenzene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Chloroethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Chloroform	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Chloromethane	ug/kg	8,600	U	1,800	U	70	U	1.3	UJ	60	U
cis-1,2-Dichloroethene	ug/kg	8,600	U	1,800	U	70	U	**6.1**		**2,200**	
cis-1,3-Dichloropropene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Dibromochloromethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Dibromomethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Dichlorodifluoromethane	ug/kg	8,600	U	1,800	U	70	U	1.3	UJ	60	U
Dichloromethane	ug/kg	35,000	U	7,200	U	**73**	**J**	**6.1**	**U**	240	U
Ethylbenzene	ug/kg	**69,000**	**D**	**13,000**		**260**		1.3	U	60	U
Iodomethane	ug/kg	86,000	U	18,000	U	700	U	13	U	600	U
Isopropylbenzene	ug/kg	**5,700**	**JD**	**1,100**	**J**	**32**	**J**	1.3	U	240	U
Methyltert-butylether	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Styrene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Tetrachloroethene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Trichloroethene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	**1,600**	
Toluene	ug/kg	**3,800**	**JD**	**470**	**J**	70	U	1.3	U	60	U
trans-1,2-Dichloroethene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
trans-1,3-Dichloropropene	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
trans-1,4-Dichloro-2-butene	ug/kg	180,000	U	36,000	U	1,400	U	2.5	U	1,200	U
Trichlorofluoromethane	ug/kg	8,600	U	1,800	U	70	U	1.3	U	60	U
Vinyl acetate	ug/kg	86,000	UJ	18,000	UJ	700	UJ	3.2	U	600	UJ
Vinyl chloride	ug/kg	8,600	U	1,800	U	70	U	1.3	U	**160**	
m,p-Xylenes	ug/kg	**44,000**	**D**	**6,900**		**140**		1.3	U	60	U
o-Xylene	ug/kg	**21,000**	**D**	**3,800**		**88**		1.3	U	60	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-11		GS-11		GS-11		GS-11		GS-11		GS-11		GS-11		GS-11	
	Sample ID	GS-11-S (4-6)		GS-11-S (9-11)		GS-11-S (20-23)		GS-11-S (45-48)		GS-11-S (95-98)		GS-11-S (120-123)		GS-11-S (145-148)		GS-11-S (170-173)	
	Sample Date	1/5/2007		1/5/2007		1/5/2007		1/5/2007		1/8/2007		1/8/2007		1/8/2007		1/8/2007	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft		120-123 ft		145-148 ft		170-173 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
Conventionals																	
Total organic carbon	%	**2.7**		**1.38**		**0.16**		**0.05**		**0.63**		**0.42**		**0.25**		**0.47**	
Total solids	%	**64.2**		**66.6**		**71.1**		**77.8**		**72.3**		**76.8**		**79.4**		**76.4**	
Ammonia	mg/kg	**109**		**130**		**11.8**		**28.6**		--		--		--		--	
Cyanide	mg/kg	**2.2**	**J**	**0.06**	**J**	0.3	U	**0.1**	**J**	**0.14**	**J**	0.3	UJ	0.3	UJ	0.3	UJ
Sulfide	mg/kg	**73.4**		**12.9**		0.8	U	0.8	U	**2.1**		**1.2**		**0.9**		**1.2**	
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--		--		--	
Metals																	
Aluminum	mg/kg	--		--		--		--		--		--		--		--	
Antimony	mg/kg	--		--		--		--		--		--		--		--	
Arsenic	mg/kg	--		--		--		--		--		--		--		--	
Barium	mg/kg	--		--		--		--		--		--		--		--	
Beryllium	mg/kg	--		--		--		--		--		--		--		--	
Cadmium	mg/kg	--		--		--		--		--		--		--		--	
Calcium metal	mg/kg	--		--		--		--		--		--		--		--	
Chromium	mg/kg	--		--		--		--		--		--		--		--	
Copper	mg/kg	--		--		--		--		--		--		--		--	
Iron	mg/kg	--		--		--		--		--		--		--		--	
Lead	mg/kg	--		--		--		--		--		--		--		--	
Magnesium	mg/kg	--		--		--		--		--		--		--		--	
Manganese	mg/kg	--		--		--		--		--		--		--		--	
Mercury	mg/kg	--		--		--		--		--		--		--		--	
Nickel	mg/kg	--		--		--		--		--		--		--		--	
Potassium	mg/kg	--		--		--		--		--		--		--		--	
Selenium	mg/kg	--		--		--		--		--		--		--		--	
Silver	mg/kg	--		--		--		--		--		--		--		--	
Sodium	mg/kg	--		--		--		--		--		--		--		--	
Thallium	mg/kg	--		--		--		--		--		--		--		--	
Zinc	mg/kg	--		--		--		--		--		--		--		--	
SVOC																	
2-Methylnaphthalene	ug/kg	**110,000**	**D**	**10**		**8.1**		5	U	5	U	4.7	U	4.9	U	4.9	U
Acenaphthene	ug/kg	**120,000**	**D**	**8.9**		**12**		5	U	5	U	4.7	U	4.9	U	4.9	U
Acenaphthylene	ug/kg	**5,000**	**D**	**0.48**	**J**	**1**	**J**	5	U	5	U	4.7	U	4.9	U	4.9	U
Anthracene	ug/kg	**84,000**	**D**	**3.1**	**J**	**7.6**		5	U	5	U	4.7	U	**0.3**	**J**	4.9	U
Benzo(a)anthracene	ug/kg	**59,000**	**D**	**2.8**	**J**	**8.8**		5	U	5	U	4.7	U	**0.22**	**J**	4.9	U
Benzo(a)pyrene	ug/kg	**54,000**	**D**	**2.5**	**J**	**8.3**		5	U	5	U	4.7	U	**0.31**	**J**	4.9	U
Benzo(b)fluoranthene	ug/kg	**29,000**	**D**	**1.8**	**J**	**5.5**		5	U	5	U	4.7	U	4.9	U	4.9	U
Benzo(g,h,i)perylene	ug/kg	**33,000**	**D**	**2.2**	**J**	**6.8**		5	U	5	U	4.7	U	**0.34**	**J**	4.9	U
Benzo(k)fluoranthene	ug/kg	**28,000**	**D**	**1.6**	**J**	**6.4**		5	U	5	U	4.7	U	4.9	U	4.9	U
Chrysene	ug/kg	**73,000**	**D**	**3.5**	**J**	**11**		5	U	5	U	4.7	U	4.9	U	4.9	U
Dibenzo(a,h)anthracene	ug/kg	**4,400**	**D**	4.9	U	5	U	5	U	5	U	4.7	U	4.9	U	4.9	U
Dibenzofuran	ug/kg	**7,700**	**D**	**0.71**	**J**	**0.89**	**J**	5	U	5	U	**0.24**	**J**	4.9	U	4.9	U
Fluoranthene	ug/kg	**190,000**	**D**	**8.7**		**28**		**0.73**	**J**	**0.6**	**J**	**0.51**	**J**	**1.2**	**J**	**0.54**	**J**
Fluorene	ug/kg	**66,000**	**D**	**3.6**	**J**	**6.6**		**0.26**	**J**	5	U	**0.45**	**J**	**0.38**	**J**	4.9	U
Indeno(1,2,3-cd)pyrene	ug/kg	**33,000**	**D**	**2**	**J**	**5.9**		5	U	5	U	4.7	U	4.9	U	4.9	U
Naphthalene	ug/kg	**270,000**	**D**	**35**	**B**	16	U	5.1	U	7.2	U	6	U	5.9	U	6.5	U
Phenanthrene	ug/kg	**400,000**	**D**	**20**		**55**		**1.2**	**J**	**1.1**	**J**	**1.5**	**J**	**2.3**	**J**	**1**	**J**
Pyrene	ug/kg	**230,000**	**D**	**11**		**34**		**0.54**	**J**	**0.56**	**J**	**0.49**	**J**	**1.2**	**J**	4.9	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-11		GS-11		GS-11		GS-11		GS-11		GS-11		GS-11		GS-11	
	Sample ID	GS-11-S (4-6)		GS-11-S (9-11)		GS-11-S (20-23)		GS-11-S (45-48)		GS-11-S (95-98)		GS-11-S (120-123)		GS-11-S (145-148)		GS-11-S (170-173)	
	Sample Date	1/5/2007		1/5/2007		1/5/2007		1/5/2007		1/8/2007		1/8/2007		1/8/2007		1/8/2007	
	Depth Interval	4-6 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft		120-123 ft		145-148 ft		170-173 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**																
VOC																	
1,1,1,2-Tetrachloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,1,1-Trichloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,1,2,2-Tetrachloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,1,2-Trichloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,2,3-Trichloropropane	ug/kg	150	U	7.1	U	6.7	U	5.8	U	6.5	U	5.8	U	5.2	U	5.5	U
1,1-Dichloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,1-Dichloroethene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,2,4-Trichlorobenzene	ug/kg	600	U	29	U	27	U	24	U	26	U	24	U	21	U	22	U
1,2-Dibromoethane	ug/kg	600	U	29	U	27	U	24	U	26	U	24	U	21	U	22	U
1,2-Dichlorobenzene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	**52**	
1,2-Dichloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,2-Dichloropropane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
1,3-Dichlorobenzene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	**2.5**	
1,4-Dichlorobenzene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	**25**	
2-Butanone (MEK)	ug/kg	6,000	UJ	**5.6**	**J**	6.7	UJ	5.8	UJ	6.5	U	5.8	U	5.2	U	5.5	U
2-Chloroethylvinylether	ug/kg	1,500	U	7.1	U	6.7	U	5.8	U	6.5	U	5.8	U	5.2	U	5.5	U
2-Hexanone	ug/kg	6,000	UJ	15	U	14	U	12	U	13	U	12	U	11	U	11	U
4-Methyl-2-pentanone (MIBK)	ug/kg	6,000	UJ	2.9	U	2.7	U	2.4	U	2.6	U	2.4	U	2.1	U	2.2	U
Acetone	ug/kg	6	UJ	**28**	**J**	27	UJ	24	UJ	**17**	**J**	**16**	**J**	**15**	**J**	**9.2**	**J**
Acrolein	ug/kg	6,000	UJ	150	UJ	140	U	120	UJ	130	U	120	U	110	U	110	U
Acrylonitrile	ug/kg	6,000	UJ	2.9	U	2.7	U	2.4	U	2.6	U	2.4	U	2.1	U	2.2	U
Benzene	ug/kg	**270**		1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Bromochloromethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Bromodichloromethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Bromoform	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Bromomethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Carbon disulfide	ug/kg	150	U	1.5	U	1.4	U	**0.23**	**J**	1.3	U	1.2	U	1.1	U	1.1	U
Carbon tetrachloride	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Chlorobenzene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	**9.9**	
Chloroethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Chloroform	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Chloromethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
cis-1,2-Dichloroethene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	**100**		1.2	U	1.1	U	1.1	U
cis-1,3-Dichloropropene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Dibromochloromethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Dibromomethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Dichlorodifluoromethane	ug/kg	150	U	1.5	U	1.4	UJ	1.2	UJ	1.3	U	1.2	U	1.1	U	1.1	U
Dichloromethane	ug/kg	600	U	7.1	U	6.7	U	5.8	U	**1.3**	**J**	**1.3**	**J**	**0.99**	**J**	**1.2**	**J**
Ethylbenzene	ug/kg	**4,300**		**6.9**		1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Iodomethane	ug/kg	1,500	U	15	UJ	14	UJ	12	UJ	13	U	12	U	11	U	11	U
Isopropylbenzene	ug/kg	**520**	**J**	**1.1**	**J**	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Methyltert-butylether	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	**1.4**		**1.4**		**2.2**	
Styrene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Tetrachloroethene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Trichloroethene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Toluene	ug/kg	**45**	**J**	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
trans-1,2-Dichloroethene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
trans-1,3-Dichloropropene	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
trans-1,4-Dichloro-2-butene	ug/kg	3,000	U	2.9	U	2.7	U	2.4	U	2.6	U	2.4	U	2.1	U	2.2	U
Trichlorofluoromethane	ug/kg	150	U	1.5	U	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
Vinyl acetate	ug/kg	1,500	UJ	3.8	U	3.6	UJ	3.3	UJ	3.5	U	3.3	U	3.2	U	3.3	U
Vinyl chloride	ug/kg	150	U	1.5	U	1.4	U	1.2	U	**8.9**		1.2	U	1.1	U	1.1	U
m,p-Xylenes	ug/kg	**530**		**1.3**	**J**	1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U
o-Xylene	ug/kg	**1,600**		**2.7**		1.4	U	1.2	U	1.3	U	1.2	U	1.1	U	1.1	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-12		GS-12		GS-12 (Dup)		GS-12		GS-12		GS-12		GS-12 (Dup)	
	Sample ID	GS-12-S (4-6)		GS-12-S (9-11)		GS-62-S (9-11)		GS-12-S (20-23)		GS-12-S (45-48)		GS-12-S (95-98)		GS-62-S (95-98)	
	Sample Date	1/10/2007		1/10/2007		1/10/2007		1/10/2007		1/10/2007		1/11/2007		1/11/2007	
	Depth Interval	4-6 ft		9-11 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**														
Conventionals															
Total organic carbon	%	1.18		1.14		1.07		0.67		0.36		0.15		0.36	
Total solids	%	67.6		65.9		66.4		68.1		78		81		78.9	
Ammonia	mg/kg	51.5		52.4		52.9		29.7		33		24.2		24.4	
Cyanide	mg/kg	0.3	UJ	0.09	J	0.1	J	0.3	UJ	0.3	UJ	0.3	UJ	0.14	J
Sulfide	mg/kg	3.2		11.3		7.4		3.9		0.8	U	0.8	U	1.2	
Nitrate as Nitrogen	ug/kg	--		--		--		--		--		--		--	
Metals															
Aluminum	mg/kg	26,100		22,500		26,900		22,300		15,400		14,700		14,800	
Antimony	mg/kg	0.05		0.05	B	0.05		0.05		0.05	U	0.06	U	0.05	U
Arsenic	mg/kg	2.68		2.63		2.89		2.05		1.77		1.53		1.78	
Barium	mg/kg	141		136		137		131		104		88.9		109	
Beryllium	mg/kg	0.58		0.55		0.56		0.49		0.36		0.32		0.37	
Cadmium	mg/kg	0.11		0.13		0.12		0.1		0.08		0.05		0.07	
Calcium metal	mg/kg	6,010		5,380		5,680		5,270		4,620		4,690		4,450	
Chromium	mg/kg	31.2		27.6		30.6		25.5		20.5		18.6		19.2	
Copper	mg/kg	26.8	J	26.2	J	27	J	23.4	J	16.7	J	14.6	J	16.5	J
Iron	mg/kg	36,100		33,400		34,800		32,700		28,600		31,900		28,200	
Lead	mg/kg	5.39		5.58		5.87		5.01		3.33		2.71		3.27	
Magnesium	mg/kg	6,320		5,980		6,130		6,300		5,210		4,800		4,850	
Manganese	mg/kg	395		436		411		399		287		960		289	
Mercury	mg/kg	0.027		0.035		0.03		0.041		0.015	B	0.034		0.012	B
Nickel	mg/kg	24.7	J	23.3	J	26	J	21.8	J	21.9	J	17.5	J	18.5	J
Potassium	mg/kg	851		764		871		795		637		623		644	
Selenium	mg/kg	0.14	U	0.18		0.16	U	0.14	U	0.16	U	0.12	U	0.11	U
Silver	mg/kg	0.157	N	0.172	N	0.216	N	0.18	N	0.184	N	0.107	N	0.126	N
Sodium	mg/kg	680		549		682		563		475		539		506	
Thallium	mg/kg	0.09		0.09		0.09		0.09		0.06		0.05		0.06	
Zinc	mg/kg	63.8		62.6		64.7		56.9		49		49.2		51.2	
SVOC															
2-Methylnaphthalene	ug/kg	5	U	9.6		12		5	U	1.3	J	3.1	U	3.2	U
Acenaphthene	ug/kg	1.3	J	140		180		3.2	J	4.9	U	3.1	U	3.2	U
Acenaphthylene	ug/kg	0.37	J	18		26		0.55	J	0.29	J	3.1	U	3.2	U
Anthracene	ug/kg	1.2	J	120		170		2.4	J	0.65	J	3.1	U	3.2	U
Benzo(a)anthracene	ug/kg	2.6	J	190		270		4	J	2.2	J	3.1	U	3.2	U
Benzo(a)pyrene	ug/kg	2.8	J	230		330		4.5	J	1	J	3.1	U	3.2	U
Benzo(b)fluoranthene	ug/kg	2.3	J	150		220		3.2	J	5.9		3.1	U	3.2	U
Benzo(g,h,i)perylene	ug/kg	2.7	J	190		280		4.3	J	1.4	J	3.1	U	3.2	U
Benzo(k)fluoranthene	ug/kg	1.8	J	130		210		3.1	J	2.7	J	3.1	U	3.2	U
Chrysene	ug/kg	3.5	J	250		360		5.1		3.5	J	3.1	U	3.2	U
Dibenzo(a,h)anthracene	ug/kg	5	U	21		32		5	U	4.9	U	3.1	U	3.2	U
Dibenzofuran	ug/kg	0.36	J	17		20		0.44	J	0.36	J	3.1	U	3.2	U
Fluoranthene	ug/kg	6.9		570		760		11		2.5	J	3.1	U	3.2	U
Fluorene	ug/kg	0.84	J	91		120		1.9	J	0.39	J	3.1	U	3.2	U
Indeno(1,2,3-cd)pyrene	ug/kg	2.2	J	160		260		3.2	J	1.5	J	3.1	U	3.2	U
Naphthalene	ug/kg	7.7	U	23	B	34	B	5.3	U	4.9	U	3.1	U	3.3	U
Phenanthrene	ug/kg	6.4		560		790		13		2.9	J	0.54	J	1.2	J
Pyrene	ug/kg	7.8		690		980		13		3	J	3.1	U	3.2	U

Table 4
Sediment Chemistry Data
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-12		GS-12		GS-12 (Dup)		GS-12		GS-12		GS-12		GS-12 (Dup)	
	Sample ID	GS-12-S (4-6)		GS-12-S (9-11)		GS-62-S (9-11)		GS-12-S (20-23)		GS-12-S (45-48)		GS-12-S (95-98)		GS-62-S (95-98)	
	Sample Date	1/10/2007		1/10/2007		1/10/2007		1/10/2007		1/10/2007		1/11/2007		1/11/2007	
	Depth Interval	4-6 ft		9-11 ft		9-11 ft		20-23 ft		45-48 ft		95-98 ft		95-98 ft	
	Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Chemical Name	**Unit**														
VOC															
1,1,1,2-Tetrachloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,1,1-Trichloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,1,2,2-Tetrachloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,1,2-Trichloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,2,3-Trichloropropane	ug/kg	6.9	U	7.3	U	7.7	U	6.7	U	61	U	5.6	U	5.4	U
1,1-Dichloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,1-Dichloroethene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,2,4-Trichlorobenzene	ug/kg	28	U	29	U	31	U	27	U	250	U	23	U	22	U
1,2-Dibromoethane	ug/kg	28	U	29	U	31	U	27	U	250	U	23	U	22	U
1,2-Dichlorobenzene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,2-Dichloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,2-Dichloropropane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,3-Dichlorobenzene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
1,4-Dichlorobenzene	ug/kg	**0.49**	**J**	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
2-Butanone (MEK)	ug/kg	6.9	U	**5.1**	**J**	**8.5**		6.7	U	2,500	U	5.6	U	5.4	U
2-Chloroethylvinylether	ug/kg	6.9	U	7.3	U	7.7	U	6.7	U	610	U	5.6	U	5.4	U
2-Hexanone	ug/kg	14	U	15	U	16	U	14	U	2,500	U	12	U	11	U
4-Methyl-2-pentanone (MIBK)	ug/kg	2.8	U	2.9	U	3.1	U	2.7	U	2,500	U	2.3	U	2.2	U
Acetone	ug/kg	**17**	**J**	**20**	**J**	**37**		**11**	**J**	**340**	**J**	**12**	**J**	**22**	
Acrolein	ug/kg	140	U	150	U	160	U	140	U	2,500	U	120	U	110	U
Acrylonitrile	ug/kg	2.8	U	2.9	U	3.1	U	2.7	U	2,500	U	2.3	U	2.2	U
Benzene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	**24**	**J**	1.2	U	1.1	U
Bromochloromethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Bromodichloromethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Bromoform	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Bromomethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Carbon disulfide	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Carbon tetrachloride	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Chlorobenzene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Chloroethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Chloroform	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Chloromethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
cis-1,2-Dichloroethene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	**700**		1.2	U	1.1	U
cis-1,3-Dichloropropene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Dibromochloromethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Dibromomethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Dichlorodifluoromethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Dichloromethane	ug/kg	**1**	**J**	**1.1**	**J**	**1.6**	**J**	**0.83**	**J**	**25**	**J**	**0.99**	**J**	**0.92**	**J**
Ethylbenzene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Iodomethane	ug/kg	14	U	15	U	16	U	14	U	610	U	12	U	11	U
Isopropylbenzene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	250	U	1.2	U	1.1	U
Methyltert-butylether	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Styrene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Tetrachloroethene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Trichloroethene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Toluene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
trans-1,2-Dichloroethene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
trans-1,3-Dichloropropene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
trans-1,4-Dichloro-2-butene	ug/kg	2.8	U	2.9	U	3.1	U	2.7	U	1,300	U	2.3	U	2.2	U
Trichlorofluoromethane	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
Vinyl acetate	ug/kg	3.7	U	3.8	U	3.9	U	3.7	U	610	U	3.1	U	3.2	U
Vinyl chloride	ug/kg	1.4	U	1.5	U	1.6	U	**0.63**	**J**	61	U	1.2	U	1.1	U
m,p-Xylenes	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U
o-Xylene	ug/kg	1.4	U	1.5	U	1.6	U	1.4	U	61	U	1.2	U	1.1	U

ANALYTICAL DATA QUALIFIERS

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-01	GS-01	GS-01	GS-01	GS-01	GS-01	GS-01
	Sample ID	GS-01-S (10-12)	GS-01-S (20-23)A	GS-01-S (30.5-33)	GS-01-S (40-42.5)	GS-01-S (50-52)	GS-01-S (59-61.5)	GS-01-S (70.5-73)
	Sample Date	12/21/2006	12/21/2006	12/26/2006	12/26/2006	12/26/2006	12/26/2006	12/26/2006
	Depth Interval	10-12 ft	20-23 ft	30.5-33 ft	40-42.5 ft	50-52 ft	59-61.5 ft	70.5-73 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N
Chemical Name	**Unit**							
Conventionals								
Total organic carbon	%	--	**0.69**	--	**0.08**	--	0.05 U	--
Total solids	%	**68.8**	**65.9**	**70.4**	**74.7**	**75**	**75.4**	**72.5**
Plasticity Index	%	NonplasticU	NonplasticU	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Plasticity Index - Liquid Limit	%	NonplasticU	NonplasticU	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Plasticity Index - Plastic Limit	%	NonplasticU	NonplasticU	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Specific gravity		--	**1.73**	--	--	--	--	--
Sulfate	mg/kg	--	**854 J**	--	**332**	--	**227**	--
pH	ph units	--	**6.01**	--	**5.94**	--	**6.21**	--
Grain Size								
Gravel	%	**0.05**	**0**	**0.14**	**0.23**	**0.01**	**0.02**	**0**
Sand, Very Coarse	%	**0.76**	**0.45**	**0.04**	**0.09**	**0.05**	**0.09**	**0.14**
Sand, Coarse	%	**0.53**	**0.01**	**0.04**	**1.46**	**10.7**	**11.4**	**0.15**
Sand, Medium	%	**0.54**	**0.3**	**16.8**	**51.2**	**75.5**	**65.6**	**5**
Sand, Fine	%	**17.4**	**32.1**	**58.7**	**23.5**	**13.6**	**17.3**	**18.7**
Sand, Very Fine	%	**20.4**	**28.7**	**10**	**6.04**	**1.18**	**2.36**	**12.4**
Silt	%	**55.4**	**34**	**12.6**	**14.5**	**1.46**	**3.98**	**52.3**
Clay	%	**4.96**	**4.66**	**2.47**	**4.22**	**0.45**	**1.19**	**10.8**
0.98 um	%	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-02	GS-02	GS-02	GS-02	GS-02	GS-02	GS-02	GS-02
	Sample ID	GS-02-S (9-11)	GS-02-S (20-23)	GS-02-S (29.5-32)	GS-02-S (40-42)	GS-02-S (53-5	GS-02-S (60-6	GS-02-S (70-7	GS-02-S (78-8
	Sample Date	12/27/2006	12/27/2006	12/28/2006	12/28/2006	12/28/2006	12/28/2006	12/28/2006	12/28/2006
	Depth Interval	9-11 ft	20-23 ft	29.5-32 ft	40-42 ft	53-54 ft	60-63 ft	70-73 ft	78-80 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N
Chemical Name	**Unit**								
Conventionals									
Total organic carbon	%	**1.05**	**0.91**	--	**0.76**	--	0.05 U	--	0.05 U
Total solids	%	**67.4**	**69.3**	**72.6**	**68.5**	**75.6**	**77.8**	**81.8**	**79.1**
Plasticity Index	%	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Plasticity Index - Liquid Limit	%	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Plasticity Index - Plastic Limit	%	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Specific gravity		--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	**1,590**	--	**4,880**	--	150 U	--	188 U
pH	ph units	--	**6.02**	--	**6.17**	--	**6.04**	--	**6.24**
Grain Size									
Gravel	%	**0.46**	**0.14**	**0**	**0**	**0.02**	**0**	**0**	**0.03**
Sand, Very Coarse	%	**1.59**	**0.24**	**0.01**	**0.27**	**0.06**	**0.06**	**0.1**	**0.42**
Sand, Coarse	%	**0.79**	**0.41**	**0.23**	**2.46**	**5.85**	**9.25**	**11.6**	**15.7**
Sand, Medium	%	**0.6**	**1.94**	**54.5**	**1.68**	**46.8**	**64**	**64.8**	**64.6**
Sand, Fine	%	**5.98**	**19.6**	**35.6**	**7.83**	**27.2**	**17.4**	**15.8**	**12.6**
Sand, Very Fine	%	**21.9**	**19.3**	**4.73**	**15.2**	**6.31**	**3.28**	**3.28**	**2.51**
Silt	%	**61.2**	**49**	**7.31**	**61**	**9.85**	**6.37**	**5.08**	**5.48**
Clay	%	**8.59**	**9.6**	**2.46**	**10.2**	**3.51**	**2.03**	**1.31**	**2.07**
0.98 um	%	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03	GS-03
	Sample ID	GS-03-S (9-11)	GS-03-S (19-20)	GS-03-S (29-32)	GS-53-S (29-32)	GS-03-S (39-43)	GS-03-S (50-52)	GS-03-S (59-61)	GS-03-S (70-73)	GS-03-S (78-81)	GS-03-S (89-92)
	Sample Date	12/18/2006	12/18/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006	12/19/2006
	Depth Interval	9-11 ft	19-20 ft	29-32 ft	29-32 ft	39-43 ft	50-52 ft	59-61 ft	70-73 ft	78-81 ft	89-92 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N	N	N
Chemical Name	**Unit**										
Conventionals											
Total organic carbon	%	**1.06**	**0.67**	--	--	**0.44**	--	0.05 U	--	**0.34**	--
Total solids	%	**66.8**	**70.3**	**72.9**	**72.5**	**74**	**74.5**	**79.5**	**82.7**	**77.4**	**80.5**
Plasticity Index	%	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU
Plasticity Index - Liquid Limit	%	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU
Plasticity Index - Plastic Limit	%	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU	NonplasticU
Specific gravity		--	**1.79**	--	--	**1.8**	--	**1.93**	--	**1.88**	--
Sulfate	mg/kg	--	**5.2**	--	--	**80.7**	--	**45.3**	--	**9**	--
pH	ph units	--	**6.76**	--	--	**6.58**	--	**5.38**	--	**6.4**	--
Grain Size											
Gravel	%	**0**	**0.01**	**0.12**	**1.02**	**0**	**0**	**0.02**	**0**	**0.88**	**0**
Sand, Very Coarse	%	**0.08**	**0.12**	**0.03**	**0.03**	**0.08**	**0**	**0.06**	**0.19**	**0.43**	**0.05**
Sand, Coarse	%	**0.14**	**0.15**	**0.18**	**0.13**	**0.09**	**0.28**	**12.8**	**15.3**	**18.2**	**7.59**
Sand, Medium	%	**0.51**	**3.69**	**35.1**	**24.6**	**19.4**	**46.4**	**73.7**	**66.1**	**60.5**	**76.7**
Sand, Fine	%	**8.43**	**25**	**44**	**50**	**36**	**46.5**	**9.45**	**14**	**11.8**	**12.1**
Sand, Very Fine	%	**17.4**	**16.4**	**8.37**	**6.91**	**11.8**	**5.07**	**1.61**	**2.32**	**2.13**	**2.01**
Silt	%	**22.8**	**45.7**	**9.87**	**16.5**	**25.7**	**3.1**	**2.42**	**3.53**	**4.09**	**2.93**
Clay	%	**53.2**	**10.8**	**3.22**	**3.31**	**6.72**	**0.82**	**0.49**	**1.06**	**1.16**	**0.72**
0.98 um	%	--	--	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04	GS-04
	Sample ID	GS-04-S (10-11)	GS-04-S (19-21)	GS-04-S (30-31)	GS-04-S (38-40)	GS-04-S (50-51)	GS-04-S (60-61)	GS-04-S (70-71)	GS-04-S (78-81)	GS-04-S (91-93)
	Sample Date	12/12/2006	12/12/2006	12/13/2006	12/13/2006	12/13/2006	12/13/2006	12/13/2006	12/13/2006	12/13/2006
	Depth Interval	10-11 ft	19-21 ft	30-31 ft	38-40 ft	50-51 ft	60-61 ft	70-71 ft	78-81 ft	91-93 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N	N
Chemical Name	**Unit**									
Conventionals										
Total organic carbon	%	--	0.2	--	0.07	--	0.05 U	--	0.06	--
Total solids	%	68.2	72.3	72.2	70.7	71.3	77.4	82.7	77.3	81.3
Plasticity Index	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Liquid Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Plastic Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Specific gravity		--	1.78	--	1.8	--	1.9	--	1.92	--
Sulfate	mg/kg	--	7.6 J	--	3	--	3.6	--	16.4	--
pH	ph units	--	7.08	--	6.64	--	6.89	--	6.85	--
Grain Size										
Gravel	%	0.05	0.11	0.33	0	0.01	0.01	0	0.18	0
Sand, Very Coarse	%	0.14	0.07	0.05	0	0.03	0.09	0.19	11.5	0.68
Sand, Coarse	%	0.62	0.21	0.24	0.07	1.53	8.47	10.9	57.4	21.8
Sand, Medium	%	34.1	9.44	56.3	30.5	40.9	70.7	69.3	26.6	62.8
Sand, Fine	%	38.7	43.8	36.1	58	40	18.7	11.8	3.11	10.2
Sand, Very Fine	%	8.39	11.9	4.06	7.13	2.19	2.01	2.44	0.31	1.94
Silt	%	14.5	24.3	5.21	6.88	12.9	2.95	4.72	2.62	3.85
Clay	%	4.47	7.72	2.01	1.83	3.23	1.07	1.83	0.9	1.42
0.98 um	%	--	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05	GS-05
	Sample ID	GS-05-S (4-11)	GS-05-S (20-22)	GS-05-S (33-36)	GS-05-S (39-42)	GS-05-S (59-64)	GS-05-S (69-73)	GS-05-S (79-82)	GS-05-S (89-92)
	Sample Date	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006
	Depth Interval	4-11 ft	20-22 ft	33-36 ft	39-42 ft	59-64 ft	69-73 ft	79-82 ft	89-92 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N
Chemical Name	**Unit**								
Conventionals									
Total organic carbon	%	--	0.93 UJ	--	0.44 UJ	**0.06 J**	--	**0.07 J**	--
Total solids	%	**70.2**	**68.6**	**64.5**	**68.6**	**78.8**	**80.2**	**80.8**	**78.8**
Plasticity Index	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Liquid Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Plastic Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Specific gravity		--	**2.65**	--	**2.73**	**2.71**	--	**2.73**	--
Sulfate	mg/kg	--	**18 J**	--	**9.3 J**	**4.2 J**	--	**5.8 J**	--
pH	ph units	--	**6.55**	--	**6.78**	**7.19**	--	**6.82**	--
Grain Size									
Gravel	%	**2.93**	**0**	**0.05**	**0**	**0.02**	**0.41**	**0**	**0.13**
Sand, Very Coarse	%	**1.09**	**0.08**	**0.2**	**0.07**	**0.03**	**0.23**	**0.14**	**0.22**
Sand, Coarse	%	**1.43**	**0.27**	**0.2**	**0.09**	**8.6**	**12**	**10.21**	**13.2**
Sand, Medium	%	**2.27**	**0.43**	**0.88**	**3.14**	**65.6**	**63.1**	**59**	**66.6**
Sand, Fine	%	**15.6**	**8.38**	**15.2**	**29**	**18.3**	**14.3**	**12.2**	**13.3**
Sand, Very Fine	%	**20.7**	**20.7**	**20.9**	**15.4**	**4.39**	**2.05**	**3.35**	**1.64**
Silt	%	**41.8**	**55.9**	**46.1**	**40.7**	**9.5**	**5.51**	**10**	**3**
Clay	%	**11.7**	**13.7**	**10.4**	**11.9**	**4.95**	**2.09**	**3.6**	**0.9**
0.98 um	%	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-06	GS-06	GS-06	GS-06	GS-06	GS-06	GS-06	GS-06	GS-06	GS-06	GS-06
	Sample ID	GS-06-S (7-20)	GS-06-S (20-23)	GS-06-S (28-33)	GS-56-S-(28-33)	GS-06-S (41-44)	GS-06-S (48-52)	GS-06-S (61-64)	GS-56-S (61-64)	GS-06-S (69-73)	GS-06-S (80-83)	GS-06-S (90-92)
	Sample Date	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007	1/17/2007
	Depth Interval	7-20 ft	20-23 ft	28-33 ft	28-33 ft	41-44 ft	48-52 ft	61-64 ft	61-64 ft	69-73 ft	80-83 ft	90-92 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N	N	N	N
Chemical Name	**Unit**											
Conventionals												
Total organic carbon	%	--	0.71	--	--	0.4	--	1.66	1.41	--	0.05 U	--
Total solids	%	65.1	69.8	65.9	69.2	70	72.1	61.3	63.4	82.2	66	84.5
Plasticity Index	%	5.6	5.4	7.4	5.8	NON-PLASTIC	NON-PLASTIC	12	16.1	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Liquid Limit	%	36.9	35.1	37.9	36.7	NON-PLASTIC	NON-PLASTIC	45.2	51.5	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Plastic Limit	%	31.2	29.7	30.5	30.9	NON-PLASTIC	NON-PLASTIC	33.2	35.4	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Specific gravity		--	1.62	--	--	1.64	--	1.53	1.48	--	1.78	--
Sulfate	mg/kg	--	9.7	--	--	2.06	--	11.4	3.73	--	7.44	--
pH	ph units	--	6.83	--	--	6.92	--	7.23	7.13	--	7.05	--
Grain Size												
Gravel	%	1.06	0.07	0	0	0	0.06	0	0	0.05	5.11	0.04
Sand, Very Coarse	%	0.64	0.16	0.1	0.12	0.01	0.52	0.33	0.15	0.16	0.47	0.31
Sand, Coarse	%	1.2	0.31	0.15	0.15	0.08	2.29	0.41	0.16	7.07	5.17	12.8
Sand, Medium	%	6.76	8.11	6.17	4.68	5.58	37.3	0.76	0.31	58.6	47.3	60.7
Sand, Fine	%	22.7	26	21.1	23.3	33.8	42.7	10.1	3.79	17.4	16.8	15.2
Sand, Very Fine	%	18.4	16.2	18.9	16.9	20.6	9.35	25	12.2	2.96	6.88	2.4
Silt	%	39.4	39.3	43.4	40.8	31.2	6.98	56.1	65.4	9.18	22.8	5.54
Clay	%	10.1	10.3	12.8	11.1	8.52	2.51	15.9	20.9	2.54	6.68	1.93
0.98 um	%	--	--	--	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07	GS-07
	Sample ID	GS-07-S (4-6)	GS-07-S (15-18)	GS-07-S (28-30)	GS-07-S (41-43)	GS-07-S (53-55)	GS-07-S (62-63)	GS-07-S (70-72)	GS-07-S (80-82)	GS-07-S (90-92)
	Sample Date	10/16/2006	10/16/2006	10/17/2006	10/17/2006	10/17/2006	10/17/2006	10/17/2006	10/18/2006	10/18/2006
	Depth Interval	4-6 ft	15-18 ft	28-30 ft	41-43 ft	53-55 ft	62-63 ft	70-72 ft	80-82 ft	90-92 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N	N
Chemical Name	**Unit**									
Conventionals										
Total organic carbon	%	**14.6**	**1.33**	--	**0.58** J	--	**1.67** J	--	**0.24** J	--
Total solids	%	**62.4**	**68.7**	**76**	**66.5**	**68.4**	**64.4**	**76.2**	**74.7**	**65.9**
Plasticity Index	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	**4.6**	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Liquid Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	**29**	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Plasticity Index - Plastic Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	**24.4**	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC
Specific gravity		--	**2.67**	--	**2.67**	--	**2.65**	--	**2.65**	--
Sulfate	mg/kg	--	**6.5**	--	**3.4** J	--	**6.5**	--	**2.8** J	--
pH	ph units	--	**6.66**	--	**6.96**	--	**6.99**	--	**6.96**	--
Grain Size										
Gravel	%	**7.03**	**0.11**	**0.12**	**0.08**	**0**	**0**	**0**	**0**	**0.01**
Sand, Very Coarse	%	**2.38**	**0.29**	**0.62**	**0.15**	**0.15**	**0.49**	**0.12**	**0.07**	**0.32**
Sand, Coarse	%	**2.77**	**0.6**	**0.77**	**0.23**	**0.26**	**0.32**	**0.71**	**1.48**	**2.88**
Sand, Medium	%	**7.56**	**4.22**	**17.8**	**1.93**	**1.76**	**2.4**	**42.4**	**42.9**	**24.3**
Sand, Fine	%	**5.89**	**23.5**	**31.4**	**19.7**	**19.6**	**8.9**	**35.7**	**26.7**	**10.2**
Sand, Very Fine	%	**5.11**	**20.7**	**16.8**	**21.9**	**21.5**	**7.49**	**5.26**	**5.02**	**5.04**
Silt	%	**50.3**	**43**	**23.4**	**42.9**	**42.4**	**62.8**	**11.6**	**17.4**	**40.3**
Clay	%	**15.9**	**9.62**	**6.81**	**8.04**	**11**	**19.3**	**4**	**5.88**	**10.3**
0.98 um	%	--	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-08	GS-08	GS-08	GS-08	GS-08	GS-08	GS-08	GS-08	GS-08
	Sample ID	GS-08-S (6-8)	GS-08-S (20-23)	GS-08-S (29-30)	GS-08-S (40-43)	GS-08-S (50-53)	GS-08-S (63-65)	GS-08-S (69-70)	GS-08-S (82-84)	GS-08-S (90-92)
	Sample Date	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006
	Depth Interval	6-8 ft	20-23 ft	29-30 ft	40-43 ft	50-53 ft	63-65 ft	69-70 ft	82-84 ft	90-92 ft
	Sample Matrix	SE	SE	SE	SE	SE	SE	SE	SE	SE
	Sample Type	N	N	N	N	N	N	N	N	N
Chemical Name	**Unit**									
Conventionals										
Total organic carbon	%	--	1.05 UJ	--	0.48 UJ	--	0.44 J	--	0.13 J	--
Total solids	%	73.7	71.1	72.7	71.5	71.4	71.3	70.4	76.1	76.7
Plasticity Index	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	6.5	NON-PLASTIC	4.4
Plasticity Index - Liquid Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	28.5	NON-PLASTIC	27.5
Plasticity Index - Plastic Limit	%	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	22	NON-PLASTIC	23.1
Specific gravity		--	2.67	--	2.72	--	2.74	--	2.7	--
Sulfate	mg/kg	--	9 J	--	14.4 J	--	9.8 J	--	2.4 J	--
pH	ph units	--	6.64	--	6.81	--	6.92	--	7.01	--
Grain Size										
Gravel	%	26.5	0	1.54	0	0	0	0.24	0	0.01
Sand, Very Coarse	%	6.34	0.16	0.38	0.06	0.05	0.04	0.23	0.08	0.08
Sand, Coarse	%	5.69	0.2	0.28	0.12	0.17	0.12	0.23	1.87	0.76
Sand, Medium	%	8.47	0.77	1.42	6.47	17.7	5.68	4.49	19.6	14.6
Sand, Fine	%	13.2	18.6	25.5	36.9	38.4	54.1	18.5	16.7	5.7
Sand, Very Fine	%	10.3	18.3	18.4	21.3	16.2	17.8	12.1	7.13	5.93
Silt	%	25.5	46.5	37.2	24.2	19	20.6	47.3	40.3	47.8
Clay	%	8.57	11.4	12.7	10.2	8.03	6.41	16.7	10.6	12.6
0.98 um	%	--	--	--	--	--	--	--	--	--
1.95 um	%	--	--	--	--	--	--	--	--	--
15.6 um	%	--	--	--	--	--	--	--	--	--
3.9 um	%	--	--	--	--	--	--	--	--	--
31.3 um	%	--	--	--	--	--	--	--	--	--
62.5 um	%	--	--	--	--	--	--	--	--	--
7.8 um	%	--	--	--	--	--	--	--	--	--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-09	GS-09	GS-09	GS-09
	Sample ID	GS-09-S(4-6)	GS-09-S(23-27)	GS-09-S(65-66)	GS-09-S (97-98)
	Sample Date	10/5/2006	10/9/2006	10/10/2006	10/11/2006
	Depth Interval	4-6 ft	23-27 ft	65-66 ft	97-98 ft
	Sample Matrix	SE	SE	SE	SE
	Sample Type	N	N	N	N
Chemical Name	**Unit**				
Conventionals					
Total organic carbon	%	**1.05**	**1.67**	**1.08**	**0.44**
Total solids	%	**79.8**	**76.3**	**64**	**78.2**
Plasticity Index	%	NON-PLASTIC	NON-PLASTIC	**4.1**	NON-PLASTIC
Plasticity Index - Liquid Limit	%	NON-PLASTIC	NON-PLASTIC	**27.3**	NON-PLASTIC
Plasticity Index - Plastic Limit	%	NON-PLASTIC	NON-PLASTIC	**23.2**	NON-PLASTIC
Specific gravity		**2.71**	**2.7**	**2.66**	**2.71**
Sulfate	mg/kg	**6.3**	**11.3**	**13.8**	**4.1**
pH	ph units	**6.65**	**6.96**	**6.99**	**6.82**
Grain Size					
Gravel	%	**27.2**	**6.32**	**0.08**	**0.39**
Sand, Very Coarse	%	**6.56**	**2.58**	**0.06**	**0.29**
Sand, Coarse	%	**20.2**	**7.75**	**0.69**	**1.63**
Sand, Medium	%	**28.2**	**11.9**	**11.7**	**30.4**
Sand, Fine	%	**6.1**	**23.3**	**17.6**	**16.6**
Sand, Very Fine	%	**3.42**	**13.4**	**6.09**	**5.4**
Silt	%	**4.05**	**32.1**	**49.7**	--
Clay	%	**4.74**	**3.67**	**14.3**	--
0.98 um	%	--	--	--	**5.43**
1.95 um	%	--	--	--	**2.49**
15.6 um	%	--	--	--	**0.82**
3.9 um	%	--	--	--	**2.46**
31.3 um	%	--	--	--	**21**
62.5 um	%	--	--	--	**8.71**
7.8 um	%	--	--	--	**5.1**

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-10		GS-10		GS-10		GS-10		GS-10		GS-10		GS-10		GS-10	
	Sample ID	GS-10-S (9-11)		GS-10-S (20-23)		GS-10-S (29-31)		GS-10-S (39-41)		GS-10-S (48-50)		GS-10-S (59-61)		GS-10-S (69-71)		GS-10-S (80-83)		GS-10-S (90-93)
	Sample Date	1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/2/2007		1/3/2007		1/3/2007
	Depth Interval	9-11 ft		20-23 ft		29-31 ft		39-41 ft		48-50 ft		59-61 ft		69-71 ft		80-83 ft		90-93 ft
	Sample Matrix	SE		SE		SE		SE		SE		SE		SE		SE		SE
	Sample Type	N		N		N		N		N		N		N		N		N
Chemical Name	**Unit**																	
Conventionals																		
Total organic carbon	%	**2.97**		**0.96**		--		**0.63**		--		**1.1**		--		**0.59**		--
Total solids	%	**62.6**		**67.9**		**73.8**		**65.6**		**72.1**		**64.8**		**76.6**		**73.9**		**76**
Plasticity Index	%	13.4	U	5.6	U	NON-PLASTIC		7	U	NON-PLASTIC		9.2	U	NON-PLASTIC		8.4	U	NON-PLASTIC
Plasticity Index - Liquid Limit	%	47.6	U	38.3	U	NON-PLASTIC		37.3	U	NON-PLASTIC		41.7	U	NON-PLASTIC		35.4	U	NON-PLASTIC
Plasticity Index - Plastic Limit	%	34.3	U	32.6	U	NON-PLASTIC		30.4	U	NON-PLASTIC		32.4	U	NON-PLASTIC		27	U	NON-PLASTIC
Specific gravity		--		**1.73**		--		**1.71**		--		**1.73**		--		**1.91**		--
Sulfate	mg/kg	--		**5**		--		**8**		--		**4.9**		--		**5.1**		--
pH	ph units	--		**6.38**		--		**6.26**		--		**6.65**		--		**6.82**		--
Grain Size																		
Gravel	%	**1.25**		**0.05**		**0.02**		**0.07**		**0**		**0.13**		**0.02**		**0.03**		**0.04**
Sand, Very Coarse	%	**0.76**		**0.16**		**0.04**		**0.28**		**0.09**		**0.41**		**0.1**		**0.46**		**0.3**
Sand, Coarse	%	**0.92**		**0.24**		**0.21**		**0.44**		**0.17**		**0.52**		**0.16**		**1.49**		**4.75**
Sand, Medium	%	**1.28**		**4.04**		**36.1**		**4.45**		**35**		**37.1**		**25.2**		**24.1**		**38.2**
Sand, Fine	%	**7.71**		**20.2**		**47.7**		**15.8**		**44.9**		**10.8**		**36.1**		**19.2**		**13.6**
Sand, Very Fine	%	**12.9**		**22.1**		**4.79**		**21.9**		**6.29**		**3.99**		**8.25**		**8.54**		**4.29**
Silt	%	**54.6**		**42**		**6.77**		**46.5**		**10.3**		**36.8**		**20.4**		**38.8**		**31.5**
Clay	%	**17.2**		**10.4**		**2.43**		**11.2**		**3.24**		**11.9**		**8.48**		**10.8**		**9.83**
0.98 um	%	--		--		--		--		--		--		--		--		--
1.95 um	%	--		--		--		--		--		--		--		--		--
15.6 um	%	--		--		--		--		--		--		--		--		--
3.9 um	%	--		--		--		--		--		--		--		--		--
31.3 um	%	--		--		--		--		--		--		--		--		--
62.5 um	%	--		--		--		--		--		--		--		--		--
7.8 um	%	--		--		--		--		--		--		--		--		--

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-11		GS-11	GS-11	GS-11	GS-11	GS-11	GS-11	GS-11	
	Sample ID	GS-11-S (9-11)		GS-11-S (20-23)	GS-11-S (30-32)	GS-11-S (40-42)	GS-11-S (49-51)	GS-11-S (59-61)	GS-11-S (68-70)		
	Sample Date	1/5/2007		1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007		
	Depth Interval	9-11 ft		20-23 ft	30-32 ft	40-42 ft	49-51 ft	59-61 ft	68-70 ft		
	Sample Matrix	SE		SE	SE	SE	SE	SE	SE		
	Sample Type	N		N	N	N	N	N	N		
Chemical Name	**Unit**										
Conventionals											
Total organic carbon	%	--		**0.08**	--	**0.37**	--	**0.2**	--		
Total solids	%	**64.3**		**71**	**68.1**	**71.7**	**74.2**	**75.2**	**69.5**		
Plasticity Index	%	6.6	U	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	8.7	U	
Plasticity Index - Liquid Limit	%	40.9	U	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	35.5	U	
Plasticity Index - Plastic Limit	%	34.3	U	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	26.8	U	
Specific gravity		--		**1.81**	--	**1.83**	--	**1.74**	--		
Sulfate	mg/kg	--		**4.7**	--	**6.5**	--	**2.8**	--		
pH	ph units	--		**6.42**	--	**6.37**	--	**6.9**	--		
Grain Size											
Gravel	%	**0.04**		**0.08**	**0**	**0.17**	**0.02**	**0.01**	**0.08**		
Sand, Very Coarse	%	**0.12**		**0.05**	**0.01**	**0.14**	**0.07**	**0.01**	**0.12**		
Sand, Coarse	%	**0.19**		**0.12**	**0.08**	**0.24**	**61.1**	**0.17**	**0.38**		
Sand, Medium	%	**0.3**		**19.4**	**37**	**18.1**	**29.6**	**45.1**	**16.1**		
Sand, Fine	%	**4.87**		**53.3**	**52.3**	**44**	**4.44**	**32.1**	**17.5**		
Sand, Very Fine	%	**17.6**		**10.8**	**5.84**	**13**	**0.84**	**6**	**7.57**		
Silt	%	**64.4**		**12.5**	**3.57**	**17.3**	**8.49**	**9.9**	**47.4**		
Clay	%	**15.1**		**3.71**	**1.46**	**6.38**	**3.1**	**3.68**	**14.9**		
0.98 um	%	--		--	--	--	--	--	--		
1.95 um	%	--		--	--	--	--	--	--		
15.6 um	%	--		--	--	--	--	--	--		
3.9 um	%	--		--	--	--	--	--	--		
31.3 um	%	--		--	--	--	--	--	--		
62.5 um	%	--		--	--	--	--	--	--		
7.8 um	%	--		--	--	--	--	--	--		

Table 5
Sediment Physical Properties
Phase I Investigation
Gasco/Siltronic
Portland, Oregon

	Location ID	GS-11		GS-11	GS-11	GS-11	GS-11	GS-11	GS-11		GS-11	
	Sample ID	GS-11-S (9-11)		GS-11-S (20-23)	GS-11-S (30-32)	GS-11-S (40-42)	GS-11-S (49-51)	GS-11-S (59-61)	GS-11-S (68-70)			
	Sample Date	1/5/2007		1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007	1/5/2007			
	Depth Interval	9-11 ft		20-23 ft	30-32 ft	40-42 ft	49-51 ft	59-61 ft	68-70 ft			
	Sample Matrix	SE		SE	SE	SE	SE	SE	SE			
	Sample Type	N		N	N	N	N	N	N			
Chemical Name	**Unit**											
Conventionals												
Total organic carbon	%	--		**0.08**	--	**0.37**	--	**0.2**	--			
Total solids	%	**64.3**		**71**	**68.1**	**71.7**	**74.2**	**75.2**	**69.5**			
Plasticity Index	%	6.6	U	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	8.7	U		
Plasticity Index - Liquid Limit	%	40.9	U	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	35.5	U		
Plasticity Index - Plastic Limit	%	34.3	U	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	NON-PLASTIC	26.8	U		
Specific gravity		--		**1.81**	--	**1.83**	--	**1.74**	--			
Sulfate	mg/kg	--		**4.7**	--	**6.5**	--	**2.8**	--			
pH	ph units	--		**6.42**	--	**6.37**	--	**6.9**	--			
Grain Size												
Gravel	%	**0.04**		**0.08**	**0**	**0.17**	**0.02**	**0.01**	**0.08**			
Sand, Very Coarse	%	**0.12**		**0.05**	**0.01**	**0.14**	**0.07**	**0.01**	**0.12**			
Sand, Coarse	%	**0.19**		**0.12**	**0.08**	**0.24**	**61.1**	**0.17**	**0.38**			
Sand, Medium	%	**0.3**		**19.4**	**37**	**18.1**	**29.6**	**45.1**	**16.1**			
Sand, Fine	%	**4.87**		**53.3**	**52.3**	**44**	**4.44**	**32.1**	**17.5**			
Sand, Very Fine	%	**17.6**		**10.8**	**5.84**	**13**	**0.84**	**6**	**7.57**			
Silt	%	**64.4**		**12.5**	**3.57**	**17.3**	**8.49**	**9.9**	**47.4**			
Clay	%	**15.1**		**3.71**	**1.46**	**6.38**	**3.1**	**3.68**	**14.9**			
0.98 um	%	--		--	--	--	--	--	--			
1.95 um	%	--		--	--	--	--	--	--			
15.6 um	%	--		--	--	--	--	--	--			
3.9 um	%	--		--	--	--	--	--	--			
31.3 um	%	--		--	--	--	--	--	--			
62.5 um	%	--		--	--	--	--	--	--			
7.8 um	%	--		--	--	--	--	--	--			

ANALYTICAL DATA QUALIFIERS

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
Upland Boring														
GS-00	7-Nov-02	Roto-Sonic	85	0 - 1	no	no	no	no	no	no	negative	-	negative	-
				1 - 10	no	no	no	no	no	no	negative	-	negative	-
				10 - 16	**mild**	no	no	no	no	no	negative	-	negative	-
				16 - 19.5	**mild**	no	no	no	no	no	negative	negative	negative	negative
				19.5 - 23	no	no	no	no	no	no	negative	-	negative	-
				23 - 28	**strong**	**yes**	no	no	no	no	negative	negative	negative	negative
				28 - 31.5	no	no	no	no	no	no	negative	-	negative	-
				31.5 - 34.5	no	no	no	no	no	no	negative	-	negative	-
				34.5 - 38	no	no	no	no	no	no	negative	-	negative	-
				38 - 39	**mild**	no	no	no	no	no	negative	-	negative	-
				39 - 41.5	**mild**	no	no	no	no	no	negative	-	negative	-
				41.5 - 45	**mild**	no	no	no	no	no	negative	-	negative	-
				45 - 48	**mild**	no	no	no	no	no	negative	-	negative	-
				48 - 57	**mild**	no	no	no	no	no	negative	negative	negative	negative
				57 - 58	**mild**	no	no	no	no	no	negative	-	negative	-
				58 - 61.5	no	no	no	no	no	no	negative	-	negative	-
				61.5 - 64	no	no	no	no	no	no	negative	-	negative	-
				64 - 67	no	no	no	no	no	no	negative	-	negative	-
				67 - 68	no	no	no	no	no	no	negative	-	negative	-
				68 - 73	no	no	no	no	no	no	negative	-	negative	-
				73 - 76.5	no	no	no	no	no	no	negative	-	negative	-
				76.5 - 80	no	no	no	no	no	no	negative	-	negative	-
				80 - 82.5	no	no	no	no	no	no	negative	-	negative	-
				82.5 - 85	no	no	no	no	no	no	negative	-	negative	-
In-Water Borings														
GS-01	2-Jan-03	Roto-Sonic	80	0.0 - 2.0	**mild**	**yes**	no	no	no	no	negative	negative	negative	negative
				2.0 - 4.0	**mild**	**yes**	no	no	no	no	negative	negative	negative	negative
				4.0 - 10.0	**mild**	no	no	no	no	no	negative	negative	negative	negative
				10.0 - 14.5	**mild**	**yes**	no	no	no	no	negative	negative	negative	negative
				18.5 - 23.0	**strong**	no	no	no	no	no	negative	negative	negative	negative
				23.0 - 28.5	**mild**	no	no	no	no	no	negative	-	negative	negative
				28.5 - 30.5	**mild**	no	no	no	no	no	negative	negative	negative	negative
				30.5 - 33.0	**mild**	no	no	no	no	no	negative	negative	negative	negative
				33.0 - 35.0	**mild**	no	no	no	no	no	negative	-	negative	negative
				35.0 - 37.5	no	no	no	no	no	no	negative	-	negative	negative
				37.5 - 40.0	**mild**	no	no	no	no	no	negative	-	negative	negative
				40.0 - 42.5	no	no	no	no	no	no	negative	-	negative	negative
				42.5 - 45.5	no	no	no	no	no	no	negative	-	negative	negative
				45.5 - 48.0	no	no	no	no	no	no	negative	-	negative	negative
				48.0 - 50.0	no	no	no	no	no	no	negative	-	negative	negative
				50.0 - 52.0	no	no	no	no	no	no	negative	-	negative	negative
				52.0 - 54.5	no	no	no	no	no	no	negative	-	negative	negative
				54.5 - 57.0	no	no	no	no	no	no	negative	negative	negative	negative
				57.0 - 59.0	no	no	no	no	no	no	negative	-	negative	negative
				59.0 - 61.5	no	no	no	no	no	no	negative	-	negative	negative
				61.5 - 63.5	no	no	no	no	no	no	negative	-	negative	negative
				63.5 - 66.0	no	no	no	no	no	no	negative	-	negative	negative
				66.0 - 68.5	no	no	no	no	no	no	negative	-	negative	negative
				68.5 - 70.5	no	no	no	no	no	no	negative	negative	negative	negative
				70.5 - 73.0	no	no	no	no	no	no	negative	-	negative	negative
				73.0 - 76.5	no	no	no	no	no	no	negative	-	negative	negative
				76.5 - 77.5	no	no	no	no	no	no	negative	-	negative	negative
				77.5 - 78.0	no	no	no	no	no	no	negative	-	negative	negative
				78.0 - 79.5	no	no	no	no	no	no	negative	negative	negative	negative
				79.5 - 80.0	no	no	no	no	no	no	negative	-	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-02	3-Jan-03	Roto-Sonic	90	0.0 - 4.0	**strong (to 1')**	no	no	no	no	no	negative	negative	negative	negative
				4.0 - 8.0	no	no	no	no	no	no	negative	-	negative	negative
				8.0 - 11.5	no	no	no	no	no	no	negative	-	negative	negative
				11.5 - 15.5	no	no	no	no	no	no	negative	-	negative	negative
				15.5 - 19.0	no	no	no	no	no	no	negative	-	negative	negative
				19.0 - 23.0	no	no	no	no	no	no	negative	negative	negative	negative
				23.0 - 24.0	no	no	no	no	no	no	negative	-	negative	negative
				24.0 - 26.0	no	no	no	no	no	no	negative	-	negative	negative
				26.0 - 27.0	no	no	no	no	no	no	negative	-	negative	negative
				27.0 - 29.5	no	no	no	no	no	no	negative	-	negative	negative
				29.5 - 32.0	no	no	no	no	no	no	negative	-	negative	negative
				32.0 - 34.5	no	no	no	no	no	no	negative	-	negative	negative
				34.5 - 36.0	no	no	no	no	no	no	negative	-	negative	negative
				36.0 - 38.0	no	no	no	no	no	no	negative	negative	negative	negative
				38.0 - 42.0	no	no	no	no	no	no	negative	-	negative	negative
				42.0 - 44.0	no	no	no	no	no	no	negative	-	negative	negative
				44.0 - 46.0	no	no	no	no	no	no	negative	-	negative	negative
				46.0 - 48.0	no	no	no	no	no	no	negative	-	negative	negative
				48.0 - 52.5	no	no	no	no	no	no	negative	-	negative	negative
				52.5 - 56.5	no	no	no	no	no	no	negative	-	negative	negative
				56.5 - 60.0	no	no	no	no	no	no	negative	-	negative	negative
				60.0 - 63.0	no	no	no	no	no	no	negative	-	negative	negative
				63.0 - 66.0	no	no	no	no	no	no	negative	-	negative	negative
				66.0 - 69.5	no	no	no	no	no	no	negative	-	negative	negative
				69.5 - 73.0	no	no	no	no	no	no	negative	-	negative	negative
				73.0 - 75.5	no	no	no	no	no	no	negative	-	negative	negative
				75.5 - 78.0	no	no	no	no	no	no	negative	-	negative	negative
				78.0 - 80.5	no	no	no	no	no	no	negative	-	negative	negative
				80.5 - 83.0	no	no	no	no	no	no	negative	-	negative	negative
				83.0 - 86.0	no	no	no	no	no	no	negative	-	negative	negative
				86.0 - 90.0	no	no	no	no	no	no	negative	-	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-03	2-Jan-03	Roto-Sonic	123.5	0.0 - 2.5	**strong**	**yes**	no	no	no	no	**Positive**	negative	negative	negative
				2.5 - 6.0	**strong**	**yes**	no	no	no	no	**Positive**	negative	negative	negative
				6.0 - 10.0	**mild**	no	no	no	no	no	negative	negative	negative	negative
				10.0 - 13.5	**mild**	no	no	no	no	no	negative	negative	negative	negative
				13.5 - 17.0	**mild**	no	no	no	no	no	negative	negative	negative	negative
				17.0 - 19.0	**mild**	no	no	no	no	no	negative	negative	negative	negative
				19.0 - 22.0	**mild**	no	no	no	no	no	negative	negative	negative	negative
				22.0 - 23.0	**mild**	no	no	no	no	no	negative	-	negative	negative
				23.0 - 26.0	**mild**	no	no	no	no	no	negative	-	negative	negative
				26.0 - 29.0	**mild**	no	no	no	no	no	negative	-	negative	negative
				29.0 - 32.0	**mild**	no	no	no	no	no	negative	-	negative	negative
				32.0 - 35.5	**mild**	no	no	no	no	no	negative	-	negative	negative
				35.5 - 39.0	no	no	no	no	no	no	negative	negative	negative	negative
				39.0 - 43.0	no	no	no	no	no	no	negative	-	negative	negative
				43.0 - 48.0	no	no	no	no	no	no	negative	-	negative	negative
				48.0 - 50.0	no	no	no	no	no	no	negative	-	negative	negative
				50.0 - 52.0	no	no	no	no	no	no	negative	-	negative	negative
				52.0 - 54.5	no	no	no	no	no	no	negative	-	negative	negative
				54.5 - 56.5	no	no	no	no	no	no	negative	-	negative	negative
				56.5 - 60.0	no	no	no	no	no	no	negative	-	negative	negative
				60.0 - 63.5	no	no	no	no	no	no	negative	-	negative	negative
				63.5 - 68.0	no	no	no	no	no	no	negative	-	negative	negative
				68.0 - 70.0	no	no	no	no	no	no	negative	-	negative	negative
				70.0 - 73.0	no	no	no	no	no	no	negative	-	negative	negative
				73.0 - 75.0	no	no	no	no	no	no	negative	-	negative	negative
				75.0 - 78.0	no	no	no	no	no	no	negative	-	negative	negative
				78.0 - 81.0	no	no	no	no	no	no	negative	-	negative	negative
				81.0 - 83.0	no	no	no	no	no	no	negative	negative	negative	negative
				83.0 - 84.5	no	no	no	no	no	no	negative	-	negative	negative
				84.5 - 87.0	no	no	no	no	no	no	negative	-	negative	negative
				87.0 - 89.0	no	no	no	no	no	no	negative	-	negative	negative
				89.0 - 92.0	no	no	no	no	no	no	negative	-	negative	negative
				92.0 - 94.0	no	no	no	no	no	no	negative	-	negative	negative
				94.0 - 98.0	no	no	no	no	no	no	negative	-	negative	negative
				98.0 - 100.5	no	no	no	no	no	no	negative	-	negative	negative
				100.5 - 103.5	no	no	no	no	no	no	negative	-	negative	negative
				103.5 - 106.5	no	no	no	no	no	no	negative	negative	negative	negative
				106.5 - 109.5	no	no	no	no	no	no	negative	-	negative	negative
				109.5 - 112.0	no	no	no	no	no	no	negative	-	negative	negative
				112.0 - 115.0	no	no	no	no	no	no	negative	-	negative	negative
				115.0 - 118.0	no	no	no	no	no	no	negative	-	negative	negative
				118.0 - 120.5	no	no	no	no	no	no	negative	negative	negative	negative
				120.5 - 123.5	no	no	no	no	no	no	negative	negative	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-04	17-Dec-02	Roto-Sonic	148	0.0 - 3.0	no	no	no	no	no	no	negative	negative	negative	negative
				3.0 - 9.0	no	no	no	no	no	no	negative	-	negative	negative
				9.0 - 15.0	no	no	no	no	no	no	-	-	negative	negative
				15.0 - 21.0	no	no	no	no	no	no	negative	negative	negative	negative
				21.0 - 27.0	no	no	no	no	no	no	negative	-	negative	negative
				27.0 - 30.0	no	no	no	no	no	no	-	-	negative	negative
				30.0 - 35.0	no	no	no	no	no	no	negative	-	negative	negative
				35.0 - 41.5	no	no	no	no	no	no	negative	-	negative	negative
				41.5 - 45.0	no	no	no	no	no	no	negative	-	negative	negative
				45.0 - 48.0	-	-	-	-	-	-	-	-	-	-
				48.0 - 50.0	no	no	no	no	no	no	negative	-	negative	negative
				50.0 - 54.5	no	no	no	no	no	no	negative	-	negative	negative
				54.5 - 59.0	no	no	no	no	no	no	negative	-	negative	negative
				59.0 - 63.5	no	no	no	no	no	no	negative	-	negative	negative
				63.5 - 68.5	no	no	no	no	no	no	negative	-	negative	negative
				68.5 - 73.0	no	no	no	no	no	no	negative	-	negative	negative
				73.0 - 75.0	no	no	no	no	no	no	-	-	negative	negative
				75.0 - 78.0	no	no	no	no	no	no	negative	-	negative	negative
				78.0 - 81.0	no	no	no	no	no	no	negative	-	negative	negative
				81.0 - 83.5	no	no	no	no	no	no	negative	-	negative	negative
				83.5 - 86.0	no	no	no	no	no	no	negative	-	negative	negative
				86.0 - 88.0	no	no	no	no	no	no	negative	-	negative	negative
				88.0 - 91.0	no	no	no	no	no	no	negative	-	negative	negative
				91.0 - 93.0	no	no	no	no	no	no	negative	-	negative	negative
				93.0 - 98.0	no	no	no	no	no	no	negative	-	negative	negative
				98.0 - 103.5	**sweet odor**	no	no	no	no	no	negative	-	negative	negative
				103.5 - 106.5	**sweet odor**	no	no	no	no	no	negative	-	negative	negative
				106.5 - 109.0	**sweet odor**	no	no	no	no	no	negative	-	negative	negative
				109.0 - 111.5	**sweet odor**	no	no	no	no	no	negative	-	negative	negative
				111.5 - 117.5	no	no	no	no	no	no	negative	-	negative	negative
				117.5 - 120.0	no	no	no	no	no	no	negative	-	negative	negative
				120.0 - 123.0	no	no	no	no	no	no	negative	-	negative	negative
				123.0 - 126.5	no	no	no	no	no	no	negative	-	negative	negative
				126.5 - 130.0	no	no	no	no	no	no	negative	-	negative	negative
				130.0 - 133.5	no	no	no	no	no	no	negative	-	negative	negative
				133.5 - 137.0	no	no	no	no	no	no	negative	-	negative	negative
				137.0 - 139.0	no	no	no	no	no	no	negative	-	negative	negative
				139.0 - 142.5	no	no	no	no	no	no	negative	-	negative	negative
				142.5 - 145.0	no	no	no	no	no	no	negative	-	negative	negative
				145.0 - 148.0	no	no	no	no	no	no	negative	-	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-05	2-Nov-02	Roto-Sonic	200	0.0 - 5.0	**strong**	**yes**	no	no	no	no	negative	negative	negative	negative
				5 - 13	**strong**	**yes**	no	no	no	no	negative	-	negative	negative
				13 - 17	**mild**	no	no	no	no	no	negative	-	negative	-
				17 - 21	no	no	no	no	no	no	negative	-	negative	-
				21 - 23	**mild**	no	no	no	no	no	negative	-	negative	-
				23 - 25	no	no	no	no	no	no	negative	-	negative	-
				25 - 28	**mild**	no	no	no	no	no	negative	-	negative	-
				28 - 28.5	no	no	no	no	no	no	negative	-	negative	-
				28.5 - 33.5	no	no	no	no	no	no	negative	-	negative	-
				33.5 - 38	no	no	no	no	no	no	negative	-	negative	-
				38 - 39	no	no	no	no	no	no	negative	-	negative	-
				39 - 42	no	no	no	no	no	no	negative	-	negative	-
				42 - 45	no	no	no	no	no	no	negative	-	negative	-
				45 - 48	no	no	no	no	no	no	negative	-	negative	-
				48 - 52	**mild**[3]	no	no	no	no	no	negative	negative	negative	negative
				52 - 55	**mild**[3]	no	no	no	no	no	negative	-	negative	
				55 - 59	**mild**[3]	no	no	no	no	no	negative	-	negative	
				59 - 64	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				64 - 68	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				68 - 73	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				73 - 78	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				78 - 79	**moderate**[3]	no	no	no	no	no	negative	negative	negative	negative
				79 - 82	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				82 - 85	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				85 - 88	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				88 - 89	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				89 - 92	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				92 - 95	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				95 - 98	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				98 - 108	-	no	no	no	no	no	negative	-	negative	-
				108 - 111	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				111 - 113	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				113 - 116	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				116 - 119.5	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				119.5 - 123	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				123 - 125	**strong-sweet**[3]	no	no	no	no	no	negative	negative	negative	negative
				125 - 128	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				128 - 131	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				131 - 134.5	**moderate**[3]	no	no	no	no	no	negative	negative	negative	-
				134.5 - 138	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				138 - 139.5	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				139.5 - 142.5	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				142.5 - 145.5	**moderate**[3]	no	no	no	no	no	negative	-	negative	-
				145.5 - 148	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				148 - 150	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				150 - 153	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				153 - 156.5	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				156.5 - 160	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				160 - 163	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				163 - 173	**mild**[3]	no	no	no	no	no	negative	-	negative	-
				173 - 180	**mild**[3]	no	no	no	no	no	negative	negative	negative	-
				180 - 184	**mild**[3]	no	no	no	no	no	negative	-	negative	negative
				184 - 187	no	no	no	no	no	no	negative	-	negative	-
				187 - 190	no	no	no	no	no	no	negative	-	negative	-
				190 - 193.5	no	no	no	no	no	no	negative	-	negative	-
				193.5 - 196.5	no	no	no	no	no	no	negative	-	negative	-
				196.5 - 200	no	no	no	no	no	no	negative	-	negative	-

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-06	29-Jan-03	Roto-Sonic	148	0.0 - 0.5	no	no	no	no	no	no	negative	-	negative	negative
				.50 - 4.0	no	no	no	no	no	no	negative	-	negative	negative
				4.0 - 7.0	no	no	no	no	no	no	negative	negative	negative	negative
				7.0 - 20	**mild**	no	no	no	no	no	negative	-	negative	negative
				20 - 23	no	no	no	no	no	no	negative	-	negative	negative
				23 - 27	no	no	no	no	no	no	negative	-	negative	negative
				27 - 33	no	no	no	no	no	no	negative	negative	negative	negative
				33 - 38.5	no	no	no	no	no	no	negative	-	negative	negative
				38.5 - 43	no	no	no	no	no	no	negative	-	negative	negative
				43 - 48	no	no	no	no	no	no	negative	-	negative	negative
				48 - 52	no	no	no	no	no	no	negative	-	negative	negative
				52 - 56.5	no	no	no	no	no	no	negative	-	negative	negative
				56.5 - 60.5	**sweet(mild)[3]**	no	no	no	no	no	negative	negative	negative	negative
				60.5 - 65	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				65 - 69	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				69 - 73	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				73 - 76	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				76 - 80	**sweet(mild)[3]**	no	no	no	no	no	negative	negative	negative	negative
				80 - 83	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				83 - 86.5	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				86.5 - 89.5	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				89.5 - 92.5	**sweet(mild)[3]**	no	no	no	no	no	negative	negative	negative	negative
				92.5 - 95	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				95 - 98	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				98 - 101.5	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				101.5 - 106	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				106 - 110	**sweet(mild)[3]**	no	no	no	no	no	negative	-	negative	negative
				110 - 115	no	no	no	no	no	no	negative	-	negative	negative
				115 - 119	no	no	no	no	no	no	negative	-	negative	negative
				119 - 123	no	no	no	no	no	no	negative	negative	negative	negative
				123 - 127	no	no	no	no	no	no	negative	-	negative	negative
				127 - 130.5	no	no	no	no	no	no	negative	-	negative	negative
				130.5 - 133.5	no	no	no	no	no	no	negative	-	negative	negative
				133.5 - 137	no	no	no	no	no	no	negative	-	negative	negative
				137 - 139	no	no	no	no	no	no	negative	-	negative	negative
				139 - 142.5	no	no	no	no	no	no	negative	-	negative	negative
				142.5 - 145	no	no	no	no	no	no	negative	-	negative	negative
				145 - 148	no	no	no	no	no	no	negative	negative	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-07	31-Oct-02	Roto-Sonic	193	0 - 3	**mild**	no	no	no	no	no	negative	-	negative	-
				3 - 10	**strong**	**yes**	no	no	no	no	negative	**Positive**	negative	negative
				10 - 15	**strong**	**yes**	no	no	no	no	negative	negative	negative	negative
				15 - 23	**mild**	no	no	no	no	no	negative	negative	negative	-
				23 - 28	**mild**	**yes**	no	no	no	no	negative	-	negative	negative
				28 - 30	no	no	no	no	no	no	negative	negative	negative	-
				30 - 34	no	no	no	no	no	no	negative	negative	negative	-
				34 - 38	**mild**	no	no	no	no	no	negative	negative	negative	-
				38 - 41	**mild**	no	no	no	no	no	negative	-	negative	-
				41 - 44	**mild**	no	no	no	no	no	negative	negative	negative	-
				44 - 48	**mild**	no	no	no	no	no	negative	negative	negative	-
				48 - 53	**mild**	no	no	no	no	no	negative	-	negative	-
				53 - 56	**mild**	no	no	no	no	no	negative	-	negative	-
				56 - 60	**mild**	no	no	no	no	no	negative	negative	negative	-
				60 - 63	**mild**	no	no	no	no	no	negative	-	negative	-
				63 - 64	**mild**	no	no	no	no	no	negative	-	negative	-
				64 - 67	**mild**	no	no	no	no	no	negative	-	negative	-
				67 - 70	**mild**	no	no	no	no	no	negative	negative	negative	-
				70 - 73	**mild**	no	no	no	no	no	negative	-	negative	-
				73 - 78	**mild**	no	no	no	no	no	negative	-	negative	-
				78 - 80	**mild**	no	no	no	no	no	negative	-	negative	-
				80 - 84	**mild**	no	no	no	no	no	negative	-	negative	-
				84 - 88	**mild**	no	no	no	no	no	negative	-	negative	-
				88 - 89	**mild**	no	no	no	no	no	negative	-	negative	negative
				89 - 92	no	no	no	no	no	no	negative	-	negative	-
				92 - 95	no	no	no	no	no	no	negative	-	negative	-
				95 - 98	no	no	no	no	no	no	negative	-	negative	-
				98 - 103	no	no	no	no	no	no	negative	-	negative	-
				103 - 106	no	no	no	no	no	no	negative	-	negative	-
				106 - 109	no	no	no	no	no	no	negative	-	negative	-
				109 - 113	no	no	no	no	no	no	negative	-	negative	-
				113 - 117	no	no	no	no	no	no	negative	-	negative	-
				117 - 120	no	no	no	no	no	no	negative	-	negative	-
				120 - 123	no	no	no	no	no	no	negative	-	negative	-
				123 - 128	no	no	no	no	no	no	negative	-	negative	-
				128 - 132.5	no	no	no	no	no	no	negative	-	negative	-
				132.5 - 138	no	no	no	no	no	no	negative	-	negative	-
				138 - 142	no	no	no	no	no	no	negative	-	negative	-
				142 - 145	no	no	no	no	no	no	negative	negative	negative	-
				145 - 148	no	no	no	no	no	no	negative	-	negative	-
				148 - 153	no	no	no	no	no	no	**Positive**[1]	negative	negative	negative
				153 - 156.5	no	no	no	no	no	no	negative	-	negative	-
				156.5 - 160	no	no	no	no	no	no	negative	-	negative	-
				160 - 163	no	no	no	no	no	no	negative	-	negative	-
				163 - 164	no	no	no	no	no	no	negative	-	negative	-
				164 - 167	no	no	no	no	no	no	negative	-	negative	-
				167 - 170	no	no	no	no	no	no	negative	-	negative	-
				170 - 173	no	no	no	no	no	no	negative	-	negative	-
				173 - 174.5	no	no	no	no	no	no	negative	-	negative	-
				174.5 - 177	no	no	no	no	no	no	negative	-	negative	-
				177 - 180	no	no	no	no	no	no	negative	-	negative	-
				180 - 183	no	no	no	no	no	no	negative	-	negative	-
				183 - 185	no	no	no	no	no	no	negative	negative	negative	-
				185 - 186.5	no	no	no	no	no	no	negative	-	negative	-
				186.5 - 188.5	no	no	no	no	no	no	negative	-	negative	-
				188.5 - 191.5	no	no	no	no	no	no	negative	-	negative	-
				191.5 - 193	no	no	no	no	no	no	negative	-	negative	-

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-08	5-Nov-02	Roto-Sonic	148	0 - 4	**strong**	**yes**	no	no	no	no	negative	negative	negative	negative
				4 - 9	**strong**	**yes**	no	no	no	**Yes (5.5'-6.0')**	**Positive**	**Positive**	**Positive**	negative
				9 - 14	**strong**	no	no	no	no	no	negative	negative	negative	-
				14 - 19	**mild**	no	no	no	no	no	negative	negative	negative	negative
				19 - 23	**mild**	no	no	no	no	no	negative	-	negative	-
				23 - 30	**mild**	no	no	no	no	no	negative	-	negative	-
				30 - 33	**mild**	no	no	no	no	no	negative	-	negative	-
				33 - 38	**mild**	no	no	no	no	no	negative	-	negative	-
				38 - 43	**mild**	no	no	no	no	no	negative	-	negative	-
				43 - 45	**mild**	no	no	no	no	no	negative	-	negative	-
				45 - 48	**mild**	no	no	no	no	no	negative	-	negative	-
				48 - 53	**mild**	no	no	no	no	no	negative	-	negative	-
				53 - 63	**mild**	no	no	no	no	no	negative	negative	negative	negative
				63 - 65	**mild**	no	no	no	no	no	negative	-	negative	-
				65 - 67	**mild**	no	no	no	no	no	negative	-	negative	-
				67 - 70	**mild**	no	no	no	no	no	negative	-	negative	-
				70 - 73	**mild**	no	no	no	no	no	negative	-	negative	-
				73 - 79	**mild**	no	no	no	no	no	negative	-	negative	-
				79 - 84	**mild**	no	no	no	no	no	negative	-	negative	-
				84 - 88	**mild**	no	no	no	no	no	negative	-	negative	-
				88 - 90	**mild**	no	no	no	no	no	negative	-	negative	-
				90 - 92	**mild**	no	no	no	no	no	negative	-	negative	-
				92 - 95	**mild**	no	no	no	no	no	negative	-	negative	-
				95 - 98	**mild**	no	no	no	no	no	negative	-	negative	-
				98 - 106	**mild**	no	no	no	no	no	negative	-	negative	-
				106 - 113	**mild**	no	no	no	no	no	negative	-	negative	-
				113 - 115	**mild**	no	no	no	no	no	negative	-	negative	-
				115 - 118	**mild**	no	no	no	no	no	negative	-	negative	-
				118 - 120	**mild**	no	no	no	no	no	negative	-	negative	-
				120 - 123	**mild**	no	no	no	no	no	negative	-	negative	-
				123 - 125	**mild**	no	no	no	no	no	negative	-	negative	-
				125 - 128	**mild**	no	no	no	no	no	negative	-	negative	-
				128 - 129	**mild**	no	no	no	no	no	negative	negative	negative	negative
				129 - 132	no	no	no	no	no	no	negative	-	negative	-
				132 - 135	no	no	no	no	no	no	negative	-	negative	-
				135 - 138	no	no	no	no	no	no	negative	-	negative	-
				138 - 141	no	no	no	no	no	no	negative	-	negative	-
				141 - 145	no	no	no	no	no	no	negative	-	negative	-
				145 - 148	no	no	no	no	no	no	negative	-	negative	-

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-09	10-Oct-02	Roto-Sonic	187	0 - 2.5	**mild**	**yes**	no	no	no	no	**Positive**	-	negative	negative
				2.5 - 9	**mild**	**yes**	no	no	no	no	**Positive**	-	negative	negative
				9 - 11	**mild**	**yes**	no	no	no	no	**Positive**	negative	negative	negative
				11 - 14	**mild**	no	no	no	no	no	**Positive**	-	negative	negative
				14 - 16.5	**mild**	no	no	no	no	no	**Positive**	-	negative	negative
				16.5 - 23	**mild**	no	no	no	no	no	**Positive**	negative	negative	negative
				23 - 24.5	**mild**	no	no	no	no	no	negative	negative	negative	negative
				24.5 - 28	**mild**	no	no	no	no	no	negative	-	negative	negative
				28 - 30	**mild**	no	no	no	no	no	negative	-	negative	negative
				30 - 33	**mild**	no	no	no	no	no	negative	-	negative	negative
				33 - 35	**mild**	no	no	no	no	no	**Positive**	negative	negative	negative
				35 - 38	**mild**	no	no	no	no	no	negative	negative	negative	-
				38 - 43	**mild**	no	no	no	no	no	negative	negative	negative	-
				43 - 45	**mild**	no	no	no	no	no	negative	-	negative	-
				45 - 48	**mild**	no	no	no	no	no	negative	-	negative	-
				48 - 50	**mild**	no	no	no	no	no	negative	negative	negative	-
				50 - 53	**mild**	no	no	no	no	no	negative	-	negative	-
				53 - 55.5	**mild**	no	no	no	no	no	negative	-	negative	-
				55.5 - 58	**mild**	no	no	no	no	no	negative	-	negative	-
				58 - 59	**mild**	no	no	no	no	no	negative	-	negative	-
				59 - 62	**mild**	no	no	no	no	no	negative	-	negative	-
				62 - 65	**strong**	no	no	no	no	no	negative	-	negative	negative
				65 - 68	**strong**	no	no	no	no	no	negative	negative	negative	negative
				68 - 70.5	**strong**	no	no	no	no	no	negative	-	negative	negative
				70.5 - 73	**strong**	no	no	no	no	no	negative	-	negative	-
				73 - 76	**strong**	no	no	no	no	no	negative	negative	negative	-
				76 - 79	**strong**	no	no	no	no	no	negative	-	negative	-
				79 - 81	**strong**	no	no	no	no	no	negative	-	negative	-
				81 - 83	**mild**	no	no	no	no	no	negative	-	negative	-
				83 - 85	**mild**	no	no	no	no	no	negative	negative	negative	-
				85 - 87.5	**mild**	no	no	no	no	no	negative	-	negative	-
				87.5 - 90.5	**mild**	no	no	no	no	no	negative	-	negative	-
				90.5 - 93	**mild**	no	no	no	no	no	negative	-	negative	-
				93 - 95.5	**mild**	no	no	no	no	no	negative	negative	negative	-
				95.5 - 98	**mild**	no	no	no	no	no	negative	-	negative	-
				98 - 100	**mild**	no	no	no	no	no	negative	-	negative	-
				100 - 103	**mild**	no	no	no	no	no	negative	-	negative	-
				103 - 105.5	**mild**	no	no	no	no	no	negative	negative	negative	-
				105.5 - 108	none	no	no	no	no	no	negative	-	negative	-
				108 - 109	none	no	no	no	no	no	negative	-	negative	-
				109 - 111	none	no	no	no	no	no	negative	negative	negative	-
				111 - 113	none	no	no	no	no	no	negative	-	negative	-
				113 - 116.5	none	no	no	no	no	no	negative	-	negative	-
				116.5 - 120	none	no	no	no	no	no	negative	-	negative	-
				120 - 123	none	no	no	no	no	no	negative	-	negative	-
				123 - 125.5	none	no	no	no	no	no	negative	negative	negative	-
				125.5 - 129.5	none	no	no	no	no	no	negative	-	negative	-
				129.5 - 133	none	no	no	no	no	no	negative	-	negative	-
				133 - 136	none	no	no	no	no	no	negative	-	negative	-
				136 - 139.5	none	no	no	no	no	no	negative	negative	negative	-
				139.5 - 143	none	no	no	no	no	no	negative	-	negative	-
				143 - 145	none	no	no	no	no	no	negative	-	negative	-
				145 - 153	none	no	no	no	no	no	negative	negative	negative	-
				153 - 154	none	no	no	no	no	no	negative	-	negative	-
				154 - 158	none	no	no	no	no	no	negative	-	negative	-
				158 - 161	none	no	no	no	no	no	negative	-	negative	-
				161 - 164	none	no	no	no	no	no	negative	negative	negative	-
				164 - 167	none	no	no	no	no	no	negative	-	negative	-
				167 - 170	none	no	no	no	no	no	negative	-	negative	-
				170 - 173	none	no	no	no	no	no	negative	-	negative	-
				173 - 175	none	no	no	no	no	no	negative	-	negative	-
				175 - 178	none	no	no	no	no	no	negative	negative	negative	-
				178 - 181	none	no	no	no	no	no	negative	-	negative	-
				181 - 184	none	no	no	no	no	no	negative	-	negative	-
				184 - 187	none	no	no	no	no	no	negative	negative	negative	-

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-10	31-Jan-03	Roto-Sonic	148	0.0 - 2.0	no	no	no	no	no	no	negative	-	negative	negative
				2.0 - 5.0	**mild**	**yes**	**Yes-Blebs**	no	no	no	**Positive-Patchy**	**Positive**	negative	negative
				5.0 - 8.0	**moderate**	**yes**	**Yes-Blebs**	no	no	no	**Positive-Patchy**	-	negative	negative
				8.0 - 11	**moderate**	**yes**	**Yes-Blebs**	no	no	no	**Positive-Patchy**	**Positive**	negative	negative
				11 - 14	**moderate**	**yes**	**Yes-Blebs**	no	no	no	**Positive-Patchy**	-	negative	negative
				14 - 17	**moderate**	**yes**	**Yes-Blebs**	no	no	no	**Positive-Patchy**	**Positive**	negative	negative
				17 - 21	no	no	no	no	no	no	negative	-	negative	negative
				21 - 23	no	no	no	no	no	no	negative	-	negative	negative
				23 - 24	no	no	no	no	no	no	negative	-	negative	negative
				24 - 30	no	no	no	no	no	no	negative	-	negative	negative
				30 - 33	no	no	no	no	no	no	negative	-	negative	negative
				33 - 36	no	no	no	no	no	no	negative	-	negative	negative
				36 - 39	no	no	no	no	no	no	negative	-	negative	negative
				39 - 42	no	no	no	no	no	no	negative	-	negative	negative
				42 - 45	no	no	no	no	no	no	negative	-	negative	negative
				45 - 48	no	no	no	no	no	no	negative	-	negative	negative
				48 - 51.5	no	no	no	no	no	no	negative	-	negative	negative
				51.5 - 55	no	no	no	no	no	no	negative	negative	negative	negative
				55 - 60	no	no	no	no	no	no	negative	-	negative	negative
				60 - 65	no	no	no	no	no	no	negative	-	negative	negative
				65 - 72	no	no	no	no	no	no	negative	negative	negative	negative
				72 - 78	no	no	no	no	no	no	negative	-	negative	negative
				78 - 81	no	no	no	no	no	no	negative	-	negative	negative
				81 - 84	no	no	no	no	no	no	negative	-	negative	negative
				84 - 87	no	no	no	no	no	no	negative	-	negative	negative
				87 - 90	no	no	no	no	no	no	negative	-	negative	negative
				90 - 93	no	no	no	no	no	no	negative	negative	negative	negative
				93 - 96	no	no	no	no	no	no	negative	-	negative	negative
				96 - 98	no	no	no	no	no	no	negative	-	negative	negative
				98 - 105	no	no	no	no	no	no	negative	-	negative	negative
				105 - 109	no	no	no	no	no	no	negative	-	negative	negative
				109 - 113	no	no	no	no	no	no	negative	-	negative	negative
				113 - 116	no	no	no	no	no	no	negative	negative	negative	negative
				116 - 119	no	no	no	no	no	no	negative	-	negative	negative
				119 - 123	no	no	no	no	no	no	negative	-	negative	negative
				123 - 126	no	no	no	no	no	no	negative	negative	negative	negative
				126 - 129	no	no	no	no	no	no	negative	-	negative	negative
				129 - 132	no	no	no	no	no	no	negative	-	negative	negative
				132 - 135	no	no	no	no	no	no	negative	-	negative	negative
				135 - 138	no	no	no	no	no	no	negative	negative	negative	negative
				138 - 141	no	no	no	no	no	no	negative	-	negative	negative
				141 - 145	no	no	no	no	no	no	negative	-	negative	negative
				145 - 148	no	no	no	no	no	no	negative	negative	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-11	30-Jan-03	Roto-Sonic	174	0 - 4	no	no	no	no	no	no	negative	-	negative	negative
				4 - 9	mild	no	no	no	no	no	negative	negative	negative	negative
				9 - 14	no	no	no	no	no	no	negative	-	negative	negative
				14 - 18	no	no	no	no	no	no	negative	-	negative	negative
				18 - 23	no	no	no	no	no	no	negative	-	negative	negative
				24 - 27	no	no	no	no	no	no	negative	-	negative	negative
				27 - 30	no	no	no	no	no	no	negative	negative	negative	negative
				30 - 32	no	no	no	no	no	no	negative	-	negative	negative
				32 - 34	no	no	no	no	no	no	negative	-	negative	negative
				34 - 37	no	no	no	no	no	no	negative	-	negative	negative
				37 - 40	no	no	no	no	no	no	negative	-	negative	negative
				40 - 43	no	no	no	no	no	no	negative	-	negative	negative
				43 - 45	no	no	no	no	no	no	negative	negative	negative	negative
				45 - 48	no	no	no	no	no	no	negative	-	negative	negative
				48 - 51	no	no	no	no	no	no	negative	-	negative	negative
				51 - 54	no	no	no	no	no	no	negative	negative	negative	negative
				54 - 58	no	no	no	no	no	no	negative	-	negative	negative
				58 - 61	no	no	no	no	no	no	negative	-	negative	negative
				61 - 64	no	no	no	no	no	no	negative	-	negative	negative
				64 - 67	no	no	no	no	no	no	negative	-	negative	negative
				67 - 70	no	no	no	no	no	no	negative	-	negative	negative
				70 - 73	no	no	no	no	no	no	negative	-	negative	negative
				73 - 76	no	no	no	no	no	no	negative	-	negative	negative
				76 - 79.5	no	no	no	no	no	no	negative	-	negative	negative
				79.5 - 83	no	no	no	no	no	no	negative	-	negative	negative
				83 - 86	no	no	no	no	no	no	negative	-	negative	negative
				86 - 89	no	no	no	no	no	no	negative	negative	negative	negative
				89 - 91.5	no	no	no	no	no	no	negative	-	negative	negative
				91.5 - 95	no	no	no	no	no	no	negative	negative	negative	negative
				95 - 98	no	no	no	no	no	no	negative	-	negative	negative
				98 - 100	no	no	no	no	no	no	negative	-	negative	negative
				100 - 102.5	no	no	no	no	no	no	negative	-	negative	negative
				102.5 - 106	no	no	no	no	no	no	negative	-	negative	negative
				106 - 109	no	no	no	no	no	no	negative	-	negative	negative
				109 - 112.5	no	no	no	no	no	no	negative	-	negative	negative
				112.5 - 115	no	no	no	no	no	no	negative	-	negative	negative
				115 - 118.5	no	no	no	no	no	no	negative	-	negative	negative
				118.5 - 121.5	no	no	no	no	no	no	negative	-	negative	negative
				121.5 - 123	no	no	no	no	no	no	negative	-	negative	negative
				123 - 126.5	no	no	no	no	no	no	negative	-	negative	negative
				126.5 - 130	no	no	no	no	no	no	negative	-	negative	negative
				130 - 133.5	no	no	no	no	no	no	negative	-	negative	negative
				133.5 - 137	no	no	no	no	no	no	negative	negative	negative	negative
				137 - 140	no	no	no	no		no	negative	-	negative	negative
				140 - 143.5	no	no	no	no	no	no	negative	-	negative	negative
				143.5 - 148	no	no	no	no	no	no	negative	-	negative	negative
				148 - 150.5	no	no	no	no	no	no	negative	-	negative	negative
				150.5 - 153.5	no	no	no	no	no	no	negative	-	negative	negative
				153.5 - 156.5	no	no	no	no	no	no	negative	negative	negative	negative
				156.5 - 160	no	no	no	no	no	no	negative	-	negative	negative
				160 - 163	no	no	no	no	no	no	negative	-	negative	negative
				163 - 165.5	no	no	no	no	no	no	negative	-	negative	negative
				165.5 - 169	no	no	no	no	no	no	negative	negative	negative	negative
				169 - 173	no	no	no	no	no	no	negative	-	negative	negative
				173 - 173.5	no	no	no	no	no	no	negative	-	negative	negative

Table 6
Tar and Dense Non-Aqueous Phase Liquid (DNAPL) Field Screening Summary

Groundwater Source Control Evaluation Boring Installation

Boring Number	HAI Screening Start Date	Installation Method	Total Boring Depth (feet bgs) or (feet bml)	Bagged Core Interval (feet bgs) or (feet bml)	HAI Post-Boring Installation Screening Results									
					Visual and Olfactory Methods						DNAPL Screening Methods			
					Odor[2]	Sheen	Visual Oil Blebs or Patchy Oil	Visual Oil Saturation	Visual Patchy Soil-Mixed Tar	Visual Tar	Ultraviolet Light Box	Sudan Dye Shake Kit	Sudan Dye Lens Spray	NAPL Dye Liner Strip
GS-12	23-Jan-03	Roto-Sonic	148	0.0 - 3.0	no	no	no	no	no	no	negative	-	negative	negative
				3.0 - 7.0	no	no	no	no	no	no	negative	negative	negative	negative
				7.0 - 10	no	no	no	no	no	no	negative	-	negative	negative
				10 - 14	no	no	no	no	no	no	negative	-	negative	negative
				14 - 18	no	no	no	no	no	no	negative	-	negative	negative
				18 - 21	no	no	no	no	no	no	negative	-	negative	negative
				21 - 36	-	-	-	-	-	-	-	-	-	-
				36 - 38.5	no	no	no	no	no	no	negative	-	negative	negative
				38.5 - 41	no	no	no	no	no	no	negative	negative	negative	negative
				41 - 44.5	no	no	no	no	no	no	negative	-	negative	negative
				44.5 - 48	no	no	no	no	no	no	negative	-	negative	negative
				48 - 51	no	no	no	no	no	no	negative	-	negative	negative
				51 - 54	no	no	no	no	no	no	negative	-	negative	negative
				54 - 57.5	no	no	no	no	no	no	negative	-	negative	negative
				57.5 - 60.5	no	no	no	no	no	no	negative	-	negative	negative
				60.5 - 64	no	no	no	no	no	no	negative	negative	negative	negative
				64 - 67	no	no	no	no	no	no	negative	-	negative	negative
				67 - 70	no	no	no	no	no	no	negative	-	negative	negative
				70 - 73	no	no	no	no	no	no	negative	-	negative	negative
				73 - 76	no	no	no	no	no	no	negative	-	negative	negative
				76 - 78.5	no	no	no	no	no	no	negative	-	negative	negative
				78.5 - 83	no	no	no	no	no	no	negative	-	negative	negative
				83 - 86.5	no	no	no	no	no	no	negative	-	negative	negative
				86.5 - 90.5	no	no	no	no	no	no	negative	-	negative	negative
				90.5 - 94	no	no	no	no	no	no	negative	-	negative	negative
				94 - 98	no	no	no	no	no	no	negative	-	negative	negative
				98 - 103	no	no	no	no	no	no	negative	-	negative	negative
				103 - 106.5	no	no	no	no	no	no	negative	-	negative	negative
				106.5 - 110	no	no	no	no	no	no	negative	-	negative	negative
				110 - 112.5	no	no	no	no	no	no	negative	-	negative	negative
				112.5 - 114.5	no	no	no	no	no	no	negative	-	negative	negative
				114.5 - 117.5	no	no	no	no	no	no	negative	-	negative	negative
				117.5 - 120.5	no	no	no	no	no	no	negative	-	negative	negative
				120.5 - 123	no	no	no	no	no	no	negative	-	negative	negative
				123 - 127	no	no	no	no	no	no	negative	-	negative	negative
				127 - 130	no	no	no	no	no	no	negative	negative	negative	negative
				130 - 133	no	no	no	no	no	no	negative	-	negative	negative
				133 - 136	no	no	no	no	no	no	negative	-	negative	negative
				136 - 139	no	no	no	no	no	no	negative	-	negative	negative
				139 - 141.5	no	no	no	no	no	no	negative	-	negative	negative
				141.5 - 145	no	no	no	no	no	no	negative	-	negative	negative
				145 - 148	no	no	no	no	no	no	negative	negative	negative	negative

Notes:
1 = Positive ultraviolet indicator is corresponding to greenish "environmentally-friendly" drilling lube observed at this depth.
2 = Petroleum odor unless described otherwise.
3 = Described as "gym bag" (mildew/sweaty) odor.

Table 7
Gasco Siltronic Phase 2 Field Sampling Plan Locations, Number of Samples, Depths, and Intervals

Step 1 Reconnaisance Groundwater/Pore Water Sampling			Step 2	Number of Deep Groundwater Samples	Number of Sediment Profile Samples
Site ID	Estimated number of Samples		Site ID	Estimated number of Samples	Estimated number of Samples
	0-2 ft, 5-7 ft, and 10-12 ft			25 ft, 50 ft, 100 ft, 125 ft, 150 ft, 175 ft	1-2 ft, 5-7 ft, and 10-12 ft
1	3		1	6	3
2	3		2	6	3
3	3		3	6	3
4	3		4	6	3
5	3		5	6	3
6	3		6	6	3
7	3		# Characterization Samples An	**36**	**18**
8	3		5% Field Splits	2	1
9	3		Field Blanks	1	1
10	3		Rinsate Blanks	1	1
11	3		Trip Blanks	1 per container	1 per container
12	3		**Estimated Number of Step 2 Samples (not including QC)**		**57**
13	3				
14	3				
15	3				
16	3				
17	3				
18	3				
19	3				
20	3				
21	3				
22	3				
23	3				
# Characterization Samples Analyzed		**69**			
5% Field Splits		3			
Field Blanks		1			
Rinsate Blanks		1			
Trip Blanks		1 per container			
Estimated Number of Step 1 Samples (not including QC)		**72**			

Notes:
1. Sampling stations and depths are proposed and may be revised based on conditions encountered in the field.
2. 175' is the assumed depth to bedrock. Borings will extend until sample refusal occurs.

Table 8
Parameter List, Containers, and Guidelines for Sample Handling and Storage

Parameter	Container Size and Type	Holding Time	Preservative
Reconnaissance Groundwater, Pore Water, and Deep Groundwater Sampling			
Step 1 and Step 2			
VOCs	two 40 ml VOA vials	14 days	HCL ph<2, Cool/4°C
Free Cyanide	500 ml Amber Glass*	48 hours	NaOH pH>12
Total Cyanide	500 ml HPDE*	14 days	NaOH pH>12
Amenable Cyanide	500 ml HPDE*	14 days	NaOH pH>12
Step 2			
Total PAHs	1 Liter Amber Glass*	7 days until extraction 40 days after extraction	Cool/4°C
Total Metals	250 ml HDPE*	6 months except Hg (28 days)	HNO3, ph<2
Sediment Profiling			
Moisture Content	16-oz WM HDPE (Moisture, Atterberg, Spec Gravity combined)	na	Sealed Jar
Grain Size (with hydrometer)	16-oz WM HDPE	na	na
Total Organic Carbon (%)	4-oz Glass	28 days	na
VOCs	40 mL VOC Vials and Easy Draw Sampler	14 days	Sodium Bisulfite or Methanol Cool/4° C
PAHs	8-oz Glass	14 days until extraction	Cool/4° C
		1 year until extraction 40 days after extraction	Freeze
Total Cyanide	8-oz Glass (CN, NH4, Metals combined)	14 days	Cool/4° C
Total Metals		6 months except Hg (28 days)	Cool/4° C
Sulfides	2- oz Glass	7 days	Zn acetate, Cool/4° C

Note:

* See Table 9 for exact volume requirements. The smallest possible container meeting these material requirements will be supplied by the laboratory.

Table 9a
Sediment Profiling
Chemical Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Mass needed (g)
Conventionals			**mg/kg**	**mg/kg**	
Moisture Content	---	ASTM D-2216	---	---	**10**
Grain Size with hydrometer	---	ASTM D-421/422	---	---	**300**
Sulfides	Method	9030M	0.5	0.08	**10**
Total Organic Carbon (%)	Method	PSEP	0.05	0.02	**5**
Chemical					
VOCs	**5030A**	**8260B**	**ug/kg**	**ug/kg**	**20**
Acetone	---	---	10	1.6	---
Acrolein	---	---	2.5	0.51	---
Acrylonitrile	---	---	2	0.23	---
Benzene	---	---	1	0.039	---
Bromochloromethane	---	---	1	0.06	---
Bromodichloromethane	---	---	1	0.068	---
Bromoform	---	---	1	0.046	---
Bromoethane	---	---	1	0.072	---
Bromomethane	---	---	1	0.37	---
2-Butanone	---	---	4	1.1	---
Carbon Disulfide	---	---	1	0.13	---
Carbon Tetrachloride	---	---	1	0.099	---
Chlorbenzene	---	---	1	0.07	---
Chlorodibromomethane	---	---	1	0.068	---
Chlorethane	---	---	1	0.28	---
2-Chloroethyl Vinyl Ether	---	---	2	0.15	---
Chloroform	---	---	1	0.056	---
Chloromethane	---	---	1	0.19	---
trans-1,4-Dichloro-2-butene	---	---	2	0.51	---
Dibromomethane	---	---	1	0.082	---
1,4-Dichlorobenzene	---	---	1	0.12	---
1,1-Dichloroethane	---	---	1	0.057	---
1,2-Dichloroethane	---	---	1	0.031	---
1,1-Dichloroethene	---	---	1	0.082	---
trans-1,2-Dichloroethene	---	---	1	0.19	---
1,2-Dichloropropane	---	---	1	0.035	---
cis-1,3-Dichloropropene	---	---	1	0.031	---
trans-1,3-Dichloropropene	---	---	1	0.044	---
Dichlorodifluoromethane	---	---	1	0.11	---
Ethylbenzene	---	---	1	0.071	---
2-Hexanone	---	---	2	0.64	---
Idomethane	---	---	2	0.67	---
Isopropylbenzene	---	---	1	0.044	---
4-Methyl-2-Pentanone	---	---	2	0.24	---
Methylene chloride	---	---	5	0.29	---
Methyl tert-butyl ether	---	---	1	0.039	---
Napthalene	---	---	1	0.35	---
Styrene	---	---	1	0.074	---
1,1,1,2-Tetrachloroethane	---	---	1	0.031	---
1,1,2,2-Tetrachloroethane	---	---	1	0.096	---
Tetrachloroethene	---	---	1	0.096	---
Toluene	---	---	1	0.15	---
1,1,1-Trichloroethane	---	---	1	0.059	---
1,1,2-Trichloroethane	---	---	1	0.059	---
Trichloroethene	---	---	1	0.062	---
Trichlorofluoromethane	---	---	1	0.081	---
1,2,3-Trichloropropane	---	---	1	0.11	---
Vinyl Acetate	---	---	1	0.36	---

Table 9a
Sediment Profiling
Chemical Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Mass needed (g)
Vinyle Chloride	---	---	1	0.085	---
m,p-Xylene	---	---	1	0.13	---
o-Xylene	---	---	1	0.075	---
Hexachlorobutadiene	---	---	2	0.17	---
1,2-Dibromoethane (EDB)	---	---	1	0.051	---
PAHs	**EPA 3541**	**EPA 8270C-SIM**	**ug/Kg**	**ug/Kg**	**50**
Acenaphthene	---	---	5	0.16	---
Acenaphthylene	---	---	5	0.22	---
Anthracene	---	---	5	0.22	---
Benzo(a)anthracene	---	---	5	0.16	---
Benzo(b)fluoranthene	---	---	5	0.48	---
Benzo(k)fluoranthene	---	---	5	0.33	---
Benzo(g,h,i)perylene	---	---	5	0.23	---
Benzo(a)pyrene	---	---	5	0.22	---
Chrysene	---	---	5	0.41	---
Dibenz(a,h)anthracene	---	---	5	0.26	---
Fluoranthene	---	---	5	0.34	---
Fluorene	---	---	5	0.19	---
Ideno(1,2,3-cd)pyrene	---	---	5	0.24	---
2-Methylnaphthalene	---	---	5	0.34	---
Naphthalene	---	---	5	0.34	---
Phenanthrene	---	---	5	0.33	---
Pyrene	---	---	5	0.36	---
Total Cyanide	**9010A**	**9012A**	**0.1 mg/Kg**	**0.03 mg/Kg**	**25**
Metals	---	---	**mg/Kg**	**mg/Kg**	**20**
Aluminum	3050B	6020	2	2	---
Antimony	3050B	6020	0.05	0.02	---
Arsenic	3050B	6020	0.5	0.07	---
Barium	3050B	6020	0.05	0.03	---
Beryllium	3050B	6020	0.02	0.006	---
Cadmium	3050B	6020	0.05	0.007	---
Calcium	3050B	6010B	10	3	---
Chromium	3050B	6020	0.2	0.04	---
Copper	3050B	6020	0.1	0.02	---
Iron	3050B	6010B	4	3	---
Lead	3050B	6020	0.05	0.02	---
Magnesium	3050B	6010B	4	2	---
Manganese	3050B	6010B	1	0.3	---
Mercury	7471A	7471A	0.02	0.008	**5**
Nickel	3050B	6020	0.2	0.04	---
Potassium	3050B	6010B	400	300	---
Selenium	7742/SM3114B	7742	0.1	0.02	---
Silver	3050B	6020	0.02	0.003	---
Sodium	3050B	6010B	20	10	---
Thallium	3050B	6020	0.02	0.002	---
Zinc	3050B	6020	0.5	0.2	---
Minimum Mass Needed (Step 2)					**445**

Table 9b
Reconnaissance Groundwater/Pore Water and Deep Groundwater
Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Volume needed (ml)
VOCs (Unfiltered)	**5030B**	**8260B**	**ug/L**	**ug/L**	**80**
Acetone	---	---	20	4.08	---
Acrolein	---	---	20	1.42	---
Acrylonitrile	---	---	5	0.531	---
Benzene	---	---	0.5	0.136	---
Bromochloromethane	---	---	0.5	0.164	---
Bromodichloromethane	---	---	0.5	0.109	---
Bromoform	---	---	0.5	0.279	---
Bromomethane	---	---	0.5	0.217	---
2-Butanone	---	---	20	1.94	---
Carbon Disulfide	---	---	0.5	0.159	---
Carbon Tetrachloride	---	---	0.5	0.139	---
Chlorbenzene	---	---	0.5	0.134	---
Chlorodibromomethane	---	---	0.5	0.104	---
Chlorethane	---	---	0.5	0.226	---
2-Chloroethyl Vinyl Ether	---	---	5	0.333	---
Chloroform	---	---	0.5	0.136	---
Chloromethane	---	---	0.5	0.136	---
trans-1,4-Dichloro-2-butene	---	---	10	0.597	---
1,2-Dibromoethane	---	---	2	0.0981	---
Dibromomethane	---	---	0.5	0.119	---
1,2-Dichlorobenzene	---	---	0.5	0.111	---
1,3-Dichlorobenzene	---	---	0.5	0.102	---
1,4-Dichlorobenzene	---	---	0.5	0.114	---
1,1-Dichloroethane	---	---	0.5	0.101	---
1,2-Dichloroethane	---	---	0.5	0.114	---
1,1-Dichloroethene	---	---	0.5	0.122	---
trans-1,2-Dichloroethene	---	---	0.5	0.143	---
1,2-Dichloropropane	---	---	0.5	0.139	---
cis-1,3-Dichloropropene	---	---	0.5	0.11	---
trans-1,3-Dichloropropene	---	---	0.5	0.0894	---
Dichlorodifluoromethane	---	---	0.5	0.166	---
Ethylbenzene	---	---	0.5	0.13	---
Hexachlorobutadiene	---	---	2	0.28	---
2-Hexanone	---	---	20	3.96	---
Idomethane	---	---	5	0.375	---
Isopropylbenzene	---	---	2	0.105	---
4-Methyl-2-Pentanone	---	---	20	2.7	---
Methylene chloride	---	---	2	0.193	---
Methyl tert-butyl ether	---	---	0.5	0.197	---
Napthalene	---	---	2	0.285	---
Styrene	---	---	0.5	0.0943	---
1,1,1,2-Tetrachloroethane	---	---	0.5	0.111	---
1,1,2,2-Tetrachloroethane	---	---	0.5	0.138	---
Tetrachloroethene	---	---	0.5	0.126	---
Toluene	---	---	0.5	0.108	---
1,2,4-Trichlorobenzene	---	---	2	0.218	---
1,1,1-Trichloroethane	---	---	0.5	0.116	---
1,1,2-Trichloroethane	---	---	0.5	0.138	---
Trichloroethene	---	---	0.5	0.133	---
Trichlorofluoromethane	---	---	0.5	0.131	---
1,2,3-Trichloropropane	---	---	0.5	0.213	---
Vinyl Acetate	---	---	5	0.663	---
Vinyle Chloride	---	---	0.5	0.042	---
m,p-Xylene	---	---	0.5	0.219	---
o-Xylene	---	---	0.5	0.102	---

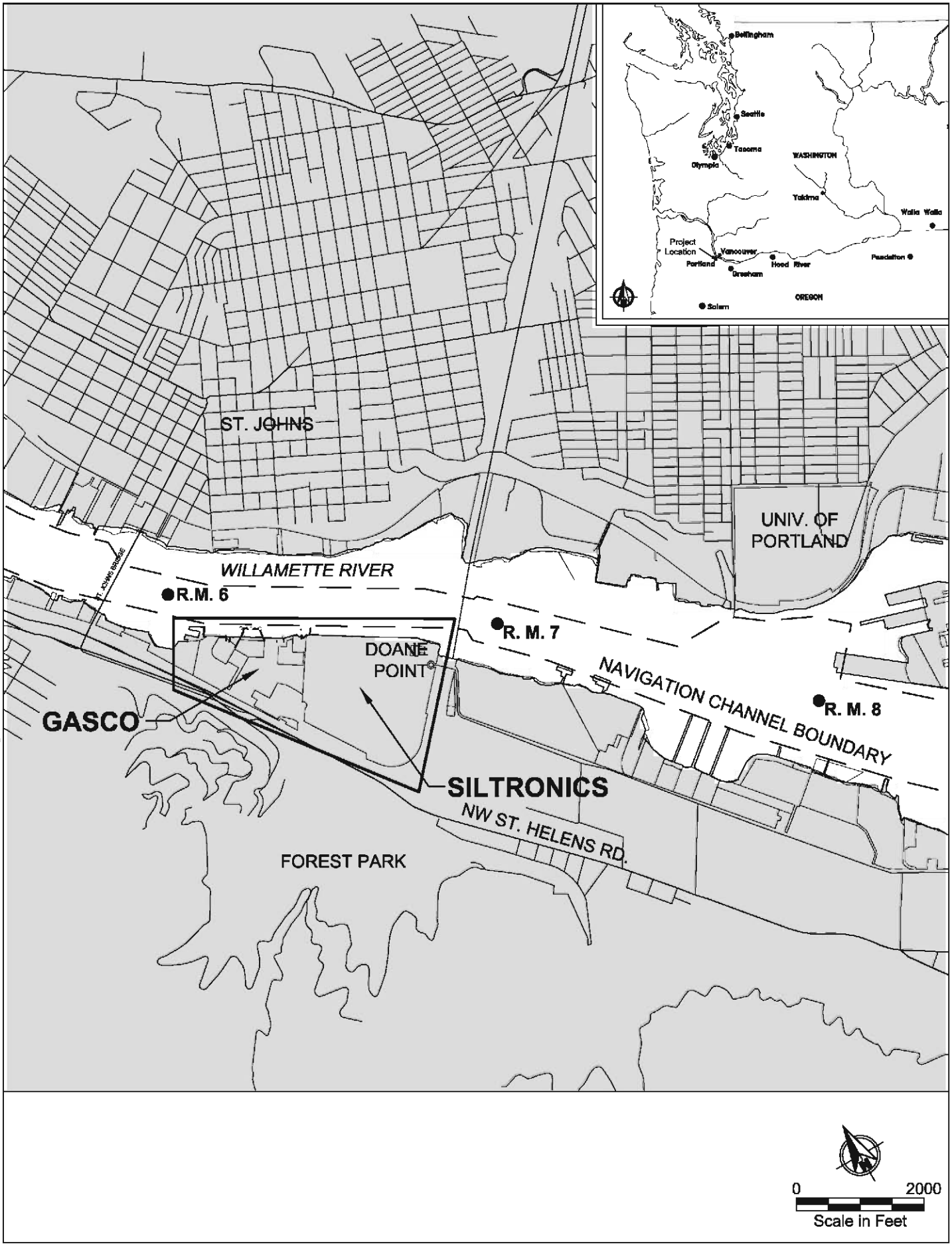
Table 9b
Reconnaissance Groundwater/Pore Water and Deep Groundwater
Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Volume needed (ml)
Total PAHs (Unfiltered)	**EPA 3520C**	**EPA 8270C**	**ug/L**	**ug/L**	**500***
Acenaphthene	---	---	0.02	0.00198	---
Acenaphthylene	---	---	0.02	0.00178	---
Anthracene	---	---	0.02	0.00103	---
Benzo(a)anthracene	---	---	0.02	0.00210	---
Benzo(b)fluoranthene	---	---	0.02	0.00158	---
Benzo(k)fluoranthene	---	---	0.02	0.00194	---
Benzo(g,h,i)perylene	---	---	0.02	0.00182	---
Benzo(a)pyrene	---	---	0.02	0.00158	---
Chrysene	---	---	0.02	0.00124	---
Dibenz(a,h)anthracene	---	---	0.02	0.00162	---
Dibenzofuran	---	---	0.02	0.00380	---
Fluoranthene	---	---	0.02	0.00238	---
Fluorene	---	---	0.02	0.00258	---
Ideno(1,2,3-cd)pyrene	---	---	0.02	0.00208	---
2-Methylnaphthalene	---	---	0.02	0.00268	---
Naphthalene	---	---	0.02	0.00316	---
Phenanthrene	---	---	0.02	0.00320	---
Pyrene	---	---	0.02	0.00222	---
Free Cyanide (Unfiltered)	**ASTM D-4282-02**	**ASTM D-4282-02**	**10 ug/L**	**3 ug/L**	**50**
Total Cyanide (Unfiltered)	**335.4**	**335.4**	**10 ug/L**	**3 ug/L**	**50**
Amenable Cyanide (Unfiltered)	**NA**	**335.1**	**10 ug/L**	**3 ug/L**	**50**
Total Metals (Unfiltered)	---	---	**ug/L**	**ug/L**	**125**
Aluminum	CLP	6020	2	0.7000	---
Antimony	CLP	6020	0.05	0.0200	---
Arsenic	CLP	6020	0.5	0.2000	---
Barium	CLP	6020	0.05	0.0300	---
Beryllium	CLP	6020	0.02	0.0070	---
Cadmium	CLP	6020	0.02	0.2000	---
Calcium	CLP	6010B	50	20.0000	---
Chromium	CLP	6020	0.2	0.0600	---
Copper	CLP	6020	0.1	0.0300	---
Iron	CLP	6010B	20	20.0000	---
Lead	CLP	6020	0.02	0.0090	---
Magnesium	CLP	6010B	20	9.0000	---
Manganese	CLP	6010B	5	2.0000	---
Mercury	7470A	7470A	0.2	0.0400	**25**
Nickel	CLP	6020	0.2	0.0600	---
Potassium	CLP	6010B	2000	700.0000	---
Selenium	CLP	6020	1	0.2000	---
Silver	CLP	6020	0.02	0.0090	---
Sodium	CLP	6010B	100	60.0000	---
Thallium	CLP	6020	0.2	0.0040	---
Zinc	CLP	6020	0.5	0.3000	---
Minimum Volume Needed (Step 1)					**230**
Minimum Volume Needed (Step 2)					**880**

Note:

* PAH MRLs/MDLs adjusted 4X due to smaller sample size

FIGURES



Oct 10, 2005 11:14am cdavidson K:\Jobs\000029-GASCO\00002902\00002902-118.dwg FIG 1

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 1
Vicinity Map
Gasco and Siltronics Site

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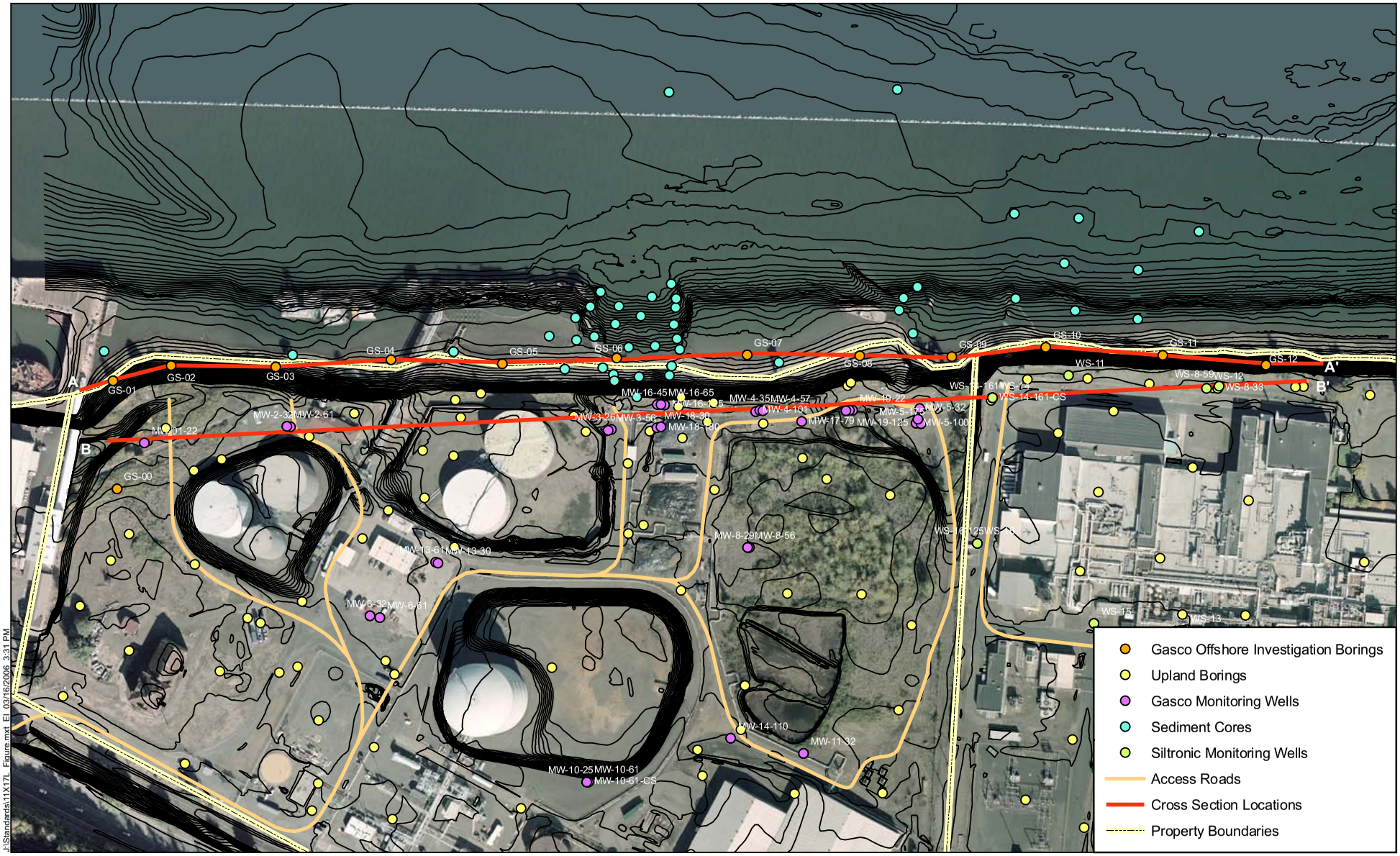
ANCHOR ENVIRONMENTAL, L.L.C.

0 55 110 220
Scale in Feet

Horizontal Datum: Oregon State Plane North, Feet
Vertical Datum: City of Portland

Figure 2
Location Map
NW Natural-Gasco Site
Portland, Oregon



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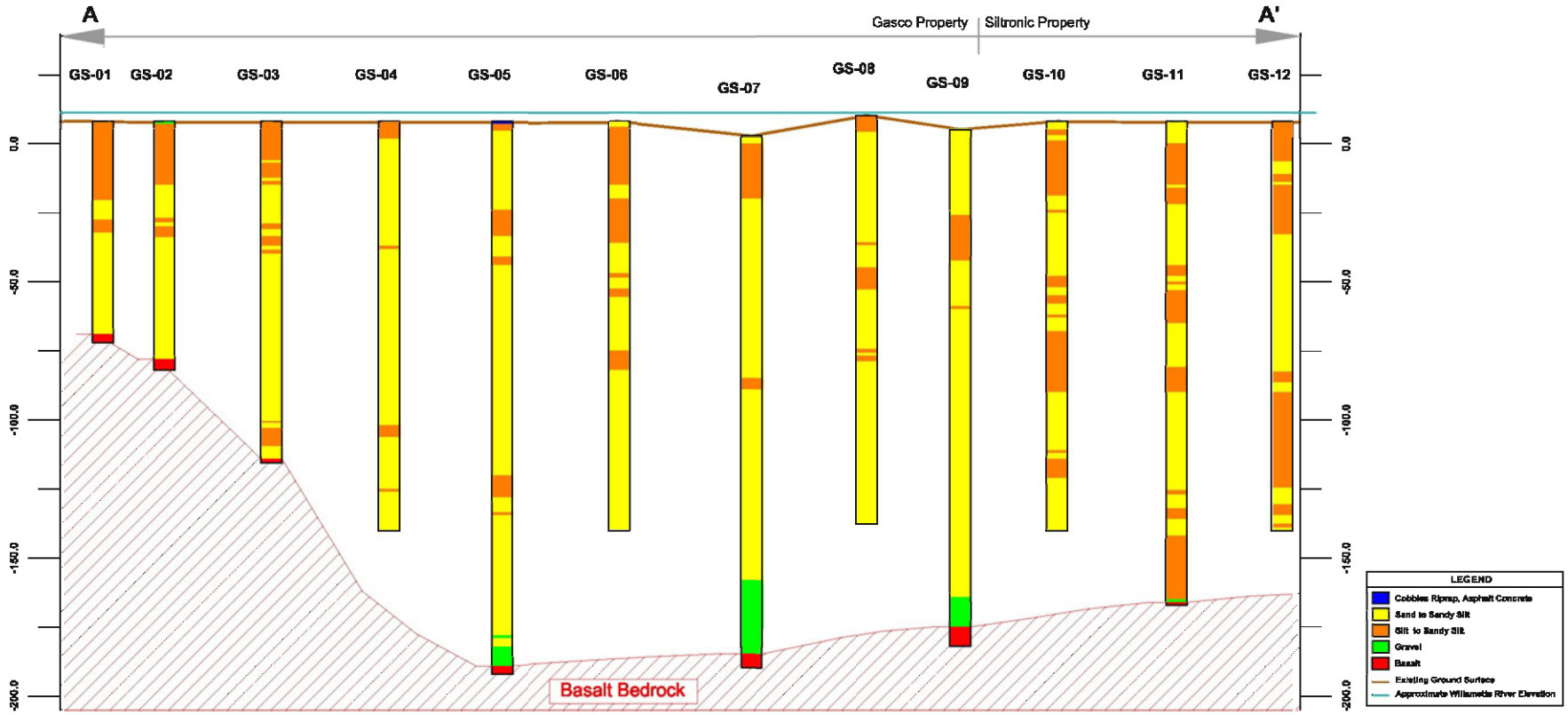
ANCHOR ENVIRONMENTAL, L.L.C.

0 45 90 180
Scale in Feet

Horizontal Datum: Oregon State Plane North, Feet
Vertical Datum: City of Portland

Figure 3
Boring and Cross Section Location Map
NW Natural-Gasco Site
Portland, Oregon

Shoreline Geologic Cross Section



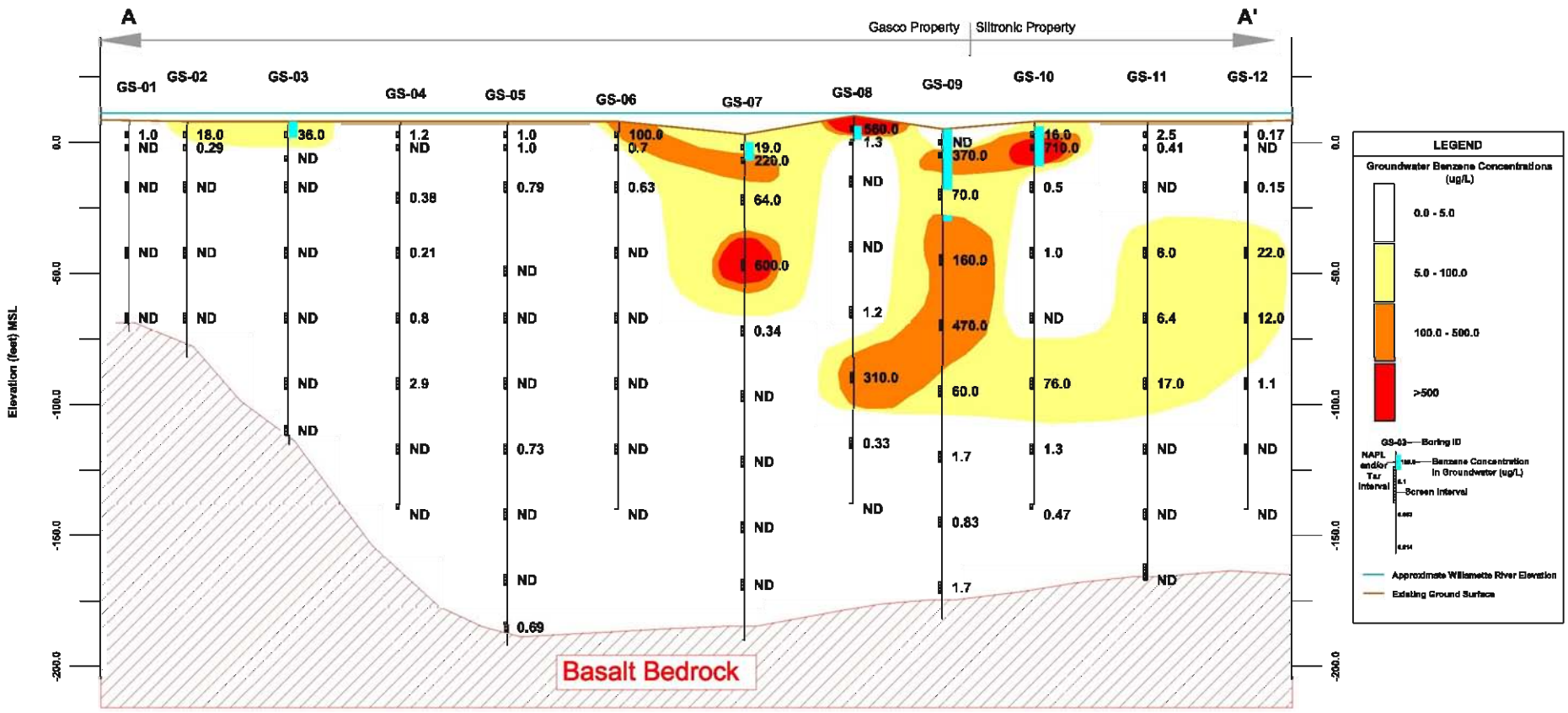
Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

0 200
Scale in Feet
5x Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 4
Shoreline Geologic Cross Section A-A'
Gasco/Siltronic Site
NW Natural, Portland, Oregon

Apr 23, 2007 2:22pm jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CAD\ts\ffr\FortReport\XSA_Geology.dwg Anc-B-Land



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

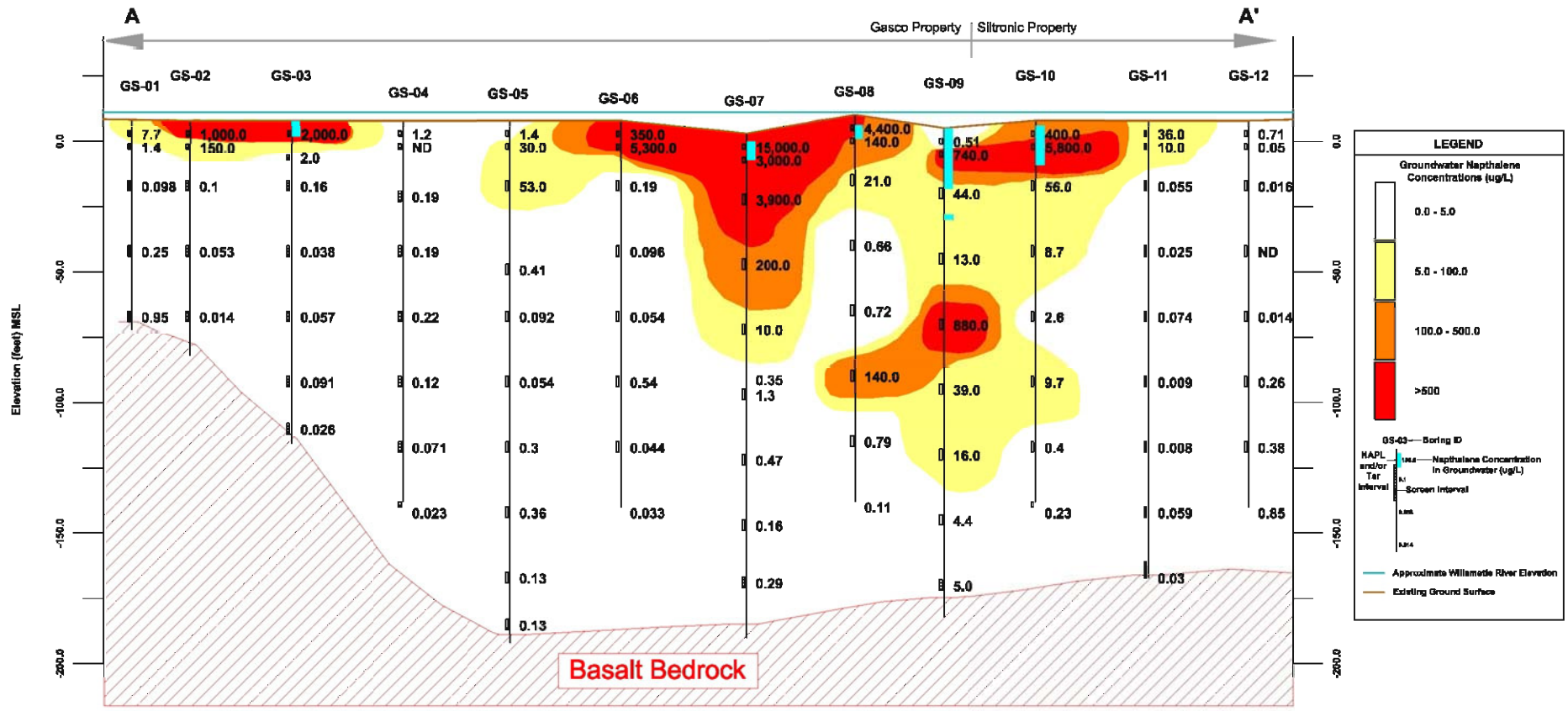
0 200
Scale in Feet

5X Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5a
Groundwater Benzene Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:40am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Benzene



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

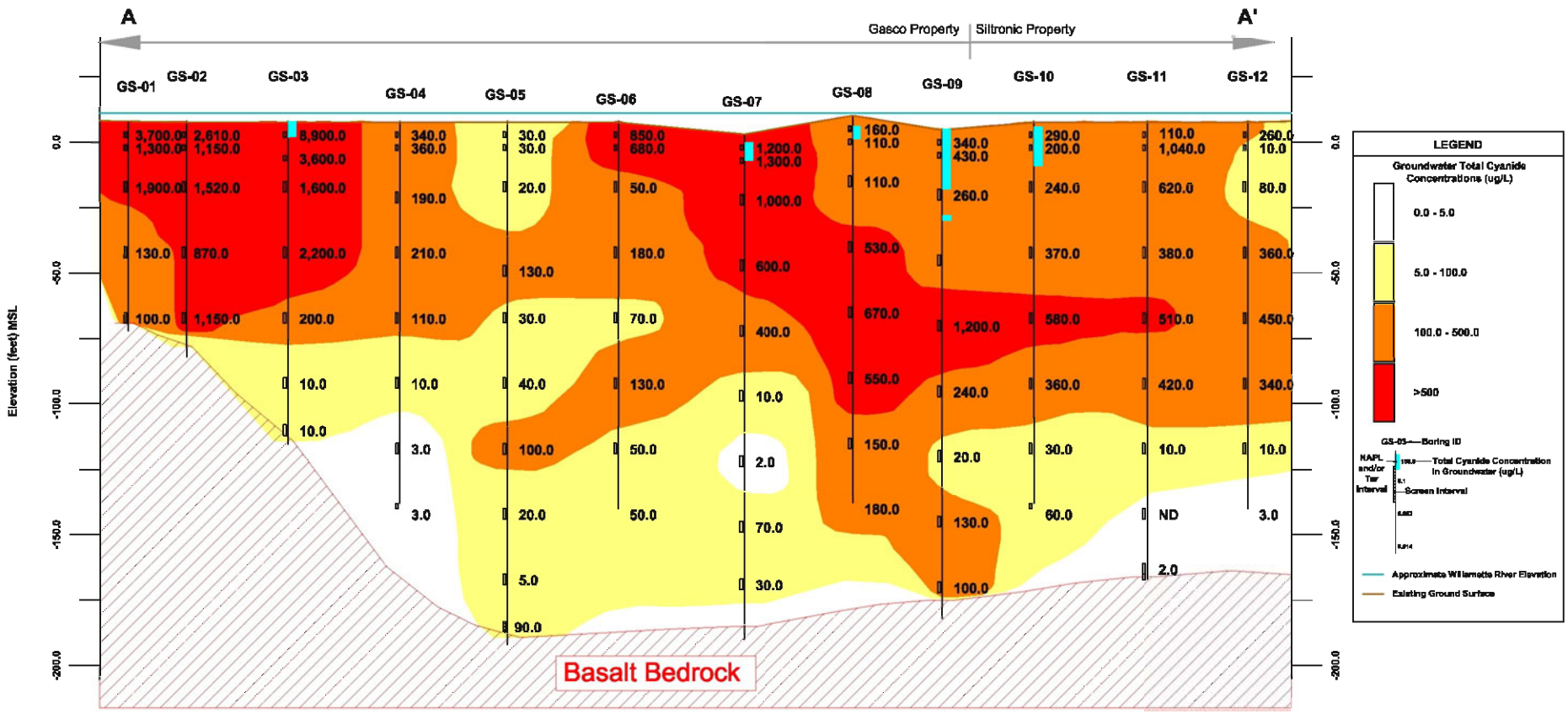
0 200
Scale in Feet

5X Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5b
Groundwater Napthalene Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:40am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Napthalene



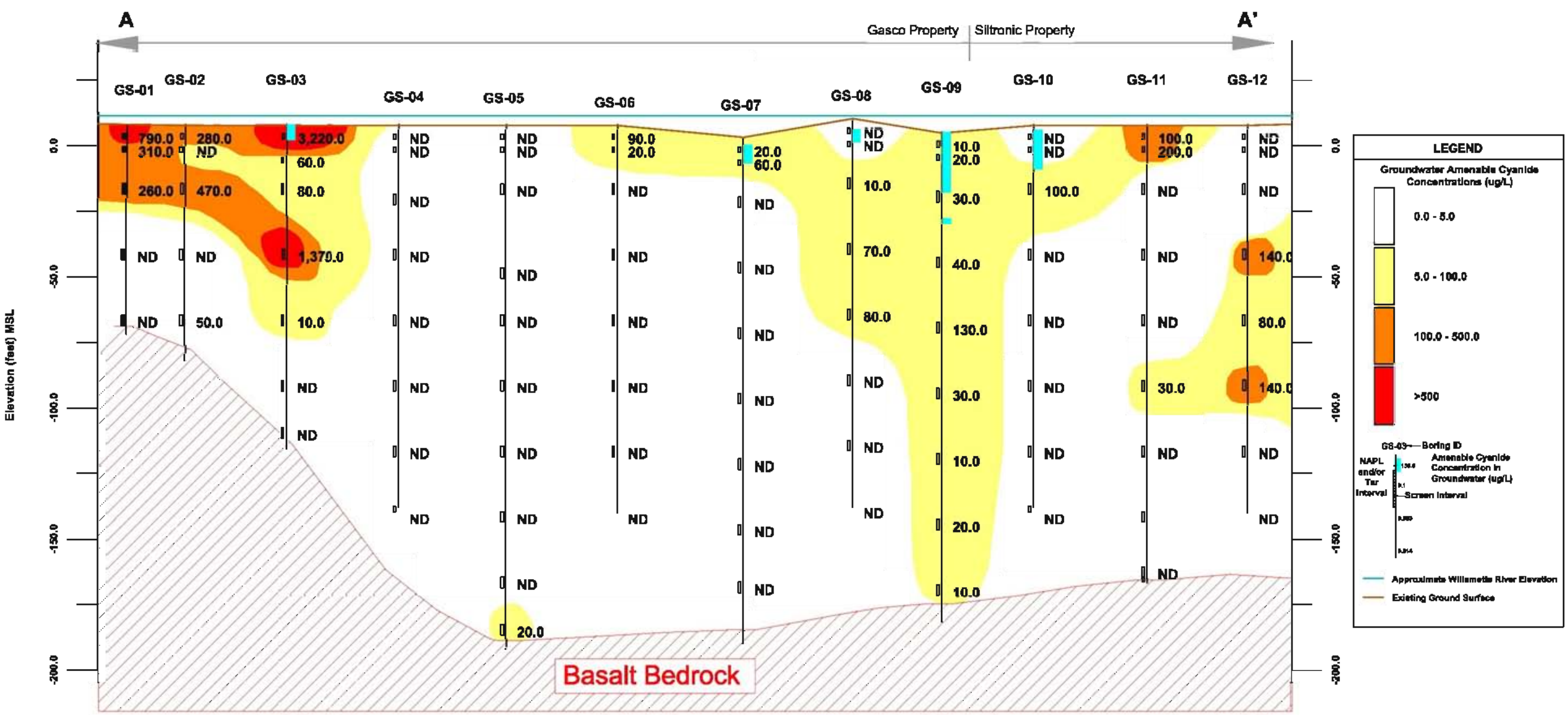
Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

0 200
Scale in Feet
5X Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5c
Groundwater Total Cyanide Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:40am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Cyanide



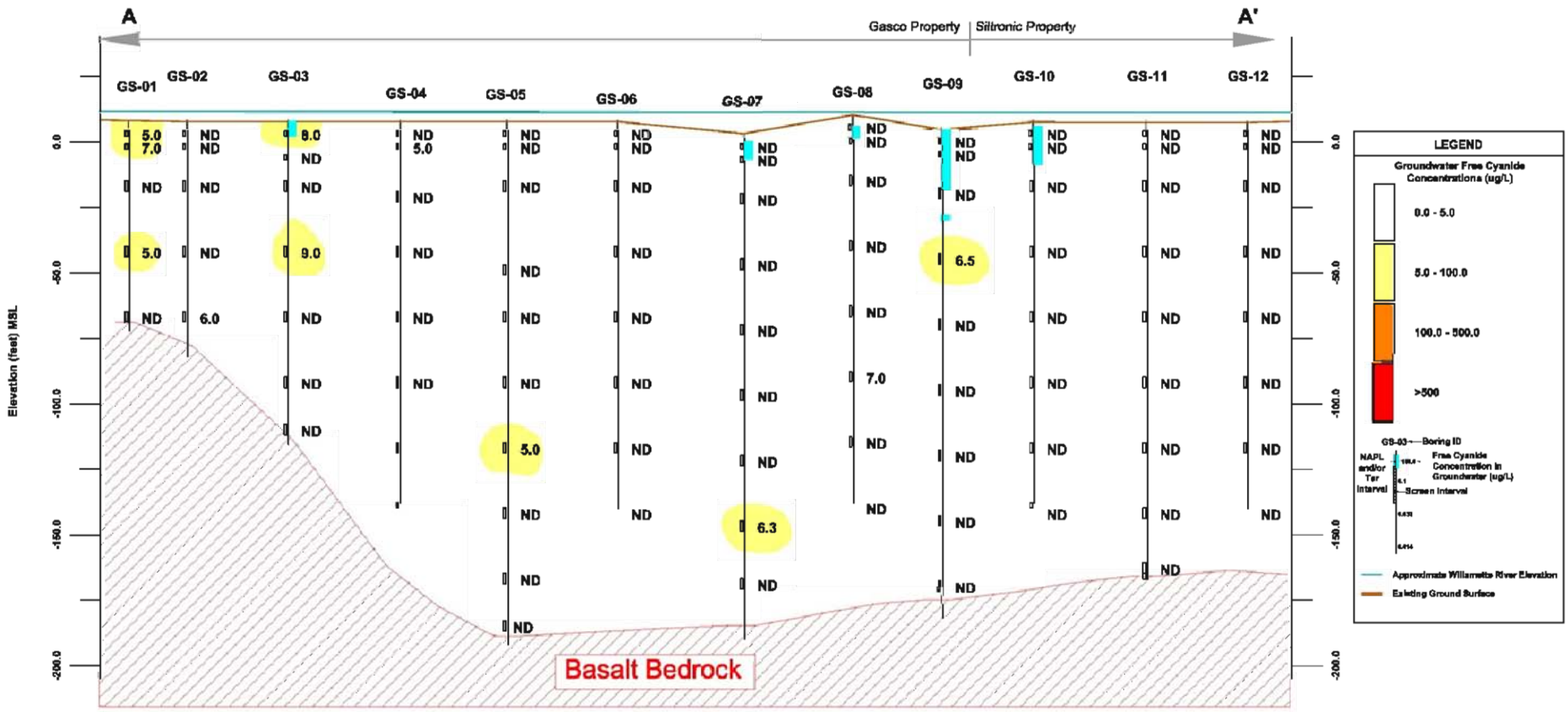
Notes:

1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5d
Groundwater Amenable Cyanide Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:40am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Amenable_Cyanide



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

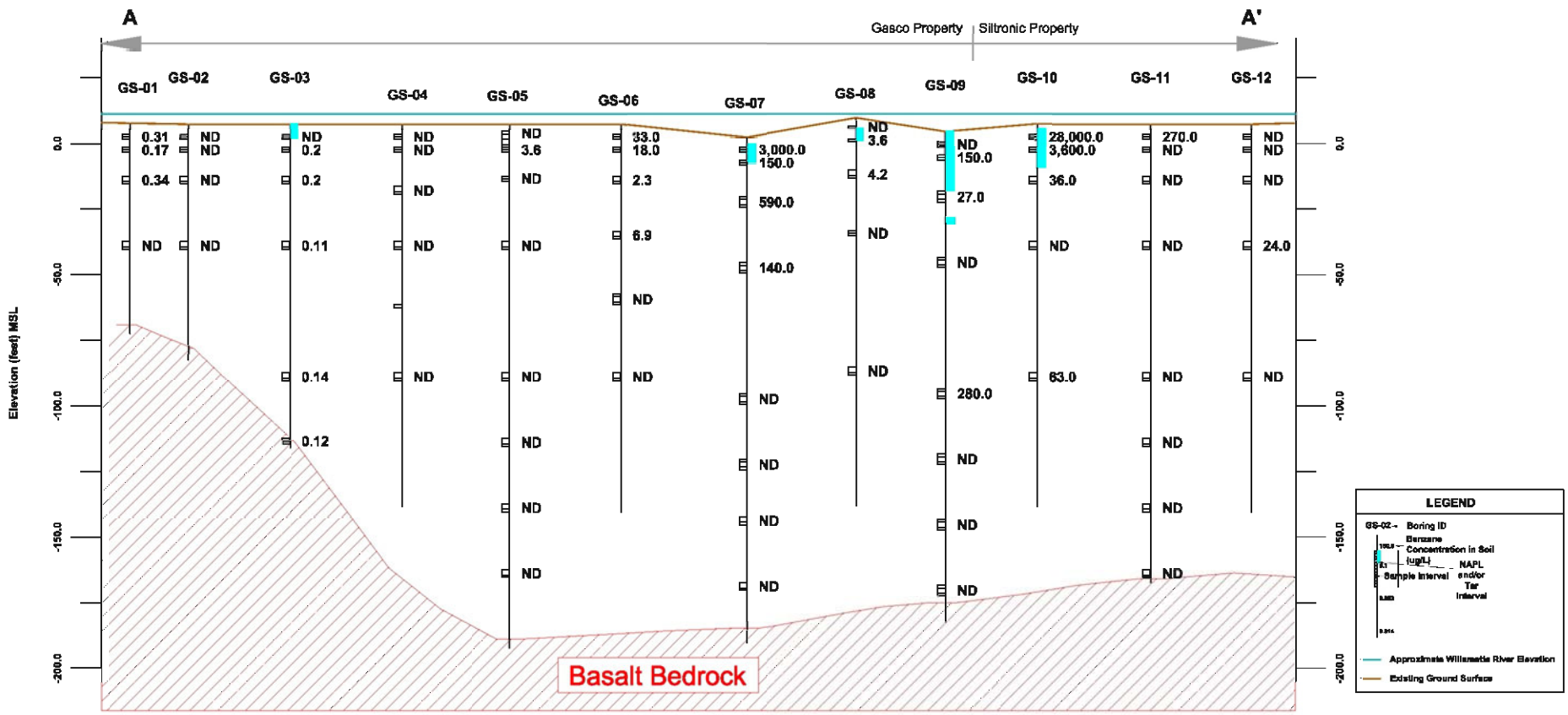
0 200
Scale in Feet

5X Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5e
Groundwater Free Cyanide Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:41am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Free_Cyanide



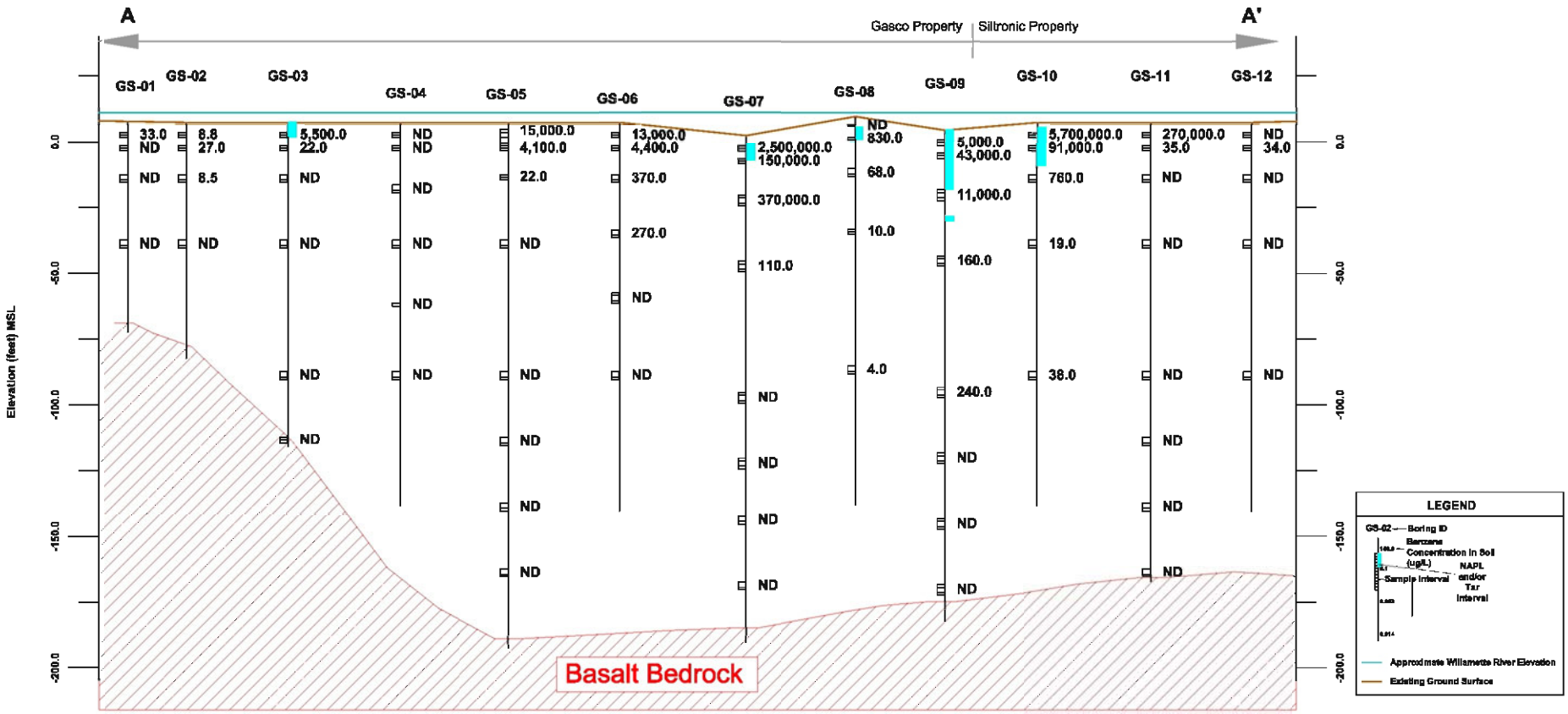
Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

0 200
Scale in Feet
5X Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 6a
Sediment Benzene Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:41am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Benzene_Soil



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

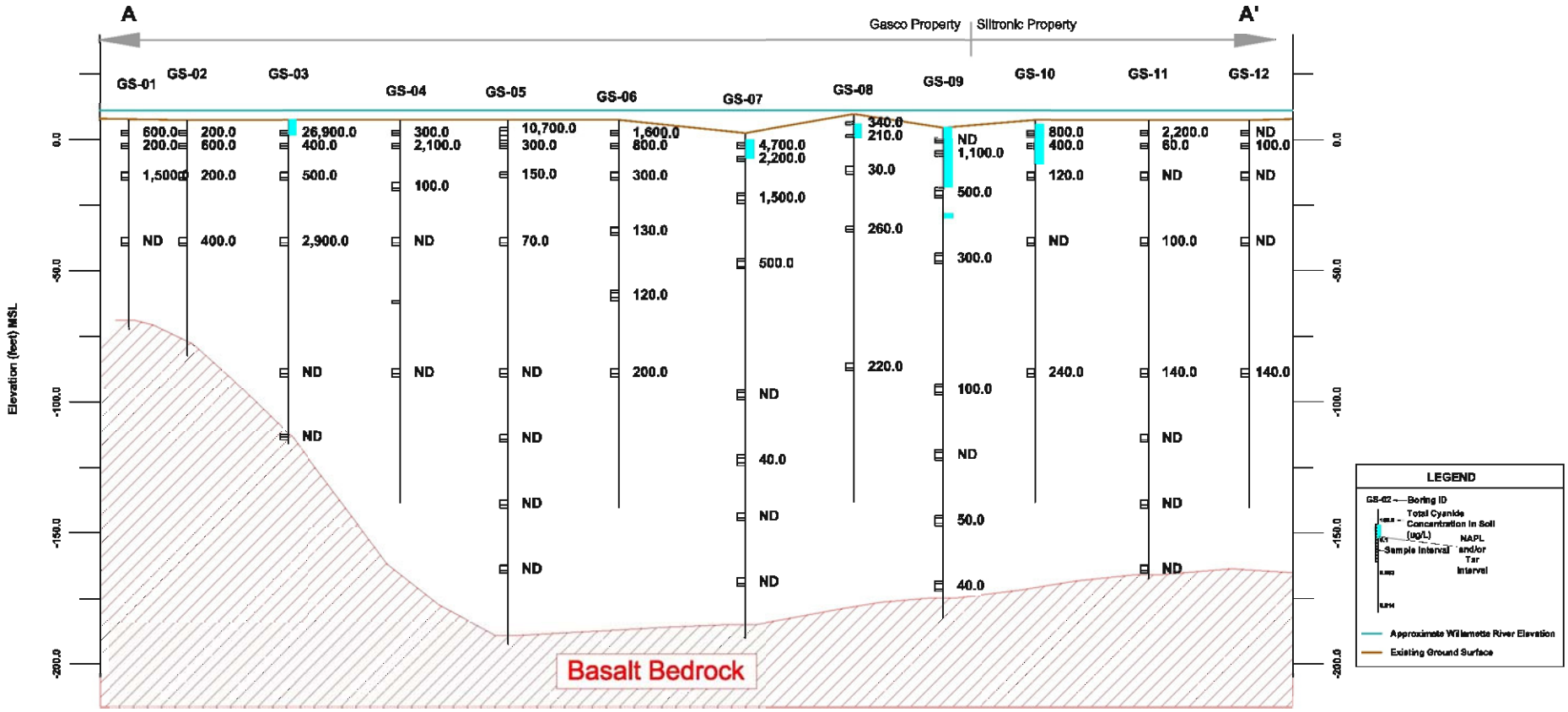
0 200
Scale in Feet

5X Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 6b
Sediment Napthalene Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon

Apr 30, 2007 10:41am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CAD\stuff\ForReport\XSA.dwg Napthalene_Soil

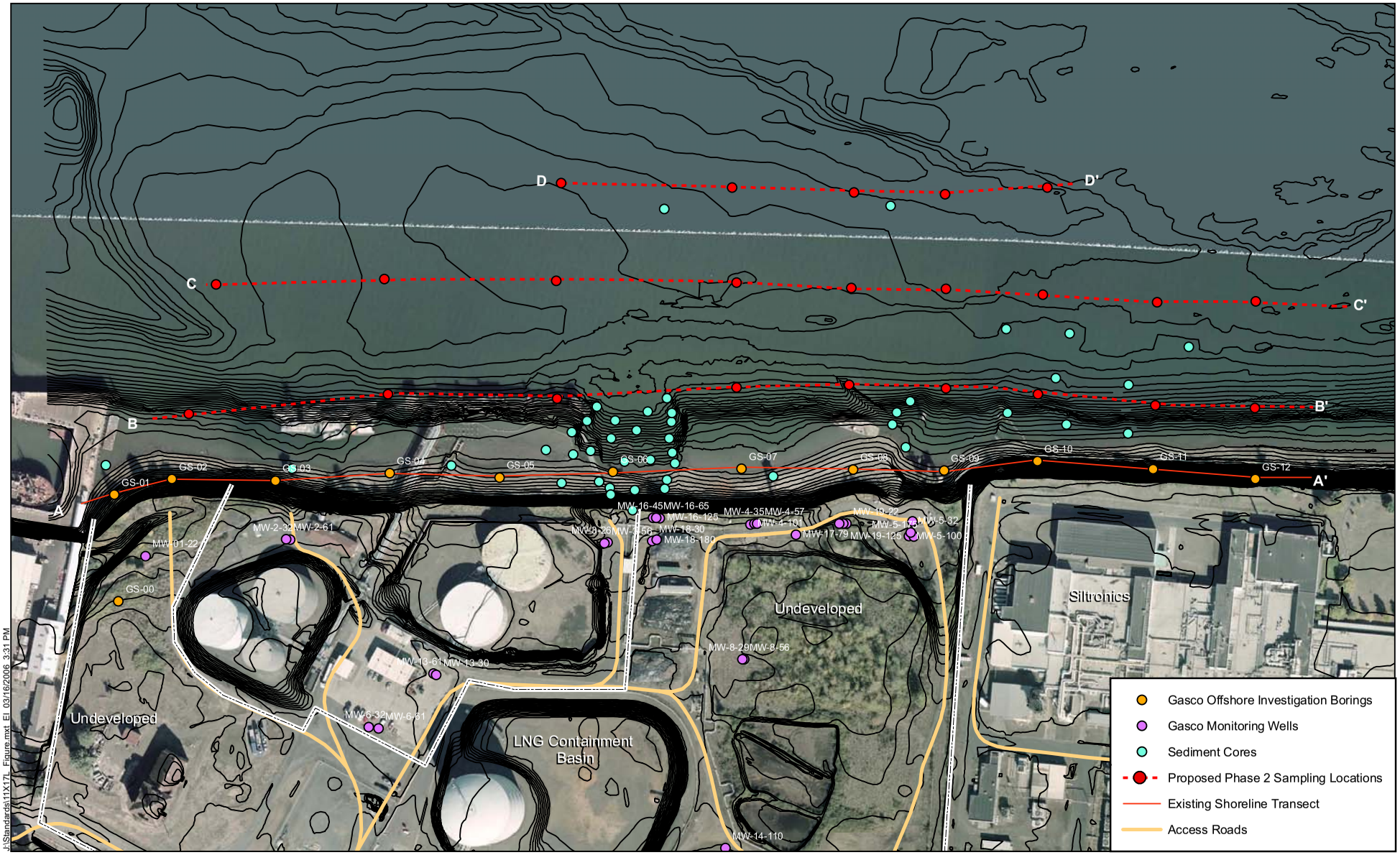


Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

Apr 30, 2007 10:41am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSA.dwg Cyanide_Soil

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 6c
Sediment Cyanide Concentrations
Cross Section A-A'
NW Natural, Portland, Oregon



J:\Standards\11X17L_Figure.mxt EI 03/16/2006 3:31 PM

ANCHOR ENVIRONMENTAL, L.L.C.

0 50 100 200
Scale in Feet

Horizontal Datum: Oregon State Plane North, Feet
Vertical Datum: City of Portland

Figure 7
Proposed Phase 2 Sampling Locations
NW Natural-Gasco Site
Portland, Oregon

APPENDIX A
WORKPLAN DOCUMENTS

ANCHOR ENVIRONMENTAL, L.L.C.

Anchor Environmental, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Phone 503.670.1108
Fax 503.670.1128

Memorandum

To: Matt McClincy, Oregon DEQ

From: John Edwards

CC: John Renda, Ben Hung

Date: September 19, 2006

Re: SOP for Discrete Depth Groundwater Sampling

STANDARD OPERATING PROCEDURE

DISCRETE-DEPTH GROUNDWATER SAMPLING DURING DRILLING

OBJECTIVE

The objective of this document is to define a method for the collection of discrete-depth groundwater samples during drilling. Samples will be collected using the HydroPunch II™ sampling device (QED Environmental Services, Inc.), or an equivalent brand device. A borehole will be drilled and the sampling device will be placed by the drilling subcontractors at the direction of Anchor. Groundwater samples will be collected by Anchor. The borehole will be advanced using rotosonic drilling methods.

MATERIALS

The following materials are required for the collection of discrete-depth groundwater samples using the HydroPunch II™.

- Hydropunch II™ sampling device provided by drilling subcontractor
- Drill rods having an effective I.D. of at least 1.25 inches provided by drilling subcontractor
- 1-inch I.D. stainless steel or disposable Teflon bailer
- Electronic water-level indicator
- Appropriate Sample containers provided by the testing laboratory
- Health and safety equipment

- Materials for decontamination of the sampler between samples

PROCEDURE

The following steps will be followed during the collection of discrete-depth groundwater samples:

1. The drilling subcontractor will advance the borehole to an appropriate depth for the collection of samples. The bottom of the borehole will be approximately 2 feet above the depth from which a discrete water sample is desired.
2. Measure static water level below top of drill casing with an electronic water-level indicator. Record the depth to water and distance from top of casing to ground surface.
3. The drilling subcontractor will prepare the HydroPunch™ sampling device according to the manufacturer's instructions and lower the device to the bottom of the borehole. Drill rod will be sealed with built in gaskets, Teflon tape, or an equivalent sealing method.
4. The drilling subcontractor will drive the sampling device to the proper sampling depth into undisturbed materials below the borehole bottom.
5. The drilling subcontractor will withdraw the rod to expose the screen of the sampling device in accordance with manufacturer's instructions.
6. After waiting a sufficient time to allow the sampler to fill with water, collect a groundwater sample by lowering the bailer through the rods and body of the sampler.
7. Perform field filtering of samples as needed according the Offshore Workplan SAP.
8. Obtain field water quality measurements as required in the Offshore Workplan SAP.
9. In case field conditions limit the volume of groundwater available for samples, the following order will be followed for filling of sample containers.
   Sample bottles will be filled from borings GS-01 through GS-04 in this order:
   1. Free cyanide
   2. Amenable cyanide
   3. PAHs
   4. VOCs
   5. Metals (at GS-02, GS-04 [the 100-foot borings])
   6. Additional conventionals
   7. Common cations and anions

Sample bottles from borings GS-05 through GS-10 will be filled in this order:

1. VOCs
2. PAHs
3. Free cyanide
4. Amenable cyanide
5. Metals (at GS-06, GS-08, and GS-10 [the 100-foot borings])
6. Additional conventionals
7. Common cations and anions

10. Label all sample containers at the time of sampling with the following information.
    - Project name and number
    - Sample station
    - Sample number
    - Date and time of collection
    - Sampler initials
    - Analyses required
11. Store samples at 4°C for transport to the analytical laboratory under chain of custody procedures.

NOTES

- Borehole identification, sample depth, sample date and time will be recorded in the field notebook and on the boring log
- The HydroPunch™ sampling device will be decontaminated according to the decontamination procedures in the Offshore Workplan SAP.
- Sample collection will be performed using procedures consistent with the project Health and Safety Plan
- Investigation-derived waste will be disposed of according to the Offshore Workplan SAP.

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

September 25, 2006

Mr. Robert J. Wyatt
Northwest Natural
220 N.W. Second Avenue
Portland, OR 97209

Re: Final Phase 1 Field Sampling Approach
Groundwater Source Evaluation
Northwest Natural Gas Company Site
Portland, Oregon

Dear Mr. Wyatt:

The Oregon Department of Environmental Quality (DEQ) has reviewed the "Final Phase 1 Field Sampling Approach, GASCO Siltronic Groundwater Source Evaluation" dated September 2006 (Phase 1 FSA). Anchor Environmental, LLC (Anchor) prepared the Phase 1 FSA on behalf of the Northwest Natural Gas Company (NWNG).

The primary objectives of the Phase 1 FSA are to collect groundwater chemistry data and general geotechnical information along the shoreline of the NWNG Site to: 1) assess the vertical and horizontal extent of site-related contamination in groundwater for comparison to data collected in the upland; and 2) the collect information on subsurface geotechnical conditions to support source control measures evaluations, including a vertical barrier.

The Phase 1 FSA also includes a description of the Phase 2 FSA scope of work. The Phase 2 FSA is proposed for implementation during the fall of 2007. Given the limited timeframe for conducting Phase 1 FSA drilling and sampling activities, DEQ is not providing comments on the sections of the document pertaining to the Phase 2 FSA. DEQ understands that NWNG will update the Phase 2 FSA for DEQ review based on the Phase I results and comments provided on the Phase 2 FSA by the Environmental Protection Agency and Portland Harbor Partners.

DEQ approves implementing the Phase 1 FSA under the following conditions:

- Given the time limitations of conducting the work and DEQ's priority for moving source control forward as efficiently as practicable, three additional borings should be added to the field sampling program (FSP). The additional borings are located where additional data is needed, or is reasonably likely to be needed.
  - An additional boring (GS-00) should be located approximately 200 feet west-southwest of the Boring GS-01 along the NWNG Site property line between U.S. Moorings. This boring will provide information in an area where additional measures may be needed to

prevent migration of contaminated groundwater onto an adjoining property and around hydraulic control and containment features constructed on the NWNG Site.

- Two borings should be located upstream of Boring GS-10 (GS-11, GS-12) adjacent to the Siltronic operable unit. Proposed boring GS-10 is located 150 feet upstream of the NWNG/Siltronic property line. The former "lowland effluent pond overflow area" extended approximately 400 feet upstream of the property line, and is considered a source DNAPL and groundwater contamination observed on the Siltronic operable unit. Borings GS-11 and GS-12 will provide additional information off-shore and upstream of the former lowland effluent pond overflow area.

- Borings GS-01, GS-03, GS-05, GS-07, GS-09, and GS-11 should be drilled to the top of the basalt to: 1) determine the thickness of the Alluvial water-bearing zone (Alluvial WBZ) at each location; 2) observe the physical nature of the basalt along the line of borings; and 3) support assessments of source control measures involving vertical barriers. Information collected on the Siltronic operable unit indicates the depth to basalt could be greater than 175 feet below mudline (bml).
- Borings GS-00, GS-02, GS-04, GS-06, GS-08, GS-010, and GS-12 should be advanced below dissolved phase groundwater contamination in the Alluvial WBZ. Observations made and data collected at monitoring well clusters WS-11, WS-12, and WS-14 on the Siltronic operable unit, provide strong evidence that DNAPL and dissolved phase groundwater contamination associated with NWNG's former operations could occur at depths greater than 100 feet and 160 feet bgs respectively. Given this information, the proposed depth of 100 feet bml is probably not sufficient to evaluate the vertical extent of groundwater contamination.
- Related to the condition above, DEQ expects that groundwater samples will be collected for analysis from depth intervals of 5, 10, 25, 50, 75, 100, 125, and 150 feet bml at every boring location, and that every other boring include a sample from 175 feet bml. More complete vertical characterization is essential for planning for future uplands and in-water groundwater monitoring and sampling work, including the Phase 2 FSA, and source control evaluations.
- The field program should be sequenced so that borings located in areas where levels of contamination are suspected to be highest (e.g., GS-04 through GS-11) are drilled and sampled first. This will allow the data from these locations to be collected during the timeframe available for conducting the work.
- It is probable that highly contaminated sediments will be encountered at shallow depths during drilling. The double-case method of drilling should be employed to reduce the potential for impacted shallow sediments to be carried down the borehole during drilling and bias the results of samples collected at depth. Using this drilling method could improve the comparability of this data to uplands groundwater data and assist in distinguishing between sediment impacts from historical direct discharge to the river, and contamination associated with groundwater transport.
- The presence and occurrence of NAPL in subsurface material should be a data collection objective of the Phase 1 (and Phase 2) FSA. In addition to visual inspection, field screening (e.g., hydrophobic dye shake test, ultraviolet fluorescence, sampler core strip test) of geologic material recovered during drilling should be included in the drilling program.

- Detailed descriptions of investigation derived waste (IDW) handling, containment, and management procedures should be provided for over-water work conducted on a barge. The procedures should include provisions for controlling sheen that may be produced during drilling and sampling activities.

The conditions listed above have been provided to clarify DEQ's understanding of the FSP items indicated and communicate our expectations regarding the data collection objectives of the Phase 1 FSA.

ADDITIONAL COMMENTS

Section 3.2.1, Page 21. The second paragraph suggests that not collecting soil samples from the same depth intervals as groundwater samples will increase the uncertainty of data interpretations with respect to the conceptual model for the site. DEQ disagrees with pre-qualifying the adequacy and/or usability of any information generated during the Phase 1 FSA before the work is complete and the data is reviewed against the data collection objectives of the project.

Section 3.6.2, 1st paragraph. NWNG indicates that the collection of shallow soil/sediment and groundwater samples may be complicated by the drilling rods sinking into material to greater than 5 feet bml/bgs. DEQ understands from this information that the driller cannot prevent this from occurring.

DEQ requests that if the above scenario occurs, the HydroPunch™ be used to collect the shallow groundwater sample before drilling proceeds (i.e., with no drill rods extended). After the shallow groundwater sample is collected drilling can proceed to 10 feet bml/bgs at which time both the 5 and 10 foot soil/sediment samples can be collected upon retrieval.

Section 3.6.2.2, Page 27. DEQ understands that a packer-based sampling system has been replaced with a HydroPunch™. A memorandum describing the HydroPunch™ method was provided separately from the Phase 1 FSA.

DEQ expects that the description of the HydroPunch™ method will be incorporated into the Phase 1 FSA addendum (see "Next Steps" below) to fully document the FSP for the project.

Section 3.6.2.2, last paragraph. In the event heavily impacted soil/sediment and/or groundwater is encountered during drilling, decontamination of sample collection equipment may be difficult.

DEQ requests that in these cases sampling equipment (e.g., pump tubing) be replaced rather than decontaminated and reused. This will reduce the amount of IDW produced from decontamination and make it easier to manage and secure the discarded items.

Table 6. This table should be revised consistent with the conditions listed above.

Table 7. DEQ requires that total (unfiltered polycyclic aromatic hydrocarbons [PAHs] and metals) will be included in the analyte list.

Although DEQ and Portland Harbor partners will consider the results of filtered PAH analysis, it is unlikely that any significant regulatory decisions will be based on these results. The decision to conduct filtered analysis of PAHs is entirely at the discretion of NWNG. Glass filters should be used if NWNG elects to collect filtered samples.

According to Table dissolved metals are to be filtered by the laboratory and preserved after filtering has occurred. This protocol has the potential to bias analytical results low as the samples will likely exhibit turbidity and the time between collection and filtering provides opportunity for sorption of metals to suspended solids.

DEQ requests that groundwater samples being analyzed for dissolved metals be filtered in the field into laboratory-supplied containers containing preservative.

Table 8. DEQ expects the laboratory method reporting limits and method detection limits shown to be consistent with those being used by the Lower Willamette Group for the Portland Harbor Remedial Investigation and Feasibility Study.

Figure 15. This figure should be revised consistent with the conditions listed above.

HydroPunch™ SOP. Prior to collecting a groundwater sample at least one casing volume will be purged from the sampler rods. DEQ also requests that, to the maximum extent practicable, all purging and sampling be performed using a pump.

NEXT STEPS

Before initiating field work DEQ expects NWNG to provide an addendum to the Phase 1 FSA that fully incorporates the conditions contained in this letter, including revised versions of Table 6, Table 7, and Figure 15. The addendum should also address DEQ's comments. DEQ's approval of the Phase 1 FSA will not be provided until the addendum has been received and reviewed for completeness.

DEQ appreciates the efforts NWNG is making to conduct near-shore drilling and sampling work during the earliest available time period.

Prior to September 27th contact me with questions regarding this letter. I will be on vacation from September 27th through October 5th. During my absence contact Dana Bayuk (503/229-5543) as needed.

Sincerely,

Matt McClincy
Project Manager
Portland Harbor Section

Cc: Sandy Hart, NW Natural
Tom McCue, Siltronic Corporation
Patty Dost, Schwabe Williamson & Wyatt
Alan Gladstone, Davis Rothwell Earle & Xochihua, P.C.
Chris Reive, Jordan Schrader
Carl Stivers, Anchor Environmental
John Edwards, Anchor Environmental
Rob Ede, Hahn & Associates
James Peale, Maul Foster Alongi
Dana Bayuk, PHS
Eric Blischke, EPA
Chip Humphrey, EPA
Kristine Koch, EPA
Sean Sheldrake, EPA
Rene Fuentes, EPA
Cinde Donoghue, Environment International

ANCHOR
ENVIRONMENTAL, L.L.C.

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1423 Third Avenue, Suite 300
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Phone 206.287.9130
Fax 206.287.9131

September 29, 2006
000029-02

Dana Bayuk, RG
Oregon DEQ
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201-4987

Re: Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon

Dear Mr. Bayuk:

This letter addendum was prepared by Anchor Environmental, LLC (Anchor) on behalf of NW Natural to address the Oregon DEQ September 25 letter *Final Phase I Field Sampling Approach Groundwater Source Evaluation Northwest Natural Gas Company Site, Portland, Oregon.* The September 25 letter contains DEQ comments on the *"Final Phase 1 Field Sampling Approach, GASCO Siltronic Groundwater Source Evaluation"* dated September 2006 (Phase 1 FSA). Anchor prepared the Phase 1 FSA on behalf of NW Natural.

In the September 25 letter DEQ approved implementation of the Phase I FSA subject to the conditions listed in the following pages. John Edwards, Matt McClincy and Dana Bayuk discussed the September 25 letter in a conference call on September 27. The Phase I FSA workplan is amended as shown in the following comments. The Anchor comments are shown in italics following each of the DEQ comments.

- Given the time limitations of conducting the work and DEQ's priority for moving source control forward as efficiently as practicable, three additional borings should be added to the field sampling program (FSP). The additional borings are located where additional data is needed, or is reasonably likely to be needed.
  - An additional boring (GS-00) should be located approximately 200 feet west-southwest of the Boring GS-01 along the NWNG Site property line between U.S. Moorings. This boring will provide information in an area where additional measures may be needed to prevent migration of contaminated groundwater onto an adjoining property and around hydraulic control and containment features constructed on the NWNG Site.

- *Agreed. The topography along the property line between NW Natural and U.S. Moorings is very rough, so Anchor will confer with DEQ in the field to agree on a location that is accessible for a drill rig. This location is above the ordinary high water line so is not subject to the Corp and DSL permits. Because this boring is not subject to the October 31 Corps permit deadline, it will be drilled last, probably in November.*
- Two borings should be located upstream of Boring GS-10 (GS-11, GS-12) adjacent to the Siltronic operable unit. Proposed boring GS-10 is located 150 feet upstream of the NWNG/Siltronic property line. The former "lowland effluent pond overflow area" extended approximately 400 feet upstream of the property line, and is considered a source DNAPL and groundwater contamination observed on the Siltronic operable unit. Borings GS-11 and GS-12 will provide additional information off-shore and upstream of the former lowland effluent pond overflow area.
- *Agreed. These two borings are in the general vicinity of Siltronic borings GP 25, 26, and 28, which were drilled along the Siltronic shoreline. The Siltronic borings were drilled to bedrock and tested deep groundwater for potential MGP related COIs. Significant subsurface information is currently available on the possible depth of MGP related COIs in this area of the shoreline. Therefore, these borings will be drilled last in priority sequence.*

- Borings GS-01, GS-03, GS-05, GS-07, GS-09, and GS-11 should be drilled to the top of the basalt to: 1) determine the thickness of the Alluvial water-bearing zone (Alluvial WBZ) at each location; 2) observe the physical nature of the basalt along the line of borings; and 3) support assessments of source control measures involving vertical barriers. Information collected on the Siltronic operable unit indicates the depth to basalt could be greater than 175 feet below mudline (bml).
  Agreed.

- Borings GS-00, GS-02, GS-04, GS-06, GS-08, GS-010, and GS-12 should be advanced below dissolved phase groundwater contamination in the Alluvial WBZ. Observations made and data collected at monitoring well clusters WS-11, WS-12, and WS-14 on the Siltronic operable unit, provide strong evidence that DNAPL and dissolved phase groundwater contamination associated with NWNG's former operations could occur at depths greater than 100 feet and 160 feet bgs respectively. Given this information, the proposed depth of 100 feet bml is probably not sufficient to evaluate the vertical extent of groundwater contamination.
  Agreed

- Related to the condition above, DEQ expects that groundwater samples will be collected for analysis from depth intervals of 5, 10, 25, 50, 75, 100, 125, and 150 feet bml at every boring location, and that every other boring include a sample from 175 feet bml. More complete vertical characterization is essential for planning for future uplands and in-water groundwater monitoring and sampling work, including the Phase 2 FSA, and source control evaluations.
  Agreed.

- The field program should be sequenced so that borings located in areas where levels of contamination are suspected to be highest (e.g., GS-04 through GS-11) are drilled and sampled first. This will allow the data from these locations to be collected during the timeframe available for conducting the work.
  Agreed. As discussed during the September 27 teleconference, the drilling sequence will be as listed below, subject to equipment access and river conditions. Boring GS-09 will be drilled first, and boring GS-00 will be last. If two drill rigs are mobilized to the Site, this sequence may be modified to adjust to field and equipment conditions.

  GS-09
  GS-07
  GS-05
  GS-03
  GS-01
  GS-08
  GS-06
  GS-04
  GS-02
  GS-10
  GS-11
  GS-12
  GS-00

- It is probable that highly contaminated sediments will be encountered at shallow depths during drilling. The double-case method of drilling should be employed to reduce the potential for impacted shallow sediments to be carried down the borehole during drilling and bias the results of samples collected at depth. Using this drilling method could improve the comparability of this data to uplands groundwater data and assist in distinguishing between sediment impacts from

historical direct discharge to the river, and contamination associated with groundwater transport.
Agreed.

- The presence and occurrence of NAPL in subsurface material should be a data collection objective of the Phase 1 (and Phase 2) FSA. In addition to visual inspection, field screening (e.g., hydrophobic dye shake test, ultraviolet fluorescence, sampler core strip test) of geologic material recovered during drilling should be included in the drilling program.
  Agreed. The core will be stored on Site for screening by the hydrophobic dye shake test and/or hydrophobic spray test, and ultraviolet fluorescence.

- Detailed descriptions of investigation derived waste (IDW) handling, containment, and management procedures should be provided for over-water work conducted on a barge. The procedures should include provisions for controlling sheen that may be produced during drilling and sampling activities.
  Agreed. The current plan is to establish a contained decon station on the barge and second decon station on the Gasco upland property. Decon water generated on the barge will be drummed and transported to an upland staging area. The drilling contractor will also place a floating boom around the drilling barge and have adsorbent boom material available for deployment in the event of a release from the barge. The drill crew on the barge will have available adsorbent materials for use in case of minor spillage on the barge deck.

The conditions listed above have been provided to clarify DEQ's understanding of the FSP items indicated and communicate our expectations regarding the data collection objectives of the Phase 1 FSA.

ADDITIONAL COMMENTS

Section 3.2.1, Page 21. The second paragraph suggests that not collecting soil samples from the same depth intervals as groundwater samples will increase the uncertainty of data interpretations with respect to the conceptual model for the site. DEQ disagrees with pre-qualifying the adequacy and/or usability of any information generated during the Phase 1 FSA before the work is complete and the data is reviewed against the data collection objectives of the project.
Agreed.

Section 3.6.2, 1st paragraph. NWNG indicates that the collection of shallow soil/sediment and groundwater samples may be complicated by the drilling rods sinking into material to greater than 5 feet bml/bgs. DEQ understands from this information that the driller cannot prevent this from occurring.

DEQ requests that if the above scenario occurs, the HydroPunch™ be used to collect the shallow groundwater sample before drilling proceeds (i.e., with no drill rods extended). After the shallow groundwater sample is collected drilling can proceed to 10 feet bml/bgs at which time both the 5 and 10 foot soil/sediment samples can be collected upon retrieval.
Agreed.

Section 3.6.2.2, Page 27. DEQ understands that a packer-based sampling system has been replaced with a HydroPunch™. A memorandum describing the HydroPunch™ method was provided separately from the Phase 1 FSA.

DEQ expects that the description of the HydroPunch™ method will be incorporated into the Phase 1 FSA addendum (see "Next Steps" below) to fully document the FSP for the project.
Agreed. The HydroPunch™ protocol memo is attached to this addendum.

Section 3.6.2.2, last paragraph. In the event heavily impacted soil/sediment and/or groundwater is encountered during drilling, decontamination of sample collection equipment may be difficult.

DEQ requests that in these cases sampling equipment (e.g., pump tubing) be replaced rather than decontaminated and reused. This will reduce the amount of IDW produced from decontamination and make it easier to manage and secure the discarded items.
Agreed. The current plan is to use either a Waterra type foot valve pump or peristaltic pump for purging and sampling. New polyethylene tubing will be used for each new groundwater sample interval.

Table 6. This table should be revised consistent with the conditions listed above.
Agreed. The updated Table 6 is attached.

Table 7. DEQ requires that total (unfiltered polycyclic aromatic hydrocarbons [PAHs] and metals) will be included in the analyte list.

Although DEQ and Portland Harbor partners will consider the results of filtered PAH analysis, it is unlikely that any significant regulatory decisions will be based on these results. The decision to conduct filtered analysis of PAHs is entirely at the discretion of NWNG. Glass filters should be used if NWNG elects to collect filtered samples.

According to Table dissolved metals are to be filtered by the laboratory and preserved after filtering has occurred. This protocol has the potential to bias analytical results low as the samples will likely exhibit turbidity and the time between collection and filtering provides opportunity for sorption of metals to suspended solids.

DEQ requests that groundwater samples being analyzed for dissolved metals be filtered in the field into laboratory-supplied containers containing preservative.
Agreed. Table 7 is attached.

Table 8. DEQ expects the laboratory method reporting limits and method detection limits shown to be consistent with those being used by the Lower Willamette Group for the Portland Harbor Remedial Investigation and Feasibility Study.
Agreed. The testing methods will be the same. We are going to use CAS, the same lab used by LWG. However, we cannot guarantee that the MRLs will be attained, because lab dilutions and chemical interference sometimes causes MRLs to be higher than listed with the testing method.

Figure 15. This figure should be revised consistent with the conditions listed above.
Agreed. Figure 15 is attached.

HydroPunch™ SOP. Prior to collecting a groundwater sample at least one casing volume will be purged from the sampler rods. DEQ also requests that, to the maximum extent practicable, all purging and sampling be performed using a pump.
Agreed. We will attempt to purge the volume of water that accumulates in the casing following placement of the Hydropunch.

As discussed during the September 27 teleconference, Anchor will make all reasonable attempts to transport DEQ personnel and their contractor to the drilling barge. Tim Stone will be DEQ's contact with respect to drilling schedule, and arranging access to the drilling barge.

We also understand that DEQ may want us to provide split groundwater samples during the investigation. We will make every reasonable effort to provide water samples for placement in DEQ supplied sample bottles.

Please contact me or Tim Stone at 503 670-1108. Tim Stone's cell phone number is 503 475 9150.

Respectfully Submitted,

John E. Edwards, RG, CEG

Anchor Environmental, L.L.C.

Cc: Bob Wyatt
Patty Dost
Carl Stivers

Attachments: Table 6
Table 7
Figure 15
HydroPunch™ Memo

Table 4
Lower Willamette Group Transition Zone Water and Sediment Sampling Plan Summary for the Gasco Site, Round 2 Groundwater Pathway Assessment

Sample Summary

	Transition Zone Water						Surface Sediment Power Grab	
	30 cm			90-150 cm				
	Nat	Rep[a]	EB	Nat	Rep[a]	EB	Nat	Rep[b]
Metals (As, Ca, K, Mg, Mn, Na, and Pb)	10	1	1	5	1	1	--	--
Cyanide	10	1	1	5	1	1	--	--
VOCs (BTEX, Naphthalene)	10	1	1	5	1	1	--	--
PAHs	10	1	1	5	1	1	--	--
TPH-G	10	1	1	5	1	1	--	--
TPH-DRO/RRO	10	1	1	5	1	1	--	--
Conventionals (Cl, SO4, alkalinity, and pH)	10	1	1	5	1	1	--	--
Sediment Analytes[c]							3	0

Notes:

NAT = Natural Sample

Rep = Replicate Sample

EB = Equipment Rinsate Blank

a Replicates for the Trident Probe samples will be collected at a frequency of 1 per 10 natural samples at each site. Replicates for the small volume peeper samples will be collected at a frequency of 1 per 10 natural samples across the entire R2 Groundwater Pathway Assessment Sampling effort.

b Replicates for the bulk sediment samples will be collected at a frequency of 1 per 10 natural samples across the entire R2 Groundwater Pathway Sampling effort.

c The sediment samples will be analyzed for the Round 2 bulk sediment chemistry analyte list, including VOCs.

Table 6
Gasco Siltronic Phase 1 Field Sampling Plan Locations, Number of Samples, Depths, and Intervals

Site ID	Target Coordinates (NAD 83) Latitude	Longitude	Target Depth (feet bml)	Subsurface Soil Goetechnical Estimated number of Samples at: 10' Target Intervals	Subsurface Soil Chemical Estimated number of Samples at Target Intervals: 5', 10', 25', 50', 100', 125', 150', 175'	Number of Groundwater Estimated number of Samples at Target Intervals: 5', 10', 25', 50', 75', 100', 125', 150', 175'
GS-00	45.5805	-122.7621	150	0	0	8
GS-01	45.5810	-122.7616	175	18	8	9
GS-02	45.5809	-122.7612	150	15	5	8
GS-03	45.5807	-122.7607	175	18	8	9
GS-04	45.5803	-122.7598	150	15	5	8
GS-05	45.5801	-122.7591	175	18	8	9
GS-06	45.5799	-122.7585	150	15	5	8
GS-07	45.5796	-122.7578	175	18	8	9
GS-08	45.5794	-122.7570	150	15	5	8
GS-09	45.5791	-122.7563	175	18	8	9
GS-10	45.5789	-122.7556	150	15	5	8
GS-11	45.5786	-122.7551	175	0	0	9
GS-12	45.5785	-122.7546	150	0	0	8
# Characterization Samples Analyzed				163	65	110
5% Field Splits				8	3	6
Field Blanks				none	none	1
Rinsate Blanks				none	none	1
Trip Blanks				none	none	1 per container
Estimated Number of Samples (not including QC)				171	68	116

Notes:

1. Sampling stations and depths are proposed and may be revised based on conditions encountered in the field. 150' target depth locations will be advanced to bedrock or 150', whichever is reached first.
2. 175' is the assumed depth to bedrock. 175' target depth locations will be advanced to bedrock.
3. The actual geotechnical soil intervals to be tested will be determined by the geotechnical engineer after reviewing the field logs.
4. For geotechnical samples: moisture content, atterberg limits, and grain size frequency up to one test per 10 feet of core.
5. For geotechnical samples: specific gravity, pH, sulfate, organic content frequency up to one test per 20 feet of core.
6. Subsurface soil samples will be taken at 5' through 100' intervals at locations GS-02, GS-04, GS-06, GS-08, GS-10
7. Subsurface soil samples will be taken at 5' through 175' intervals at locations GS-01, GS-03, GS-05, GS-07, GS-09
8. Groundwater samples will be taken at 5' through 150' intervals at locations GS-00, GS-02, GS-04, GS-06, GS-08, GS-10, GS-12
9. Groundwater samples will be taken at 5' through 175' intervals at locations GS-01, GS-03, GS-05, GS-07, GS-09, GS-11
10. Metals analysis will be performed on subsurface soil and groundwater samples at locations GS-00, GS-02, GS-04, GS-06, GS-08, GS-10, and GS-12
11. A subset (up to one third) of the groundwater samples will be analyzed for common cations and anions. These samples will only be taken at depths below mudline of 50' or less.

Table 7
Parameter List, Containers, and Guidelines for Sample Handling and Storage

Parameter	Container Size and Type	Holding Time	Preservative
Subsurface Soil Geotechnical			
Moisture Content	16-oz WM HDPE (Moisture, Atterberg, Spec Gravity combined)	na	Sealed Jar
Atterberg Limits		na	na
Specific Gravity		na	na
pH	2-oz Glass (pH, Sulfates combined)	14 days	na
Sulfates		28 days	na
Subsurface Soil Geotechnical and Chemistry			
Grain Size (with hydrometer)	16-oz WM HDPE	na	na
Total Organic Carbon (%)	4-oz Glass	28 days	na
Subsurface Soil Chemistry			
VOCs	40 mL VOC Vials and Easy Draw Sampler	14 days	Sodium Bisulfite or Methanol Cool/4° C
PAHs	8-oz Glass	14 days until extraction	Cool/4° C
		1 year until extraction 40 days after extraction	Freeze
Total Cyanide	8-oz Glass (CN, NH4, Metals combined)	14 days	Cool/4° C
Total Metals		6 months except Hg (28 days)	Cool/4° C
Ammonia as Nitrogen		7 days	Cool/4° C
Sulfides	2- oz Glass	7 days	Zn acetate, Cool/4° C
Groundwater			
VOCs	two 40 ml VOA vials	14 days	HCL ph<2, Cool/4°C
PAHs (lab filtered)	1 Liter Amber Glass*	7 days until extraction 40 days after extraction	Cool/4°C
Total PAHs	1 Liter Amber Glass*	7 days until extraction 40 days after extraction	Cool/4°C
Free Cyanide	500 ml Amber Glass*	48 hours	NaOH pH>12
Amenable Cyanide	500 ml HPDE*	48 hours	NaOH pH>12
Dissolved Metals (field filtered)	250 ml HDPE*	6 months except Hg (28 days)	HNO3, ph<2
Total Metals	250 ml HDPE*	6 months except Hg (28 days)	HNO3, ph<2
Chloride	500 ml HDPE*	28 days	Cool/4°C
Nitrate		48 hours	
Sulfate		28 days	
Alkalinity		14 days	
Carbonate		14 days	
Bicarbonate		14 days	
Ammonia	250 ml HDPE*	28 days	H2SO4 ph<2, Cool/4°C
Note:			

* See Table 8 for exact volume requirements. The smallest possible container meeting these material requirements will be supplied by the laboratory.

Table 8a

Subsurface Sediment Geotechnical and Chemical Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Mass needed (g)
Geotechnical					
Moisture Content	---	ASTM D-2216	---	---	---
Atterberg Limits	---	ASTM D-4318	---	---	300
Grain Size with hydrometer	---	ASTM D-421/422	---	---	300
Specific Gravity	---	ASTM D-854	---	---	---
Chemical					
VOCs	**EPA 5030A**	**EPA 8260B**	**ug/kg**	**ug/kg**	**20**
Acetone	---	---	10	1.6	---
Acrolein	---	---	2.5	0.51	---
Acrylonitrile	---	---	2	0.23	---
Benzene	---	---	1	0.039	---
Bromochloromethane	---	---	1	0.06	---
Bromodichloromethane	---	---	1	0.068	---
Bromoform	---	---	1	0.046	---
Bromoethane	---	---	1	0.072	---
Bromomethane	---	---	1	0.37	---
2-Butanone	---	---	4	1.1	---
Carbon Disulfide	---	---	1	0.13	---
Carbon Tetrachloride	---	---	1	0.099	---
Chlorbenzene	---	---	1	0.07	---
Chlorodibromomethane	---	---	1	0.068	---
Chlorethane	---	---	1	0.28	---
2-Chloroethyl Vinyl Ether	---	---	2	0.15	---
Chloroform	---	---	1	0.056	---
Chloromethane	---	---	1	0.19	---
trans-1,4-Dichloro-2-butene	---	---	2	0.51	---
Dibromomethane	---	---	1	0.082	---
1,4-Dichlorobenzene	---	---	1	0.12	---
1,1-Dichloroethane	---	---	1	0.057	---
1,2-Dichloroethane	---	---	1	0.031	---
1,1-Dichloroethene	---	---	1	0.082	---
trans-1,2-Dichloroethene	---	---	1	0.19	---
1,2-Dichloropropane	---	---	1	0.035	---
cis-1,3-Dichloropropene	---	---	1	0.031	---
trans-1,3-Dichloropropene	---	---	1	0.044	---
Dichlorodifluoromethane	---	---	1	0.11	---
Ethylbenzene	---	---	1	0.071	---
2-Hexanone	---	---	2	0.64	---
Idomethane	---	---	2	0.67	---
Isopropylbenzene	---	---	1	0.044	---
4-Methyl-2-Pentanone	---	---	2	0.24	---
Methylene chloride	---	---	5	0.09	---
Methyl tert-butyl ether	---	---	1	0.039	---
Napthalene	---	---	1	0.39	---
Styrene	---	---	1	0.074	---
1,1,1,2-Tetrachloroethane	---	---	1	0.031	---
1,1,2,2-Tetrachloroethane	---	---	1	0.096	---
Tetrachloroethene	---	---	1	0.096	---
Toluene	---	---	1	0.15	---
1,1,1-Trichloroethane	---	---	1	0.059	---
1,1,2-Trichloroethane	---	---	1	0.059	---
Trichloroethene	---	---	1	0.062	---
Trichlorofluoromethane	---	---	1	0.081	---
1,2,3-Trichloropropane	---	---	1	0.11	---
Vinyl Acetate	---	---	1	0.36	---

Table 8a

Subsurface Sediment Geotechnical and Chemical Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Mass needed (g)
Vinyle Chloride	---	---	1	0.085	---
m,p-Xylene	---	---	1	0.13	---
o-Xylene	---	---	1	0.075	---
Hexachlorobutadiene	---	---	2	0.17	---
1,2-Dibromoethane (EDB)	---	---	1	0.051	---
PAHs	**EPA 3541**	**EPA 8270C-SIM**	**ug/Kg**	**ug/Kg**	**50**
Acenaphthene	---	---	5	0.16	---
Acenaphthylene	---	---	5	0.22	---
Anthracene	---	---	5	0.22	---
Benzo(a)anthracene	---	---	5	0.16	---
Benzo(b)fluoranthene	---	---	5	0.48	---
Benzo(k)fluoranthene	---	---	5	0.33	---
Benzo(g,h,i)perylene	---	---	5	0.23	---
Benzo(a)pyrene	---	---	5	0.22	---
Chrysene	---	---	5	0.41	---
Dibenz(a,h)anthracene	---	---	5	0.26	---
Fluoranthene	---	---	5	0.34	---
Fluorene	---	---	5	0.19	---
Ideno(1,2,3-cd)pyrene	---	---	5	0.24	---
2-Methylnaphthalene	---	---	5	0.34	---
Naphthalene	---	---	5	0.34	---
Phenanthrene	---	---	5	0.33	---
Pyrene	---	---	5	0.36	---
Total Cyanide	**EPA 9010A**	**EPA 9012A**	**0.1 mg/Kg**	**0.03 mg/Kg**	**25**
Metals	---	---	**mg/Kg**	**mg/Kg**	**20**
Aluminum	3050B	6020	2	2	---
Antimony	3050B	6020	0.05	0.02	---
Arsenic	3050B	6020	0.5	0.07	---
Barium	3050B	6020	0.05	0.03	---
Beryllium	3050B	6020	0.02	0.006	---
Cadmium	3050B	6020	0.05	0.007	---
Calcium	3050B	6010B	10	3	---
Chromium	3050B	6020	0.2	0.04	---
Copper	3050B	6020	0.1	0.02	---
Iron	3050B	6010B	4	3	---
Lead	3050B	6020	0.05	0.02	---
Magnesium	3050B	6010B	4	2	---
Manganese	3050B	6010B	1	0.3	---
Mercury	7471A	7471A	0.02	0.008	5
Nickel	3050B	6020	0.2	0.04	---
Potassium	3050B	6010B	400	300	---
Selenium	7742/SM3114B	7742	0.1	0.02	---
Silver	3050B	6020	0.02	0.003	---
Sodium	3050B	6010B	20	10	---
Thallium	3050B	6020	0.02	0.002	---
Zinc	3050B	6020	0.5	0.2	---
Additional Conventionals	---	---	**mg/Kg**	**mg/Kg**	---
pH	Method	9045	---	---	10
Sulfates	Method	9036	TBD	TBD	10
Sulfides	Method	9030M	0.5	0.08	10
Ammonia as Nitrogen	350.1M	Plumb	0.5	0.2	20
Total Organic Carbon (%)	Method	PSEP	0.05	0.02	5
Minimum Mass Needed (Geotechnical samples only [*Includes italicised analytes*])				---	**625 g**
Minimum Mass Needed (Chemical samples only)		—	—	---	**455 g**
Minimum Mass Needed (Geotechnical and Chemical Samples)			—	---	**775 g**

Table 8b
Groundwater Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Volume needed (ml)
VOCs (Unfiltered)	EPA 5030B	EPA 8260B	ug/L	ug/L	80
Acetone	—	—	20	4.08	—
Acrolein	—	—	20	1.42	—
Acrylonitrile	—	—	5	0.531	—
Benzene	—	—	0.5	0.136	—
Bromochloromethane	—	—	0.5	0.164	—
Bromodichloromethane	—	—	0.5	0.109	—
Bromoform	—	—	0.5	0.279	—
Bromomethane	—	—	0.5	0.217	—
2-Butanone	—	—	20	1.94	—
Carbon Disulfide	—	—	0.5	0.159	—
Carbon Tetrachloride	—	—	0.5	0.139	—
Chlorbenzene	—	—	0.5	0.134	—
Chlorodibromomethane	—	—	0.5	0.104	—
Chlorethane	—	—	0.5	0.226	—
2-Chloroethyl Vinyl Ether	—	—	5	0.333	—
Chloroform	—	—	0.5	0.136	—
Chloromethane	—	—	0.5	0.136	—
trans-1,4-Dichloro-2-butene	—	—	10	0.597	—
1,2-Dibromoethane	—	—	2	0.0981	—
Dibromomethane	—	—	0.5	0.119	—
1,2-Dichlorobenzene	—	—	0.5	0.111	—
1,3-Dichlorobenzene	—	—	0.5	0.102	—
1,4-Dichlorobenzene	—	—	0.5	0.114	—
1,1-Dichloroethane	—	—	0.5	0.101	—
1,2-Dichloroethane	—	—	0.5	0.114	—
1,1-Dichloroethene	—	—	0.5	0.122	—
trans-1,2-Dichloroethene	—	—	0.5	0.143	—
1,2-Dichloropropane	—	—	0.5	0.139	—
cis-1,3-Dichloropropene	—	—	0.5	0.11	—
trans-1,3-Dichloropropene	—	—	0.5	0.0894	—
Dichlorodifluoromethane	—	—	0.5	0.166	—
Ethylbenzene	—	—	0.5	0.13	—
Hexachlorobutadiene	—	—	2	0.28	—
2-Hexanone	—	—	20	3.96	—
Idomethane	—	—	5	0.375	—
Isopropylbenzene	—	—	2	0.105	—
4-Methyl-2-Pentanone	—	—	20	2.7	—
Methylene chloride	—	—	2	0.193	—
Methyl tert-butyl ether	—	—	0.5	0.197	—
Napthalene	—	—	2	0.285	—
Styrene	—	—	0.5	0.0943	—
1,1,1,2-Tetrachloroethane	—	—	0.5	0.111	—
1,1,2,2-Tetrachloroethane	—	—	0.5	0.138	—
Tetrachloroethene	—	—	0.5	0.126	—
Toluene	—	—	0.5	0.108	—
1,2,4-Trichlorobenzene	—	—	2	0.218	—
1,1,1-Trichloroethane	—	—	0.5	0.116	—
1,1,2-Trichloroethane	—	—	0.5	0.138	—
Trichloroethene	—	—	0.5	0.133	—
Trichlorofluoromethane	—	—	0.5	0.131	—
1,2,3-Trichloropropane	—	—	0.5	0.213	—
Vinyl Acetate	—	—	5	0.663	—
Vinyle Chloride	—	—	0.5	0.042	—
m,p-Xylene	—	—	0.5	0.219	—
o-Xylene	—	—	0.5	0.102	—
PAHs (lab filtered)	EPA 3520C	EPA 8270C	ug/L	ug/L	500*
Acenaphthene	—	—	0.02	0.00198	—
Acenaphthylene	—	—	0.02	0.00178	—
Anthracene	—	—	0.02	0.00103	—
Benzo(a)anthracene	—	—	0.02	0.00210	—
Benzo(b)fluoranthene	—	—	0.02	0.00158	—
Benzo(k)fluoranthene	—	—	0.02	0.00194	—
Benzo(g,h,i)perylene	—	—	0.02	0.00182	—
Benzo(a)pyrene	—	—	0.02	0.00158	—
Chrysene	—	—	0.02	0.00124	—
Dibenz(a,h)anthracene	—	—	0.02	0.00162	—
Fluoranthene	—	—	0.02	0.00238	—
Fluorene	—	—	0.02	0.00258	—
Ideno(1,2,3-cd)pyrene	—	—	0.02	0.00208	—
2-Methylnaphthalene	—	—	0.02	0.00268	—
Naphthalene	—	—	0.02	0.00316	—
Phenanthrene	—	—	0.02	0.00320	—
Pyrene	—	—	0.02	0.00222	—
Total PAHs (Unfiltered)	EPA 3520C	EPA 8270C	ug/L	ug/L	500*
Acenaphthene	—	—	0.02	0.00198	—
Acenaphthylene	—	—	0.02	0.00178	—
Anthracene	—	—	0.02	0.00103	—
Benzo(a)anthracene	—	—	0.02	0.00210	—
Benzo(b)fluoranthene	—	—	0.02	0.00158	—
Benzo(k)fluoranthene	—	—	0.02	0.00194	—
Benzo(g,h,i)perylene	—	—	0.02	0.00182	—
Benzo(a)pyrene	—	—	0.02	0.00158	—
Chrysene	—	—	0.02	0.00124	—
Dibenz(a,h)anthracene	—	—	0.02	0.00162	—

Table 8b
Groundwater Analytes, Analysis Methods, Reporting and Detection Limits, and Minimum Mass Requirements

Analyte	Preparation Method	Analytical Method	Method Reporting Limit	Method Detection Limit	Minimum Volume needed (ml)
Fluoranthene	---	---	0.02	0.00238	---
Fluorene	---	---	0.02	0.00258	---
Ideno(1,2,3-cd)pyrene	---	---	0.02	0.00208	---
2-Methylnaphthalene	---	---	0.02	0.00268	---
Naphthalene	---	---	0.02	0.00316	---
Phenanthrene	---	---	0.02	0.00320	---
Pyrene	---	---	0.02	0.00222	---
Free Cyanide (Unfiltered)	**ASTM D-4282-02**	**ASTM D-4282-02**	**10 ug/L**	**3 ug/L**	**50**
Amenable Cyanide (Unfiltered)	**NA**	**335.1**	**10 ug/L**	**3 ug/L**	**50**
Metals (Field filtered)	---	---	**ug/L**	**ug/L**	**125**
Aluminum	CLP	6020	2	0.7000	---
Antimony	CLP	6020	0.05	0.0200	---
Arsenic	CLP	6020	0.5	0.2000	---
Barium	CLP	6020	0.05	0.0300	---
Beryllium	CLP	6020	0.02	0.0070	---
Cadmium	CLP	6020	0.02	0.2000	---
Calcium	CLP	6010B	50	20.0000	---
Chromium	CLP	6020	0.2	0.0600	---
Copper	CLP	6020	0.1	0.0300	---
Iron	CLP	6010B	20	20.0000	---
Lead	CLP	6020	0.02	0.0090	---
Magnesium	CLP	6010B	20	9.0000	---
Manganese	CLP	6010B	5	2.0000	---
Mercury	7470A	7470A	0.2	0.0400	25
Nickel	CLP	6020	0.2	0.0600	---
Potassium	CLP	6010B	2000	700.0000	---
Selenium	CLP	6020	1	0.2000	---
Silver	CLP	6020	0.02	0.0090	---
Sodium	CLP	6010B	100	60.0000	---
Thallium	CLP	6020	0.2	0.0040	---
Zinc	CLP	6020	0.5	0.3000	---
Total Metals (Unfiltered)	---	---	**ug/L**	**ug/L**	**125**
Aluminum	CLP	6020	2	0.7000	---
Antimony	CLP	6020	0.05	0.0200	---
Arsenic	CLP	6020	0.5	0.2000	---
Barium	CLP	6020	0.05	0.0300	---
Beryllium	CLP	6020	0.02	0.0070	---
Cadmium	CLP	6020	0.02	0.2000	---
Calcium	CLP	6010B	50	20.0000	---
Chromium	CLP	6020	0.2	0.0600	---
Copper	CLP	6020	0.1	0.0300	---
Iron	CLP	6010B	20	20.0000	---
Lead	CLP	6020	0.02	0.0090	---
Magnesium	CLP	6010B	20	9.0000	---
Manganese	CLP	6010B	5	2.0000	---
Mercury	7470A	7470A	0.2	0.0400	25
Nickel	CLP	6020	0.2	0.0600	---
Potassium	CLP	6010B	2000	700.0000	---
Selenium	CLP	6020	1	0.2000	---
Silver	CLP	6020	0.02	0.0090	---
Sodium	CLP	6010B	100	60.0000	---
Thallium	CLP	6020	0.2	0.0040	---
Zinc	CLP	6020	0.5	0.3000	---
Additional Conventionals	---	---	**mg/L**	**mg/L**	---
Chloride	NA	300	0.2	0.0300	5
Nitrate	NA	300	0.1	0.0070	---
Sulfate	NA	300	0.2	0.0900	---
Alkalinity	NA	310.1	2	1.0000	200
Ammonia	NA	350.1	0.05	0.0200	10
Carbonate	NA	310.1	2	1.0000	(with alk)
Bicarbonate	NA	310.1	2	1.0000	(with alk)
Total Volume Needed	---	---	---	---	**1,695 ml**

Note:

* PAH MRLs/MDLs adjusted 4X due to smaller sample size

John Edwards

From: BAYUK Dana [BAYUK.Dana@deq.state.or.us]

Sent: Wednesday, October 04, 2006 3:53 PM

To: John Edwards

Cc: Bob Wyatt; Patty Dost (Schwabe); Carl Stivers; Ben Hung; John Renda; Tim Stone; Rob B. Ede; ANDERSON Jim M; MCCLINCY Matt

Subject: NWNG, Phase 1 Off-shore FSA Telephone Discussions

This e-mail provides my understanding of telephone discussions between Anchor and DEQ on October 2nd and 4th regarding the "Addendum to the Offshore Final Phase 1 Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon" (the Addendum). During the discussions, details of the drilling and sampling program proposed for Phase 1 Offshore Field Sampling Approach (Phase 1 Offshore FSA) were clarified.

Based on the telephone discussions DEQ understands the following items were clarified and agreed upon.

- Based on DEQ's September 25th comments letter, NWNG added three borings to the drilling and sampling program (i.e., GS-00, GS-11, and GS-12). Additional clarification regarding DEQ's expectations of the soil/sediment sampling approach at these drilling locations was provided during the telephone calls.

  DEQ expects that soil/sediment samples from these three borings will be collected and analyzed consistent with other borings in the same sequence. In other words, DEQ expects that soil/sediment sampling will occur at borings GS-00 and GS-12 consistent with the approach proposed for even-numbered borings (i.e., GS-00 and GS-12 should be included in Table 6, Note #6), and that sampling at boring GS-11 will be consistent with the approach shown for odd-numbered borings (i.e., GS-11 should be added to Table 6, Note #7).

- The Addendum provides NWNG's recommendation for sequencing the drilling program. During our telephone calls DEQ concurred with the recommended sequence. In addition, DEQ and NWNG agreed to convene a status update meeting ~1/2-way through the field schedule to review and discuss the status of the work completed, evaluate the work remaining, and reprioritize the drilling sequence (if necessary based on the time available to perform the work).
- Soil/sediment and groundwater samples are being analyzed for PAHs using EPA Method 8270C-SIM and EPA Method 8270C respectively. DEQ noted that dibenzofuran is not on the analtyte list for these methods. Dibenzofuran has been 1) identified as a chemical of interest in the area being investigated, and 2) included along with PAHs in sampling and analytical work conducted at Siltronic. In addition, this chemical can be analyzed and reported using the referenced analytical methods.

  From our telephone discussions DEQ understands that dibenzofuran will be included in the analyte list for the field sampling program.

- All soil/sediment core extracted from the Sonic drill rods will be done over secondary containment to prevent spillage and/or releases of potentially impacted material onto the deck of the barge.

DEQ will approve the Phase 1 Offshore FSA and addendum upon Anchor's concurrance that our understanding of recent telephone discussions is correct and that the items listed above will be incorporated into the field sampling program.

Please contact me with questions regarding this e-mail.

Mr. Dana Bayuk, Project Manager
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Fax 206.287.9131

December 6, 2006
000029-02

Dana Bayuk, RG
Oregon DEQ
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201-4987

Re: Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon

Dear Mr. Bayuk:

This letter addendum was prepared by Anchor Environmental, LLC (Anchor) on behalf of NW Natural to address issues raised by Oregon Department of Environmental Quality (DEQ) during a November 20, 2006 meeting at DEQ. The purpose of the meeting was to discuss field procedures to be followed during continued Phase I offshore investigations scheduled to occur during the December 2006/January 2007 Willamette River work window. The discussions were based on the experience gained from drilling borings GS-9, GS-8, GS-7, GS-5, and GS-00 during October, 2006. Phase I shoreline GS-1, 2, 3, 4, 6, 10, 11, and 12 remain to be completed.

This investigation is being conducted according to the *Final Phase I Field Sampling Approach Gasco Siltronic Groundwater Source Evaluation (FSA)* (Anchor, September, 2006). The FSA has been modified as agreed with DEQ by the following documents.

- *SOP for Discrete Depth Groundwater Sampling* (Anchor Memo to Matt McClincy, September 19, 2006)
- *Addendum to Offshore Final Phase I Sampling Approach, NW Natural, Gasco Site, Portland, Oregon* (Anchor letter to Dana Bayuk, September 29, 2006)
- *NWNG, Phase I Offshore FSA Telephone Discussions* (October 4, 2006, E-mail from Dana Bayuk to John Edwards)

In addition to the items raised by DEQ in the November 20 meeting, this addendum documents field procedures implemented with DEQ concurrence during the October 2006 investigation that will be used for the remainder of the Phase I offshore borings. The following items were discussed in the November 20, 2006 meeting:

- Protection of the Pilot Cap during the advancement of boring GP-06
- Notification of Coast Guard when working in the Cap area
- Addition of potable water to control heave
- Changes in sampling intervals from original work plan
- Additional samples based on field observations

Protection of the Pilot Cap during the advancement of boring GP-06

DEQ expressed concern that offshore drilling near the cap may impact the cap. These are the potential issues and how we plan to deal with them to prevent any impact to the cap:

- Propwash from the barge/tug: The cap is designed with a 1 foot thick quarry spall armor layer on the top that is designed to withstand 25-year return frequency velocities in the river. We have observed an ocean going vessel leaving the dock under full power with propellers directed toward the cap, and in subsequent observations found no noticeable change to the cap armor layer. The cap is more than adequately designed to deal with any propwash forces from the barge/tug. To the extent practicable, propwash associated with the barge movement will be directed away from the cap during maneuvering, but this may not always be possible.
- Grounding of barge on cap: We do not anticipate that the barge resting on the cap armor layer will have any impact on the cap since the weight will generally be spread out.
- Spudding of the barge on the cap: Although we do not think the spuds would be expected to penetrate the armor layer we will (1) attempt to orient the barge in such a manner as to avoid spudding on the cap and (2) if this is not possible, then the locations of the spuds on the cap will be recorded and we will place one cubic yard of similar armor stone in both locations after the drilling is complete.
- Drilling through the cap will not be allowed. The drill rig will be positioned so that the boring location is well shoreward of the upper limit of the cap.

Notification of Coast Guard when working in the Cap area

DEQ requested that the Coast Guard be notified of our work near the cap consistent with the proposed regulated navigation area (RNA). It should be noted that the proposed RNA has not yet been approved and instituted, so the Coast Guard could not yet legally limit any activity in this area. However, we did contact the Coast Guard and explain the purpose of the research and that it is consistent with the overall Superfund and DEQ programs at the requirement of DEQ. The Coast Guard is currently processing the application and will likely send approval of the request in the next week of so. During the call we asked if we need to maintain communication with them regarding any potential actions by NW Natural in the cap area. The Coast Guard replied that their only function is to post the area as being a RNA to notify vessel operators. The Coast Guard will only need to be notified if the RNA area needs to be revised or to remove the RNA some time in the future.

Addition of potable water to control heave

During the course of drilling in October, sand heave was encountered in the borings. During the October drilling Prosonic attempted to remove the heave material from the casing by coring. However, this was not successful because additional heave occurred when removing the core barrel. It was found that multiple coring runs to remove heave would result in multiple heave events at the same casing depth. Therefore, the addition of water has proven to be the most feasible means of controlling heave.

Working with DEQ and the drillers, a method was devised for adding water in a way to limit potential effects on soil and groundwater chemistry. Heave is typically an issue when advancing the 6-inch casing. Therefore, soil is cored ahead of the of the 6-inch casing and following removal of the soil core, the water sampler is advanced beyond the bottom of the previously cored interval to the next water sampling interval. The screen is then exposed by withdrawing the screen cover, the interval is purged, the water sample collected, and the sampler removed. Then, if necessary, potable water is added to control heave while advancing the 6-inch casing to the bottom of the previously cored interval.

Prior to obtaining groundwater samples, purge water is monitored until groundwater pH and conductance readings stabilize. This purge monitoring works to assure that representative groundwater is being obtained, unaffected by the addition of water to control heave.

Changes in sampling intervals from original work plan

The sampling interval described in the work plan calls for soil and groundwater to be collected from the same interval; however, due to the need to add water to control heave as described above, the intervals have been slightly adjusted. The soil sample interval has been raised to the interval immediately above the water sample. Soil samples, instead of being precisely co-located with the water sample, are collected from the bottom three feet of the previous coring run. The water sample is then obtained from approximately three feet deeper than the maximum depth previously cored. For example, for the 50-foot core sample, drill rods will be pushed to 48 feet, and the soil sample will be cored from 45 to 48 feet. Following removal of the core barrel, the water sampler is then pushed to the 50-foot sample interval. The sleeve around the screen is then withdrawn, exposing the screen to undisturbed soil from 48 to 52 feet. Using this method minimizes the potential for downhole cross contamination because the water sampling screen is not exposed until it has been pushed below the previous maximum core depth. As described in the previous section, the borehole is then purged prior to obtaining the groundwater sample.

Most of the planned borings are located near the foot of the river embankment, where we expect to encounter rip-rap of varying thickness before we reach soil or sediment at the base of the rip-rap. Sampling of soil and/or groundwater in the upper rip-rap zone will likely not be

feasible. For these locations, an attempt will be made to push the water sampler to the 5-foot water sample depth (4 to 6 feet interval). If the water sampler encounters refusal at this depth due to the presence of rip-rap, a water sample will not be taken and coring will continue down to 9 feet. The water sampler will then be advanced to the 10-foot water sample depth (9 to 11 feet interval). Should the water sampler encounter refusal at this depth, a water sample will not be taken and coring will continue to 23 feet. The water sampler will then be advanced to the 25-foot water sample depth (23 to 27 foot interval).

Additional samples based on field observations

While drilling boring GS-05 Anchor and DEQ field staff noted an unidentifiable odor coming from the borehole and samples. The odor was described by some as similar to "dirty gym socks". During the November 20 meeting DEQ requested if in the future, there are areas where unidentifiable odors or other field indications of contamination are observed in a zone outside of a planned sampling interval, additional soil and/or water samples be collected and analyzed for the full list of semi-volatile organic compound by EPA method 8270 with tentatively identified compounds (TICs). Following the meeting, Anchor contacted Columbia Analytical Services and requested analysis of the soil sample collected from 95 to 98 feet using method 8270 (TIC). The sample had been in laboratory cold storage, but was beyond the method hold time limit, so the results will be useful only as a general indicator of potential contamination.

Please don't hesitate to contact us if you have any questions or comments.

Respectfully Submitted,

John Renda, RG
Anchor Environmental, L.L.C.

John Edwards, RG, CEG
Anchor Environmental, L.L.C.

Cc: Bob Wyatt
Patty Dost
Carl Stivers

ANCHOR
ENVIRONMENTAL, L.L.C.

Anchor Environmental, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, Oregon 97224
Phone 503.670.1108
Fax 503.670.1128

Matt McClincy
Oregon DEQ
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201-4987

December 20, 2006

Re: Location of Gasco Offshore Boring GS-06 Adjacent to Pilot Cap Area

Dear Mr. McClincy:

As you know offshore boring work has resumed for the winter work window at the Gasco site. The purpose of this letter is to apprise you of issues related to boring GS-06 and the adjacent pilot cap area. Anchor provided DEQ with the December 6, 2006 letter *Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon*. On page 2 of that letter we addressed the Protection of the Pilot Cap during the advancement of boring GP-06.

As currently sited, Boring GS-06 is located at the base of the shoreline embankment, adjacent to the nearshore edge of the pilot cap. The location of the boring, as shown on the attached PDF Figure 15, is between borings GS-07 and GS-05, which have been completed. Boring GS-06 is in a key location to provide subsurface groundwater quality and geotechnical data for the groundwater source control alternatives analysis. The attached PDF, Figure 4, shows the locations of the cap, and the organo-clay mat relative to the location of Boring GS-06.

A barge mounted sonic drill rig is currently working at location GS-03. Anchor staff have measured the dimensions of the barge and evaluated ways of conducting boring GS-06 while protecting the Pilot Cap. Barge and drill rig measurements have shown that we can drill the hole without drilling through the cap, however, the pipe spuds used to stabilize the barge would need to be placed on the cap armored area in order for the boring to be conducted. Because of the distance from the pipe spuds to the end of the barge, it is not possible to drill along the shoreline in the Pilot Cap area without placing the pipe spuds on the cap armor. Other methods of securing the vessel such as anchors or tie off to shore are too unstable for this type of drilling and may cause damage to the drill rig.

We have also evaluated if the project data needs could be met by shifting the location of GS-06. If we move GS-06 upstream away from the capped area, it will be nearly adjacent to boring GS-07. We cannot move the boring downstream because the barge mounted drill cannot get under

the overwater pipeway adjacent to GS-06. We cannot access the area inside the pipeway from a land based drill because of equipment access limitations.

For all of these reasons we recommend completing boring GS-06 at it's current location. Anchor believes that the Pilot Cap armor layer will minimize and possibly prevent damage to the cap from the placement of the pipe spuds. However, in any case we will follow the protocol for protecting and repairing from possible spud placement damage, as specified on page 2 of the December 6, 2006 letter. We will also make all reasonable steps to avoid placing the pipe studs on the area underlain by the organo-clay mat. Following is the text portion of the letter that addresses this issue.

- *Spudding of the barge on the cap: Although we do not think the spuds would be expected to penetrate the armor layer we will (1) attempt to orient the barge in such a manner as to avoid spudding on the cap and (2) if this is not possible, then the locations of the spuds on the cap will be recorded and we will place one cubic yard of similar armor stone in both locations after the drilling is complete.*

Following completion of the boring, the spud locations will be marked with buoys when the barge is moved. We will then place armor stone at the spud locations as specified above. The repaired area will be inspected by a diver to confirm completion of the repair.

Please confirm that this approach is approved by DEQ. Also, please note that we have copied EPA on this letter because of our notification requirements related to activities that may affect the cap.

Respectfully Submitted,

John E. Edwards, RG, CEG
Anchor Environmental, L.L.C.

Cc: Bob Wyatt, NW Natural
Dana Bayuk, DEQ
Sean Sheldrake, EPA
Patty Dost, Schwabe, Williamson, Wyatt
Tim Stone, Anchor

Attachment: Boring Location Map, Figure 15
Monitoring Station Map, Figure 4

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

December 28, 2006

Mr. Robert J. Wyatt
Northwest Natural
220 N.W. Second Avenue
Portland, OR 97209

Also Sent Via E-mail

Re: Addendum 2, Final Phase 1 Field Sampling Approach
Groundwater Source Evaluation
Northwest Natural Gas Company Site
Portland, Oregon
ECSI No. 84

Dear Mr. Wyatt:

The Oregon Department of Environmental Quality (DEQ) reviewed the "Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon" dated December 6, 2006. The December 6th addendum was supplemented by a letter dated December 20, 2006 that provided additional information and details regarding the location of Boring GS-06. The December 6th addendum and December 20th letter are collectively referred to as "Addendum 2" in this letter. Anchor Environmental, LLC prepared Addendum 2 on behalf of the Northwest Natural Gas Company (NWNG).

DEQ concurs with Anchor's determination that as proposed, Boring GS-06 is in a key location to provide data for the groundwater source control evaluation. DEQ approves Addendum 2 and its incorporation into the Phase 1 FSA[1] subject to the following conditions.

- NWNG will follow the procedures described in Addendum 2 to protect and repair the cap during and after drilling. Based on Figure 4, DEQ's expects the organo-clay mat to be avoided. Although DEQ prefers the barge to be oriented so the spuds are not placed on the cap, DEQ acknowledges that avoiding the cap may not be practicable given access limitations and working space considerations. If the spuds must be placed on the cap, DEQ understands that after Boring GS-06 is abandoned, each spud location will be marked and then repaired with one cubic yard of similar armor stone, and the effectiveness of the repair(s) will be confirmed through inspection.
- Boring GS-06 is located in an area where significant contamination occurs. The current configuration of booms deployed during drilling includes (from inner-most to outer-most): 1) sorbent booms that encircle the 8-inch conductor casing; 2) sorbent booms that surround

[1] Anchor Environmental, LLC, 2006, "Final Phase 1 Field Sampling Approach, GASCO Siltronic Groundwater Source Evaluation", September (as amended by the "Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon", September 29). A work plan prepared on behalf of the Northwest Natural Gas Company.

the barge (including the spuds) and work area (i.e., area beneath the drilling platform); and 3) a containment boom that encloses the barge against the shore and prevents releases that could occur outside the sorbent boomed area, if any, from escaping to the river. Prior to initiating work at GS-06, this arrangement of sorbent/containment booms should be reviewed in anticipation of releases taking place from the spuds and borehole during drilling and when the spuds/conductor casing are retracted after drilling is complete.

- The inventory of available sorbent pads/booms should be checked prior to initiating work at GS-06 to ensure that sufficient quantities of each are available and ready for immediate use if needed.

Please don't hesitate to contact Dana Bayuk (503/229-5543) if you have any questions regarding this letter.

Sincerely,

for

Matt McClincy
Project Manager
Portland Harbor Section

Cc: Sandy Hart, NW Natural
Tom McCue, Siltronic Corporation
Patty Dost, Schwabe Williamson & Wyatt
Alan Gladstone, Davis Rothwell Earle & Xochihua, P.C.
Chris Reive, Jordan Schrader
Carl Stivers, Anchor Environmental
John Edwards, Anchor Environmental
Rob Ede, Hahn & Associates
James Peale, Maul Foster & Alongi
Cinde Donoghue, Environment International
Eric Blischke, EPA
Rene Fuentes, EPA
Chip Humphrey, EPA
Kristine Koch, EPA
Sean Sheldrake, EPA
Dana Bayuk, PHS
ECSI No. 84 File

DEQ-DCI

APPENDIX B
PERMITS

DEPARTMENT OF THE ARMY
PORTLAND DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2946
PORTLAND, OREGON 97208-2946

September 20, 2006

BC	
SC	
PM	
TL	
PM	
TECH	
TYP	9/20

REPLY TO
ATTENTION OF:

Operations Division
Regulatory Branch
Corps No.: 200600593

Mr. Bob Wyatt
Northwest Natural Gas
220 NW 2nd Avenue
Portland, Oregon 97209

Dear Mr. Wyatt:

The U.S. Army Corps of Engineers (Corps) has received your permit application on behalf of the Northwest Natural requesting Department of the Army (DA) authorization to perform borings to collect soil from below the ordinary high water (OHW) on the Willamette River as shown in the enclosed drawings (Enclosure 1). The project is located on the Willamette River, River Mile 6.0, Section 12, Township 1 North, Range 1 West, near Portland, Multnomah County, Oregon.

This letter verifies that your project is authorized under the terms and limitations of Regional General Permit (RGP) Category B, Survey Activities. Your activities must be conducted in accordance with the conditions found in the Portland District Regional Conditions (Enclosure 2), Replacement Regional General Permit Conditions (Enclosure 3). You must also comply with the Oregon Department of Environmental Quality (DEQ) Compliance Conditions (Enclosure 4) and the project specific conditions 1 and 2 below. **Failure to comply with any of the listed conditions could result in the Corps initiating an enforcement action.**

1. Your authorization is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached *Standard Local Operating Procedures for Endangered Species (SLOPES III) for Certain Regulatory and Operations Activities Carried Out by the Department of the Army Permits in Oregon and the North Shore of the Columbia River*, dated November 30, 2004, which are incorporated by reference in this permit. Failure to comply with the terms and conditions, including the general, activity-specific, and monitoring reasonable and prudent measures (RPM) associated with incidental take specified in the enclosed SLOPES III document (in part), (Enclosure 5), where a take occurs, constitutes an unauthorized take, and constitutes non-compliance with this permit.

   a. The permittee shall fully implement all conditions, as applicable to the permitted activity, in Reasonable and Prudent Measures (RPM) #1, and #2. These RPMs are outlined in Enclosure 5. Please note the general terms and conditions of these RPMs cover an array

of diverse activities and not all requirements may apply to your particular project. In RPM #1, section g, in RPM #2, sections j, h and o apply to your permitted activity.

b. If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at 360-418-4246. The finder must take care in the handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

c. The permittee shall provide all documentation and reports, as required for submittal under SLOPES III to the following address:

U.S. Army Corps of Engineers
CENWP-OD-GC
Compliance Section (Multnomah County/Corps No. 200600593)
P.O. Box 2946
Portland, Oregon 97208

2. This permit does not exclude the permittee from liability or any requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (42 U.S.C. 9601 et. Seq.), the Resource Conservation and Recovery Act of 1978 as amended (42 U.S.C. 6901 et. Seq.), the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et. Seq.), and any and all requirements of the State of Oregon under Revised Statutes or Administrative Rules. The permittee is advised that the work for which this permit is granted is located within the "area of interest" of the Environmental Protection Agency and the Oregon Department of Environmental Quality pursuant to a National Priorities Listing relative to the Willamette River. Granting of this permit by the Portland District, U.S. Army Corps of Engineers, should in no way be construed as approval of this project as being in compliance with the above cited authorities. Neither should the permittee consider this permit as absolving the permittee from any liability or damages from any party whomsoever.

We direct your attention to the Portland District Regional Conditions (Enclosure 2) that require the transfer of this permit if the property is sold, and the Replacement Regional General Permit Conditions (Enclosure 3) that require you to submit a signed certificate when the work is completed. A "Compliance Certification" is provided (Enclosure 6).

This authorization does not obviate the need to obtain other permits where required. Permits, such as those required from the Oregon Department of State Lands (ODSL) under Oregon's Removal /Fill Law, must also be obtained before work begins.

This verification is valid for a period of two years from the date of this letter unless the RGP expires, is modified, reissued, or revoked prior to that date. This RGP is scheduled to be modified, reissued, or revoked in January 2008. If you commence or under contract to commence this activity before the date the RGP expires, is modified, or revoked, you will have 12 months from the date of the modification or revocation to complete the activity under the present terms and conditions of the current RGP.

If you have any questions, please contact Dr. Jan Stuart at the letterhead address, by telephone (503) 808-4393, or by email at janice.f.stuart@nwp01.usace.army.mil.

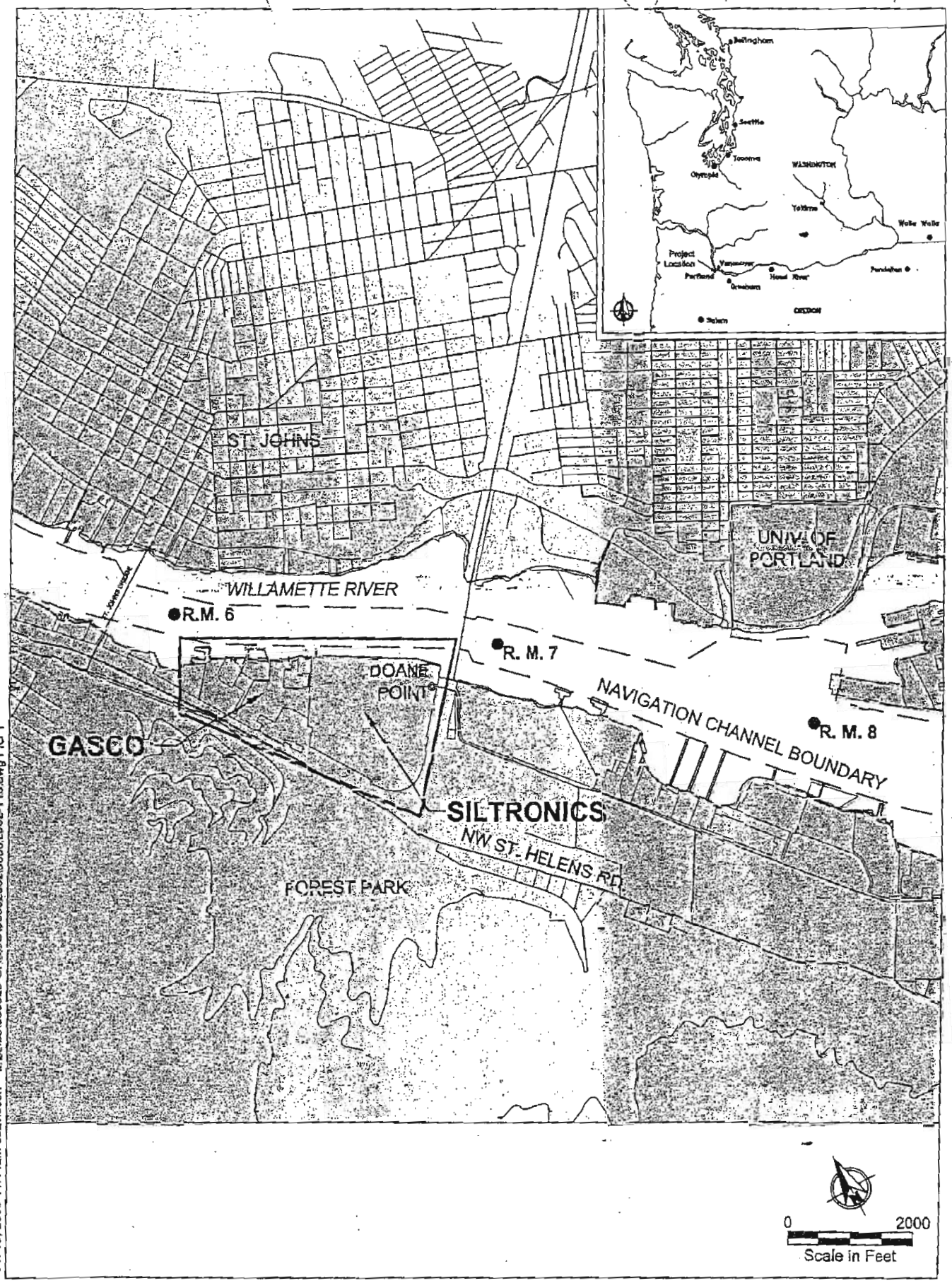
Sincerely,

for Janice Stuart
Lawrence C. Evans
Chief, Regulatory Branch

Enclosures

Copy Furnished:

Oregon Department of State Lands (Friebaum)
U.S. Army Corps of Engineers, Regulatory Branch (Nelson) w/ enclosure 1



Oct 10, 2005 11:14am cdavidson K:\Jobs\000029-GASCO\00002802\00002802-119.dwg FIG 1

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 1
Vicinity Map
Gasco and Siltronics Site

Portland District Regional Conditions

(a) **In-water Work Windows:** All in-water work, including temporary fills or structures, shall occur between July 1 through October 31 and December 1 and January 31 (timeframes are specific to the waterbody). Exceptions to these time periods require specific approval from the Corps.

(b) **Upland Disposal:** All excess material will be taken to a suitable upland location for disposal. The material shall be placed in a location and manner that prevents its discharge into waterways or wetlands.

(c) **Heavy Equipment:** Heavy equipment shall be operated from the bank and not placed in the stream unless specifically authorized by the District Engineer. Heavy equipment must be placed on mats or similar precautions must be taken to minimize damage to wetland resources.

(d) **Fish Screening:** Fish Screening will comply with standards approved by the National Marine Fisheries Service or the Oregon Department of Fish & Wildlife, as appropriate.

(e) **Cultural Resources & Human Burials:** Permittees must immediately notify the District Engineer if at any time during the course of the work authorized, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, may be affected. Failure to stop work in the area of exposure until such time the Corps has complied with the provisions of 33 CFR 325, Appendix C, the National Historic Preservation Act and other pertinent regulations, could result in violation of state and federal laws. Violators are subject to civil and criminal penalties.

(f) **Fish Passage:** Permittee shall insure activities authorized by nationwide permit will not restrict passage of aquatic life. Activities such as the installation of culverts or diversion structures, or other modifications to channel morphology must be designed to be consistent with fish passage standards developed by the Oregon Department of Fish and Wildlife (ODFW) and the National Marine Fisheries Service (NMFS). The standards can be found in the document entitled "ODFW standards and Criteria for Stream Road Crossings". The streambed shall be returned to pre-construction contours after construction unless the purpose of the activity is to eliminate a fish barrier.

(g) **Riparian Vegetation Protection & Restoration:** When working in waters of the United States or riparian areas the construction boundary shall be minimized to the maximum extent practicable. Permittee shall mark and clearly define the construction boundary before beginning work. Native riparian vegetation will be successfully established along tributaries where the vegetation was removed by construction. The plantings shall start at the ordinary high water mark and extend 10 feet back from the top of the bank. The plantings must be completed by the end of the first planting season following the disturbance.

normally be made sufficiently in advance to allow a property owner or representative to be on site with the agency representative making the inspection.

(l) **Sale of property/transfer of permit:** If you sell the property associated with this permit, you must transfer the permit to the new owner(s) and obtain their signature(s). A copy of this permit with the new owner(s) signature shall be sent to this office to validate the transfer of this permit authorization

Regional General Permit General Conditions

1. Navigation. No activity may cause more than a minimal adverse effect on navigation.

2. Proper Maintenance. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

3. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

4. Aquatic Life Movements. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

5. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

6. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state or tribe in its Section 401 Water Quality Certification and Coastal Zone Management Act consistency determination.

7. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

8. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

9. Water Quality. (a) In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (See 33 CFR 330.4(c)).

12. Historic Properties. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. Notification. (a) Timing; where required by the terms of the RGP category, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the notification is complete within 30 days of the date of receipt and can request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the notification is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed under the RGP category with any special conditions imposed by the District or Division Engineer; or

(2) If notified in writing by the District or Division Engineer that an Individual Permit is required; or

(3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the RGP category may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Notification: The notification must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the RGP category (Sketches usually clarify the project and when provided result in a quicker decision.);

property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) Form of Notification: The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(12) of Regional General Permit Condition 13. A letter containing the requisite information may also be used.

(d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the RGP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the RGP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the RGP.

If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either: (1) That the project does not qualify for authorization under the RGP and instruct the applicant on the procedures to seek authorization under an Individual Permit; (2) that the project is authorized under the RGP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the RGP with specific modifications or conditions. Where the District Engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

16. Water Supply Intakes. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. Shellfish Beds. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. Suitable Material. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the CWA).

19. Mitigation. The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the or RGP categories. For example, 1/4-acre of wetlands cannot be created to change a 3/4-acre loss of wetlands to a 1/2-acre loss associated with RGP category K verification. However, 1/2-acre of created wetlands can be used to reduce the impacts of a 1/2-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with RGP categories.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of

Section 401 Water Quality Certification
Part A- General Conditions

1. **Duration of Certification-** This 401 WQC shall remain in effect until the RGP expires or the NWP categories it covers are again considered for re-issue and certification as part of a Nationwide package.

2. This section 401 Water Quality Certification does not authorize any site preparation activity for development or placement of water control structures in tidal waters or wetlands adjacent to tidal waters.

3. **Turbidity Control:** The following conditions relating to turbidity shall be observed:

a. Except as allowed in Condition 3(b) or 3(c) [below], the authorized work shall not cause turbidity of affected waters to exceed natural background turbidity by 10 percent, measured 100 feet downstream from the activity causing turbidity.

b. For projects in streams where the gradient is less than or equal to 2 percent (rise/run), monitoring shall take place at no less than 4-hour intervals during active, in-water work. Where erosion control measures specified in General Condition 4 of this WQC have been implemented, the turbidity standard specified in General Condition 3(a) may be exceeded for a maximum of 1 (one) monitoring interval per 24-hour work period.

c. For projects in streams where the gradient is greater than 2 percent (rise/run), monitoring shall take place at no less than 2-hour intervals during active, in-water work. Where erosion control measures specified in General Condition 4 of this certification have been implemented, the turbidity standard specified in General Condition 3(a) may be exceeded for a maximum of 2 (two) hours.

d. For projects impacting streams, water quality monitoring points shall be established at an undisturbed site representing background conditions approximately100-feet upstream from the point of permitted work, and at a point approximately100-feet downstream from the point of permitted activity in the visible plume, if one is present. Other monitoring locations may be authorized by the Corps if access is problematic. A turbidimeter is recommended for measuring; however, visual gauging is acceptable. If measured visually, turbidity that is visible over background is considered an exceedance of the standard.

e. The person(s) conducting the monitoring shall be responsible for immediately notifying the permit holder or the permit holder's on-site representative of any exceedance of the turbidity standard and shall keep a record of the exceedance. If a 10 percent exceedance of the background level occurs at 100 feet below the project site, turbidity control measures shall be improved or additional controls shall be implemented until the turbidity standard is met. Monitoring shall continue at prescribed compliance intervals. If exceedances caused by the permitted activity occur during two consecutive measurements, the activity

the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow.

This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

22. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

23. Waterfowl Breeding Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. Removal of Temporary Fills. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by RGP categories C, E, J, and K for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above RGP categories in National Wild and Scenic Rivers if the activity complies with Regional General Permit Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with Regional General Permit Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

(b) For RGP categories A, D, G, H, and I, notification is required in accordance with Regional General Permit Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these RGP categories only after it is determined that the impacts to the critical resource waters will be no more than minimal.

26. Fills Within 100-Year Floodplains. For purposes of this Regional General Permit Condition, 100-year floodplains will be identified through the existing Federal

b. Projects that require removal of chemically treated wood must:
   i. Ensure that no treated wood debris falls into waters of the State. If treated wood debris falls into waters of the State, it must be removed immediately.
   ii. Dispose of all treated wood debris removed during a project, including treated wood pilings, at an upland facility approved for hazardous materials of this classification. Do not leave a treated wood piling in the water or stacked on the streambank.
c. Biologically harmful materials and construction debris including, but not limited to: petroleum products, chemicals, cement cured less than 24 hours, welding slag and grindings, concrete saw cutting by-products, sandblasted materials, chipped paint, tires, wire, steel posts, asphalt and waste concrete shall not be placed in waterways or wetlands. Authorized fill material must be free of these materials. The applicant must remove all foreign materials, refuse, and waste from the project area.
d. An adequate supply of materials needed to contain deleterious materials during a weather event must be maintained at the project construction site.
e. Machinery refueling shall not occur in waterways or wetlands or their riparian areas. Refer to General Condition 6 for refueling specifics.

6. Spill Prevention and Staging Activities: **Fuel, operate, maintain, and store vehicles and construction materials in areas that minimize disturbance to habitat and prevent adverse effects from potential fuel spills.**
   a. Limit staging areas to the minimum size necessary to complete the project. To reduce the staging area and potential for contamination, ensure that only enough supplies and equipment to complete a specific task will be stored on-site.
   b. Complete vehicle staging, cleaning, maintenance, refueling, and fuel storage in a vehicle staging area placed 150 feet or more from any waters of the State, unless this distance is not appropriate because of the following site conditions:
      i. Physical constraints that make this distance not feasible (e.g., steep slopes, rock outcroppings).
      ii. Natural resource features would be degraded as a result of this setback.
      iii. Equal or greater spill containment and effect avoidance if staging area is less than 150 feet of any waters of the State.
   c. If staging areas are within 150 feet of any waters of the State, full containment of potential contaminants shall be provided to prevent soil and water contamination, as appropriate.
   d. Inspect all vehicles operated within 150 feet of any waters of the State daily for fluid leaks before leaving the vehicle staging area. Repair any leaks detected in the vehicle staging area before the vehicle resumes operation. Document inspections in a record that is available for review on request by the appropriate Regulatory Authorities.
   e. Before operations begin and as often as necessary during operation, steam clean (or an approved equal) all equipment that will be used below bankfull elevation until all visible external oil, grease, mud, and other visible contaminates are removed.

c. Fish Passage- Provide passage for any adult or juvenile migratory fish species present in the project area during and after construction, for the life of the project, and as approved in writing by the appropriate resource and regulatory agencies including ODFW, USFWS, and NMFS. Upstream passage is not required during construction if it did not previously exist.

d. Isolation of In-water Work Area- If adult or juvenile fish are reasonably certain to be present, if spawning habitats are reasonably likely to be impaired (e.g. work area is within 300 feet or as required by ODFW), or as needed to protect beneficial uses, complete isolation of the work area from the active flowing stream using inflatable bags, geo blocks, sandbags, sheet pilings, or similar materials, is required unless otherwise approved in writing by the appropriate Regulatory Authorities. The applicant is referred to DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005, for isolation techniques.

10. **Site Restoration:** *Riparian and Wetland Vegetation Protection and Restoration-* Vegetation associated with waters of the state, including wetlands, is absolutely essential in preserving and enhancing water quality. In many cases this includes vegetation on adjacent upland buffer areas. Therefore riparian, wetland, and shoreline vegetation in the project area shall be protected from unauthorized disturbance, or, if authorized work results in unavoidable disturbance, shall be restored and enhanced. The applicant must protect or restore habitat access, water quality, production of habitat elements, channel conditions, flows, watershed conditions, and other ecosystem processes that form and maintain productive habitats.

Preparation and implementation of a *Site Restoration Plan* may be required to ensure that all habitats and accesses (e.g., streambanks, soils, large woody material, and vegetation) disturbed by the project are restored.

a. Site Restoration Plan Requirements- Consistent with *OAR 141-085-0171,* when impacts to existing vegetation are anticipated as a result of the proposed activities, and the impacts will not require mitigation because they are considered temporary, the applicant must provide a rehabilitation plan for temporary impacts which includes the following:
   i. Existing and proposed contours.
   ii. Existing physical and biological characteristics, including vegetation.
   iii. Geomorphology and habitat features of stream or other open waters.
   iv. Areas of temporary impacts associated with construction staging and access.
   v. Restoration goals and objectives necessary to restore lost functions.
   vi. A planting plan appropriate to the geographic area which demonstrates how the applicant will replace or enhance riparian vegetative function.
   vii. A plan to control exotic invasive vegetation;
   viii. An irrigation plan, including water supply source, if necessary.

b. General Conditions relating to site disturbance:
   i. All exposed soils must be stabilized during and after construction to prevent erosion and sedimentation.
   ii. All disturbed areas shall be returned to original ground contours at project completion.

(3) Stockpile all large wood, native vegetation, weed-free topsoil, and native channel material displaced by construction for use during site restoration in-channel, in the riparian area, or in adjacent uplands, as appropriate.

d. Rehabilitation Plan Contents. Use of the following design elements, while discretionary, may lead to more successful rehabilitation efforts.

i. Design Considerations. These guidelines may be used to develop a design plan and to aid in restoration goal assessment. While no single element is sufficient to measure success, the intent is that these features should be present within reasonable limits of natural and management variation:

(1) Bare soil spaces that approximate the size and dispersal pattern of pre-existing conditions;

(2) Soil movement, such as active rills or gullies and soil deposition around plants or in small basins, is absent or slight and local;

(3) If areas with past erosion are present, they are completely stabilized and healed;

(4) Plant litter is well distributed and effective in protecting the soil with few or no litter dams present;

(5) Native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site;

(6) Vegetation structure is resulting in rooting throughout the pre-existing, available soil profile;

(7) Plants have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation;

(8) Streambanks have less than 5% exposed soils with margins anchored by deeply rooted vegetation or coarse-grained alluvial debris.

11. Projects employing sumps or dry wells for groundwater discharge must conform to OAR 340-044-050. Contact Barbara Priest, DEQ, at 503-229-5945 for more information.

12. DEQ reserves the option to modify, amend, or revoke this 401 WQC for any or all activities or categories of activities, in the event that:

a. New information indicates that the certified activities are having a significant adverse impact on state water quality or aquatic resources;

b. State water quality standards, criteria, or beneficial uses are amended through rulemaking; or,

c. A proposed activity is necessitated by natural or human caused events which result in sudden structural damage threatening human health and safety and determined by the Corps or DEQ to be an emergency.

Section 401 Water Quality Certification
Part B- Activity Specific Conditions

1. **Streambank Stabilization and Protection-** Avoid and minimize adverse effects to natural stream and floodplain function by limiting streambank protection actions to

structure or the bank key. Placing the large woody debris near streambanks in the depositional area between flow direction structures to satisfy this requirement is not approved, unless those areas are likely to be greater than 3 feet in depth, sufficient for target-species rearing habitats.

(3) Fill the trench excavated for the bank key above bankfull elevation with soil and topped with native vegetation.

(4) The maximum flow-redirection structure length will not exceed 1/4 of the bankfull channel width.

(5) Place rock individually without end dumping, unless approved in writing by the appropriate Regulatory Authorities.

(6) If two or more flow-redirection structures are built in a series, place the flow-redirection structure farthest upstream within 150 feet or 2.5 bankfull channel widths, from the flow-redirection structure farthest downstream.

(7) Include woody riparian planting as a project component.

c. Use of Large Wood and Rock- **Whenever possible, use large wood as an integral component of streambank protection treatments. Avoid or minimize the use of rock, stone, and similar materials.**

i. Large wood will be intact, hard, and undecayed to partly decaying with untrimmed root wads to provide functional refugia habitat for fish. Use of decayed or fragmented wood found lying on the ground or partially sunken in the ground is not acceptable.

ii. Rock may be used instead of wood for the following purposes and structures. The rock may not impair natural stream flows into or out of secondary channels or riparian wetlands. Whenever feasible, place topsoil over the rock and plant with woody vegetation.

(1) As ballast to anchor or stabilize large woody debris components of an approved bank treatment.

(2) To fill scour holes, as necessary to protect the integrity of the project, if the rock is limited to the depth of the scour hole and does not extend above the channel bed.

(3) To construct a footing, facing, head wall, or other protection necessary to prevent scouring or downcutting of, or slope erosion or failure at, an existing structure (e.g., culvert, utility line, roadway or bridge support) to be repaired.

(4) To construct a flow-redirection structure as described above.

(5) In projects maintaining existing transportation related structures when an ODOT or other registered professional engineer identifies rock alone as the only effective method due to site specific geotechnical or hydraulic concerns.

2. **Stormwater Management for RGP activities involving impervious surfaces**

Stormwater discharges to waters of the state must not violate state water quality standards, including ***Oregon Administrative Rule (OAR) 340-041-0004****, the Antidegradation Policy for Surface Water.*

Permit Applications Which Involve Impervious Surfaces). It is anticipated that stormwater plans for Tier 2A and Tier 3A projects will entail a short narrative paragraph and a rudimentary drawing which include the following elements or justification for those elements which may not be applicable:

(1) A site sketch or plan view drawing indicating the drainage flow directions, and discharge locations, contours or spot elevations (preferably both) showing direction of stream and surface flow and location and size of proposed facilities (e.g., parking lots, driveways, buildings, or roads) and nearest downstream waterbody, other physical features of the site, and the location and type of construction and post-construction BMPs;

(2) BMPs –

a. A description of proposed BMPs and a summary of their anticipated operation to insure adequate capacity, proper function, and appropriate design for the site such that quality, quantity, and seasonality of pre-construction hydrologic conditions are mimicked to the maximum extent practicable, based on stormwater anticipated to be generated due to project-related impervious surfaces and delivered to waters of the state. See local jurisdiction regulations and accepted stormwater manuals for detention and capacity requirements;

b. A BMP implementation schedule, operation and maintenance plan, and designation of a party or agency with documentation of their agreement for responsibility for post-construction BMP maintenance; and,

c. A plan for removal, recycling and disposal of temporary BMPs which are not intended for post-construction use;

or in lieu of (2) a, b, & c,

d. Reference to implementation of a programmatic process developed to achieve these expectations, and acknowledged by DEQ as adequately addressing pollution control or reduction through basin-wide post-construction stormwater management practices.

(3) If engineered structural BMPs are incorporated into the post construction stormwater management plan they must be prepared and stamped by an Oregon registered Professional Engineer (PE).

(4) The applicant must submit a copy of the *Stormwater Management Plan* to both the Corps and DEQ.

iii. *Tier 2B & Tier 3B Projects*- It is anticipated that stormwater plan narrative and drawings for Tier 2B and Tier 3B projects will be more detailed and specific than stormwater plans for Tier 2A and Tier 3A projects. An initial, conceptual plan which describes intended stormwater management but lacks engineering or specifics, is acceptable for a complete application. Projects may receive a conditional permit from the Corps which will become final only with submittal and approval of the final plan which must include the following elements:

* Eastern Washington Manual Chapter 5
http://www.ecy.wa.gov/pubs/0410076.pdf

* City of Portland Manual Chapter 2
http://www.portlandonline.com/bes/index.cfm?c=35122

* Western Washington Manual Volume 5
http://www.ecy.wa.gov/pubs/9915.pdf

* Clean Water Services Manual Appendix B & E
ftp://ftp.cleanwaterservices.org/Web/ConstructionStandards/0409%20D&C%20Stds%20Manual.pdf

* King County Surface Water Design Manual
http://dnr.metrokc.gov/wlr/dss/manual.htm

Low Impact Development: Technical Guidance Manual for Puget Sound 2005
http://www.psat.wa.gov/Publications/LID_tech_manual05/lid_index.htm
Guidelines and Resources for Implementing Soil Depth & Quality BMP T.5.13
WDOE Western Washington Stormwater Manual 2002
http://compostwashington.org/PDF/SOIL_MANUAL.pdf

EPA Fact Sheets
http://www.epa.gov/owm/mtb/mtbfact.htm

EPA Urban Stormwater Best Management Practices Study Report
http://www.epa.gov/waterscience/stormwater/usw_c.pdf

Stormwater Manager's Resource Center Manual - Design Examples
http://www.stormwatercenter.net/

* DEQ accepted post-construction stormwater management manuals

3. **Stormwater Conditions during authorized activities-** *The following conditions apply to all applicable projects authorized by the RGP:*
   a. The applicant must provide and implement a post-construction stormwater management plan consistent with the tiering strategy contained in Activity Specific Condition #2; and,
   b. All impacts to wetlands must be mitigated, including those impacts resulting from implementing a BMP, consistent with *OAR 141-085-0176.*

4. **Stream and Wetland Restoration-**
   a. **Ineligibility-** Any project employing artificial grade controls or water regulation devices such as concrete structures, dams, stop logs, full spanning weirs, or

d. Ensure any treated wood piling to remain submerged is broken, cut, or pushed at least 3 feet below the sediment surface.
e. Fill and cover holes left by each treated timber piling removed with clean, native substrates that match surrounding streambed materials.

7. **Site Preparation-** In addition to Stormwater Management, *Part b* above, the following conditions also apply:
   a. Project applications must be complete and account for total impacts at build-out regardless of construction phasing. Projects may not be phased to avoid exceeding threshold limitations of 0.5 acres of wetland impact or 1000 cubic yards of material removal or fill;
   b. Projects are ineligible for authorization under the RGP if individual lot impacts within full developments are not accounted for; and,
   c. Impacts to wetlands and waters of the state for a project are additive relative to the thresholds for eligibility.

8. **Water Control Structures-** See General Conditions.

If the applicant is dissatisfied with the conditions contained in this certification, you may request a hearing before the Environmental Quality Commission. Such request must be made in writing to the Director of DEQ within 20 days of the mailing of this certification.

The DEQ hereby certifies that the RGP complies with the Clean Water Act and state water quality standards, if the above conditions are made a part of the federal permit.

If you have any questions regarding this Water Quality Certification, please contact Alexandra Cyril at 503-229-6030.

Sincerely,

Robert Baumgartner, Manager
Program, Policy, and Project Assistance Section
Water Quality Division

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cc: John Lilly, Michael Morales, Eric Metz, DSL
Dale Blanton, Jane Bacchieri, DLCD
Patty Snow, ODFW
Yvonne Vallette, EPA
Joe Zisa, John Marshall, USFWS
Ben Meyer, Marc Liverman, NOAA Fisheries

Programmatic Biological and Conference Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Revised Standard Local Operating Procedures for Endangered Species (SLOPES III) to Administer Certain Activities Authorized or Carried Out by the Department of the Army in the State of Oregon and on the North Shore of the Columbia River, issued by National Marine Fisheries Service (NOAA Fisheries) on November 30, 2004.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Endangered Species Act (ESA), the U.S. Army Corps of Engineers (Corps) must comply with the following Terms and Conditions, which implement the Reasonable and Prudent Measures described above. These Terms and Conditions are non-discretionary and are applicable to more than one category of activity. Therefore, Terms and Conditions listed for one type of activity are also Terms and Conditions of any category in which they would also minimize take of listed species or their habitats.

To implement Reasonable and Prudent Measure #1 (standard local operating procedures for endangered species; SLOPES III), the U.S. Army Corps of Engineers (Corps) shall ensure that:

a. Statewide Programmatic General Permit (SPGP). Any SPGP issued to the State of Oregon to defer regulatory review and evaluation of permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act must meet the following criteria.

i. Applicable Terms and Conditions. Any permit issued by the State pursuant to the SPGP must include each applicable term and condition of this Incidental Take Statement as an enforceable part of that permit including, but not limited to those that are relevant to monitoring and construction (*e.g.*, project notification, project completion report, minimum area, timing of in-water work, pollution and erosion control, piling installation and removal, treated wood, temporary access roads, work area isolation, stormwater management, site restoration, compensatory mitigation.)

ii. Scope of Actions Under SPGP. The Corps' deferral under the SPGP must be limited to applications for project that: (1) affect 0.5 acres or less of fill in a wetland and one thousand cubic yards or less of fill and removal below ordinary high water;[1] and (2) are among the following types of actions as authorized by this Opinion.

(1) Piling installation and removal.
(2) Site preparation for buildings and related features.
(3) Streambank stabilization.
(4) Stream and wetland restoration.

[1] "Ordinary high water" or bankfull elevation means the bank height or elevation inundated by a 1.5 to 2-year average recurrence interval and may be estimated my morphological features such as average bank height, scour lines, and vegetation limits. Compare 33 CFR 329.11(a)(1) (The "ordinary high water mark" on non-tidal rivers is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; in the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas).

Fisheries will approve or disapprove the request in writing within 30 calendar days of receipt of the variance request.

i. Justification for the proposed variance.

ii. Description of additional actions necessary to offset any likely adverse effects of the variance as appropriate.

iii. An explanation of how the resulting effects are within the range of effects considered in this Opinion.

g. Project Completion Report or Memo to File. Each permit issued by the Corps under this Opinion must require the applicant to submit a project completion report to the Corps within 60 days of finishing work below ordinary high water; for each project carried by the Corps, the project supervisor must prepare a project completion memo to file. Each report or memo must contain the following information and be available for inspection on request by NOAA Fisheries.

i. Applicant's name and permit number (if any).

ii. Corps contact person.

iii. Project name.

iv. Type of activity.

v. Project site including any compensatory mitigation site by 5th field HUC.

vi. Start and end dates for work completed.

vii. Photos of habitat conditions at the project site including any compensatory mitigation site, before, during, and after project completion.[3]

viii. Projects with the following work elements must include these data.

(1) Work Cessation—Dates work ceased due to high flows.[4]

(2) Fish Screen—Proof of compliance with NOAA Fisheries fish screen criteria.[5]

(3) Pollution Control—A summary of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort.

(4) Drilling—Describe the drilling method and steps taken to isolate drilling operations, fluids, slurry and spoils from flowing water.

(5) Pilings. The number, type, and diameter of pilings removed, broken during removal, and installed; and any sound attenuation measures used.

(6) Site Preparation—Riparian area cleared within 150 feet of ordinary high water; upland area cleared; new impervious area created.

(7) Streambank Stabilization—Type and amount of materials used; project size (one bank or two, width and linear feet).

(8) Road Construction, Repairs, and Improvements—Rationale for any new permanent road crossing design.

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[3] Relevant habitat conditions may include characteristics of channels, eroding, and stable streambanks in the project area, riparian vegetation, water quality, flows at base, bankfull and over-bankfull stages, and other visually discernable environmental conditions at the project area, and upstream and downstream from the project. Include general views and close-ups of the project and project area, including pre- and post-construction. Label each photo with date, time, project name, photographer's name, and a comment about the subject.

[4] "High flows" means any flow likely to rise above the top of an work isolation area or otherwise inundate a work area that would normally be dry.

[5] National Marine Fisheries Service, Juvenile Fish Screen Criteria (revised February 16, 1995) and Addendum; Juvenile Fish Screen Criteria for Pump Intakes (May 9, 1996) (guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) or as amended (http://www.nwr.noaa.gov/1hydrop/hydroweb/ferc.htm).

To implement Reasonable and Prudent Measure #2 (general conditions for surveying, exploration, construction, operation, and maintenance), the U.S. Army Corps of Engineers (Corps) shall ensure that:

a. Exclusions. Any exploration or construction activity, including surface water diversion and release of construction discharge water within 300 feet upstream from any occupied redd until fry emerge or within 300 feet of native submerged aquatic vegetation is not authorized by this Opinion, unless otherwise approved in writing by NOAA Fisheries. Requests for approval should be submitted with the project notification form. Permits for the following types of exploration, construction, and mitigation actions are not authorized by this Opinion.

   i. Use of pesticides.
   ii. Use of short pieces of plastic ribbon to determine flow patterns.
   iii. Temporary roads or drilling pads built on steep slopes where grade, soil types, or other features suggest a likelihood of excessive erosion or failure.
   iv. Exploratory drilling in estuaries that cannot be conducted from a work barge or an existing bridge, dock, or wharf.
   v. Installation of a fish screen on any permanent water diversion or intake that is not already screened.
   vi. Any projects that require in-water installation of hollow steel piling greater than 24-inches in diameter or use of H-pile larger than designation HP24.
   vii. Drilling or sampling in an EPA-designated Superfund Site, a state-designated cleanup area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps' best professional judgment.
   viii. Compensatory mitigation actions that require construction of permanent structures, maintenance beyond the establishment period or after the performance standards have been met, or creation of habitat functions where they did not historically exist, or that simply preserve existing functions.

b. Pollution and Erosion Control Plan. A pollution and erosion control plan must be prepared and carried out to prevent pollution caused by surveying or construction operations. The pollution and erosion control plan must be commensurate with the scale of the project, contain pertinent elements listed below, and meet requirements of all applicable laws and regulations. Submit an electronic copy of this plan with the project notification form.

   i. Goal. The goal is to avoid or minimize the adverse effects of pollution and erosion by limiting soil disturbance, scheduling work when the fewest number of fish are likely to be present, managing likely pollutants, and limiting the harm that may be caused by accidental discharges of pollutants and sediment.
   ii. Responsible Party. The name, address, and telephone number of the person responsible for accomplishment of the pollution and erosion control plan.
   iii. Minimum Area. Practices to confine vegetation removal and soil disturbance to the minimum area necessary to complete the project and otherwise prevent erosion and sedimentation associated with access roads, stream crossings, drilling sites, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations, staging areas, and roads being decommissioned.
   iv. In-water Work Timing. Develop a schedule to complete all work below ordinary high water, except hydraulic and topographic measurements within the wetted channel,[6] inside the most recent Oregon Department of Fish & Wildlife (ODFW) or the Corps Seattle District preferred in-water work period,[7] as appropriate for the project area unless

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[6] Hydraulic and topographic measurements within the wetted channel may be completed anytime except during the spawning period, unless a fisheries biologist verifies that no redds are occupied within 300 feet downstream from the measurement site.

[7] ODFW, Oregon Guidelines for Timing of In-water Work to Protect Fish and Wildlife Resources (June 2000) at http://www.dfw.state.or.us/lands/0600_inwtrguide.pdf and U.S. Army Corps of Engineers, Seattle District Regulatory Branch, Allowable Work Windows at http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=work_windows as amended.

ii. If electrofishing equipment is used to capture fish, comply with NOAA Fisheries' electrofishing guidelines.[10]

iii. Handle ESA-listed fish with extreme care keeping fish in water to the maximum extent possible during seining and transfer procedures to prevent the added stress of out-of-water handling.

vi. Ensure water quality conditions are adequate in buckets or tanks used to transport fish by providing circulation of clean, cold water using aerators to provide dissolved oxygen and minimizing holding times.

v. Release fish into a safe release site as quickly as possible and as near as possible to capture sites.

vi. Do not transfer the ESA-listed fish to anyone except NOAA Fisheries personnel unless otherwise approved in writing by NOAA Fisheries. Requests for approval should be submitted with the project notification form.

vii. Obtain all other Federal, state, and local permits necessary to conduct the capture and release activity.

viii. Allow NOAA Fisheries or its designated representative to accompany the capture team during the capture and release activity and to inspect the team's capture and release records and facilities.

ix. Submit an electronic copy of the Salvage Report Form (Appendix B) to NOAA Fisheries at slopes.nwr@noaa.gov within 10 calendar days of completion of the salvage operation.

e. Fish Passage. Safe passage around or through the project area must be provided for any adult and juvenile salmon or steelhead species present during construction unless passage did not previously exist or as otherwise approved in writing by NOAA Fisheries. Requests for approval should be submitted with the project notification form.

i. Fish ladders (*e.g.*, pools and weirs, vertical slots, Denil fishways) and fish trapping systems are not authorized by this Opinion.

ii. After project completion, adult and juvenile passage upstream and downstream must not be impaired for the life of the project.

f. Stormwater Management Plan. A stormwater management plan must be prepared and carried out for any project that will produce any new impervious surface or a land cover that will slow the entry of water into the soil. The stormwater management plan must be commensurate with the scale of the projects, contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations. Submit an electronic copy of this plan with the project notification form.

i. Goal. The goal is to minimize adverse effects due to the quantity and quality of stormwater runoff for the life of the project by maintaining or restoring natural runoff conditions.

ii. Responsible Party. The name, address, and telephone number of the person responsible for accomplishment of the stormwater management plan.

iii. Management Practices and Facilities. A system of management practices and if necessary, structural facilities designed to complete the following functions.

(1) Minimize, disperse, and infiltrate stormwater runoff onsite using sheet flow across permeable vegetated areas to the maximum extent possible without causing flooding, erosion impacts, or long-term adverse effects to groundwater.

(2) Pre-treat stormwater from pollution generating surfaces including bridge decks before infiltration or discharge into a freshwater system, as necessary to minimize any nonpoint source pollutant (*e.g.*, debris, sediment, nutrients,

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[10] National Marine Fisheries Service Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act (June 2000) (http://www.nwr.noaa.gov/1salmon/salmesa/final4d.htm).

(4) Do not divert surface water from or increase discharge to an existing wetland if that will cause a measurable or detectable adverse effect to wetland hydrology, soils, or vegetation.

(5) The velocity of discharge water released from an outfall or diffuser port may not exceed four feet per second, and the maximum size of any aperture may not exceed one inch.

g. Site Restoration Plan. A site restoration plan must be prepared and carried out to ensure that all streambanks, soils, and vegetation disturbed by the project are cleaned up and restored as follows. The site restoration plan must be commensurate with the scale of the project, contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations. Submit an electronic copy of this plan with the project notification form.

i. Goal. The goal is to reestablish habitat access, water quality, production of habitat elements (*e.g.*, large wood), channel conditions, flows, watershed conditions, and other aquatic habitat forming processes that were harmed during project completion.

ii. Responsible Party. The name, address, and telephone number of the person responsible for accomplishment of the site restoration plan including providing and managing any financial assurances and monitoring necessary to ensure restoration success.

iii. Baseline Information. This information may be obtained from existing sources (*e.g.*, land use plans, watershed analyses, subbasin plans), where available.

(1) A functional assessment of adverse effect, *i.e.*, the location, extent and function of the riparian and aquatic resources that will be adversely affected by construction and operation of the project.

(2) The location and extent of resources surrounding the restoration site including historic and existing conditions.

iv. Objectives. Restoration objectives that describe the extent and methods of site restoration necessary to offset adverse effects of the project by aquatic resource type.

(1) Restore damaged streambanks to a natural slope, pattern, and profile suitable for establishment of permanent wood vegetation unless precluded by pre-project conditions (*e.g.*, a natural rock wall).

(2) Replant each area requiring revegetation before the first April 15 following construction. Use a diverse assemblage of species native to the project area or region including grasses, forbs, shrubs, and trees. Noxious or invasive species may not be used.

(3) Use as much as possible of the large wood, native trees, native vegetation, topsoil, and native channel material that was stockpiled during site preparation.

(4) Do not apply surface fertilizer within 50 feet of any stream channel.

(5) Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

v. Performance Standards. Use the following standards to help design the plan and assess whether the restoration goal is met. While no single criterion is sufficient to measure success, the intent is that these features should be present within reasonable limits of natural and management variation.

(1) Human and livestock disturbance if any is confined to small areas necessary for access or other special management situations.

(2) Areas with signs of significant past erosion are completely stabilized and healed; bare soil spaces are small and well dispersed.

(3) Soil movement such as active rills and soil deposition around plants or in small basins is absent or slight and local.

(4) Native woody and herbaceous vegetation, and germination microsites are present and well distributed across the site.

(5) Plants have normal, vigorous growth form and a high probability of remaining vigorous, healthy, and dominant over undesired competing vegetation.

(6) Vegetation structure is resulting in rooting throughout the available soil profile.

(7) Plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion ("litter dams").

(2) Watershed-level considerations related to specific aquatic resource needs of the affected area.

(3) Existing technology and logistical concerns.

(4) A description of the legal means for protecting mitigation areas, and a copy of any legal instrument relied on to secure that protection.

(5) Make mitigation compatible with adjacent land uses or if necessary use an upland buffer to separate mitigation areas from developed areas or agricultural lands.

(6) Base the level of required mitigation on a functional assessment of adverse effects of the proposed project and functional replacement (*i.e.*, "no net loss of function"), whenever feasible or a minimum one-to-one linear foot or acreage replacement.

(7) Acceptable mitigation includes reestablishment or rehabilitation of natural or historic habitat functions when self-sustaining, natural processes are used to provide the functions.

(8) Whenever feasible, complete mitigation before or concurrent with project construction to reduce temporal loss of aquatic functions and simplify compliance.

(9) When project construction is authorized before mitigation is completed, the applicant must show that a mitigation project site has been secured and appropriate financial assurances in place.

(a) Complete all work necessary to carry out the mitigation plan no later than the first full growing season following the start of project construction whenever feasible.

(b) If beginning the initial mitigation actions within that time is infeasible, then include other measures that mitigate for the consequences of temporal losses in the mitigation plan.

(10) Actions to complete a mitigation plan that require a Corps permit must also meet all applicable terms and conditions for this Opinion or complete a separate consultation.

i. Surface Water Diversion. Surface water may be diverted consistent with Oregon law to meet construction needs only if water from sources that are already developed such as municipal supplies, small ponds, reservoirs, or tank trucks is unavailable or inadequate.

i. Alternative Sources. When alternative surface sources are available, diversion shall be from the stream with greatest flow.

ii. Fish Screen. A temporary fish screen must be installed, operated, and maintained according to NOAA Fisheries fish screen criteria on any surface water diversion used to meet construction needs.

iii. Rate and Volume. The rate and volume of pumping will not exceed 10 percent of the available flow. For streams with less than five cubic feet per second, drafting will not exceed 18,000 gallons per day and no more than one pump will be operated per site.

j. Construction Discharge Water. All discharge water created by construction (*e.g.*, concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) must be treated as follows:

i. Water Quality Treatment. Design, build, and maintain facilities to collect and treat all construction and drilling discharge water using the best available technology applicable to site conditions to remove debris, nutrients, sediment, petroleum products, metals, and other pollutants likely to be present.

ii. Return Flow. If construction discharge water is released using an outfall or diffuser port, velocities may not exceed four feet per second, and the maximum size of any aperture may not exceed one inch.

iii. Pollutants. Do not allow pollutants such as green concrete, contaminated water, silt, welding slag, sandblasting abrasive, or grout cured less than 24 hours to contact any waterbody, wetland, or stream channel below ordinary high water.

ii. If native materials are moved, damaged, or destroyed, replace them with a functional equivalent during site restoration.

iii. Stockpile all large wood[15] taken from below ordinary high water and from within 150 feet of a stream, waterbody, or wetland, native vegetation, weed-free topsoil, and native channel material displaced by construction for use during site restoration.

iv. As part of the site restoration, all large wood taken from the riparian zone or stream during construction must be returned to those areas and placed in a natural configuration that may be expected to function naturally.

n. Temporary Access Roads and Drilling Pads. All temporary access roads and drilling pads must be constructed as follows.

i. Existing Ways. Use existing roadways, travel paths, and drilling pads whenever possible unless construction of a new way or drilling pad would result in less habitat take. When feasible, eliminate the need for an access road by walking a tracked drill or spider hoe to a survey site or lower drilling equipment to a survey site using a crane.

ii. Soil Disturbance and Compaction. Minimize soil disturbance and compaction whenever a new temporary road or drill pad is necessary within wetlands or the riparian management area by clearing vegetation to ground level and placing clean gravel or geotexile fabric unless otherwise approved in writing by NOAA Fisheries. Requests for approval should be submitted with the project notification form.

iii. Temporary Stream Crossings.

(1) Minimize the number of temporary stream crossings.

(2) Design temporary road crossings as follows.

(a) A qualified fish biologist will survey and map spawning habitat, any occupied spawning redds, and native submerged aquatic vegetation within 300 feet upstream downstream and 100 feet upstream from a proposed crossing.

(b) Do not place a stream crossing within 300 feet downstream or 100 feet upstream from any occupied redd until fry emerge or within 300 feet of native submerged aquatic vegetation.

(c) Design the crossing to provide for foreseeable risks (*e.g.*, flooding and associated bedload and debris to prevent the diversion of streamflow out of the channel and down the road if the crossing fails).

(d) Vehicles and machinery must cross riparian areas and stream at right angles to the main channel wherever possible.

iv. Obliteration. When the project is complete, obliterate all temporary access roads that will not be in footprint of a new bridge or other permanent structure, stabilize the soil, and revegetate the site.

o. Earthwork. Earthwork including drilling, excavation, dredging, filling, and compacting must be completed as quickly as possible.

i. Site Stabilization. Stabilize all disturbed areas including obliteration of temporary roads following any break in work unless construction will resume within four days.

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15 "Large wood" means a tree, log, or redwood big enough to dissipate stream energy associated with high flows, capture bedload, stabilize streambanks, influence channel characteristics, and otherwise support aquatic habitat function, given the slope and bankfull channel width of the stream in which the wood occurs. See Oregon Department of Forestry and ODFW, "A Guide to Placing Large Wood in Streams, May 1995, http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/lrgwood.pdf

drilling, will occur above ordinary high water to minimize discharge of sawdust, drill shavings, excess preservative and other debris in riparian, or aquatic habitats. Use tarps, plastic tubs, or similar devices to contain the bulk of any fabrication debris and wipe off any excess field preservative.

v. Abrasion Prevention. All treated wood structures including pilings must have design features to avoid or minimize impacts and abrasion by livestock, pedestrians, vehicles, vessels, floats, *etc.*, to prevent the deposition of treated wood debris and dust in riparian or aquatic habitats.

vi. Waterproof Coating. Treated wood may be used to construct a bridge, over-water structure, or an in-water structure provided that all surfaces exposed to leaching by precipitation, overtopping waves, or submersion are coated with a waterproof seal or barrier that will be maintained for the life of the project. Coatings and any paint-on field treatment must be carefully applied and contained to reduce contamination. Surfaces that are not exposed to precipitation or wave attack, such as parts of a timber bridge completely covered by the roadway wearing surface of the bridge deck are exempt from this requirement.

vii. Debris Removal. Projects that require removal of treated wood must use the following precautions.

(1) Ensure that to the extent feasible, no treated wood debris falls into the water. If treated wood debris does fall into the water, remove it immediately.

(2) After removal, place treated wood debris in an appropriate dry storage site until it can be removed from the project area. Do not leave treated wood construction debris in the water or stacked on the streambank at or below the ordinary high water.

(3) Evaluate treated wood construction debris removed during a project including treated wood pilings to ensure proper disposal of debris.

q. Piling Installation. Hollow steel piling 24 inches in diameter or smaller and H-pile designated as HP24 or smaller may be installed below ordinary high water as follows.

i. Minimize the number and diameter of pilings as feasible.

ii. Repairs, upgrades, and replacement of existing pilings consistent with these terms and conditions are allowed. In addition, up to five single pilings or one dolphin consisting of three to five pilings may be added to an existing facility per in-water construction period.

iii. Whenever feasible, use vibratory hammer for piling installation. Otherwise, use the smallest drop or hydraulic impact hammer necessary to complete the job and set the drop height to the minimum necessary to drive the piling.

iv. When using an impact hammer to drive or proof steel piles, one of the following sound attenuation devices must be used to reduce sound pressure levels by 20 dB.

(1) Place a block of wood or other sound dampening material between the hammer and the piling being drive.

(2) If water velocity is 1.7 miles per hour or less, surround the piling being driven by an unconfined bubble curtain that will distribute small air bubbles around 100 percent of the piling perimeter for the full depth of the water column.[18]

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[18] For guidance on how to deploy an effective, economical bubble curtain, see Longmuir, C. and T. Lively, "Bubble Curtain Systems for Use During Marine Pile Driving, Fraser River Pile and Dredge LTD, 1830 River Drive, New Westminster, British Columbia, V3M 2A8, Canada. Recommended components include a high volume air compressor that can supply more than 100 pounds per square inch at 150 cubic feet per minute to a distribution manifold with 1/16 inch diameter air release holes spaced every 3/4-inch along its length. An additional distribution manifold is needed for each 35 feet of water depth.

Compliance Certification

Project County: Multnomah

Permit Number: 200600593

Date of Issuance: _____

Name of Permittee: _____

I hereby certify that the work authorized by the above referenced permit, has been completed in accordance with the terms and conditions of the said permit, and that required mitigation was completed in accordance with the permit conditions, except as described below.

_____

Signature of Permittee

Encl 6

Oregon
Theodore R. Kulongoski, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 378-3805
FAX (503) 378-4844
www.oregonstatelands.us.

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

September 28, 2006

JRF600/37238
OREGON DEQ
ATTN MATT MCCLINCY
2020 SW FOURTH AVE
SUITE 400
PORTLAND OR 97201

RE: DSL Permit Waiver No. 37238-PW
T. 01N, R. 01W, Sec. 12, TL 100, Willamette River, River Mile 6.0,
Portland, Multnomah County

Dear Mr. McClincy:

As you know, a Removal-Fill permit waiver has been claimed under the authority of the Oregon Department of Environmental Quality for remedial action to conduct soil and groundwater sampling for contaminated sediments in the Willamette River on property located in T. 01N, R. 01W, Sec. 12, Tax Lot 100. As directed by statute (ORS 465.315) and rule (OAR 141-085-0022), DSL provides herein the substantive permit requirements for the proposed project.

Please call Joy Freibaum at extension 268 if you have any questions on this transmittal.

Sincerely,

Michael Morales
Western Region Manager
Department of State Lands
Wetlands and Waterways Conservation Division

JRF:jr
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Enclosure

c: Cy Young, DSL
Judy Linton, COE
Devin Simmons, ODFW
Bob Wyatt, Northwest Natural
Elizabeth Appy, Anchor Environmental LLC

DSL SUBSTANTIVE REQUIREMENTS FOR NORTHWEST NATURAL SEDIMENT SAMPLING
DSL No. 37238-PW

1. This permit authorizes the removal of up to 14 cubic yards of soil in T. 01N, R. 01W, Section 12, Tax Lot 100 in the Willamette River, River Mile 6.0, Multnomah County, as outlined in the attached permit application, map and drawings, dated September 11, 2006.

2. Fill and removal activities in the Willamette River shall be conducted between July 1 and October 31, and December 1 and January 31, unless otherwise coordinated with ODFW and approved in writing by ODSL.

3. TURBIDITY/EROSION CONTROLS. The authorized work shall not cause turbidity of affected waters to exceed 10% over natural background turbidity 100 feet downstream of the fill point. For projects proposed in areas with no discernible gradient break (gradient of 2% or less), monitoring shall take place at 4 hour intervals and the turbidity standard may be exceeded for a maximum of one monitoring interval per 24 hour work period provided all practicable control measures have been implemented. This turbidity standard exceedance interval applies only to coastal lowlands and floodplains, valley bottoms and other low-lying and/or relatively flat land.

4. For projects in all other areas, the turbidity standard can be exceeded for a maximum of 2 hours (limited duration) provided all practicable erosion control measures have been implemented. These projects may also be subject to additional reporting requirements.

5. Turbidity shall be monitored during active in-water work periods. Monitoring points shall be at an undisturbed site (representative background) 100 feet upstream from the turbidity causing activity (i.e., fill or discharge point), 100 feet downstream from the fill point, and at the point of fill. A turbidimeter is recommended, however, visual gauging is acceptable. Turbidity that is visible over background is considered an exceedance of the standard.

6. The following erosion control measures (and others as appropriate) shall be observed:

   a. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures shall be used sufficient to prevent movement of soil from uplands into waterways or wetlands.
   b. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, shall be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours.
   c. Erosion control measures shall be inspected and maintained daily, or more frequently as necessary, to ensure their continued effectiveness and shall remain in place until all exposed soil is stabilized.
   d. Unless part of the authorized permanent fill, all construction access points through, and staging areas in, riparian or wetland areas shall use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities shall be stabilized by mulching and native vegetative plantings/seeding. Sterile grass may be used instead of native vegetation for temporary sediment control. If soils are to remain exposed more than seven days after completion of the permitted work, they shall be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed.

e. Where vegetative erosion control is being done on cut slopes steeper than 1H:2V, a tackified seed mulch shall be used so the seed does not wash away before germination and rooting.
f. Dredged or other excavated material shall be placed on upland areas having stable slopes and shall be prevented from eroding back into waterways or wetlands.

7. Erosion control measures shall be maintained as necessary to ensure their continued effectiveness, until soils become stabilized. All erosion control structures shall be removed when project is complete and soils are stabilized and vegetated.

8. HAZARDOUS, TOXIC AND WASTE MATERIALS. Petroleum products, chemicals, fresh cement sandblasted material and chipped paint or other deleterious waste materials shall not be allowed to enter waters of the state. No wood treated with leach able preservatives shall be placed in the waterway. Machinery refueling is to occur off-site or in a confined designated area to prevent spillage into waters of the state. Project-related spills into water of the state or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.

9. If any archaeological resources and/or artifacts are uncovered during excavation, all construction activity shall immediately cease. The State Historic Preservation Office shall be contacted (phone: 503-986-0669).

10. When listed species are present, the permit holder must comply with the federal Endangered Species Act. If previously unknown listed species are encountered during the project, the permit holder shall contact the appropriate agency as soon as possible.

11. The Department of State Lands retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

12. NW Natural is responsible for carrying-out the terms and conditions of this permit unless the permit is transferred to another party as approved by the Department.

September 28, 2006

775 Summer St NE STE 100
Salem OR 97301-1279
Phone: 503.378.3805
Fax: 503.378.4844

Oregon Department of State Lands

Fax

From: Cy Young

Extension: 245

To: Amy Chestnut Agency: Schwabe Williamson & Wyatt

Fax: 503-796-2900 Phone:

RE: CC:

☒ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments:

Signed Agreement –

Date Sent: October 4, 2006 Time Sent: 2:47 PM Number of Pages Incl Cover:

DSL substantive requirement not met

STATE OF OREGON
DEPARTMENT OF STATE LANDS
TEMPORARY USE PERMIT FOR REMEDIAL WORK

37183-TU

37-238

The State of Oregon, by and through its Department of State Lands (State), does hereby grant to Northwest Natural (Permitee) a permit to conduct work on state lands on the following terms:

1. GRANT OF ACCESS

State grants Permitee, its agents, employees, consultants, and contractors, access to the area described in Attachment A (Property), which is incorporated herein by reference, to conduct a Remedial Investigation/Feasibility Study (Work) required of Permitee pursuant to a Voluntary Agreement with the Oregon Department of Environmental Quality (DEQ). Permitee will be permitted access to the Property as of the effective date of this Permit.

The description of the Property as provided by State is drawn from an assessor's map and/or other data, but State makes no representation regarding its accuracy or reliability. State will not provide a survey or pay any costs of a survey to determine boundaries. If Permitee elects not to have a survey performed and a discrepancy or boundary overlap later becomes evident, State, at its discretion, may provide a corrected description of the Property and amend this Permit as necessary.

2. SCOPE OF AUTHORIZED WORK

All Work shall be performed in accordance with the Voluntary Agreement entered into by the Permitee under the DEQ Voluntary Cleanup Program (VCP) and all work plans, designs, schedules, and other deliverables approved by DEQ there under.

3. TERM

This Permit shall terminate upon the earlier of 2 years or issuance by DEQ of a Certification of Completion under the Voluntary Agreement unless amended or earlier terminated by State or Permitee as provided herein.

4. NOTICE AND SAMPLE RESULTS

Permitee shall notify State not less than five (5) working days before initiating Work on the Property. Permitee shall provide State with copies of all work plans (and other documents describing the nature and location of the Work), validated analytical data generated by the Work, and all final reports summarizing such analytical data as soon as practicable.

5. COMPLIANCE WITH LAWS

Permitee shall comply with all federal, state, and local laws and rules applicable to the Work. This Permit is solely for access to the Property. It does not give Permitee an interest in the Property. It neither gives Permitee permission to use the Property in a manner not in conformance with land use requirements, if any, applicable to the Work, nor constitutes regulatory approval of the Work or any related activities. It is Permitee's sole responsibility to determine and comply with any applicable requirements and to secure any necessary authorizations and approvals for the Work.

Permitee shall use the Property only in a manner, and for such purposes, as assure fair and nondiscriminatory treatment of all persons without respect to race, creed, color, religion, handicap, disability, age, gender or national origin.

6. PROPER DISPOSAL

Permitee shall comply with all federal, state, and local laws and rules applicable to the generation, storage or disposal of any waste generated by the Work. No waste generated by the Work shall be stored, discharged, or otherwise disposed of on property owned by the State of Oregon.

7. PREVENTION OF DAMAGE AND INJURY

Permitee shall carry out all activities on the Property with due regard for public safety, the prevention of waste, and the restoration and conservation of said Property for future use; shall make all reasonable efforts to prevent and avoid interference with existing navigational and recreational activities and scenic values; shall maintain the areas of the Property affected by the Work in a safe condition recognizing the continuing public access to the Property during the term of this Permit; shall take all reasonable steps to avoid damage to fish and fish habitat, wildlife and wildlife habitat, and water quality; shall take all reasonable steps to minimize erosion; and shall substantially restore the Property to its original condition.

8. STRUCTURES AND EQUIPMENT

Any structures placed upon or tools, equipment, or other Property taken or placed upon the Property in conjunction with the Work shall be removed by Permitee at Permitee's expense when Permitee ceases Work on the Property or this Permit is terminated, whichever is earlier.

This Agreement does not authorize the placement of permanent structures on state-owned land. Erection or installation of permanent structures on the Property is beyond the scope of this Permit and will generally require additional authorization or transfer of a property interest (e.g. sale, lease or easement).

9. CONSTRUCTION

Construction in navigable waters shall conform to all standards and specifications set by U.S. Army Corps of Engineers or U.S. Coast Guard applicable to the Work. The bed and banks of the waterway shall be restored to a condition acceptable to the State as soon as any construction or maintenance is completed.

10. RESERVATIONS/EXISTING RIGHTS

The interest of Permitee under this Permit shall at all times be subject to existing rights to use the Property and to the exercise of any new rights to use the Property; provided the new right does not unreasonably interfere with the Work for which access is granted under this Permit. Permitee is responsible for ensuring that its activities under this Permit are allowed by and do not interfere with any then existing right, including without limitation any lease, right-of-way, easement or other use authorization covering the same area.

11. ACCESS TO PROPERTY AND RECORDS

State shall have access to the Property at all reasonable times for the purpose of ensuring compliance with the terms and conditions of this Permit. State shall also have the right to examine pertinent records of Permitee for the purpose of ensuring compliance with this Permit.

Permitee shall ensure that public access to the navigable waters is maintained during the term of this Permit. State reserves the right to reevaluate the extent of public access and any restrictions on public use at any time during this Permit. State further reserves the right to require Permitee to post or use markings or floats to delineate work areas as necessary or appropriate to protect public safety or navigation during the Work.

12. INDEMNIFICATION

Permitee shall defend, indemnify, and hold harmless the State of Oregon and its commissions, agencies, officers, employees, consultants, contractors and agents from any and all claims, demands, actions, suits, damages, costs, penalties, fines or expenses (including reasonable consultant and attorney fees, in an administrative proceeding, at trial or on appeal) (collectively "claims") of any person to the extent it results from performance of the Work, including without limitation claims arising from any act or omission of Permitee, its agents, employees, consultants, contractors, agents, or any other person acting on behalf of Permitee. This indemnification shall not affect the liability, if any, of Permitee or State with respect to any condition existing on the Property as of the effective date of this Permit, except to the extent such conditions are exacerbated by the Work.

13. BOND

State reserves the right to require Permitee to furnish to State a surety bond or an equivalent cash deposit or certificate of deposit that names the State of Oregon as co-owner to ensure that Permitee will perform in accordance with all terms and conditions of this Permit.

14. INSURANCE

Permitee shall keep in effect during the term of this Permit (a) comprehensive general liability coverage for all Work performed on the Property of not less than $1,000,000 per occurrence and $2,000,000 in aggregate for bodily injury, property damage, and contractual liability for the indemnity provided herein; (b) worker's compensation insurance as required by law; and (c) professional liability insurance without a pollution exclusion provision and with a limit of not less than $1,000,000 per claim and $2,000,000 in aggregate (or both professional liability insurance and contractor's pollution liability insurance each with limits of not less than $1,000,000 per claim and $2,000,000 in aggregate). The liability coverages, except the professional liability insurance as described in (c), shall include the State of Oregon, the Oregon State Land Board, the Department of State Lands and their officers and employees as additional insureds with respect to Permitee's activities under this Permit. Insurance coverages required by this Permit shall be obtained from insurers in good standing with the Oregon Insurance Commission. As evidence of the required insurance coverage, Permitee shall furnish certificate(s) of insurance to the State before issuance of this Permit. Permitee may satisfy all or part of the insurance requirements herein with an accord form certificate as proof acceptable to State that the required insurance is held by Permitee's agents, consultants or contractors conducting the Work.

15. MODIFICATION

This Permit may not be changed, amended, or its term extended without the mutual written consent of each Party. This Permit affords access for the Work required by the Voluntary Agreement only. Additional work required by subsequent agreements, orders, or by amendments to the Voluntary Agreement will require a new or amended Permit.

16. DEFAULT, NOTICE AND CURE BY PERMITTEE

Permitee shall be in default if any of the following occurs and is not remedied within thirty (30) days (or such longer period agreed to in writing by State) after the State has given notice specifying the breach:

a) Failure of Permitee to comply with any term or condition of this Permit, including without limitation, failure of Permitee to use the designated area for the purposes

authorized under the terms of this Permit, as described in sections 1 and 2, above.

b) Maintenance by Permitee of a nuisance or dangerous condition on the Property.

c) Failure of Permitee to remove any lien or encumbrance placed upon the Property.

17. TERMINATION UPON PERMITTEE'S DEFAULT

In the event of a default by Permitee, this Permit may be terminated at the option of State by thirty (30) days' advance notice in writing to Permitee. Permitee shall have fifteen (15) days after date of termination to remove all equipment and other Property from the Property.

18. TERMINATION UPON MUTUAL CONSENT

This Permit may also be terminated by mutual written consent of Permitee and State.

19. NOTICE

Any notice required to be sent under this Permit to Permitee by State shall be sent by certified mail and shall be deemed to be delivered after the certified letter is deposited in the United States mails addressed to Permitee at the address given by Permitee in the signature block of this Permit or other address provided to State in a subsequent written notice of change of address.

20. ASSIGNMENT OR SUBLETTING

This Permit shall not be assigned.

21. NON PARTNERSHIP

As between State and Permitee, Permitee shall be solely responsible for the cost and expense of any activity conducted on the Property by or on behalf of Permitee under this Permit. State is neither a partner nor a joint venturer with Permitee in connection with the Work nor shall it be considered a party to any contracts made by Permitee or its agents in carrying out the Work and shall have no obligation with respect to Permitee's debts, liabilities, or other obligations.

23. NON WAIVER

Waiver by either party of strict performance of any term of this Permit on any occasion shall not be construed as a waiver nor prejudice either party's right to require strict performance of the same provision or any other provision in the future.

24. SURVIVAL OF COVENANTS

All remedies and continuing obligations of this Permit, including without limitation Permitee's indemnification obligation and State's access to records, shall survive termination of this Permit.

25. EFFECTIVE DATE

This Permit shall be effective upon execution by State.

26. ENTIRE PERMIT

This Permit together with its recitals, attachments and exhibits, all of which are incorporated herein by reference, constitutes the entire Permit between the parties with respect to the subject matter hereof. No waiver, consent, modification, or change in terms of this Permit shall bind either party unless in writing. There are no understandings, Permits, or representations, oral or written, not specified herein regarding the subject matter of this Permit. This Permit supersedes all prior or existing agreements between the parties with respect to the Property and Work described herein.

Permitee, by the signature below of its authorized representative, hereby acknowledges that Permitee has read this document, understands it and agrees to be bound by its terms and conditions.

STATE:
The State of Oregon, acting by and through the
Department of State Lands
775 Summer ST NE, STE 100
Salem, OR 97301-1279

Stephen Vanhave
Authorized Signature

Oct 4, 2006
Date

Permitee:
Bob Wyatt
Northwest Natural
220 NW 2nd Avenue
Portland, OR 97209
503-226-4211 Ext 5425

Environmental Specialist
Signature/Title
(Note requirement below)

10-4-06
Date

Note: If Permitee is a corporation, partnership, limited liability company or other form of business entity, signer warrants that s/he has the authority to sign the permit on behalf of such entity by resolution of its Board of Directors or equivalent, or through delegation of authority to the signer.

STATE OF)
) ss
County of MULTNOMAH)

The foregoing instrument was acknowledged before me this 4TH day of OCTOBER, 2006, by ROBERT WYATT (name of officer or agent of corporation), the ENVIRONMENTAL COMPLIANCE SPEC. (title of officer or agent) of NW NATURAL GAS COMPANY (name of business entity), an OREGON (State or place of incorporation) CORPORATION (corporation, general partnership, limited liability company, etc.)on behalf of said (corporation, general partnership, limited liability company, etc.).

Signature
My commission expires 01/13/10

OFFICIAL SEAL
CATHERINE M SCHAFFNER
NOTARY PUBLIC-OREGON
COMMISSION NO. 399453
MY COMMISSION EXPIRES JANUARY 13, 2010

ATTACHMENT A

37183-TU

All state owned submerged or submersible lands in the Willamette River in Section 12, Township 1 North, Range 1 West, Willamette Meridian, Multnomah County, Oregon, more particularly described as follows:

Commencing at a point on the intersection of the line defined as the southeasterly line of tax lot 1000 (Multnomah County Assessor Map Number 1N 1W 12, City of Portland) and that line's intersection with the line of Ordinary High Water on the left (west) bank of the Willamette River that being the TRUE POINT OF BEGINNING;

upstream in a easterly direction a distance of approximately 750 feet paralleling the thread of the stream to a point on the line of Ordinary High Water adjacent to the upland tax lot 1200 (Multnomah County Assessor's Map Number 1N 1W 13 OL, City of Portland);

thence riverward along a line perpendicular to the thread of the stream for a distance of 600 feet;

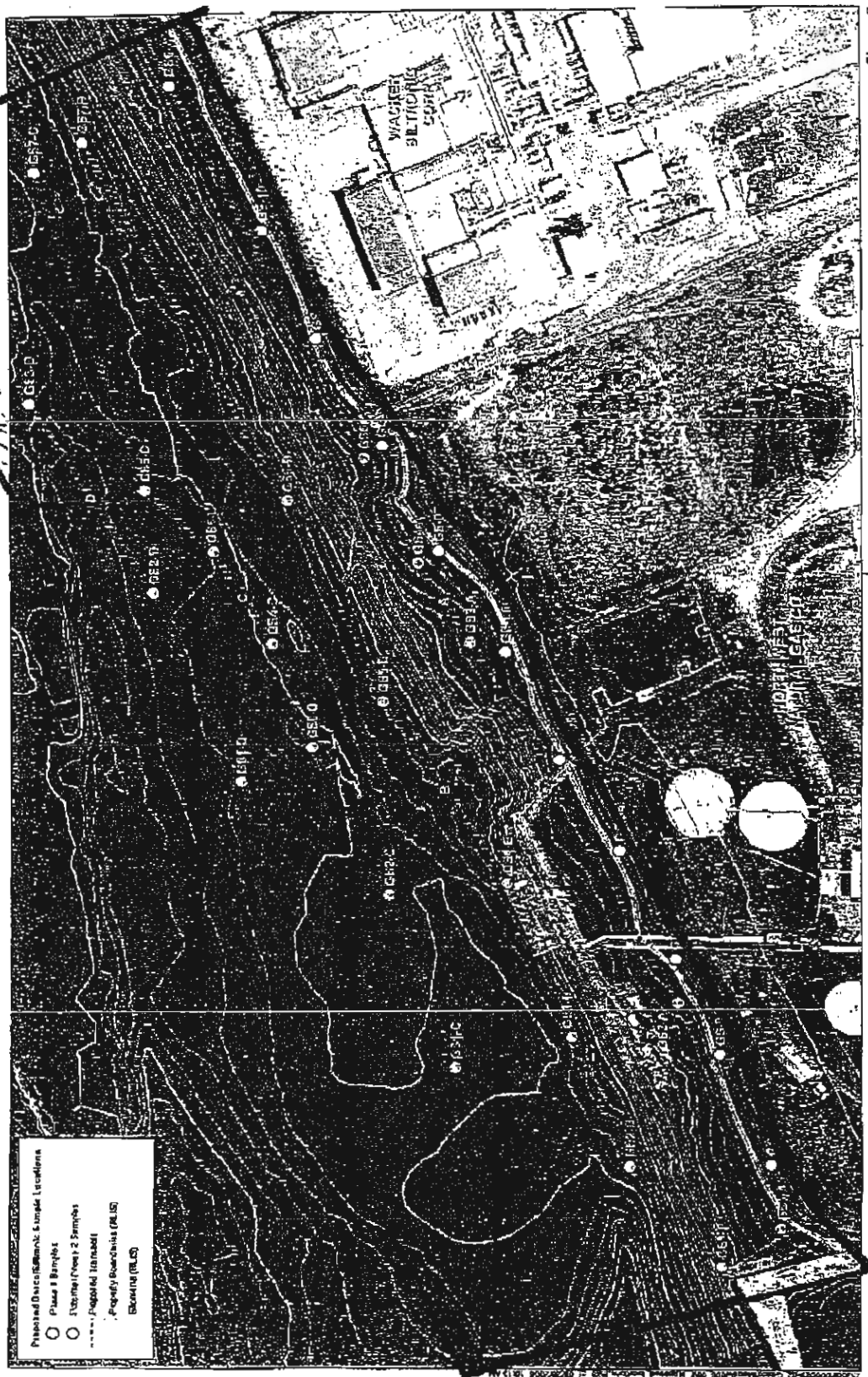
thence downstream in a west northwesterly direction for a distance of 2330 feet more or less to a point lying 600 feet riverward from the line of Ordinary High Water along a line drawn perpendicular to the thread of the stream and that line being an extension of the northwest boundary line of tax lot 900 (Multnomah County Assessor Map Number 1n 1w 12, City of Portland);

thence shoreward along that line for a distance of 600 feet more or less to the line of Ordinary High Water;

thence upstream along the line of Ordinary High Water for a distance of 1580 feet more or less to the TRUE POINT OF BEGINNING, containing 32.1 acres, more or less.

hereinafter referred to as the "Property."

N:\AttachmentAWestLAS\LI Temporary Use Permit\37183-TU.DOC


Proposed Subsurface Soil, Groundwater, and Sediment Sampling Locations
Gasco/Siltronic Site
ANCHOR
WACKER SILTRONIC CORP.
NORTH WEST GASCO
Proposed Subsurface Soil, Groundwater, and Sediment Sampling Locations
Phase 1 Samples
Phase 2 Samples
Proposed Transects
Property Boundaries (RLIS)
Streams (RLIS)

APPENDIX C
GS BORING LOGS

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-00**
LOCATION	**Portland, Oregon**	PAGE	**1 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**85.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**11/2/06**
		MUDLINE ELEVATION	**35.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 4.0 feet: SILTY SAND (SM); light brown; 70 percent fine sand; 30 percent medium plasticity fines; trace to 20 percent fine to coarse angular to subangular gravel; loose; dry. Gravel percentage increases with depth.
GS-00-S(4-6)[2]	5 (0-10)	5		X				**4.0 to 5.0 feet: GRAVELLY SAND (SP)**; light gray; 60 to 70 percent fine to coarse sand; 30 to 40 percent fine to coarse, angular to subrounded gravel; <5 percent fines; loose; dry.
								5.0 to 6.0 feet: GRAVELLY SILTY SAND (SM); light brown to red; 50 percent fine to coarse sand; 30 percent fine to coarse angular to rounded gravel; 20 percent medium plasticity fines; loose; dry. @ 5.0 to 6.0 feet: red brick fragments (coarse sand-sized and fine to medium gravel-sized).
GS-00-S(9-11)[2]		10		X				**6.0 to 10.5 feet: SANDY GRAVEL WITH SILT (GP)**; light brown; 60 percent fine to coarse angular to subangular gravel; 25 percent fine to coarse sand; 15 percent medium plasticity fines; loose to medium density; dry to damp.
								10.5 to 14.0 feet: SANDY SILT (ML); black; 60 percent medium plasticity fines; 40 percent fine sand; moist. Hydrogen sulfide-like to hydrocarbon-like odor; soft.
	3 (10-16)							@ 14.0 feet: 0.3' x 0.25' subangular cobble; ¼-inch-wide lens of light brown to tan sandy silt.
		15						**14.0 to 22.0 feet: SAND (SP)**; black; 90 to 95 percent fine to medium sand; 5 to 10 percent fines; loose; damp to moist. Hydrogen sulfide-like to hydrocarbon-like odor.
	7 (16-23)							
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-00**
LOCATION	**Portland, Oregon**	PAGE	**2 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**85.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**11/2/06**
		MUDLINE ELEVATION	**35.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-00-S(20-23)[2]				X				**14.0 to 22.0 feet: SAND (SP)**, continued.
								22.0 to 23.0 feet: SILT (ML); black; 90 percent low to medium plasticity fines; 10 percent fine sand; trace fine root hairs; firm to stiff; moist. Hydrogen sulfide-like to hydrocarbon-like odor.
GS-00-W(23-27)[1]			X					**23.0 to 27.0 feet: SAND (SP)**; dark gray to black; fine to medium sand; <5 percent fines; wet. Hydrogen sulfide-like to hydrocarbon-like odor.
	3 (23-28)	25						
								27.0 to 28.0 feet: SILT (ML); light gray mottled with dark gray/black; medium to high plasticity fines; trace sand; firm to stiff; moist to damp.
								28.0 to 34.5 feet: SILTY SAND (SM); brownish gray; 60 to 70 percent fine to medium sand; 30 to 40 percent medium plasticity fines; wet to moist.
		30						
								@ 31.5 to 32.0 feet: color change to tan to brown.
	10 (28-38)							
		35						**34.5 to 38.0 feet: SILT (ML)**; light gray mottled with tan and dark gray; 90 percent low to medium plasticity fines; 10 percent fine sand; trace charred wood up to ½-inch in length; stiff; damp.
								38.0 to 38.5 feet: SILT (ML); grayish-brown; medium plasticity fines; 5 to 10 percent fine to medium sand; soft; wet.
		40						**38.5 to 44.5 feet: INTERBEDDED SILT (ML), SILTY**

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-00**
LOCATION	**Portland, Oregon**	PAGE	**3 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**85.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**11/2/06**
		MUDLINE ELEVATION	**35.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	12 (38-48)							**SAND (SM), SAND WITH SILT (SP), AND SANDY SILT (ML)**; grayish-brown; wet. Beds 3-inches to 1.5 feet.
GS-00-S(45-48)[2]		45						
GS-00-W(48-52)[1]								**44.5 to 48.0 feet: SAND WITH SILT (SP)**; grayish-brown; 85 to 90 percent fine to medium sand; 10 to 15 percent fines; wet.
		50						**48.0 to 57.0 feet: SILTY SAND (SM)**; grayish-brown; 70 percent fine to medium sand; 30 percent medium plasticity fines; wet. @ 48.0 to 54.0 feet: trace fine to coarse angular to subrounded gravel.
	3.5 (48-57)							
		55						
								57.0 to 65.0 feet: SAND (SP); grayish-brown; 90 to 95 percent fine to medium sand; 5 to 10 percent fines; wet. Trace silt nodules up to 1-inch in diameter.
		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-00**
LOCATION	**Portland, Oregon**	PAGE	**4 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**85.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**11/2/06**
		MUDLINE ELEVATION	**35.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	10 (57-67)							**57.0 to 65.0 feet: SAND (SP)**, continued.
GS-00-W(65-69)[1]		65						**65.0 to 70.0 feet: SANDY GRAVEL WITH SILT (GP)**; grayish-brown; 60 to 65 percent fine to coarse angular to subrounded gravel; 30 percent fine to medium sand; 5 to 10 percent fines; wet.
	3 (67-73)	70						**70.0 to 72.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; wet.
								72.5 to 73.0 feet: GRAVEL (GP); grayish-brown; fine to coarse, angular to subangular gravel; 5 to 10 percent sand; 5 to 10 percent fines. Cobbles 3-inches in diameter.
								73.0 to 75.0 feet: SANDY GRAVEL WITH SILT (GP); grayish-brown; 60 to 70 percent fine to coarse angular gravel; 20 to 30 percent fine to coarse sand; 10 to 20 percent fines; moist to wet.
	7 (73-80)	75						**75.0 to 76.0 feet: SILTY GRAVEL (GM)**; brownish-gray; 60 to 70 percent fine to coarse gravel; 30 percent fines; 10 percent sand; fine to coarse angular gravel; dense; moist.
								76.0 to 77.0 feet: BASALT
								77.0 to 78.0 feet: SILTY GRAVEL (GP); brown, 50 to 60 percent fine to coarse, angular gravel; 40 to 50 percent fines; trace sand; damp. Weathered.
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-00**
LOCATION	**Portland, Oregon**	PAGE	**5 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**85.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**11/2/06**
		MUDLINE ELEVATION	**35.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	5 (80-85)	85						**78.0 to 80.0 feet: BASALT** **80.0 to 85.0 feet: SILTY GRAVEL (GM)**; brownish-gray; 80 percent fine to coarse angular gravel; 20 percent low to medium plasticity fines; dense; damp; moist. @ 82.5 to 85.5 feet: color change to grayish-brown; weathered. Bottom of boring = 85.0 feet.
		90						
		95						
		100						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-01**
LOCATION	**Portland, Oregon**	PAGE	**1 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**80.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/26/06**
		MUDLINE ELEVATION	**7.3 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-01-W(4-6)[1] GS-01-S(4-6)[2] GS-01-W(9-11)[1] GS-01-S(9-11)[2] GS-01-S(10-12)[3]	16.5 (0-23)	5 10 15 20	X X	X X	X			**0 to 23.0 feet: INTERBEDDED SILT (ML); SANDY SILT (ML); SILTY SAND (SM), AND SAND (SP)**; grayish-brown; loose sand; soft to firm silt; trace fine subrounded gravel; wet. Black staining 0 to 2.0 feet. Hydrocarbon-like odor. Odor decreasing with depth. Gravel decreasing with depth.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-01**
LOCATION	**Portland, Oregon**	PAGE	**2 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**80.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/26/06**
		MUDLINE ELEVATION	**7.3 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-01-S(20-23)[2] GS-01-S(20-23)[3]				X	X			**0 to 23.0 feet: INTERBEDDED SILT (ML); SANDY SILT (ML); SILTY SAND (SM); AND SAND (SP)**, continued.
GS-01-W(23-27)[1]		25	X					**23.0 to 28.5 feet: INTERBEDDED SANDY SILT (ML) and SILT (ML)**; grayish-brown; soft to firm; wet. Sand lenses up to 1 inch.
GS-01-S(30.5-33)[3]	24 (23-48)	30			X			**28.5 to 34.0 feet: SAND (SP)**; grayish brown; 95 to 100 percent fine to medium sand; trace to 5 percent fines; loose to medium density; wet. Silt lenses.
		35						**34.0 to 35.5 feet: INTERBEDDED SAND (SP)**; grayish-brown; 95 to 100 percent fine to medium sand; wet; **AND SAND WITH SILT (SP)**; grayish-brown; 85 to 95 percent fine to medium sand; 5 to 15 percent fines; loose; wet. Trace fine, subrounded gravel and cobbles.
		40						**35.5 to 40.0 feet: INTERBEDDED SANDY SILT (ML) AND SILT (ML)**; grayish-brown; soft to firm; wet. Sand lenses up to 4 inches.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-01**
LOCATION	**Portland, Oregon**	PAGE	**3 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**80.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/26/06**
		MUDLINE ELEVATION	**7.3 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-01-S(40-42.5)[3]								**40.0 to 48.0 feet: SAND (SP)**; grayish-brown; 95 to 100 percent fine to medium sand; trace to 5 percent fines; loose to medium density; wet. Silt lenses up to 1 inch.
GS-01-S(45-48)[2]		45						
GS-01-W(48-52)[1]								**48.0 to 77.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; trace fines and coarse sand; loose to medium density; wet. Increasing density with depth.
GS-01-S(50-52)[3]		50						
	24.5 (48-73)							
		55						
GS-01-S(59-61.5)[3]		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-01**
LOCATION	**Portland, Oregon**	PAGE	**4 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**80.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/26/06**
		MUDLINE ELEVATION	**7.3 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								48.0 to 77.0 feet: SAND (SP), continued.
		65						
		70						@ 69.5 to 71.5 feet: silt lenses up to 2-inches thick.
GS-01-S(70.5-73)[3]								
GS-01-W(73-77)[1]								
		75						
	11.5 (73-80)							
								77.0 to 80.0 feet: INTERBEDDED BASALT; GRAVELLY SILT (ML); gray; 50 to 60 percent low to medium plasticity fines; 40 to 50 percent fine to coarse, angular to subrounded gravel; firm to stiff; damp to moist; **AND SILTY GRAVEL (GP)**; gray; 50 to 60 percent fine to coarse, angular to subrounded gravel; 40 to 50 percent
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-01**
LOCATION	**Portland, Oregon**	PAGE	**5 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**80.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/26/06**
		MUDLINE ELEVATION	**7.3 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								low to medium plasticity fines; medium to density to dense; damp to moist.
								Bottom of boring = 80.0 feet.
		85						
		90						
		95						
		100						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-02**
LOCATION	**Portland, Oregon**	PAGE	**1 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**90.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/28/06**
		MUDLINE ELEVATION	**6.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 1.0 foot: GRAVELLY SILT WITH SAND (GP); grayish-brown; 40 percent medium plasticity fines; 30 percent fine to coarse, angular to rounded gravel; 30 percent fine to coarse sand; very soft; wet. Hydrocarbon-like and mild hydrogen-sulfide-like odors.
GS-02-W(4-6)[1] GS-02-S(4-6)[2]	17 (0-23)	5	X	X				**1.0 to 23.0 feet: SILT (ML)**; grayish-brown; 85 to 100 percent medium plasticity fines; 0 to 15 percent very fine to fine sand; trace fine root hairs and subrounded to rounded fine gravel; firm; wet. Slight hydrocarbon-like odor, decreasing with depth. Sand lenses ½ inch to 6 inches. @ 1.0 foot: 3-inch cobble.
GS-02-W(9-11)[1] GS-02-S(9-11)[2] GS-02-S(9-11)[3]		10	X	X	X			
		15						@ 17.5 feet: two twigs; 1.5 to 2 inches in length; 3/4 inch in thickness.
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-02**
LOCATION	**Portland, Oregon**	PAGE	**2 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**90.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/28/06**
		MUDLINE ELEVATION	**6.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-02-S(20-23)[2] GS-02-S(20-23)[3]				X	X			**1.0 to 23.0 feet: SILT (ML)**, continued.
GS-02-W(23-27)[1]		25	X					**23.0 to 35.0 feet: SAND WITH SILT (SP)**; grayish-brown; 90 to 95 percent fine to medium sand; 5 to 10 percent fines; loose to medium density; wet. Silt lenses 1/4- to 1/2-inch thick. @ 24.0 feet: one piece of coarse, sub-rounded gravel.
GS-02-S(29.5-32)[3]	25 (23-48)	30			X			
		35						**35.0 to 36.5 feet: SILT (ML)**; grayish-brown; 100 percent medium plasticity fines; trace very fine sand and fine subrounded gravel; firm; wet. Sand lenses up to 1 inch.
								36.5 to 38.0 feet: SAND WITH SILT (SP); grayish-brown; 90 to 95 percent fine to medium sand; 5 to 10 percent fines; loose to medium density; wet. Silt lenses up to 1 inch.
		40						**38.0 to 42.0 feet: SILT (ML)**; grayish-brown; 100 percent medium plasticity fines; trace very fine sand; firm; wet. Sand lenses up to 3 inches.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-02**
LOCATION	**Portland, Oregon**	PAGE	**3 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**90.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/28/06**
		MUDLINE ELEVATION	**6.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-02-S(40-42)[3]					X			**38.0 to 42.0 feet: SILT (ML)**, continued.
								42.0 to 48.0 feet: SAND WITH SILT (SP); 90 to 95 percent fine to medium sand; 5 to 10 percent fines; loose to medium density; wet. Silt lenses up to 1-inch thick. Decreasing silt with depth.
GS-02-S(45-48)[2]		45		X				
GS-02-W(48-52)[1]			X					**48.0 to 73.0 feet: SAND (SP)**; grayish-brown; 95 to 100 percent fine to medium sand; trace to 5 percent fines; loose to medium density; wet. Decrease in fines with depth.
		50						
GS-02-S(53-54)[3]	20 (48-73)				X			
		55						
		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-02**
LOCATION	**Portland, Oregon**	PAGE	**4 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**90.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/28/06**
		MUDLINE ELEVATION	**6.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-02-S(60-63)[3]								**48.0 to 73.0 feet: SAND (SP)**, continued.
		65						
GS-02-S(70-73)[3]		70						
GS-02-W(73-77)[1]								**73.0 to 86.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; <5 percent fines; loose to medium density; wet. Increase in fines with depth. Silt lenses up to 2-inch thick. Silt nodules up to 2.5 inch in diameter.
		75						
	13.5 (73-86)							
GS-02-S(78-80)[3]								
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-02**
LOCATION	**Portland, Oregon**	PAGE	**5 of 5**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**90.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/28/06**
		MUDLINE ELEVATION	**6.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								73.0 to 86.0 feet: SAND (SP), continued.
		85						
	4.5 (86-90)							**86.0 to 90.0 feet: INTERBEDDED BASALT AND SILT (ML)**; dark grayish-brown to grayish-brown (darker at top); low to medium plasticity fines; moist to damp.
		90						Bottom of boring = 90.0 feet.
		95						
		100						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**1 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-03-W(4-6)[1] GS-03-S(4-6)[2]	16.5 (0-23)	5	X	X				**0 to 5.5 feet: SANDY SILT (ML)**; grayish-brown mottled with black; 70 percent low to medium plasticity fines; 30 percent fine to coarse sand; trace medium to coarse gravel and twigs and root hairs; soft; wet. Hydrocarbon-like odor. @ 0 to 2.5 feet: hydrogen sulfide-like odor.
GS-03-S(9-11)[2] GS-03-S(9-11)[3]		10		X	X			**5.5 to 14.0 feet: SILT (ML)**; grayish-brown; 85 to 100 percent medium plasticity fines; 0 to 15 percent fine sand; trace twigs (up to ½-inch thick) and root hairs. Intermittent sand lenses up to ¼-inch thick; firm; wet.
GS-03-W(13-15)[1]			X					
		15						**14.0 to 15.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; trace fines; wet.
								15.0 to 20.5 feet: SILT (ML); grayish-brown; 85 to 100 percent medium plasticity fines; 0 to 15 percent fine sand; trace fine root hairs; firm; wet.
GS-03-S(19-20)[3]		20			X			

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**2 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-03-S(20-23)[2]								**15.0 to 20.5 feet: SILT (ML)**, continued.
								20.5 to 21.5 feet: SAND (SP); grayish-brown; 100 percent fine to medium sand; trace fines; loose to medium density; wet.
								21.5 to 23.0 feet: SILT (ML); grayish-brown; 85 to 100 percent medium plasticity fines; 0 to 15 percent fine sand; firm; wet.
GS-03-W(23-27)[1]								**23.0 to 41.5 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; trace fines; loose to medium density; wet.
		25						@ 23.0 feet: one angular piece of medium gravel.
GS-03-S(29-32)[3] GS-53-S(29-32)[3]								
		30						
	15 (23-48)							
		35						
								@ 37.5 to 39.0 feet: SILT (ML); grayish-brown; medium plasticity fines; firm; wet.
GS-03-S(39-43)[3]								
		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**3 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								23.0 to 41.5 feet: SAND (SP), continued.
								41.5 to 43.0 feet: SILT (ML); grayish-brown; 100 percent medium plasticity fines; trace very fine sand; firm; wet. @ 43.0 feet: 3-inch-thick sand lens, fine to medium sand.
								43.0 to 45.0 feet: SANDY SILT (ML); grayish-brown; 70 percent medium plasticity fines; 30 percent very fine to fine sand; firm; wet.
GS-03-S(45-48)[2]		45						**45.0 to 46.5 feet: SILTY SAND (SM)**; grayish-brown; 60 percent fine sand; 40 percent medium plasticity fines; trace fine rounded to well-rounded gravel; loose to medium density; wet.
								46.5 to 48.0 feet: SANDY SILT (ML); grayish-brown; 70 percent medium plasticity fines; 30 percent fine sand; firm; wet.
GS-03-W(48-52)[1]								**48.0 to 73.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; <5 percent fines; medium density to dense; wet. Increasing density with depth. Silt lenses.
GS-03-S(50-52)[3]		50						
	24.5 (48-73)							
		55						
GS-03-S(59-61)[3]		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**4 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								48.0 to 73.0 feet: SAND (SP), continued.
		65						
GS-03-S(70-73)[3]		70						
GS-03-W(73-77)[1]								**73.0 to 111.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; <5 percent fines; medium density; wet.
		75						
	22.5 (73-98)							
GS-03-S(78-81)[3]								
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**5 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								73.0 to 111.0 feet: SAND (SP), continued.
		85						@ 86.5 feet: silt nodule approximately 1.5 inches in diameter.
GS-03-S(89-92)[3]		90						
GS-03-S(95-98)[2]		95						
GS-03-W(98-102)[1]		100						@ 98.0 feet: 3-inch thick lens of silt at bottom of run.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**6 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								73.0 to 111.0 feet: SAND (SP), continued.
		105						
	22.5 (98-123.5)							@ 108.5 to 109.0 feet: SILT (ML).
		110						
								111.0 to 117.5 feet: SILT (ML); grayish-brown; 85 to 100 percent medium plasticity fines; 0 to 15 percent fine to medium sand; firm; wet. Sand lenses up to 3 inches.
		115						
GS-03-W(116-120)[1]								
								117.5 to 119.0 feet: SAND (SP); grayish-brown; fine to medium sand; <5 percent fines; medium to density to dense; wet.
								119.0 to 122.0 feet: SAND (SP); light brown to tan; fine to medium sand; <5 percent fines; dense; wet.
		120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-03**
LOCATION	**Portland, Oregon**	PAGE	**7 of 7**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**123.5'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/19/06**
		MUDLINE ELEVATION	**5.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-03-S(120-122)[2]				X				**119.0 to 122.0 feet: SAND (SP)**, continued.
								122.0 to 123.5 feet: BASALT.
								Bottom of boring = 123.5 feet.
		125						
		130						
		135						
		140						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**1 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 3.0 feet: SILT WITH SAND (ML); grayish-brown; 75 to 80 percent medium plasticity fines; 15 percent fine to medium sand; 5 to 10 percent gravel and cobbles; soft; wet.
GS-04-W(4-6)[1] GS-04-S(4-6)[2]	12.5 (0-27)	5	X	X				**3.0 to 6.0 feet: SILT (ML)**; grayish-brown; 100 percent medium plasticity fines; trace fine sand; soft; wet. @ 4.0 feet: twig or root.
GS-04-W(9-11)[1] GS-04-S(9-11)[2] GS-04-S(10-11)[3]		10	X	X	X			**6.0 to 27.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; loose to medium density; wet.
		15						
								@ 17.0 to 18.0 feet: wood fragments.
GS-04-S(19-21)[3]		20			X			

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**2 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								6.0 to 27.0 feet: SAND (SP), continued.
GS-04-S(24-27)[2]		25						
GS-04-W(27-31)[1]								**27.0 to 45.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; loose to medium density; wet.
GS-04-S(30-31)[3]		30						
	9.0 (27-48)							@ 33.0 to 48.0 feet: faint hydrocarbon-like odor, decreasing with depth.
		35						
GS-04-S(38-40)[3]								
		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**3 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								27.0 to 45.0 feet: SAND (SP), continued.
GS-04-S(45-48)[2]		45						**45.0 to 46.0 feet: SILT (ML)**; grayish-brown; 100 percent medium plasticity fines; trace fine sand; firm; damp to moist.
								46.0 to 73.0 feet: SAND (SP); grayish-brown; 100 percent fine to medium sand; loose to medium density; wet.
GS-04-W(48-52)[1]								@ 48.0 to 59.0 feet: possible faint unidentifiable odor.
GS-04-S(50-51)[3]		50						
								@ 51.5 feet: silt lens 1-inch thick.
	14 (48-73)							
		55						
								@ 59.0 to 73.0 feet: strong unidentifiable odor, strengthening with depth.
		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**4 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-04-S(60-61)[3]								**46.0 to 73.0 feet: SAND (SP)**, continued.
		65						
GS-04-S(69-70)[2]								
GS-04-S(70-71)[3]		70						
GS-04-W(73-77)[1]								**73.0 to 98.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand, loose to medium density; wet. Faint unidentifiable odor.
		75						
	22.5 (73-98)							
GS-04-S(78-81)[3]								
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**5 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								73.0 to 98.0 feet: SAND (SP), continued.
		85						
								@ 88.5 to 91.0 feet: slightly stronger unidentifiable odor.
		90						
GS-04-S(91-93)[3]								
GS-04-S(95-98)[2]		95						
GS-04-W(98-102)[1]								**98.0 to 110.5 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; <5 percent fines; loose to medium density; wet.
		100						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**6 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	19.5 (98-123)	105 110 115 120	X					**98.0 to 110.5 feet: SAND (SP)**, continued. @ 98.0 to 123.0 feet: faint unidentifiable odor noted. @ 103.5 to 105.5 feet: SAND WITH SILT (SP); grayish-brown; 85 to 90 percent fine to medium sand; 10 to 15 percent fines; loose to medium density; wet. **110.5 to 114.0 feet: SILT (ML)**; grayish-brown; 100 percent medium plasticity fines, firm to stiff; wet. Sand lenses ½-inch to 3-inches thick. **114.0 to 123.0 feet: SAND (SP)**; grayish-brown; 100 percent fine to medium sand; trace fines; loose to medium density; wet.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**7 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								114.0 to 123.0 feet: SAND (SP), continued.
GS-04-W(123-127)[1]	20.5 (123-148)	125 130 135 140						**123.0 to 133.0 feet: SAND (SP)**; grayish-brown; 95 percent fine to medium sand; 5 percent fines; medium density; wet. @ 123.0 to 126.5 feet: trace silt nodules up to 3 inches.
								133.0 to 134.0 feet: SILT (ML); grayish-brown; low to medium plasticity; trace sand; stiff; moist to wet.
								134.0 to 148.0 feet: SAND (SP); grayish-brown; 95 percent fine to medium sand; 5 to 10 percent fines; dense; wet.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-04**
LOCATION	**Portland, Oregon**	PAGE	**8 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**12/14/06**
		MUDLINE ELEVATION	**4.4 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								134.0 to 148.0 feet: SAND (SP), continued.
		145						
GS-04-W(148-152)[1]								Bottom of boring = 148.0 feet.
		150						
		155						
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**1 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 1.0 foot: RIPRAP
	2 (0-4)							**1.0 to 3.5 feet: SILT (ML)**; grayish-brown; 85 to 90 percent medium to high plasticity fines; 10 to 15 percent fine sand; <5 percent organics (roots, leaves, wood chunks); wet.
GS-05-S(3-4)[2]				X				
GS-05-W(4-6)[1] GS-05-S(4-11)[3]			X		X			**3.5 to 4.0 feet: SILTY SAND (SM)**; dark brown to black; fine to medium sand; medium plasticity fines; trace wood chunks; wet. Sheen.
		5						**4.0 to 23.0 feet: SILTY SAND (SM)**; grayish brown; 70 percent fine to medium sand; 30 percent medium plasticity fines; trace roots; wet. Sand fining with depth. Sheen and hydrocarbon-like odor from 4.0 to 15.5 feet. Free product droplets from 4.0 to 13.0 feet.
GS-05-W(9-11)[1] GS-05-S(9-11)[2]	2 (4-13)	10	X	X	X			
		15						
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**2 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-05-S(20-22)[2] GS-05-S(20-22)[3]	10 (13-23)			X	X			**4.0 to 23.0 feet: SILTY SAND (SM)**, continued.
GS-05-W(23-27)[1]	5.5 (23-28)	25	X					**23.0 to 29.0 feet: SAND (SP)**; grayish brown; 95 percent fine to medium sand; 5 percent fines; wet.
		30						**29.0 to 32.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines; trace fine sand; wet. Lenses of sandy silt <1-inch in thickness.
GS-05-S(33-36)[3]	7 (28-38)	35			X			**32.0 to 41.5 feet: INTERBEDDED SILT (ML)**; grayish-brown; medium to high plasticity fines; trace fine sand; wet; **AND SAND WITH SILT (SP)**; grayish brown; 90 percent fine to medium sand; 10 percent medium to high plasticity fines; wet. INTERBEDDED 50:50.
GS-05-S(39-42)[3]		40			X			

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**3 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	9.5 (38-48)							**32.0 to 41.5 feet: INTERBEDDED SILT (ML) AND SAND WITH SILT (SP)**, continued.
GS-05-S(45-48)[2] GS-05-S(45-48)[3]		45						**41.5 to 49.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; wet.
	7.5 (48-55)	50						**49.0 to 52.0 feet: SILT (ML)**; grayish brown; 90 to 95 percent medium plasticity fines; 5 to 10 percent fine to very fine sand; wet.
GS-05-W(55-59)[1]		55						**52.0 to 123.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; wet. Unidentifiable odor. @ 53.0 feet: 1-inch lens of silt.
GS-05-S(59-64)[3]		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**4 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								52.0 to 123.0 feet: SAND (SP), continued.
	10 (55-73)	65						
GS-05-S(69-73)[3]		70						
GS-05-W(73-77)[1]	1 (73-78)	75						
GS-05-S(79-82)[3]		80						@ 80.0 feet: one piece of coarse, rounded gravel.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**5 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	10 (78-88)				X			**52.0 to 123.0 feet: SAND (SP)**, continued.
		85						
GS-05-S(89-92)[3]					X			
		90						
	9.5 (88-98)							@ 94.0 feet: trace fine gravel.
GS-05-S(95-98)[2]		95		X				@ 95.0 to 98.0 feet: trace coarse sand-sized pieces of rounded pumice; white to light gray.
								@ 96.5 feet: wood chunk 1-inch by ½-inch.
GS-05-W(98-102)[1]			X					
	0 (98-103)	100						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**6 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-05-CW(100)[1]			X					**52.0 to 123.0 feet: SAND (SP)**, continued.
	0 (103-108)	105						
	5 (108-113)	110						
		115						@ 116.0 to 117.0 feet: coarse sand-sized pieces of rounded pumice. @ 117.0 to 119.0 feet: wood fragment ½-inch x ½-inch and twig <½-inch long.
	9 (113-123)	120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**7 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-05-S(120-123)[2]				X				**52.0 to 123.0 feet: SAND (SP)**, continued.
GS-05-W(123-127)[1]	5 (123-128)	125	X					**123.0 to 128.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines. No to very faint unidentifiable odor.
	9.5 (128-138)	130 135						**128.0 to 136.0 feet: INTERBEDDED SAND (SP)**; grayish-brown; 95 percent fine to medium sand; 5 percent fines; wet; **AND SILT (ML)**; 90 to 95 percent medium plasticity fines; 5 to 10 percent very fine to fine sand; wet. Beds 1 inch to 1 foot. @ 128.5 feet: one piece of medium, rounded gravel.
		140						**136.0 to 141.5 feet: SAND (SP)**; grayish brown; fine to medium sand; <5 percent fines; wet.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**8 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								136.0 to 141.5 feet: SAND (SP), continued.
								141.5 to 142.5 feet: SILT (ML); grayish-brown; 90 to 95 percent medium plasticity fines; 5 to 10 percent very fine sand; wet.
								@ 142.0 feet: 1-inch thick lens of sand.
	10 (138-148)							**142.5 to 158.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; wet.
GS-05-S(145-148)[2]		145						
GS-05-W(148-152)[1]								
	4.5 (148-153)	150						
		155						@ 154.5 feet: 6-inch thick lens of silt.
	9 (153-163)							@ 157.5 feet: one piece of coarse, rounded gravel.
								158.5 to 159.5 feet: GRAVELLY SAND (GP); grayish-brown; 70 percent fine to medium sand; 30 percent fine to coarse gravel; <5 percent fines; wet.
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**9 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								159.5 to 163.0 feet: SAND (SP); grayish-brown; fine to medium sand; <5 percent fines; wet. @ 160.0 feet: 6-inch thick lens of silt.
								163.0 to 165.0 feet: SILTY SAND (SM); grayish-brown; 70 to 80 percent fine to coarse, angular to subrounded sand; 20 to 30 percent fines; wet. Silt nodules ¼- to ½-inch; soft. Faint unidentifiable odor.
		165						**165.0 to 171.0 feet: SAND (SP)**; grayish brown; 95 percent fine to medium sand; <5 percent fines; trace coarse sand; wet. Faint unidentifiable odor.
	4 (163-173)							
GS-05-S(170-173)[2]		170						
								171.0 to 173.0 feet: SILTY SAND (SM); grayish-brown; 80 percent fine to coarse, angular to subrounded sand; 20 percent fines; wet. Some quartzite sand. Faint unidentifiable odor.
GS-05-W(173-177)[1]								**173.0 to 184.0 feet: SAND (SP)**; grayish-brown; fine to coarse sand; <5 percent fines; wet. Very faint unidentifiable odor.
		175						
	2.5 (173-180)							
		180						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**10 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								173.0 to 184.0 feet: SAND (SP), continued.
	9 (180-190)	185						**184.0 to 186.0 feet: SAND (SP)**; grayish-brown; fine to coarse sand; <5 percent fines; trace fine to coarse, subrounded to rounded gravel.
								186.0 to 187.0 feet: SANDY GRAVEL (GP); 60 percent fine to coarse, angular to rounded gravel; 40 percent fine to coarse sand; <5 percent fines; wet. Some quartzite gravel. @ 186.0 feet: one cobble 0.4 x 0.3 feet.
								187.0 to 190.0 feet: SAND (SP); grayish-brown; fine to coarse sand; trace to 10 percent fine to coarse, subangular to rounded gravel; <5 percent fines; wet.
		190						**190.0 to 192.0 feet: GRAVELLY SAND (GP)**; grayish-brown; 80 to 85 percent fine to coarse sand; 15 to 20 percent fine to coarse, angular to rounded gravel; <5 percent fines; wet.
GS-05-W(191-195)[1]			X					**192.0 to 196.5 feet: GRAVEL WITH SILT (GP)**; grayish brown; 80 percent fine to coarse, angular to rounded gravel; 10 percent fine to coarse sand; 10 percent fines; wet.
	7.5 (190-200)	195						@ 194.5 feet: cobble 0.35 foot by 0.3 foot. @ 195.0 to 196.5 feet: color change to grayish-brown to brown.
								196.5 to 197.0 feet: SANDY GRAVEL WITH SILT (GP); grayish-brown; 50 percent fine to coarse, angular to rounded gravel; 35 percent fine to coarse sand; 15 percent fines; wet. @ 196.5 feet: silt nodule 2 inches x 2 inches; rounded cobble 0.3 foot x 0.2 foot.
		200						**197.0 to 200.0 feet: BASALT**

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-05**
LOCATION	**Portland, Oregon**	PAGE	**11 of 11**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**200.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**10/31/06**
		MUDLINE ELEVATION	**8.0 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								Bottom of boring = 200.0 feet.
		205						
		210						
		215						
		220						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**1 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 2.0 feet: SAND (SP); brown; fine to coarse sand; trace fines and fine to coarse, angular to subrounded gravel; loose; wet. Faint hydrocarbon-like odor. Trace spotty sheen.
	6 (0-7)							**2.0 to 7.0 feet: SANDY SILT (ML)**; grayish-brown; 55 percent low to medium plasticity fines; 45 percent fine sand; soft; wet. One cobble 4 inches in diameter. Faint hydrocarbon-like odor. Trace spotty sheen.
GS-06-W(4-6)[1] GS-06-S(4-6)[2] GS-56-S(4-6)[2]		5	X	X				
GS-06-S(7-20)[3]								**7.0 to 20.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; loose; wet; **AND SILT (ML)**; grayish-brown, medium plasticity fines; trace medium to coarse, angular to subangular gravel; trace twigs; soft; wet. Faint hydrocarbon-like odor. Trace spotty sheen. Note: Intact sample not obtained. Core slipped from core barrel and was recovered from drilling platform.
GS-06-W(9-11)[1] GS-06-S(9-11)[2]		10	X	X				
	2 (7-20)							
		15						
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**2 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-06-S(20-23)[2] GS-06-S(20-23)[3]	3 (20-23)			X	X			**20.0 to 23.0 feet: INTERBEDDED SAND (SP)**; grayish brown; fine to medium sand; loose; wet; **AND SILT (ML)**; grayish-brown; medium plasticity fines; soft; wet. Faint hydrocarbon-like odor. Trace spotty sheen.
GS-06-W(23-27)[1] GS-56-W(23-27)[1]		25	X					**23.0 to 28.0 feet: SAND WITH SILT (SP)**; grayish-brown; 90 to 95 percent fine to medium sand; 5 to 10 percent fines; loose; wet.
GS-06-S(28-33)[3] GS-56-S(28-33)[3]		30			X			**28.0 to 44.0 feet: SILT (ML)**; grayish-brown; 85 to 100 percent medium plasticity fines; trace to 15 percent fine to medium sand; soft; wet. Sand lenses.
	13.5 (23-48)	35						
		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**3 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-06-S(41-44)[2] GS-56-S(41-44)[2] GS-06-S(41-44)[3]				X	X			**28.0 to 44.0 feet: SILT (ML)**, continued.
		45						**44.0 to 48.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace to 5 percent fines; loose; wet. Silt lenses.
GS-06-W(48-52)[1] GS-56-W(48-52)[1] GS-06-S(48-52)[3]		50	X		X			**48.0 to 55.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; loose to medium density; wet. Faint unidentifiable odor.
	17 (48-73)	55						**55.5 to 56.5 feet: SILT (ML)**; grayish-brown; medium plasticity fines, firm to stiff; wet. Faint unidentifiable odor.
		60						**56.5 to 60.5 feet: SILTY SAND (SM)**; grayish brown; 75 to 85 percent fine to medium sand; 15 to 25 percent fines; loose to medium density; wet. Faint unidentifiable odor.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**4 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								56.5 to 60.5 feet: SILTY SAND (SM), continued.
GS-06-S(61-64)[3] GS-56-S(61-64)[3]								**60.5 to 63.5 feet: SANDY SILT (ML)**; grayish-brown; 85 to 100 percent medium plasticity fines; trace to 15 percent fine to medium sand; soft to firm. Increasing strong unidentifiable odor.
								63.5 to 65.0 feet: SAND (SP); grayish-brown; fine to medium sand; <5 percent fines; loose to medium density; wet. Silt lenses. Increasingly strong unidentifiable odor.
GS-06-S(65-69)[2]		65						**65.0 to 73.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; loose to medium density; wet. Increasingly strong unidentifiable odor.
GS-06-S(69-73)[3]		70						
								@ 73.0 feet: strong unidentifiable odor.
GS-06-W(73-77)[1]	22.5 (73-98)	75						**73.0 to 83.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; medium density; wet. Silt lenses. Moderate to strong unidentifiable odor.
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**5 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-06-S(80-83)[3]								**73.0 to 83.0 feet: SAND (SP)**, continued.
		85						**83.0 to 90.0 feet: INTERBEDDED SAND (SP)**; grayish-brown; fine to medium sand; medium density; wet; **AND SILT (ML)**; grayish-brown; low to medium plasticity; firm to stiff; damp to moist. SAND:SILT interbedded 50:50. Moderate to strong unidentifiable odor.
GS-06-S(90-92)[3]		90						**90.0 to 98.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; medium density; wet. Moderate to strong unidentifiable odor.
GS-06-S(95-98)[2]		95						
GS-06-W(98-102)[1]		100						**98.0 to 123.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace fines, coarse sand, and fine subrounded to rounded gravel; medium density; wet. Some of the gravel-sized material is pumice. Moderate

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**6 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
			X					to strong unidentifiable odor.
		105						
	17 (98-123)							
		110						
		115						@ 116.0 to 117.0 feet: wood chunks and twigs up to 2-inches in length.
		120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**7 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								98.0 to 123.0 feet: SAND (SP), continued.
GS-06-W(123-127)[1]								**123.0 to 131.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace to 5 percent fines; medium density; wet. Moderate to strong unidentifiable odor.
		125						
	20.5 (123-148)	130						@ 129.0 to 129.5 feet: grayish-brown to brown; fine to coarse sand (coarse fraction mainly pumice); trace wood fragments.
								131.5 to 134.5 feet: SILTY SAND (SM); grayish-brown; 85 percent fine to medium sand; 15 percent fines; medium density; wet. Silt lenses. Moderate to strong unidentifiable odor.
		135						**134.5 to 135.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace fines; medium density; wet. Trace coarse sand. Moderate to strong unidentifiable odor.
								135.5 to 140.5 feet: SILTY SAND (SM); grayish-brown; 85 percent fine to medium sand; 15 percent fines, medium to dense; wet. Silt lenses up to 6-inches thick; medium to low plasticity. Moderate to strong unidentifiable odor.
		140						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-06**
LOCATION	**Portland, Oregon**	PAGE	**8 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/18/07**
		MUDLINE ELEVATION	**7.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								135.5 to 140.5 feet: SILTY SAND (SM), continued.
								140.5 to 148.0 feet: SAND (SP); grayish-brown; fine to medium sand; <5 percent fines; trace coarse sand (mostly pumice); medium to dense; wet. Moderate to strong unidentifiable odor.
		145						
GS-06-W(148-152)[1]								@ 148.0 feet: fine to coarse subrounded to rounded gravel and 1 cobble 3.5 inch in diameter.
								Bottom of boring = 148.0 feet.
		150						
		155						
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**1 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 3.0 feet: SAND WITH SILT (SP); 90 to 95 percent fine to medium sand, 5 to 10 percent nonplastic to low plasticity fines; wet. Light sheen.
GS-07-W(4-6)[1] GS-07-S(4-6)[2] GS-07-S(4-6)[3]	9.0 (0-23)	5	X	X	X			**3.0 to 13.0 feet: SILT (ML)**; gray to black; 85 to 90 percent fines; 10 to 15 percent fine to medium sand. Heavy sheen. Free product droplets and layers, but not flowing.
GS-07-W(9-11)[1] GS-07-S(9-11)[2]		10	X	X				@ 9.0 to 10.0 feet: friable coarse gravel; fine yellow crystals when broken.
GS-07-S(15-18)[3]		15			X			**13.0 to 23.0 feet: SILT (ML)**, grayish brown; 85 to 90 percent low to medium plasticity fines; 10 to 15 percent fine sand; <5 percent organics (root hairs, grasses); wet. Trace sand lenses <0.1-foot thick; fine to medium sand.
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**2 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								13.0 to 23.0 feet: SILT (ML), continued.
GS-07-W(23-27)[1] GS-07-S(23-27)[2]	2 (23-28)	25	X	X				**23.0 to 27.0 feet: SILTY SAND (SM)**; grayish brown to gray; 80 to 85 percent fine to medium sand; 15 to 20 percent medium plasticity fines; trace organics (grasses and root hairs); loose. Sheen. Strong hydrocarbon-like odor.
GS-07-S(28-30)[3]	9 (28-38)	30 35 40			X			**27.0 to 48.0 feet: SILTY SAND (SM)**; grayish brown; 70 to 80 percent fine to medium sand; 20 to 30 percent fines; trace organics. Sand lenses 0.1 to 0.2-feet thick; fine to medium sand. Silt lenses 0.1 to 0.2-feet thick; medium to high plasticity fines. Faint hydrocarbon-like odor. @ 28.0 to 29.0 feet: trace spotty sheen.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**3 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-07-S(41-43)[3]	10 (38-48)	45			X			**27.0 to 48.0 feet: SILTY SAND (SM)**; continued. @ 41.0 to 48.0 feet: thin (<1mm) organic layers of grasses.
GS-07-W(48-52)[1] GS-07-S(48-52)[2]	3 (48-53)	50	X	X				**48.0 to 52.0 feet: SAND (SP)**; grayish brown; fine to medium sand; <5 percent fines; wet. Silt lenses 0.2 to 3 feet; high plasticity fines; wet.
GS-07-S(53-55)[3]	9 (53-63)	55 60			X			**52.0 to 63.0 feet: SILTY SAND (SM)**; grayish-brown; interbedded sand and silt layers. Fine to medium sand. Medium to high plasticity fines. Overall 20 to 30 percent fines.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**4 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								52.0 to 63.0 feet: SILTY SAND (SM), continued.
GS-07-S(62-63)[3]					X			
								63.0 to 81.0 feet: SAND (SP); grayish-brown; 95 percent fine to medium sand; 5 percent fines. Faint hydrocarbon-like odor.
		65						
	10 (63-73)							
GS-07-S(70-72)[3]		70			X			@ 70.0 feet: silt layer; medium plasticity fines.
								@ 72.0 feet: silt layer, medium plasticity fines.
GS-07-W(73-77)[1] GS-57-W(73-77)[1]			X					@ 73.0 feet: silt layer, medium plasticity fines.
	5 (73-78)	75	X					
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**5 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-07-S(80-82)[3]								**63.0 to 81.0 feet: SAND (SP)**, continued.
	9 (78-88)	85						**81.0 to 88.0 feet: SILTY SAND (SM)**; grayish-brown; interbedded sand and silt layers. Fine to medium sand. Medium to high plasticity fines. Overall 20 to 30 percent fines.
								88.0 to 89.0 feet: SILT (ML); grayish-brown; medium to high plasticity fines; <5 percent sand.
GS-07-S(90-92)[3]		90						**89.0 to 92.0 feet: INTERBEDDED SAND (SP) AND SILT (ML)**; medium to high plasticity fines. Interbedded 50:50.
	10 (88-98)	95						**92.0 to 98.0 feet: SAND (SP)**; grayish brown; fine to medium sand. Trace silt lenses 0.1- to 0.2-foot thick; medium plasticity fines.
GS-07-W(98-102)[1] GS-07-S(98-102)[2]		100						**98.0 to 148.0 feet: SAND (SP)**; gray; fine to medium sand; trace fines; wet. No odor.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**6 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-07-CW(100)[1]								**98.0 to 148.0 feet: SAND (SP)**, continued.
	5 (98-103)							
		105						
	9 (103-113)							
		110						
								@ 113.0 to 123.0 feet: trace silt nodules up to 0.1-feet in diameter; low to medium plasticity fines. No odor.
		115						@ 115.0 feet: 3-inch x ½-inch wood chunk.
	11 (113-123)							
		120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**7 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								98.0 to 148.0 feet: SAND (SP), continued.
GS-07-W(123-127)[1] GS-07-S(123-127)[2]			X	X				@ 123.0 to 127.0 feet: pumice (coarse sand- to fine gravel-sized) and wood chips up to 1-inch in diameter.
		125						
								@ 127.0 to 138.0 feet: trace pumice (coarse sand-sized).
	9 (123-138)							
		130						@ 130.0 feet: <1-inch-thick layer of wood fragments.
		135						
								@ 137.5 feet: 0.3-foot-thick silt lens; medium to high plasticity fines.
		140						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**8 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								98.0 to 148.0 feet: SAND (SP), continued.
								@ 141.0 feet: trace silt nodules up to 0.2-foot in diameter.
	10 (138-148)							@ 144.0 feet: leaf in middle of silt nodule.
GS-07-S(145-148)[2]		145		X				
								@ 147.5 feet: silt; medium to high plasticity; twigs and wood chips.
GS-07-W(148-152)[1]	0.5 (148-153)		X					**148.0 to 153.0 feet: SILTY SAND (SM)**; grayish-brown; 80 percent fine to coarse sand (mostly coarse; coarse sand appears to be pumice); 20 percent fines; with wood fragments.
		150						
								Note: Only 0.5-foot recovered for 5-foot core.
								153.0 to 161.0 feet: SAND (SP); grayish-brown; fine to medium sand; <5 percent fines. Sand coarsening with depth.
		155						
	9 (153-163)							
								@ 158.5 to 161.0 feet: trace to 10 percent fine to coarse gravel; subrounded to rounded.
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**9 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								153.0 to 161.0 feet: SAND (SP), continued.
								161.0 to 168.0 feet: SANDY GRAVEL (GP); grayish-brown; 70 to 80 percent angular to rounded, fine to coarse gravel; 20 to 30 percent fine to coarse sand; trace fines. Some quartzite gravel.
		165						
	10 (163-173)							
								168.0 to 169.0 feet: GRAVEL (GP); grayish brown; fine to coarse, subangular to well rounded gravel; trace fines and sand. Some quartzite gravel.
								169.0 to 173.0 feet: SANDY GRAVEL (GP); grayish-brown; 70 to 80 percent angular to rounded, fine to coarse gravel; 20 to 30 percent fine to coarse sand; trace fines. Some quartzite gravel.
GS-07-W(170-174)[1] GS-07-S(170-173)[2]		170	X	X				
								173.0 to 188.0 feet: GRAVEL (GP); grayish-brown; fine to coarse, subangular to well rounded gravel and cobbles; trace fines and sand. Some quartzite gravel.
		175						
	10 (173-183)							
		180						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-07**
LOCATION	**Portland, Oregon**	PAGE	**10 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**193.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/20/06**
		MUDLINE ELEVATION	**3.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								173.0 to 188.0 feet: GRAVEL (GP); continued.
		185						
	10 (183-193)							@ 187.5 feet: 0.4-foot quartzite cobble.
								188.0 to 190.0 feet: VESICULAR BASALT; cores up to 0.5 foot.
		190						**190.0 to 193.0 feet: VESICULAR BASALT**; 10 to 15 precent sandy silt; medium to high plasticity fines.
								Bottom of boring = 193.0 feet.
		195						
		200						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**1 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	4 (0-4)							**0 to 6.0 feet: SANDY SILT (ML)**; yellowish-brown to rust-brown; medium plasticity fines; moist. Gravel, cobbles, and riprap in sandy silt matrix.
GS-08-S(3-4)[2]				X				@ 2.5 to 3.5 feet: color change to grayish-brown; wet.
GS-08-W(4-6)[1]			X					@ 3.5 to 6.0 feet: color change to gray.
		5						
GS-08-S(6-8)[3]	3.5 (4-9)				X			**6.0 to 7.0 feet: SAND (SP)**; dark gray; fine to medium sand; wet. Heavy sheen. Fine product droplets.
								7.0 to 30.0 feet: SILTY SAND (SM); grayish-brown; 80 to 85 percent fine sand; 15 to 20 percent medium plasticity fines; trace organics (wood chunks, roots).
GS-08-W(9-11)[1] GS-08-S(9-10)[2]		10	X	X				@ 9.0 to 12.0 feet: sheen in sand laminations. @ 9.0 to 30.0 feet: increase in silt percentage to 20 to 30 percent. Hydrocarbon-like odor.
	11 (9-23)							
		15						
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**2 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-08-S(20-23)[2] GS-08-S(20-23)[3]				X	X			**7.0 to 30.0 feet: SILTY SAND (SM)**; continued.
GS-08-W(23-27)[1]			X					
		25						
	3 (23-30)							
GS-08-S(29-30)[3]					X			
		30						**30.0 to 40.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; wet.
	7 (30-43)	35						
		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**3 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-08-S(40-43)[3]								**40.0 to 46.0 feet: SILTY SAND (SM)**; grayish-brown; 70 to 80 percent fine to medium sand; 20 to 30 percent medium plasticity fines; wet.
GS-08-S(43-45)[2] GS-58-S(43-45)[2]								
	5 (43-48)	45						
								46.0 to 47.0 feet: SILT (ML); grayish-brown; medium to high plasticity fines; <5 percent organics (root hairs, saw dust-like particles).
								47.0 to 55.0 feet: SILTY SAND (SM); grayish-brown; 70 to 80 percent fine to medium sand; 20 to 30 percent medium plasticity fines; wet.
GS-08-W(48-52)[1] GS-58-W(48-52)[1]								
GS-08-S(50-53)[3]		50						
		55						
	6 (48-63)							**55.0 to 63.0 feet: SILT (ML)**; grayish-brown; 85 to 90 percent medium to high plasticity fines; 10 to 15 percent fine sand; trace organics (root hairs); wet. Intermittent sand lenses; fine to medium sand.
		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**4 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								55.0 to 63.0 feet: SILT (ML), continued.
GS-08-S(63-65)[3]		65						**63.0 to 76.0 feet: SILTY SAND (SM)**; grayish-brown; 80 to 85 percent fine to medium sand (mostly fine); 15 to 20 percent low to medium plasticity fines; trace organics with white specks. @ 64.0 to 64.5 feet: silt lens.
	10 (63-73)							
GS-08-S(69-70)[3]		70						
GS-08-W(73-77)[1]		75						
	13 (73-88)							**76.0 to 84.5 feet: SILTY SAND (SM)**; grayish-brown; 50 to 80 percent sand; 20 to 50 percent medium to high plasticity fines; trace organics (root hairs). Sand-filled fissures. Layered sand and silt.
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**5 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								76.0 to 84.5 feet: SILTY SAND (SM), continued.
GS-08-S(82-84)[3]					X			
		85						**84.5 to 86.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines; <5 percent fine sand; trace organics; (root hairs).
								@ 85.0 feet: sand lamination.
								86.0 to 87.0 feet: SILTY SAND (SM); grayish-brown; 50 to 80 percent sand; 20 to 50 percent medium to high plasticity fines; trace organics (root hairs). Sand-filled fissures. Layered sand and silt.
								87.0 to 89.0 feet: SILT (ML); grayish-brown; medium to high plasticity fines; <5 percent fine sand; trace organics (root hairs).
GS-08-S(90-92)[3]		90			X			**89.0 to 98.0 feet: SILTY SAND (SM)**; grayish-brown; 50 to 80 percent sand; 20 to 50 percent medium to high plasticity fines; trace organics (root hairs). Sand-filled fissures. Layered sand and silt.
	10 (88-98)							
GS-08-S(95-98)[2]		95		X				
GS-08-W(98-102)[1]			X					**98.0 to 118.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; wet.
		100						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**6 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-08-CW(100)[1]	8 (98-113)	105 110 115	X					**98.0 to 118.0 feet: SAND (SP)**, continued.
	10 (113-123)	120						**118.0 to 123.0 feet: SAND (SP)**; grayish-brown; 10 percent silt interbeds and nodules; medium to high plasticity.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**7 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								118.0 to 123.0 feet: SAND (SP), continued.
GS-08-W(123-127)[1]	5 (123-128)	125	X					**123.0 to 148.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace fines.
		130						
	10 (128-138)	135						
		140						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-08**
LOCATION	**Portland, Oregon**	PAGE	**8 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/27/06**
		MUDLINE ELEVATION	**10.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	10 (138-148)	145						**123.0 to 148.0 feet: SAND (SP)**, continued. @ 141.0 to 145.0 feet: increase in fines to 10 to 15 percent. @ 142.0 to 142.5 feet: 6-inch silt lens. @ 144.0 feet: thin (1 mm) organic (wood chip) layer. @ 145.0 to 147.0 feet: color change to brown. @ 147.0 to 148.0 feet: increase in fines to 10 to 15 percent.
GS-08-W(148-152)[1]		150 155 160	X					Bottom of boring = 148.0 feet.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**1 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	5 (0-9)							**0 to 12.5 feet: SAND (SP)**; brownish-gray; 85 to 90 percent fine to medium sand; 10 to 15 percent low plasticity fines. Hydrocarbon-like odor. Sheen. Oil droplets.
								@ 3.0 feet: silt lens; trace coarse gravel; trace wood fragments.
GS-09-W(4-6)[1] GS-09-S(4-6)[2] GS-09-S(4-6)[3]		5	X	X	X			
								@ 8.0 feet: silt lens; trace coarse gravel, trace wood fragments.
GS-09-W(9-11)[1] GS-09-S(9-11)[2]		10	X	X				
	11 (9-23)							**12.5 to 31.0 feet: SILTY SAND (SM)**; grayish-brown; fine to medium (mostly fine) sand; low to medium plasticity fines; trace organics (roots, leaves); trace white specks (degraded shell?).
		15						
								@ 19.0 feet: trace organic layering.
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**2 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-09-W(23-27)[1] GS-09-S(23-27)[2] GS-09-S(23-27)[3]	12 (23-33)	25 30	X	X	X			**12.5 to 31.0 feet: SILTY SAND (SM)**, continued.
	9.5 (33-43)	35 40						**31.0 to 47.5 feet: SANDY SILT (ML)**; grayish-brown; 60 percent medium plasticity fines; 40 percent fine sand; trace organics.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**3 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	5 (43-48)	45						**31.0 to 47.5 feet: SANDY SILT (ML)**, continued.
GS-09-W(48-52)[1] GS-09-S(48-52)[2]	11 (48-58)	50, 55, 60	X	X				**47.5 to 64.0 feet: SILTY SAND (SM)**; grayish-brown; 70 percent fine to medium (mostly fine) sand; 30 percent low to medium plasticity fines.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**4 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								47.5 to 64.0 feet: SILTY SAND (SM), continued.
	10 (58-68)							**64.0 to 65.0 feet: SANDY SILT (ML)**; grayish-brown; 85 to 90 percent medium to high plasticity fines; 10 to 15 percent fine sand; trace root hairs; firm; moist to wet. Hydrocarbon-like odor.
GS-09-S(65-66)[3]		65			X			**65.0 to 66.5 feet: SILTY SAND (SM)**; grayish brown; medium to high plasticity fines. Sand-filled fissures.
								66.5 to 70.5 feet: SAND WITH SILT (SM); 85 to 90 percent sand; 10 to 15 percent low to medium plasticity fines; firm; moist to wet. Hydrocarbon-like odor.
								@ 69.0 to 70.0 feet: fine gravel-sized pumice.
		70						
	6 (68-73)							**70.5 to 93.0 feet: SILTY SAND (SM)**; grayish brown; medium to high plasticity fines. Sand-filled fissures. Hydrocarbon-like odor.
GS-09-W(73-77)[1]			X					
		75						
	9.5 (73-83)							
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**5 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								70.5 to 93.0 feet: SILTY SAND (SM), continued.
		85						
	10 (83-93)							
		90						
								93.0 to 95.5 feet: SAND WITH SILT (SP-SM); grayish-brown; 90 to 95 percent fine to medium sand; 5 to 10 percent low plasticity fines.
		95						
	5 (93-98)							**95.5 to 98.0 feet: SILTY SAND (SM)**; grayish-brown; medium to high plasticity fines. Sand-filled fissures. Firming with depth. Hydrocarbon-like odor.
GS-09-S(97-98)[3]					X			
GS-09-W(98-102)[1] GS-09-S(98-102)[2]			X	X				@ 97.5 feet: approximately 2-inch in diameter very dense clay/silt nodule with trace organics (grass) noted inside when broken.
		100						**98.0 to 108.0 feet: SAND WITH SILT (SM)**; 90 to 95 percent fine to medium sand; 5 to 10 percent low

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**6 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-09-CW(100)[1]								plasticity fines. Faint hydrocarbon-like odor. **98.0 to 108.0 feet: SAND WITH SILT (SM)**, continued.
	9.5 (98-108)	105						@ 107.5 feet: silt nodules 1- to 2-inches in diameter, one nodule 2-inches thick x 3-inches in diameter. **108.0 to 133.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines. No odor.
		110						
	14.5 (108-123)	115						
		120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**7 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								108.0 to 133.0 feet: SAND (SP), continued.
GS-09-W(123-127)[1] GS-09-S(123-127)[2]	8.0 (123-133)	125 130	X	X				
								133.0 to 143.0 feet: SAND (SP); grayish-brown; 95 percent fine to medium sand; 5 percent fines. No odor.
	9.3 (133-143)	135 140						@ 140.0 feet: two silt lenses 1/2-centimeter wide each.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**8 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								133.0 to 143.0 feet: SAND (SP), continued.
								143.0 to 169.0 feet: SAND (SP); grayish-brown; fine to medium sand; trace fines. No odor.
		145						
GS-09-W(148-152)[1] GS-09-S(148-152)[2]	6 (143-153)		X	X				
		150						
		155						
	10 (153-163)							
								@ 158.0 to 169.0 feet: slight increase in fines to 5 percent.
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**9 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								143.0 to 169.0 feet: SAND (SP), continued.
		165						@ 166.0 to 169.0 feet: wood chunks; trace fine to medium, subrounded to well rounded gravel; silt cobble.
	10 (163-173)							
		170						**169.0 to 180.0 feet: GRAVEL (GP)**; 80 to 90 percent fine to coarse subangular to well rounded gravel with cobbles; 5 to 10 percent sand; 5 to 10 percent fines. Mostly basalt gravel. Trace quartzite gravel. Increase in fines with depth; possible ground rock/gravel from drilling.
GS-09-W(173-177)[1] GS-09-S(173-177)[2]	6 (173-177)	175	X	X				
		180						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-09**
LOCATION	**Portland, Oregon**	PAGE	**10 of 10**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**187.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**10/13/06**
		MUDLINE ELEVATION	**5.1 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	10 (177-187)	185						**180.0 to 187.0 feet: BEDROCK BASALT** @ 181.0 to 183.0 feet: pulverized to powder; dry; orange, yellow and brown weathered surface. @ 186.0 feet: weathered basalt, weathered to clay-like matrix; dry.
								Bottom of boring = 187.0 feet.
		190						
		195						
		200						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**1 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	5 (0-5)							**0 to 3.0 feet: SAND (SP)**; grayish-brown; fine to coarse sand; <5 percent fine to coarse cobbles; trace fines; wet.
GS-10-W(4-6)[1] GS-10-S(4-6)[2]		5	X	X				**3.0 to 5.0 feet: SILT (ML)**; grayish-brown with brown and black mottles; trace root hairs; wet. Oily. Strong hydrocarbon-like odor.
								5.0 to 7.0 feet: SAND (SP); grayish-brown; fine to coarse sand; trace fines; wet. Oily. Hydrocarbon-like odor.
GS-10-W(9-11)[1] GS-10-S(9-11)[2] GS-10-S(9-11)[3]		10	X	X	X			**7.0 to 9.0 feet: SANDY SILT (ML)**; 70 to 80 percent medium plasticity fines; 20 to 30 percent fine to medium sand; trace wood fragments and root hairs. Hydrocarbon-like odor. @ 9.0 feet: 2-inch-thick tar lens. **9.0 to 11.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines; trace fine organics; wet. Black, oily laminations. Hydrocarbon-like odor.
	17 (5-23)	15						**11.0 to 27.0 feet: SILT (ML)**; grayish-brown; 80 to 85 percent medium to high plasticity fines; 15 to 20 percent fine sand; trace fine organics (root hairs); wet. Hydrocarbon-like odor to 23 feet. @ 12.0 feet: sheen stops.
		20						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**2 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-10-S(20-23)[2] GS-10-S(20-23)[3] GS-10-W(23-27)[1]		25						**11.0 to 27.0 feet: SILT (ML)**, continued.
GS-10-S(29-31)[3]	20 (23-48)	30						**27.0 to 32.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace low plasticity fines; wet. No odor.
								32.0 to 33.0 feet: SILT (ML); grayish brown; medium plasticity fines.
		35						**33.0 to 44.0 feet: SILTY SAND (SM)**; grayish-brown; fine sand; 20 to 30 percent medium to high plasticity fines; trace organics (root hairs and fine wood chips); wet.
GS-10-S(39-41)[3]		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**3 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								33.0 to 44.0 feet: SILTY SAND (SM), continued.
GS-10-S(45-48)[2]		45						**44.0 to 56.0 feet: SAND (SP)**; grayish-brown; fine sand; trace fines; wet.
GS-10-W(48-52)[1] GS-10-S(48-50)[3]		50						
	21 (48-73)	55						
GS-10-S(59-61)[3]		60						**56.0 to 60.0 feet: SILT (ML)**; grayish-brown; 90 to 95 percent medium to high plasticity fines; 5 to 10 percent fine sand; trace fine organics; wet.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**4 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								60.0 to 63.0 feet: SILTY SAND (SM); grayish-brown; 80 to 90 percent fine to medium sand; 10 to 20 percent medium plasticity fines; wet.
								63.0 to 66.0 feet: SILT (ML); grayish-brown; medium plasticity fines; trace to <10 percent fine to medium sand; wet.
		65						
								66.0 to 70.0 feet: SAND (SP); grayish-brown; fine sand; trace fines; wet.
GS-10-S(69-71)[3]								
		70						**70.0 to 71.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines; wet.
								71.0 to 76.0 feet: SAND (SP); grayish-brown; fine sand; trace fines; firm; wet.
GS-10-W(73-77)[1]								
		75						
								76.0 to 76.5 feet: SILT (ML); grayish-brown; medium to high plasticity fines; trace fine sand; wet.
								76.5 to 82.0 feet: SILT WITH SAND (ML); grayish-brown; medium to high plasticity fines with fine to medium sand lenses in fissures; 20 to 30 percent fine to medium sand; wet.
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**5 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-10-S(80-83)[3]								**76.5 to 82.0 feet: SILT WITH SAND (ML)**, continued.
								82.0 to 85.0 feet: SILT (ML); grayish-brown; 85 to 90 percent medium to high plasticity fines; 10 to 15 percent fine to medium sand laminations and fissures; wet.
		85						**85.0 to 87.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines; 10 to 15 percent fine to medium sand lamination and fissures; 10 to 15 percent organics (root hairs, reeds, leaves, wood fibers); wet.
	23 (73-98)							**87.0 to 90.0 feet: SILT WITH SAND (ML)**; grayish-brown; medium to high plasticity fines with fine to medium sand lenses in fissures; 20 to 30 percent fine to medium sand; trace organics; wet.
GS-10-S(90-93)[3]		90						**90.0 to 98.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines. @ 90.0, 91.0 and 92.0 feet: 1- to 2-inch sand laminations. @ 93.0 to 94.0 feet, 95.0 to 96.0 feet and 96.0 to 98.0 feet: sand fissures.
GS-10-S(95-98)[2]		95						
GS-10-W(98-102)[1]		100						**98.0 to 119.0 feet: SAND (SP)**; brownish-gray; fine to medium sand; trace fines; wet.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**6 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
			X					**98.0 to 119.0 feet: SAND (SP)**, continued.
								@ 104.0 feet: 0.1-foot silt lens.
		105						
	16 (98-123)							
		110						
		115						
		120						**119.0 to 120.0 feet: SILT (ML)**; grayish-brown; 80 to 85 percent medium to high plasticity fines; 15 to

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**7 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								20 percent sand laminations and fissures.
								@ 120.0 feet: 0.2-foot silt lens.
								120.0 to 122.0 feet: SAND (SP); grayish-brown; fine to medium sand; trace fines; wet.
								122.0 to 123.0 feet: SILT (ML); grayish-brown; 80 to 85 percent medium to high plasticity fines; 15 to 20 percent sand laminations and fissures.
GS-10-W(123-127)[1]								**123.0 to 129.0 feet: SILT WITH SAND (ML)**; grayish-brown; 60 to 70 percent medium to high plasticity fines; 30 to 40 percent fine to medium sand; trace organics (wood fibers); wet. Silt nodules and lenses with sand fissures.
		125						
								129.0 to 148.0 feet: SAND (SP); brownish-gray; fine to medium sand; trace fines; wet.
		130						
	21 (123-148)							@ 132.0 feet: 0.1-foot-thick silt nodule/lens.
		135						
		140						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-10**
LOCATION	**Portland, Oregon**	PAGE	**8 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**John Renda**	DATE COMPLETED	**1/3/07**
		MUDLINE ELEVATION	**2.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								129.0 to 148.0 feet: SAND (SP), continued.
								@ 141.0 feet: 0.1-foot-thick silt nodule/lens.
		145						
								@ 146.0 feet: sticks/wood debris 0.1-foot thick.
GS-10-W(148-152)[1]								Bottom of boring = 148.0 feet. Water sample from 148.0 to 152.0 feet.
		150						
		155						
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**1 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-11-W(4-6)[1] GS-11-S(4-6)[2]		5	X	X				**0 to 8.0 feet: SILTY SAND (SM)**; grayish-brown; 80 to 85 percent fine to coarse sand; 15 to 20 percent low to medium plasticity fines; <5 percent fine to coarse, angular to subrounded gravel and cobbles. Sheen.
GS-11-W(9-11)[1] GS-11-S(9-11)[2]	15 (0-23)	10 15 20	X	X				**8.0 to 23.0 feet: SANDY SILT (ML)**; grayish-brown; 60 to 70 percent medium plasticity fines; 30 to 40 percent fine to medium sand (mostly fine); trace fine subrounded gravel; trace organics (leaves, root hairs, sticks). No sheen. No odor. @ 17.0 to 18.0 feet: sand lens; fine to medium sand; trace coarse angular gravel. @ 19.0 feet: 1-inch-diameter stick fragments 3-inches long.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**2 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-11-S(20-23)[2]				X				**8 to 23.0 feet: SANDY SILT (ML)**, continued.
GS-11-W(23-27)[1]			X					**23.0 to 24.0 feet: SAND (SP)**; grayish-brown; 90 to 95 percent fine sand; 5 to 10 percent nonplastic fines; wet.
	7 (23-30)	25						**24.0 to 30.0 feet: SANDY SILT (ML)**; grayish-brown; 60 to 70 percent medium to high plasticity fines; 30 to 40 percent fine to medium sand; trace organics (leaves, roots, wood fibers); wet. @ 25.0 feet: organic lens (leaves, reeds and wood fibers); wet. @ 25.5 feet: sand lens 0.2-foot thick, fine to medium sand; wet. @ 28.0 to 29.0 feet: sand lens, fine to medium sand; wet.
		30						**30.0 to 51.0 feet: SAND (SP)**; grayish-brown; fine sand; <10 percent nonplastic to low plasticity fines; trace organics; loose; wet; soupy.
		35						
	17 (30-48)							@ 37.5 to 38.0 feet: silt lens; medium plasticity; soft.
		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**3 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								30.0 to 51.0 feet: SAND (SP), continued. @ 40.0 to 44.0 feet: increase in fines to 20 to 30 percent.
								@ 44.0 feet: trace medium gravel.
GS-11-S(45-48)[2]		45		X				
GS-11-W(48-52)[1] GS-61-W(48-52)[1]			X					
		50						
								51.0 to 52.0 feet: SILTY SAND (SM); grayish-brown; 60 to 70 percent fine sand; 30 to 40 percent low to medium plasticity fines; wet.
	25 (48-73)							**52.0 to 54.0 feet: SILT (ML)**; medium to high plasticity fines; trace fine sand; <5 percent organics.
		55						**54.0 to 56.0 feet: SANDY SILT (ML)**; grayish brown; 60 to 70 percent medium plasticity fines with sand lenses and fissures; 30 to 40 precent sand; <5 percent organics (root hairs, leaves, reeds, wood fibers).
								56.0 to 58.0 feet: SAND (SP); grayish-brown; 80 to 90 percent fine sand; 10 to 20 percent medium plasticity fines; trace organics; wet.
								58.0 to 59.0 feet: SILT (ML); grayish-brown; medium to high plasticity fines; trace organics; wet.
		60						**59.0 to 61.0 feet: SAND (SP)**; grayish-brown; fine sand; trace fines; few silt lenses.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**4 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								59.0 to 61.0 feet: SAND (SP), continued.
		65						**61.0 to 67.0 feet: SANDY SILT (ML)**; grayish-brown; 60 to 70 percent medium to high plasticity fines; 30 to to 40 percent fine sand; trace organics. Sand laminations and fissures.
		70						**67.0 to 73.0 feet: SILT (ML)**; grayish-brown; medium to high plasticity fines; trace organics. Sand laminations and fissures.
GS-11-W(73-77)[1]	19.5 (73-98)	75	X					@ 73.0 feet: fine to medium-sized gravel, silt nodules, hard. **73.0 to 89.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace to 5 percent fines; trace fine to medium rounded gravel; loose to medium density; wet. Silt nodules (most firm, some dry and hard) up to 3 inches; silt lenses up to 4 inches; silt fissures.
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**5 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
		85						**73.0 to 89.0 feet: SAND (SP)**, continued.
		90						**89.0 to 98.0 feet: INTERBEDDED SAND (SP)**; grayish-brown; fine to medium sand; and **SILT (SM)**; low to medium plasticity; trace to 10 percent fine sand. Interbedded 60:40 - SAND:SILT. Beds ½-inch to 6-inches.
GS-11-S(95-98)[2]		95		X				
GS-11-W(98-102)[1]		100	X					**98.0 to 123.0 feet: SAND WITH SILT (SP)**; grayish-brown; 85 to 95 percent fine to medium sand; 5 to 15 percent fines; trace coarse sand; medium density; wet. Decrease in fines with depth. Silt nodules and

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**6 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	21 (98-123)	105	X					lenses (mostly firm) up to 3-inches. @ 98.0 to 102.5 feet: abundant silt nodules. @ 102.5 to 123.0 feet: trace silt nodules. @ 108.5 to 110.5 feet: trace twigs and wood chunks (<1 inch).
		110						
		115						
		120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**7 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-11-S(120-123)[2]				X				**98.0 to 123.0 feet: SAND WITH SILT (SP)**, continued.
GS-11-W(123-127)[1]	20.5 (123-148)	125, 130	X					**123.0 to 133.5 feet: SAND (SP)**; grayish-brown; 95 percent fine to medium sand; 5 percent fines; medium density; wet. Trace coarse sand. Silt nodules and lenses ¼ to 3 inches.
		135						**133.5 to 135.0 feet: SILT (ML)**; grayish-brown; medium plasticity fines; trace fine sand; firm; moist to damp. Sand lenses up to 1 inch.
		140						**135.0 to 140.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; 5 percent fines; medium density; wet. Trace coarse sand. Silt lenses and nodules up to 4 inches.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**8 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								140.0 to 144.0 feet: SILT (ML); grayish-brown; medium to high plasticity; firm to stiff; damp to moist. Sand fissures and lenses up to 1.5 inch.
GS-11-S(145-148)[2]		145		X				**144.0 to 148.0 feet: SAND (SP)**; grayish-brown; 95 percent fine to medium sand; 5 percent fines; trace coarse sand; medium density; wet. Silt lenses and nodules up to 3 inches.
GS-11-W(148-152)[1]			X					**148.0 to 150.0 feet: SAND (SP)**; grayish-brown; 95 percent fine to coarse sand; 5 percent fines; trace fine to medium, subangular to subrounded gravel; loose to medium density; wet.
	21 (148-173)	150						**150.0 to 173.0 feet: INTERBEDDED SAND (SP)**; grayish-brown; fine to coarse sand; loose to medium density; wet; **AND SILT (ML)**; grayish-brown; medium plasticity fines; firm to stiff; wet. Silt nodules. Trace fine to medium, subangular to subrounded gravel (some quartzite gravel).
		155						@ 154.5 feet: one piece of medium, sub-rounded quartzite gravel.
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-11**
LOCATION	**Portland, Oregon**	PAGE	**9 of 9**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**175.0'**
LOGGED BY	**Kelly Titkemeier/John Renda**	DATE COMPLETED	**1/9/07**
		MUDLINE ELEVATION	**4.5 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								150.0 to 173.0 feet: INTERBEDDED SAND (SP) AND SILT (ML), continued. @ 160.0 to 163.0 feet: SAND (SP) with frequent silt nodules. @ 161.5 feet: one piece of medium, sub-rounded quartzite gravel. @ 163.0 to 165.0 feet: SAND (SP) with silt nodules - small and infrequent.
		165						
GS-11-S(170-173)[2]		170		X				
GS-11-W(173-177)[1]	4 (173-175)		X					@ 173.0 feet: one cobble of basalt (approximately 4 inches in diameter). **173.0 to 174.0 feet: SILTY GRAVEL WITH SAND (GP)**; brownish-gray; 60 percent fine to coarse, angular to rounded gravel; 25 to 30 percent medium plasticity fines; 10 to 15 percent fine to coarse sand; firm; damp to moist. Several cobbles up to 4 inches.
		175						**174.0 to 175.0 feet: BASALT** Bottom of boring = 175.0 feet.
		180						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**1 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	6 (0-7)							@ 0 feet: fine to coarse, subangular to subrounded gravel with sand. **0 to 3.0 feet: SILT (ML)**; grayish-brown; low plasticity fines; soft; wet.
GS-12-W(4-6)[1] GS-12-S(4-6)[2]		5	X	X				**3.0 to 14.5 feet: SANDY SILT (ML)**; grayish-brown; 70 percent medium plasticity fines; 30 percent fine to medium sand; soft to firm; wet. Sand lenses. Silt lenses.
GS-12-W(9-11)[1] GS-12-S(9-11)[2] GS-62-S(9-11)[2]	10 (7-23)	10	X	X				
		15						**14.5 to 19.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; loose to medium density; wet.
		20						**19.0 to 22.0 feet: SILT (ML)**; grayish-brown; 90 to 95 percent medium plasticity fines; 5 to 10 percent very

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**2 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
GS-12-S(20-23)[1]				X				fine to fine sand; soft to firm; wet. Sand lenses up to 4-inches thick.
								22.0 to 23.0 feet: SAND (SP); grayish-brown; fine to medium sand; trace fines and coarse sand; loose to medium density; wet.
GS-12-W(23-27)[1] GS-62-W(23-27)[1]			X					**23.0 to 41.0 feet: INTERBEDDED SAND (SP)**; grayish-brown; fine to medium sand; loose to medium density; wet, **SANDY SILT (ML)**; grayish-brown; 60 percent medium plasticity fines; 40 percent fine to medium sand; soft to firm; wet, **AND SILT (ML)**; grayish-brown; medium plasticity fines; soft to firm; wet. Trace fine twigs.
	0 (23-36)	25						
		30						
		35						
		40						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**3 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								23.0 to 41.0 feet: INTERBEDDED SAND (SP), SANDY SILT (ML) AND SILT (ML), continued.
	12 (36-48)	45						**41.0 to 48.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace to 5 percent fines (decreasing fines with depth); medium density; wet.
GS-12-S(45-48)[2]								
GS-12-W(48-52)[1]		50						**48.0 to 73.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; loose to medium density; wet. Frequent silt lenses 1 to 8 inches; grayish-brown; medium plasticity fines; firm to stiff; damp.
	22.5 (48-73)	55						
		60						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**4 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
		65						**48.0 to 73.0 feet: SAND (SP)**, continued.
		70						
GS-12-W(73-77)[1] GS-62-W(73-77)[1]	17 (73-98)	75	X					**73.0 to 90.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; medium density; wet. Silt nodules. Silt lenses 1/2- to 6-inches thick.
		80						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**5 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
		85						**73.0 to 90.5 feet: SAND (SP)**, continued.
		90						**90.5 to 94.5 feet: SANDY SILT (ML)**; grayish-brown; 60 percent medium plasticity fines; 40 percent fine to medium sand; firm to stiff; wet. @ 93.5 to 94.5 feet: two sand lenses 1- to 2-inches thick.
GS-12-S(95-98)[2] GS-62-S(95-98)[2]		95		X				**94.5 to 98.0 feet: SAND (SP)**; grayish-brown; fine to medium sand; <5 percent fines; medium density; wet.
GS-12-W(98-102)[1]		100	X					**98.0 to 123.0 feet: INTERBEDDED SAND (SP)**; grayish-brown; fine to medium sand; medium density to dense; wet; **AND SILT (ML)**; grayish-brown; medium plasticity fines; firm to stiff; moist. Beds ½-inch to

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**6 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
			X					1.5-feet thick. Interbedded 70:30 - SAND:SILT.
		105						
	23.5 (98-123)							
		110						
		115						
		120						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**7 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								98.0 to 123.0 feet: INTERBEDDED SAND (SP), continued.
GS-12-W(123-127)[1]	24 (123-148)	125	X					**123.0 to 132.5 feet: SILT (ML)**; grayish-brown; low to medium plasticity fines; stiff; damp to moist. Sand lenses up to 3-inches thick.
		130						@ 130.0 to 131.0 feet: trace organics (evergreen-like needles or roots?).
		135						**132.5 to 138.5 feet: SAND (SP)**; grayish-brown; fine to medium sand; trace fines; medium density to dense; wet. Silt lenses up to 6 inches.
		140						**138.5 to 141.5 feet: INTERBEDDED SAND (SP) AND SILT (ML)**: Interbedded 50:50 - SAND:SILT. Beds 1- to 5-inches thick.

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Gasco**	BORING NO.	**GS-12**
LOCATION	**Portland, Oregon**	PAGE	**8 of 8**
DRILLED BY	**Prosonic**	HOLE DIAMETER	**4-inch**
DRILL METHOD	**Sonic**	TOTAL DEPTH	**148.0'**
LOGGED BY	**Kelly Titkemeier**	DATE COMPLETED	**1/11/07**
		MUDLINE ELEVATION	**5.2 feet***

SAMPLE NUMBER	RECOVERY IN FEET (CORE INTERVAL)	DEPTH IN FEET	WATER SAMPLE	SOIL CHEMISTRY SAMPLE	GEOTECHNICAL SAMPLE	CORE INTERVAL	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								138.5 to 141.5 feet: INTERBEDDED SAND (SP) AND SILT (ML), continued.
								141.5 to 142.5 feet: SILT (ML); grayish-brown; low to medium plasticity fines; stiff; damp to moist.
								142.5 to 145.5 feet: SAND (SP); grayish-brown; 95 percent fine to medium sand; 5 percent fines; medium density to dense; wet. Silt lenses up to 2 inches.
		145						
								145.5 to 147.0 feet: SILT (ML); grayish-brown; low to medium plasticity; stiff; damp to moist.
								147.0 to 148.0 feet: SAND (SP); grayish-brown; 95 percent fine to medium sand; 5 percent fines; trace coarse sand; medium dense to dense; wet.
GS-12-W(148-152)[1]								Bottom of boring = 148.0 feet.
		150						
		155						
		160						

REMARKS

*City of Portland Datum. [1]Water Sample. [2]Soil Chemistry Sample. [3]Geotechnical Sample.

ANCHOR ENVIRONMENTAL, L.L.C.

APPENDIX D

FIELD SAMPLING DATA SUMMARY, FIELD DATA SHEETS AND CHAIN OF CUSTODY FORMS

TABLE 1
Field Sampling Data Summary--Groundwater
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Purge/Sample Method	Purge Volume (gallons)	pH	Specifc Conductance (µS)	Temperature (degrees C)
GS-00	5	Dry								
	10	Dry								
	25	23-27	GS-00-W(23-27)	11/1/2006	11:05	inertial pump	1.5	5.57	368	14.37
	50	48-52	GS-00-W(48-52)	11/1/2006	15:50	inertial pump	7	6.15	1633	13.47
	75	65-69	GS-00-W(65-69)	11/2/2006	10:00	inertial pump	10	6.71	200	12.83
GS-01	5	4-6	GS-01-W(4-6)	12/21/2006	11:50	peristaltic pump	1.8	5.55	2694	9.1
	10	9-11	GS-01-W(9-11)	12/21/2006	13:30	peristaltic pump	0.5	6.17	3448	11.8
	25	23-27	GS-01-W(23-27)	12/21/2006	16:00	inertial pump	6	5.97	5800	12.16
	50	48-52	GS-01-W(48-52)	12/26/2006	9:50	inertial pump	10	6.69	1417	12.55
	75	73-77	GS-01-W(73-77)	12/26/2006	11:40	inertial pump	6	6.96	785	11.4
GS-02	5	4-6	GS-02-W(4-6)	12/27/2006	12:15	peristaltic pump	3	4.88	1033	10.25
	10	9-11	GS-02-W(9-11)	12/27/2006	13:15	peristaltic pump	1	6.16	1872	12.15
	25	23-27	GS-02-W(23-27)	12/27/2006	15:10	inertial pump	2.5	6.40	3150	12.88
	50	48-52	GS-02-W(48-52)	12/28/2006	9:00	inertial pump	3	6.98	1213	13.07
	75	73-77	GS-02-W(73-77)	12/28/2006	10:30	inertial pump	6	6.45	1595	13.93
GS-03	5	4-6	GS-03-W(4-6)	12/18/2006	13:45	peristaltic pump	2	6.36	401	8.90
	10	13-15	GS-03-W(13-15)	12/18/2006	16:20	disposible bailer	0	NM	NM	NM
	25	23-27	GS-03-W(23-27)	12/19/2006	8:50	inertial pump	7.5	6.71	573	10.90
	50	48-52	GS-03-W(48-52)	12/19/2006	10:55	inertial pump	8	6.11	4740	13.1
	75	73-77	GS-03-W(73-77)	12/19/2006	12:30	inertial pump	15	6.55	466	13.40
	100	98-102	GS-03-W(98-102)	12/19/2006	14:15	inertial pump	6	6.98	352	14.80
	125	116-120	GS-03-W(116-120)	12/20/2006	11:10	inertial pump	100	6.85	255	12.50
GS-04	5	4-6	GS-04-W(4-6)	12/12/2006	10:40	peristaltic pump	1	6.75	521	12.35
	10	9-11	GS-04-W(9-11)	12/12/2006	12:30	peristaltic pump	2.8	6.46	586	13.25
	25	27-31	GS-04-W(27-31)	12/12/2006	15:15	inertial pump	6.1	6.55	602	13.29
	50	48-52	GS-04-W(48-52)	12/13/2006	10:30	inertial pump	9	6.51	645	15.15
	75	73-77	GS-04-W(73-77)	12/13/2006	14:30	inertial pump	16	6.72	509	15.94
	100	98-102	GS-04-W(98-102)	12/13/2006	17:00	inertial pump	20	6.94	419	15.94
	125	123-127	GS-04-W(123-127)	12/14/2006	12:15	inertial pump	5	6.93	380	14.52
	150	148-152	GS-04-W(148-152)	12/15/2006	11:49	inertial pump	50	7.29	547	14.77

TABLE 1
Field Sampling Data Summary--Groundwater
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Purge/Sample Method	Purge Volume (gallons)	pH	Specifc Conductance (µS)	Temperature (degrees C)
GS-05	5	4-6	GS-05-W(4-6)	10/24/2006	16:30	peristaltic pump	0.3	6.44	328	17.75
	10	9-11	GS-05-W(9-11)	10/24/2006	17:40	peristaltic pump	2.9	6.66	322	16.63
	25	23-27	GS-05-W(23-27)	10/25/2006	11:10	inertial pump	3	6.39	308	16.81
	50	55-59	GS-05-W(55-59)	10/25/2006	17:30	inertial pump	14.5	6.66	658	17.71
	75	73-77	GS-05-W(73-77)	10/26/2006	13:30	inertial pump	20	6.51	665	17.43
	100	98-102	GS-05-W(98-102)	10/26/2006	15:35	inertial pump	26	6.56	765	17.33
	125	123-127	GS-05-W(123-127)	10/27/2006	9:45	inertial pump	20	6.93	926	17.99
	150	148-152	GS-05-W(148-152)	10/27/2006	13:00	inertial pump	20	6.66	765	18.65
	175	173-177	GS-05-W(173-177)	10/30/2006	14:20	inertial pump	12	7.64	580	16.21
	--	191-195	GS-05-W(191-195)	10/31/2006	12:20	inertial pump	16	7.75	2169	16.86
GS-06	5	4-6	GS-06-W(4-6)	1/15/2007	10:45	peristaltic pump	0.5	6.72	594	5.65
	10	9-11	GS-06-W(9-11)	1/15/2007	11:45	peristaltic pump	1	6.76	679	7.04
	25	23-27	GS-06-W(23-27)	1/17/2007	11:30	inertial pump	3	6.98	540	12.33
	50	48-52	GS-06-W(48-52)	1/17/2007	13:20	inertial pump	10	7.00	683	12.59
	75	73-77	GS-06-W(73-77)	1/17/2007	14:55	inertial pump	20	6.99	606	12.91
	100	98-102	GS-06-W(98-102)	1/18/2007	8:30	inertial pump	30	7.20	736	12.77
	125	123-127	GS-06-W(123-127)	1/18/2007	10:50	inertial pump	30	7.13	587	11.88
	150	148-152	GS-06-W(148-152)	1/18/2007	13:30	inertial pump	40	7.26	466	12.87
GS-07	5	4-6	GS-07-W(4-6)	10/16/2006	9:45	peristaltic pump	0.25	6.37	1317	14.95
	10	9-11	GS-07-W(9-11)	10/16/2006	13:00	peristaltic pump	0.1	6.65	1125	15.62
	25	23-27	GS-07-W(23-27)	10/17/2006	9:15	inertial pump	5.5	6.94	836	14.09
	50	48-52	GS-07-W(48-52)	10/17/2006	14:20	inertial pump	7.5	6.99	460	15.32
	75	73-77	GS-07-W(73-77	10/18/2006	8:20	inertial pump	10.5	6.55	634	14.08
	100	98-102	GS-07-W(98-102)	10/18/2006	11:30	inertial pump	26	6.76	540	14.24
	125	123-127	GS-07-W(123-127	10/18/2006	13:45	inertial pump	27	6.84	517	14.68
	150	148-152	GS-07-W(148-152)	10/19/2006	9:15	inertial pump	46	6.95	651	14.39
	175	170-174	GS-07-W(170-174)	10/19/2006	16:45	inertial pump	12	7.09	348	15.18

TABLE 1
Field Sampling Data Summary--Groundwater
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Purge/Sample Method	Purge Volume (gallons)	pH	Specifc Conductance (µS)	Temperature (degrees C)
GS-08	5	4-6	GS-08-W(4-6)	10/25/2006	12:00	peristaltic pump	0.5	6.71	854	16.72
	10	9-11	GS-08-W(9-11)	10/25/2006	13:50	peristaltic pump	0.2	5.73	730	18.38
	25	23-27	GS-08-W(23-27)	10/25/2006	15:30	inertial pump	3.7	6.07	675	16.71
	50	48-52	GS-08-W(48-52)	10/26/2006	11:30	inertial pump	6	6.92	593	13.27
	75	73-77	GS-08-W(73-77)	10/26/2006	14:10	inertial pump	20	6.83	681	13.65
	100	98-102	GS-08-W(98-102)	10/27/2006	8:00	inertial pump	35	6.73	625	13.67
	125	123-127	GS-08-W(123-127)	10/27/2006	11:15	inertial pump	13	6.74	600	13.31
	150	148-152	GS-08-W(148-152)	10/27/2006	15:30	inertial pump	16	6.70	604	15.70
GS-09	5	4-6	GS-09-W(4-6)	10/6/2006	14:20	peristaltic pump	1.6	6.36	653	17.21
	10	9-11	GS-09-W(9-11)	10/6/2006	16:45	inertial pump	3	6.55	539	15.90
	25	23-27	GS-09-W(23-27)	10/9/2006	13:30	inertial pump	7	5.32	785	16.41
	50	48-52	GS-09-W(48-52)	10/10/2006	12:45	inertial pump	14	6.67	656	14.75
	75	73-77	GS-09-W(73-77)	10/10/2006	17:20	inertial pump	18	6.67	741	14.90
	100	98-102	GS-09-W(98-102)	10/11/2006	16:30	inertial pump	8	6.87	650	15.74
	125	123-127	GS-09-W(123-127)	10/12/2006	13:45	inertial pump	12	6.59	624	16.98
	150	148-152	GS-09-W(148-152)	10/12/2006	16:20	inertial pump	6.5	6.86	761	17.03
	175	173-177	GS-09-W(173-177)	10/13/2006	12:00	inertial pump	20	7.21	790	14.95
GS-10	5	4-6	GS-10-W(4-6)	1/2/2007	11:20	peristaltic pump	1.8	6.37	557	9.32
	10	9-11	GS-10-W(9-11)	1/2/2007	12:30	peristaltic pump	1	6.45	642	12.58
	25	23-27	GS-10-W(23-27)	1/2/2007	13:40	inertial pump	4	6.56	812	12.81
	50	48-52	GS-10-W(48-52)	1/2/2007	15:38	inertial pump	10	6.79	743	13.98
	75	73-77	GS-10-W(73-77)	1/3/2007	9:05	inertial pump	18	6.69	749	14.25
	100	98-102	GS-10-W(98-102	1/3/2007	11:00	inertial pump	20	6.67	654	13.85
	125	123-127	GS-10-W(123-127)	1/3/2007	12:30	inertial pump	20	6.80	677	13.20
	150	148-152	GS-10-W(148-152	1/2/2007	15:00	inertial pump	40	6.88	653	14.09

TABLE 1
Field Sampling Data Summary--Groundwater
Gasco Site
Portland, Oregon

Boring Location	Plan Interval (feet bml)	Actual Screen Interval (feet bml)	Sample Identification	Sample Date	Sample Time	Purge/Sample Method	Purge Volume (gallons)	pH	Specifc Conductance (µS)	Temperature (degrees C)
GS-11	5	4-6	GS-11-W(4-6)	1/4/2007	15:35	inertial pump	3.5	6.93	228	8.11
	10	9-11	GS-11-W(9-11)	1/4/2007	16:20	inertial pump	0.9	6.56	629	10.58
	25	23-27	GS-11-W(23-27)	1/5/2007	10:55	inertial pump	4.5	6.77	767	12.95
	50	48-52	GS-11-W(48-52)	1/5/2007	12:50	inertial pump	10	6.79	775	10.90
	75	73-77	GS-11-W(73-77)	1/5/2007	15:00	inertial pump	2	6.77	667	10.40
	100	98-102	GS-11-W(98-102)	1/8/2007	9:40	inertial pump	20	6.73	759	13.57
	125	123-127	GS-11-W(123-127)	1/8/2007	11:35	inertial pump	27	7.07	673	13.25
	150	148-152	GS-11-W(148-152)	1/8/2007	14:00	inertial pump	15	7.76	644	12.85
	175	169-173	GS-11-W(173-177)	1/8/2007	16:20	inertial pump	40	7.01	589	13.95
GS-12	5	4-6	GS-12-W(4-6)	1/10/2007	10:35	peristaltic pump	2	6.96	468	8.64
	10	9-11	GS-12-W(9-11)	1/10/2007	11:15	peristaltic pump	2	6.94	383	10.60
	25	23-27	GS-12-W(23-27)	1/10/2007	13:00	inertial pump	10	6.92	587	12.83
	50	48-52	GS-12-W(48-52)	1/10/2007	14:15	inertial pump	7	6.71	802	14.09
	75	73-77	GS-12-W(73-77)	1/10/2007	15:50	inertial pump	17	6.67	731	13.79
	100	98-102	GS-12-W(98-102)	1/11/2007	10:50	inertial pump	20	6.81	914	13.02
	125	123-127	GS-12-W(123-127)	1/11/2007	13:30	inertial pump	30	7.08	642	12.60
	150	148-152	GS-12-W(148-152)	1/11/2007	15:30	inertial pump	15	7.09	571	12.84
QA/QC Samples										
GS-06	25	23-27 (FD)	GS-56-W(23-27)	1/17/2006	11:40	inertial pump	3	6.98	540	12.33
GS-06	50	48-52 (FD)	GS-56-W(48-52)	1/17/2006	13:30	inertial pump	10	7.00	683	12.59
GS-07	75	73-77 (FD)	GS-57-W(73-77)	10/18/2006	8:30	inertial pump	10.5	6.55	634	14.08
GS-08	50	48-52 (FD)	GS-58-W(48-52)	10/26/2006	12:00	inertial pump	6	6.92	593	13.27
GS-11	50	48-52 (FD)	GS-61-W(48-52)	1/5/2007	13:00	inertial pump	10	6.79	775	10.90
GS-12	25	23-27 (FD)	GS-62-W(23-27)	1/10/2007	13:10	inertial pump	10	6.92	587	12.83
GS-12	75	73-77 (FD)	GS-62-W(73-77)	1/10/2007	16:00	inertial pump	17	6.67	731	13.79

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-00
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 16-20
NO SAMPLE

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	42 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
11/01/06	09:30	5.0	25.0	Could not measure - DRY		X 1	NA
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

attempted top pump w/ inlet 6 screen bottom (20 feet bms)
NO WATER.

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
3	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
4	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 0

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1			.		.		DRY
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
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Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-00
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 23-27'

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	44 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
11/01/06	10:25	2.0	29.0	20.68	8.32	X 1	0.34
		(headline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080
(circle casing diameter)							

X water in screen segment only 2.7 x 0.255

GROUNDWATER SAMPLING DATA (If product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Green Poly	11/01/06	11:05	G	1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
3	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
4	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	1.5	5.57	368	14.37		clear / colorless
2	[Select A-G] G	1.0	5.62	368	14.40		slight cloudy / grey
1	G	0.5	6.23	369	14.60		cloudy / grey - black

(Clarity, Color)

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) T. Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-00
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 48-52
GS-00-W(48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	45 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
11/01/06	15:15	6.0	58.0	36.30	21.70	X 1	5.53
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Amber Glass	~~11/01/06~~	:	G	~~1~~	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Green Poly	11/01/06	15:50	G	1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
3	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
4	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10 9

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) [redacted] (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) [redacted] (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	7.0	6.15	1633	13.47		clear / colorless
2	[Select A-G] G	4.0	6.14	1634	13.47		clear (Clarity, Color) colorless
1	G	1.0	6.11	1639	13.46		slight cloudy / grey

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) T. Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
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Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-00
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 65-69
GS-00-W(65-69)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	39 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
11/02/06	09:35	5.0	74.0	57.0	17.0	X 1	4.33
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Green Poly	11/2/06	10:00	G	1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
3	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
4	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

4 G 10.0 6.71 200 12.83 cloudy/grey

WATER QUALITY DATA

Pump/Bailer Inlet Depth: 0

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	7.0	6.66	195	12.64		cloudy/grey
2	[Select A-G] G	3.0	6.61	195	12.87		(Clarity, Color) grey
1	G	1.0	6.43	195	13.15		slight cloudy/grey tint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Jim Stone
(PRINTED NAME)

Jim Stone
(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
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Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-01
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 6'
SAMPLE NAME: GS-01-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		+09		TEMPERATURE:	40	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/21/06	11:20	10+1	16.	9.40	6.6	X 1	1.08
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/21/06	11:50	B	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, ~~500 ml~~, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	B	1.8	5.55	2694	9.10		Light turb.
2	B	1.0	5.56	2531	8.30		
1	B	0.2	5.63	2587	7.62		dark gray, turbid
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargval
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-01
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 11'
SAMPLE NAME: GS-01-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		Fog		TEMPERATURE:	45	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/21/06	:	10.1 (DW)	.	16.9	5.6	X 1	1.42
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/21/06	[illegible] : [illegible]		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3							
2	0.5		6.17	3448	11.8		Slt cloudy, slt tan
1	B	0.2	5.99	5744	11.61		Turbid, dark gray
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargvani
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: G-5-01
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 7.7
SAMPLE NAME: G-5-01-W (23-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	45 °F	

12+27 = 39 − 11.9 = 27.1 × .255 = 6.9

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/21/06	15:40	12.0	39.	~~16.4~~ 11.9	27.1	X 1	6.9
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/21/06	16:00	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	—
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	—
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	—
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	—

Total Bottles (include duplicate count): 10

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G						
3		6.0	5.97	5800	12.16		
2	B	4.0	5.98	5798	12.15		
1	B	1.0	5.95	5597	11.3		Cloudy Gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: _____ _____
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-01
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 52'
SAMPLE NAME: GS-01-WG48-52

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	40	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/26/06	:	11 + 52	63.	26.	37.	X 1	9.43
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/26/06	9:50	G	0	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
2	Amber Glass	/ /	:		0	500 ml	500 ml, 1L	None	YES	NO	√
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	√
4	Red Total Poly	/ /	:		0	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	√
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
7	Yellow Poly	/ /	:		0	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	10	6.69	1417	12.85		Clear Colorless
2		6	6.68	1417	12.33		
1		3	6.79	1412	12.03		Clear 6.0

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hoover
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-01
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 77
SAMPLE NAME: GS-01.W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	48	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/26/08	:	12.77	.	89.1/89.5	17.5	X 1	4.97
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	(√ if used) √
1	Green Poly	12/26/08	11:40	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	6	6.86	795	11.40		Clear/Colorless
2		4	7.10	727	11.36		"
1		2	7.40	629	11.22		Slt Cloudy/Lt Gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hajnal
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-02
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: (4-6)
SAMPLE NAME: GS-02-W (4-6)

WIND FROM:	(N)	NE	E	SE	S	SW	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	SUNNY	(CLOUDY)	RAIN						TEMPERATURE:	45 °F	

11+6 = 16 - 6.9 = 13.8 X .255 = 3.52

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/27/06	12:00	11.0	6.0	6.9	13.8	X 1	3.5
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = (0.255)	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/27/06	12:15	B	(1)	100 ml	250 ml, 500 ml (1L)	(NaOH)	(YES)	(NO)	✓
2	Amber Glass	/ /	:		(2)	500 ml	500 ml (1L)	(None)	(YES)	(NO)	✓
3	VOA Glass	/ /	:		(3)	80 ml	(40 ml)	(HCl)	(YES)	(NO)	✓
4	Red Total Poly	/ /	:		(1)	150 ml	250 ml (500 ml, 1L	(HNO_3)	(YES)	(NO)	✓
5	Red Diss. Poly	/ /	:		(1)	150 ml	250 ml, (500 ml) 1L	(HNO_3)	(YES)	(YES)	✓
6	White Poly	/ /	:		(1)	205 ml	(250 ml) 500 ml, 1L	(None)	(YES)	(NO)	✓
7	Yellow Poly	/ /	:		(1)	10 ml	250 ml (500 ml, 1L	(H_2SO_4)	(YES)	(NO)	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	B						
3		3.0	4.88	1035	10.25		
2		2.0	5.52	895	9.62		
1		1.0	6.65	575	8.87		Dark turbid gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: David Gillingham (PRINTED NAME) David Gillingham (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-02
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 11
SAMPLE NAME: GS-02-W (9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	45 °F	

11 + 11 = 22 − 15.4 = 6.6 × .255 = 1.7

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/27/06	13:05	11.	22.	15.4	6.6	X 1	1.7
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/27/06	13:15	B	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3			.		.		
2			.		.		
1	B	1.0	6.16	1872	12.15		Dark turbid [illegible]
	[Select A-G]						[Clarity, Color]

Dry at 1.0 let recharge then sample

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Harquel
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-02
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 2-7
SAMPLE NAME: GS-02-W(03-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	45 °F	

12 + 27 = 39 - 29.01 = 9.9 x .255 = 2.52

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/27/06	1500	12.0	39.	29.01	9.9	X 1	2.52
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/27/06	15:10	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G						
3		2.5	6.40	3150	12.88		
2		2.0	6.46	3046	12.79		
1		1.0	6.53	2878	12.72		turbid gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: _____ _____
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: G5-02-W (
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 52
SAMPLE NAME: G5-02-W (48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	32 °F	

12 + 52 = 64 − 50 = 14 × .255 = 3.57

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/28/10	08:55	12.	64	50.0	14.0	X 1	3.57
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/28/10	09:00	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		2	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G						
3		3.0	6.98	1213	13.07		
2		2.5	7.02	1173	12.68		
1		1.5	7.01	1163	12.92		Turbid Gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Paul Gilkinghan
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: G-5-02

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 77

SAMPLE NAME: G-5-02-W (75-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		(fog)		TEMPERATURE:	32 °F	

12+77 = 89 − 59.3 = 29.7 × .255 = 7.57

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/28/06	10:20	12.0	89.0	59.3	29.7	X 1	7.57
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = (0.255)	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/28/06	10:30	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G						
3		6.0	6.75	1545	13.93		
2		4.0	6.49	1594	13.6		
1		2.0	6.65	1570	12.52		light, turbid

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: David Gillingham (PRINTED NAME) [signature] (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-05
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6 bgs
SAMPLE NAME: GS-05-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	35 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/18/06	13:15	11.0	17.0	9.7	7.3	X 1	1.86
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	(√ if used)
1	Green Poly	12/18/06	13:45	B	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
2	Amber Glass	/ /	:	B	2	500 ml	500 ml, 1L	None	YES	NO	√
3	VOA Glass	/ /	:	B	3	80 ml	40 ml	HCl	YES	NO	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:	B	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
7	Yellow Poly	/ /	:	B	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	B	2.0	6.36	401	8.9		Cloudy BLK
3	B	1.5	6.39	400	8.7		
2	B	0.5	6.76	414	8.18		Cloudy, BLK
1			6.81				

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Steve Hargrave
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: G-S-03
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 15
SAMPLE NAME: G-S-03-W (13-15)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	35 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/18/06	:	12	27.0	25.	2.	X 1	.
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/18/06	16:20	C	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Amber Glass	/ /	:	C	2	500 ml	500 ml, 1L	None	YES	NO	
3	VOA Glass	/ /	:	C	3	80 ml	40 ml	HCl	YES	NO	
~~4~~	~~Red Total Poly~~	~~/ /~~	~~:~~		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~5~~	~~Red Diss. Poly~~	~~/ /~~	~~:~~		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
6	White Poly	/ /	:	C	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:	C	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA no volume for WQ

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3			.		.		
2			.		.		
1			.		.		

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: _____ (PRINTED NAME) _____ (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: CS-68
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 23-27
SAMPLE NAME: CS-68-W (23-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	32 °F	

11+26 - 37 - 3.4 =

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/4/06	08:35	1.	29.	37.	28.0	X 1	7.29
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	Green Poly	12/4/06	8:50	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	60 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		0	205 ml	250 ml, 500 ml, 1L	None	NO	NO	✓
7	Yellow Poly	/ /	:		0	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 5

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			6.71	573			
3	G	7.5	6.59	595	10.9		Clear, Clear
2		3.5	6.59	595	10.6		
1		0.5	6.83	[illegible]	8.10		
	[Select A-G]			514			[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hanquist
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: 65-03
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 52
SAMPLE NAME: 65-03-W-(48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	35 °F	

11 + 3 = 14 + 52 = 66 − 37.1 = 28.9 ?

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/19/06	10:30	14.	66.	37.1	28.9	X1	7.36
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/19/06	10:55	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	8.0	6.11	4740	13.1		Slt Cloudy, Lt Brown
2		4.0	6.12	4629	13.1		
1		2.0	8.16	4781	11.7		

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hongmi
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-03
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: GS-03-W(73-77)
SAMPLE NAME:

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	40	°F

1042.5 A 77 SS.1

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/19/06	:	.	91 .	35 9	.	X 1	14.0
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/19/06	12:30	G	0	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		0	500 ml	500 ml, 1L	None	YES	YES	✓
3	VOA Glass	/ /	:		0	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	15.	6.55	466	13.4		Cloudy/dirty
2		10.	6.59	385	13.2		Slt Cloudy
1		2.	6.55	502	12.6		

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargrail
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-03
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 102
SAMPLE NAME: GS 03 W (98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	40	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW	Purge Volume (gal)
12/19/06	:	10.31/102	115.	92.	23.	X 1 5.86
		(leadline)	(from drillers)	(water level indicator)	(subtraction)	[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/19/06	14:15	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	6	6.98	352	14.8		Sediment, LtGrey
2		4	6.96	380	14.7		Slightly Cloudy, LtGrey
1		2	6.97	371	14.4		Cloudy, DkGrey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S. Howard
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-03
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 116-120
SAMPLE NAME: GS-03-W(116-120)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:		°F

10.4

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
/ /	:	.	134.	10.9	123.1	X 1	31.39
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/30/16	11:10	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	~~Red Total Poly~~	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	~~Red Diss. Poly~~	/ /	:		1	150 ml	~~250 ml, 500 ml, 1L~~	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

60-90 gallons of water from casing displaced by drill rods when setting screen

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3	G	96	.		.		
2		64	.		.		
1		32	.		.		
	[Select A-G]						[Clarity, Color]
FINAL	G	100 gallons	6.85	255	12.5		Clear, colorless

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: _____ _____
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING PARAMETERS FOR GS-03-W(116-120)

Daily Log

ANCHOR ENVIRONMENTAL, L.L.C.

Anchor Environmental, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Phone 503.670.1108 Fax 503.670.1128

Pump Start 0830

PROJECT NAME: GASCO O/S Groundwater

DATE: 12/20/06

PERSONNEL: SBH, KT, DG

SITE ADDRESS: 7900 NW St. Helens Road, Portland, OR

WEATHER: WIND FROM: N | NE | E | SE | S | SW | W | NW

SUNNY | CLOUDY | RAIN | ?

LIGHT | MEDIUM | HEAVY

TEMPERATURE: °F . °C [Circle appropriate units]

TIME	COMMENTS	Temp	Cond	PH
	gallons Purged			
840	10 gp.~~mgal~~	12.56	261	676
855	20 gal	13.68	255	6.73
906	30	13.6	256	6.76
920	40	12.25	241	6.72
935	50	12.99	254	6.86
948	60	12.45	254	6.79
1009	70	12.64	254	6.78
1025	80	12.50	258	6.78
1035	85	12.69	254	6.86
1045	90	13.10	255	6.80
1100	100	12.5	255	6.85
110	Sample: GS-03-W (116-120)			

Signature: _____

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6
SAMPLE NAME: GS-04-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/12/06	09:30	9.0	14.00	10.45	3.55	X 1	0.90
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/12/06	10:40	B	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3			.		.		
2			.		.		
1	B	1.0	6.75	521	12.35		cloudy/grey
	[Select A-G]						[Clarity, Color]

ORIG 1 VOL. let recharge

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 9-11
SAMPLE NAME: GS-04-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/12/06	11:52	12.0	23.0	12.05	10.95	X 1	2.80
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/12/06	12:30	B	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	√
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3							
2	B	2.8	6.46	586	13.25		Cloudy / gray
1	B	1.0	6.47	586	13.18		Cloudy / gray-black
	[Select A-G]						[Clarity/Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STOUT
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 27'-31'
SAMPLE NAME: GS-04-N(27-31)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/12/06	14:30	42.2	41.00	17.2	23.8	X 1	6.07
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/12/06	15:15	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

ALL

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3							
2	G	6.1	6.55	6.62	13.29		slight cloudy/gray
1	G	3.0	6.49	6.02	13.50		cloudy brown

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Kelly R. Fitzemeier (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 48-52'
SAMPLE NAME: GS-04-W(48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	44 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/13/06	09:45	12.0	64.00	34.65	29.35	X 1	7.48
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	(√ if used) √
1	Green Poly	12/13/06	10:30	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3			.		.		
2	G	4.0	6.51	645	15.15		slight cloudy/grey
1	G	5.0	6.51	641	14.97		cloudy/grey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

DDOR
1 8270 TIC

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 73-77
SAMPLE NAME: GS-04-W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:		°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/13/06	11:25	12.0	89.0	62.45	26.55	X 1	6.77
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/13/06	~~12:15~~	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	14:30		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:			10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 9

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered) 8270-TIC
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	10.0	6.80	474	15.82		
3	G	6.0	6.81	446	15.20		
2	G	4.0	6.61	407	15.03		Cloudy/gray
1	G	2.0	7.06	305	15.97		Cloudy/tan
[Select A-G]	G	14.0	6.75	506	15.92		[Clarity/Color] slight cloudy/gray
	G	16.0	6.72	509	15.94		slight cloudy/gray

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

4 - attempts (screen would not open)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
SITE ADDRESS: Portland, Oregon

BORING ID: GS-04
SAMPLE DEPTH: 98-102
SAMPLE NAME: GS-04-W(98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	57 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/13/06	16:20	12.0	110.00	32.54	77.46	X 1	19.75
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/13/06	17:00	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 9

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond. (µS)	Temp °C	[redacted]	Water Quality
4	G	20.0	6.94	419	15.94		↑
3	G	15.0	6.93	421	15.87		
2	G	10.0	6.89	472	15.02		Cloudy/gray
1	G	5.0	6.93	444	14.85		Cloudy/gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127
SAMPLE NAME: GS-04-W(123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:		°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
[illegible]	11:30	12.0	134	131.0	18	X 1	4.39
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/14/06	12:15	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	√
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	DRY - LET DISCHARGE						
2		3.8	6.55	390	14.52		cloudy/grey
1		3.8	6.54	403	14.65		cloudy/grey
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
SAMPLE NAME: NO SAMPLE

* ATTEMPT #1

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY		RAIN					TEMPERATURE:		45 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/14/00	14:30	12.0	164.0	72.45	91.55	X 1	23.34
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[✓ if used]
1	Green Poly	12/14/00	:	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): ~~10~~ 15

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	VOA - Glass	(8260B)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3							
2	G	10	7.52	58	15.59		cloudy / grey
1	G	5	7.54	58	15.38		cloudy / grey
	[Select, A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

* tip broken on screen - heave to .75' below TOC - no water.
17:00 - ~~we would~~ retrieve screen.

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: G-S-04
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
SAMPLE NAME:

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	45 °F	

ATTEMPT #2

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12/15/06	09:15	12.0	164.0	7.07	156.93	X 1	40.0
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	12/15/06	11:49	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA 10:14 - 9gpm - 10:34 end purge

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	40	7.27	545	14.75		
3	G	30	7.20	537	14.73		
2	G	20	7.08	496	14.76		
1	G	5	6.70	396	13.08		Clear / Colorless
	[Select A-G]						[Clarity, Color]
5	G	50	7.29	547	14.77		Clear / particles

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim STONE
(PRINTED NAME)

(SIGNATURE)

GEOPROBE SCREEN

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 4-6'

GS-05-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	59 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/24/06	15:40	16.0	7.0	1.51	5.49	X 1	0.23
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/24/06	16:30	B	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√
				Total Bottles (include duplicate count):	8						

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
#3	B	0.3	6.44	328	17.75		Cloudy (grey)
1	[Select A-G]	0.2					[Clarity, Color]
		0.4					

slow production / no water added to hole (30' up shoreline from water edge)

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 9-11'
GS-05-W (9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	58 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/24/06	16:50	11.0	21.0	10.0	11.0	X 1	2.81
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/24/06	17:40	B	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	B	2.8	6.66	322	16.63		cloudy / grey-tan
	[Select A-G]						[Clarity, Color]

* no drilling water added to hole

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 23-27
GS-05-W(23-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	55 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/25/06	10:15	8.0	35.0	23.75	11.25	X 1	2.87
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/25/06	11:10	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	3.0	6.39	308	16.91		Light cloudy/orange tint
2	[Select A-G] G	2.0	6.10	301	16.88		Cloudy [Clarity, Color] grey-tan
1	G	1.0	5.61	353	15.97		Cloudy/grey-tan

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 55-59

GS-05-W (55-57)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	59 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/25/06	16:45	6.0	65.0	10.00	55.	X 1	14.03
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/25/06	17:30	G	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	14.5	6.66	658	17.71		clear / yellow tint
2	[Select A-G] G	10.0	6.90	651	17.60		clear [Clarity/Color] / yellow tint
1	G	1.0	6.50	644	17.73		slight cloudy / grey tint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) T Stone (SIGNATURE)

* DEQ SPLIT

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 73-77

GS-05-W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	60 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/26/06	12:45	8.0	85.0	10.60	74.40	X 1	18.97
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/26/06	13:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		~~1~~	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		~~1~~	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		~~1~~	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	20.0	6.51	665	17.43		Clear / slight greytint
2	[Select A-G] G	15.0	6.52	669	17.44		Clear / slight greytint (Clarity/Color)
1	G	5.0	6.58	669	17.49		Clear / slight greytint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 98-102

GS-05-W(98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	60 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/26/06	15:00	8.0	110.0	10.60	99.40	X 1	25.35
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/26/06	15:35	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	26.0	6.56	765	17.33		slight cloudy/gray tint
2	[Select A-G] G	15.0	6.56	762	17.38		slight cloudy/gray tint (Clear/Color)
1	G	5.0	6.54	776	17.71		slight cloudy/gray tint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

odor?

SAMPLER: Tim Stone (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon Screen 85'-89' SAMPLE DEPTH: 100' Casing Water GS-05-CW(100)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	60 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/26/06	15:45	8.0	100.0	11.0	89.0	X 1	NA
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5" 0.25

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/26/06	16:10	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	2.0	6.74	771	16.42		Clear, green
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 123-127'

GS-05-W (123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		FOG		TEMPERATURE:	79 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/27/00	09:00	13.0	140.0	62.15	77.85	X 1	19.85
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/27/00	09:45	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		~~1~~	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		~~1~~	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		~~1~~	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	20	6.93	926	17.99		Cloudy brown-gray
2	[Select A-G] G	10	6.91	923	16.09		Cloudy (Clarity, Color) brown-gray
1	G	5	6.99	917	17.90		Cloudy/brown-gray

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

strong odor

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-05
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152'
GS-05-W (148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	62 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/27/06	12:20	13.0	160	83.50	76.50	X 1	19.51
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	√ (if used)
1	VOA Glass	10/27/06	13:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	/ /	:		~~1~~	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	/ /	:		1	100 mL ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
~~5~~	~~Red Total Poly~~	/ /	:		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~6~~	~~Red Diss. Poly~~	/ /	:		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
~~7~~	~~White Poly~~	/ /	:		~~1~~	~~205 ml~~	~~250 ml, 500 ml, 1L~~	~~None~~	~~YES~~	~~NO~~	
~~8~~	~~Yellow Poly~~	/ /	:		~~1~~	~~10 ml~~	~~250 ml, 500 ml, 1L~~	~~H_2SO_4~~	~~YES~~	~~NO~~	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	20.0	6.66	765	18.65		~~slight~~ cloudy/grey
2	(Select A-G)	10.0	6.63	827	18.89		slight (Clarity, Color) cloudy/grey
1		2.0	6.66	826	19.04		clear/slight gray tint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Kelly R. Tikkemeier
(PRINTED NAME)

Kelly R. Tikkemeier
(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-05
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 173-177
GS-05-W (173-177)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	70 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/30/06	13:15	13.0	190.0	147.30	42.7	X 1	10.89
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) (2.5 = 0.255)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/30/06	14:20	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth: 190 (toc)

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C		Water Quality
3	G	10.0	7.64	580	16.21		Cloudy / grey
2	[Select A-G] G	10.0	7.70	603	16.32		Very cloudy / dark grey
1	G	1.0	6.96	633	16.27		very cloudy / grey-black

Clarity, Color

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-05

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 191-195

GS-05-W(191-195)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	42 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/31/00	11:20	15.0	~~245~~ 210.9	151.0	59.0	X 1	15.05
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/31/00	12:20	G	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	15.0	7.75	2169	16.86		cloudy/grey
2	[Select A-G] G	10.0	7.61	2305	16.83		cloudy [Clarity/Color] grey
1	G	1.0	6.43	2397	15.39		cloudy/grey

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6
SAMPLE NAME: GS-06-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	25 °F	

10+2+6=18

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/15/07	10:20	12.0	18.0	13.40	4.6	X 1	1.17
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	(√ if used) √
1	VOA Glass	1/15/07	10:15	B	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3	B	1.5	.		.		
2	B	1.0	DRY				
1	B	0.5	6.72	594	5.65		Cloudy/Green

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: M. STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 9-11
SAMPLE NAME: GS-06-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	27° F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/15/07	11:15	12.0	23.0	19.24	3.76	X 1	0.96
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/15/07	11:45	B	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3	B		.		.		
2	B	1.0	6.76	6.79	7.04		Mostly clear
1	B	0.5	6.72	6.77	6.96		Cloudy/grey
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 23-27
SAMPLE NAME: GS-06-W(23-27)
DUP: ~~GS-56-W(23-27)~~ [1140]

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY	RAIN					TEMPERATURE:	32 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/17/07	11:00	11.0	38.0	26.50	11.5	X 1	2.93
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/17/07	11:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 20

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C		Water Quality
4	G	3.0	6.98	540	12.33		slight cloudy/grey
3	G	2.0	7.04	540	12.28		slight cloudy/grey
2	G	1.0	7.06	539	11.76		slight cloudy/grey
1	G	0.5	7.02	513	9.74		Clear/colorless

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

* No 6" Casing installed (overside) No water added)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 48-52
SAMPLE NAME: GS-06-W(48-52)
GS-56-W(48-52) [1330]

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	34 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/17/07	12:45	11.0	63.0	25.15	37.85	X 1	9.65
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	1/17/07	13:20	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10 (20)

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	10.0	7.00	683	12.59		slight cloudy/grey
3	G	7.5	6.96	684	12.58		slightly cloudy/grey
2	G	5.0	6.97	683	12.56		slightly cloudy/grey
1	G	1.0	7.01	679	12.07		cloudy/grey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) T Stone (SIGNATURE)

* 6" overside casing set to 34' bmL. (40' of casing)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 73-77
SAMPLE NAME: GS-06-W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	34 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/17/07	14:20	12.0	89.0	16.88	72.12	X 1	18.39
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/17/07	14:55	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	20	6.99	606	12.91		slight cloudy/gray
3	G	15	6.99	590	12.97		slight cloudy/gray
2	G	10	7.02	567	12.78		slight cloudy/gray
1	G	5	7.02	567	12.06		cloudy/gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

6" overide casing G 54' B.ML (60 feet of casing)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 98-102
SAMPLE NAME: GS-06-W(98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		FOG		TEMPERATURE:	35 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/18/07	07:40	12.0	114.	10.6	103.4	X 1	26.38
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/18/07	08:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		1	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 89

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B) TIC
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

8270 SVOC-TIC
** 8260 - TIC

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	30.	G	7.20	736	12.77		Slightly cloudy/colorless
3	25	G	7.33	728	12.51		Slightly cloudy/colorless
2	15	G	7.63	812	12.24		Clear/colorless
1	5	G	7.54	800	11.94		Clear/colorless ‖ STRANGE ODOR

[Select A-G] [Clarity, Color]

** strange odor in soils to 98'. SVOC-TIC added to analysis. Odor also (VERY STRONG) present in sample water.

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

* Override casing set to 84' B.M.L. (90' of casing - 6')

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-06
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127
SAMPLE NAME: GS-06-W(123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	37 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/18/07	10:15	13.0	140.0	45.50	94.50	X 1	24.10
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/18/07	10:50	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	30G	30	7.13	587	11.88		↑
3	25G	25	7.13	577	11.83		
2	15G	15	7.22	562	11.51		Clear/colorless
1	5G	5	7.32	569	11.44		Clear/colorless

[Select 1-G] [Clarity, Color]

strange odor

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

* Override (6") Casing set to 103 B.M.L. (110' of 6" Casing)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
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Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-C6
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
SAMPLE NAME: GS-C6-W(148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	36 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/18/07	12:35	13.0	165.0	18.80	146.2	X 1	37.28
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/18/07	13:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	40	7.26	466	12.87		Clear/Colorless
3	G	30	7.25	454	12.90		Clear/Colorless
2	G	15	7.29	448	12.80		Clear/Colorless
1	G	5	7.29	445	12.50		Clear/Colorless

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

* Overall casing @ 134' B.M.L. (140' of casing)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-07
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6
GS-07-W (4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	58 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from ~~TOC~~ mudline	DTW from ~~TOC~~ mudline	DTB-DTW		Purge Volume (gal)
10/16/06	09:50	.	6.0	0.0 *	6.0	X 1	0.25
		(leadline)	(from drillers).	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163 (circle casing diameter)	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

* estimated

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/16/06	09:45	B	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	10/16/06	09:45	B	2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	/ /	:		1	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	10/16/06	09:45	B	1	100 ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
~~5~~	~~Red Total Poly~~	/ /	:		1	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~6~~	~~Red Diss. Poly~~	/ /	:		1	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
7	White Poly	10/16/06	09:45	B	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	10/16/06	09:45	B	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	~~RED TOTAL - Poly~~	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~
	~~RED DISSOLVED - Poly~~	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Meas.	Method §	Purged ~~(gal)~~ liter	pH	E Cond (µS)	Temp °C	Pump/Bailer Inlet Depth: [redacted]	Water Quality
1	B	1	6.37	1317	14.95		grayish-brown, cloudy
	[Select A-G]	purged dry @ 1 Liter					[Clarity, Color]

free product / oil droplets, sheen

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: John Renda
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-07
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 9-11
GS-07-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	58 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW	Purge Volume (gal)
10/16/06	10:50	.	20.00	15.50	4.5	X 1 1.15
		(leadline)	(from drillers)	(water level indicator)	(subtraction)	[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163 (circle casing diameter)	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(2.5" = 0.255)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/16/06	13:00	B	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	10/16/06	13:00	B	2	500 ml	500 ml, 1L	None	YES	NO	√
3	~~Amber Glass~~	/ /	:		1	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	10/16/06	13:00	B	1	100 ml ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	~~Red Total Poly~~	/ /	:		1	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
6	~~Red Diss. Poly~~	/ /	:		1	150 ml	~~250~~ ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	10/16/06	13:00	B	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
8	Yellow Poly	10/16/06	13:00	B	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√
			Total Bottles (include duplicate count):		8						

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method § (Select A-G)	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality (Clarity, Color)
1	B	0.5L	6.65	1185	15.62		grayish-brown cloudy free product droplets, sheen
		dry @ 0.5L					

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Kelly R. Fitkemeier (PRINTED NAME)

Kelly R. Fitkemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

NO Sample

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-07
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 23-27

NO SAMPLE - Screen dry after pumping

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	63 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/10/08	15:15	9.01 (leadline)	36.0 (from drillers)	32.31 (water level indicator)	3.69 (subtraction)	X 1	0.94
						[(DTB-DTW) * factor from below]	

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = .255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	/ /	:	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count):

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
13	G	1.0	.		.		
2	G	0.5					
1	G	0	6.60	445	16.11		cloudy/gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-07
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 23-27

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	58 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/17/06	08:00	10.0	37.0	15.53	21.47	X 1	5.47
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	(√ if used) √
1	VOA Glass	10/17/06	09:15	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	0.0	5.79	675	14.57		Cloudy / grey
2	[Select A-G] G	2.5	6.71	831	14.14		Clouds grey
3	G	5.5	6.94	836	14.09		Cloudy / grey

(Clarity, Color)

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-07

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 48-52

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	60 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/17/06	13:30	8.0	60.00	31.25	28.75	X 1	7.33
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/17/06	14:20	6	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	0.0	6.24	722	15.25		Cloudy/gray
2	[Select A-G] G	3.5	7.05	584	15.20		[Clarity, Color]
3	G	5.5	7.33	464	15.18		"
4	G	7.5	6.49	460	15.32		

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-07

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 73-77

GS-07-W(73-77) 0820
DUP = GS-57-W(73-77) 0830

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	53 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/18/06	07:30	33.0	90.	57.00	33.0	X 1	8.42
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/18/06	08:20	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

4 G 10.5 6.55 634 14.08 slight cloudy/grey tint

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	8.5	6.49	629	13.92		slight cloudy/grey tint
2	[Select A-G] G	4.5	6.52	537	14.00		slight cloudy/grey tint
1	G	0.0	6.40	586	13.92		cloudy/grey tint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-07
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 98-102'
GS-07-W (98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	55 °F	

102 DTB from ML 0.7 DTW from ML

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/18/06	10:40	12.0	.	12.7	101.3	X 1	25.83
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2½" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	(√ if used) √
1	VOA Glass	10/18/06	11:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		~~1~~	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		~~1~~	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		~~1~~	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
6	G	210.0	6.76	540	14.27		clear colorless
5	G	200	6.75	542	14.25		clear, colorless
4	G	150	6.74	540	14.31		clear colorless
3	G	11.0	6.74	541	14.27		clear, colorless
2	G	7.0	6.73	542	14.31		clear, colorless
1	G	4.0	6.76	543	14.17		Clear, colorless

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Kelly R. Hemeier (PRINTED NAME) K. R. Hemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-07

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: ~~[illegible]~~ [illegible]-9.3 (screen) GS-07 (10)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	55 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
~~10/16/06~~ 11/7/06	~~11:00~~	.	.	.	.	X 1	.
		(leadline)	(from drillers)	(water level indicator)	(subtraction)	[(DTB-DTW) * factor from below]	

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/18/06	11:55	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	1.0	6.76	545	14.30	[redacted]	Cloudy gray
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Colin R. Tremeier (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: 65-07
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127
65-07-W(123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	61 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/18/06	13:00	13.0	148.0	34.20 ↑	105.80	X 1	27.0
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/18/06	13:45	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(~~Free Cyanide~~) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
x3	G	27.0	6.64	517	14.66		Clear / Colorless
2	[Select A-G] G	20	6.65	516	14.72		Clear [Clarity, Color] Colorless
1	G	0	6.69	507	14.75		Clear/slightly cloudy

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-07
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 148-152
GS-07-W-(148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	64 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
~~10/18/06~~ 10/19/06	~~16:00~~ 0830	13.0 (mudline)	190.00 (from drillers)	12.72 (water level indicator)	177.28 (subtraction)	X 1 [(DTB-DTW) * factor from below]	45.21

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/19/06	09:15	G	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Pump/Bailer Inlet Depth: Water Quality
3	G	46.0	6.95	651	14.39		Clear / Colorless
2	[Select A-G] G	30.0	6.97	651	14.37		Clear / (Clarity, Color) slight tan tint
1	G	0.0	6.86	648	14.40		slight cloudy tan

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stout (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-07
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: ~~166-170*~~ 170-174

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	60 °F	

HYDRO PUNCH

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/19/06	16:05	10.0	184.0	143.20	40.8	X 1	10.40
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = ~~0.163~~ 2.5 = 0.255	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

184
-143
41

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/19/06	16:45	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	12.0	7.09	348	15.18		Clear/slightly cloudy
2	[Select A-G] G	5.0	7.08	349	15.15		[Clarity, Color]
1	G	0.0	7.07	349	15.12		clear/yellow tint

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

* interval adjusted based on refusal of hydropunch sampler @ 170' bgs.

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-08W
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: (4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	65 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/5/06	10:50	5.2	11.0	9.0	2.0	X 1	0.2
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/25/06	12:00	B	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	/ /	:		1	50 ml	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Co) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Co) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C		Water Quality
1	C	.5	6.71	8.54	16.76		Gray, free product
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: JOHN RENDA
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-08

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 9-11

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	70 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/25/06	13:20	5.	16.	14.	2.	X 1	.2
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/25/06	13:50	~~1350~~	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:	B	2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	/ /	:		~~1~~	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	3	.2	5.73	73.0	18.38		Gray, Cloudy
	[Select A-G]						[Clarity, Color]

Drug @ .2.

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Jason Ronson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-08

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 23-27

GS-08-W(23-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	58 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/25/06	14:45	8.0	35.00	20.80	14.20	X 1	3.62
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/25/06	15:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	3.7	6.07	675	16.71		Clear / grey tint
2	[Select A-G] G	2.0	6.45	677	18.44		slight (Clarity, Color) / grey
1	G	0	6.40	679	18.45		Cloudy / grey

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) T. Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

FD

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-08
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: ~~48-52~~ 48-52 TS
GS-08-W (~~48-52~~) ~~1030~~ TS
(1200) GS-08-W (~~48-52~~) >>0920

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	48 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/26/06	10~~:50~~	8.0	60.0	38.90	21.10	X 1	5.37
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/26/06	~~10:00~~ TS	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	11:30		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	~~50 ml~~ 100	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G 6.0	6.0	6.92	593	13.27		cloudy/tan
2	G [Select A-G] ~~4.0~~	4.0	6.99	591	13.47		cloudy [Clarity, Color] brown
1	G ~~1.0~~	1.0	7.19	589	13.16		cloudy/brown

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-08

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 73-77

GS-08-W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	64 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/26/06	13:35	8.0	85.0	13.10	71.90	X 1	18.33
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = ~~0.163~~	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/26/06	14:10	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		~~1~~	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		~~1~~	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		~~1~~	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	20.0	6.83	681	13.65		slight cloudy / grey tint
2	[Select A-G] G	15.0	6.85	686	13.71		clear (Clarity, Color) grey tint
1	G	4.0	6.78	688	13.68		clear / no odor

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-08

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 98-102

GS-08-W(98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	44 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/27/06	07:15	8.0	110.0	11.47	98.53	X 1	25.13
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/27/06	08:00	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth: [redacted]

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	Water Quality
3	G	30.0	6.95	662	13.66	slight cloudy/grey
2	[Select A-G] G	20.0	6.94	716	13.71	slight cloudy/grey tint
1	G	7.0	6.92	704	13.57	clear/colorless

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-08

SITE ADDRESS: Portland, Oregon SCREEN = 85-87 SAMPLE DEPTH: Casing Water - 100'
GS-08-CW(100)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	44 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/27/06	08:05	8.0	100.0	11.47	N/A	X 1	N/A
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/27/06	08:30	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	3.0	6.62	637	13.39		Cloudy/grey
2	[Select A-G]						slight - [Clarity/Color]
3							

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) T Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-08
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127
GS-08-GW (123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	51	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/27/06	10:30	8.0	135.0	86.60	48.40	X 1	12.34
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.256

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/27/06	11:15	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		~~1~~	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		~~1~~	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		~~1~~	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
3	G	13.0	6.74	600	13.31		Clear / Colorless
2	[Select A-G] G	6.0	6.79	605	13.25		Clear / Colorless
1	G	2.0	7.21	594	13.05		Clear / Colorless

(Clarity/Color)

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-08
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152'
GS-08-W(148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	64 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/27/06	14:45	8.0	160.00	98.50	61.50	X 1	15.70
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

(2.5 = 0.255)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/27/06	15:30	G	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:			50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	√
7	White Poly	/ /	:			205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:			10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	10.0	6.70	604	15.70		clear/slight quartz
2	[Select A-G] G	8.0	6.68	608	15.70		slight cloudy/grey [Clarity, Color]
3	G	2.0	6.88	605	15.94		cloudy/grey

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-09
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6
SAMPLE NAME: GS-09-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	60	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/6/06	13:15	.	16.55	10.58	5.97	X 1	1.52
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

KRT

2.5" = 0.2547 ≈ 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/6/06	14:20	B	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	10/6/06	14:20	B	2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	/ /	:		~~1~~	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	10/6/06	14:20	B	1	100 ml ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
~~5~~	~~Red Total Poly~~	/ /	:		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~6~~	~~Red Diss Poly~~	/ /	:		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
7	White Poly	10/6/06	14:20	B	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	10/6/06	14:20	B	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide) KRT
	~~RED TOTAL - Poly~~	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~ KRT
	RED DISSOLVED - Poly	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~ KRT
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	B	1.6	6.36	653	17.21		Cloudy / gray
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Kelly R. Titkemeier (PRINTED NAME) Kelly R. Titkemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-09
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 9-11'
SAMPLE NAME: GS-09-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	60 °F	

~~1449~~ 14.49 ~~14.70~~ 14.70 ~~14.70~~ 14.70 ~~15.40~~ 15.73 ~~14.70~~

screen not open

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/6/06	14:31	5.00	14.75	14.40	11.60	X 1	3.00
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/6/06	16:45	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	10/6/06	16:45	G	2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	~~/ /~~	~~:~~		~~1~~	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	10/6/06	16:45	G	1	100 ~~250 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
~~5~~	~~Red Total Poly~~	~~/ /~~	~~:~~		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~6~~	~~Red Diss. Poly~~	~~/ /~~	~~:~~		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
7	White Poly	10/6/06	16:45	G	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	10/6/06	16:45	G	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	3.0	6.55	539	15.90		Cloudy/gray
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Kelly R. Titkemeier (PRINTED NAME) Kelly R. Titkemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-09
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 23-27
GS-09-W (23-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	62 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/9/06	10:00	14.5	23.0	10.00	13.	X1	3.31
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080
(circle casing diameter)				2.5" = 0.255			

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/9/06	10:30	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		X	100 ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		X	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		X	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	7.0	5.32	785	16.41		Slight cloudy gray tint
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

Dug @ 7 gr. blows Filled rode with water; purged extra volume while monitoring conductivity

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-09

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 48-52

56' of pipe MB of rods: 56' MM = 8' MW =

GS-09-W (48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	62 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/10/06	12:15	.	56.0	7.35	48.65	X 1	12.4
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/10/06	12:45	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	10/10/06	12:45	G	2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	~~/ /~~	~~:~~		~~1~~	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	10/10/06	12:45	G	1	100 ml ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
~~5~~	~~Red Total Poly~~	~~/ /~~	~~:~~		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~6~~	~~Red Diss. Poly~~	~~/ /~~	~~:~~		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
7	White Poly	10/10/06	12:45	G	1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
8	Yellow Poly	10/10/06	12:45	G	1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
~~RED TOTAL - Poly~~	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~
~~RED DISSOLVED - Poly~~	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	14.0	6.67	656	14.75		Slightly cloudy, gray
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-09
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 73-77'
GS-09-W (73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	65 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/10/06	16:45	12.0	82.00	10.18	69.82	X 1	17.8
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5" = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/10/06	17:20	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	10/10/06	17:20	G	2	500 ml	500 ml, 1L	None	YES	NO	✓
~~3~~	~~Amber Glass~~	/ /	:		~~1~~	~~50 ml~~	~~250 ml, 500 ml, 1L~~	~~NaOH~~	~~YES~~	~~NO~~	
4	Green Poly	10/10/06	17:20	G	1	100 ml ~~50 ml~~	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
~~5~~	~~Red Total Poly~~	/ /	:		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~NO~~	
~~6~~	~~Red Diss. Poly~~	/ /	:		~~1~~	~~150 ml~~	~~250 ml, 500 ml, 1L~~	~~HNO_3~~	~~YES~~	~~YES~~	
~~7~~	~~White Poly~~	/ /	:		~~1~~	~~205 ml~~	~~250 ml, 500 ml, 1L~~	~~None~~	~~YES~~	~~NO~~	
~~8~~	~~Yellow Poly~~	/ /	:		~~1~~	~~10 ml~~	~~250 ml, 500 ml, 1L~~	~~H_2SO_4~~	~~YES~~	~~NO~~	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
~~RED TOTAL - Poly~~	~~(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)~~
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
~~WHITE - Poly~~	~~(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)~~
~~YELLOW - Poly~~	~~(Ammonia)~~

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	18.0	6.67	741	14.90	[redacted]	Slight cloudy/grey
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim STONE
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-09

SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 98-102

GS-09-W (98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	68 °F	

Drilling Start 10/11/06 1000 114 84.25 29.75 7.59

Start of Screen 10/11/06 110 109.0 49.44 66.56

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW	Purge Volume (gal)
10/11/06	12:30	8.0	105.00			X 1 16.97
		(leadline)	(from drillers)	(water level indicator)	(subtraction)	[(DTB-DTW) * factor from below]

Screen not open

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter) 2.5" = .255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/11/06	16:30	G	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	10/11/06	16:30	G	2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	10/11/06	16:30	G	1	100 ml 50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	8.0	6.87	650	15.74		slight cloudy/grey
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

* TOP OF SCREEN
~~† bottom of screen before extension~~ KET

SAMPLER: Tim STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-09
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 88-92
ID: GS-09-CW-(100)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	70 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
/ /	:	.	.		.	X 1	.
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/11/06	17:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	10/11/06	17:00	G	2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	10/11/06	17:00	G	1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G		6.37	649	15.66		Slight cloudy tan-grey
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

* QC Sample of Casing water / screen retracted 10' into casing water only.

SAMPLER: Tim Stone
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-09
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127'
GS-09-W (123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	65 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/12/06	12:45	92.0	~~127.0~~ 140	94.3	45.7	X 1	11.65
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 : 0.258

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	10/12/06	13:45	G	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Amber Glass	/ /	:		X	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
5	Red Total Poly	/ /	:		X	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		X	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		X	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		X	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	12.0	6.59	624	16.98		Cloudy / tan - grey
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: [signature] (PRINTED NAME) [signature] (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-09
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
GS-09-W (148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	75 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/12/06	15:40	74.5	160.00	127.00	33.00	X 1	6.38
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/12/06	16:20	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	0	5.12	764	17.44		Cloudy/grey
2	[Select A-G] G	3.0	6.81	757	17.86		[Clarity, Color]
3	G	6.5	6.80	761	17.83		

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-09
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 173-177
GS-09-W(173-177)

WIND FROM:	(N)	NE	E	SE	S	SW	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	SUNNY		(CLOUDY)		RAIN		Fog		TEMPERATURE: 60 °F		

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
10/13/06	:	13.940.000	190.00	116.88	73.12	X 1	18.6
		177mm (leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	10/13/06	12:00	G	3	80 ml	40 ml	HCl	YES	NO	
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	
3	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
4	Green Poly	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

Initial Spec cond: 231 uS
4 gallons Spec cond: 824 uS
8.2 gallons = 829 uS
14 gallons = 806 uS

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	20.0	7.21	790	14.95		Cloudy, gray
2	[Select A-G]						[Clarity, Color]
3							

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargrail
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-10
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 6
SAMPLE NAME: GS-10-W (4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	45 °F	

11 + 6 = 17 − 10.23 = 6.77

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW
1/12/07	10:45	.	.	10.23	6.77
		(leadline)	(from drillers)	(water level indicator)	(subtraction)

X 1 [(DTB-DTW) * factor from below]

Purge Volume (gal)
1.72

Gal/ft = (dia./2)² x 0.163 (circle casing diameter)	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	1/12/07	11:20	B	3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	√
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	YES	√
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	B	1.8	6.37	550	9.32		Slt Cloudy, Lt Tan
2		1.0	6.47	570	9.29		Slt Cloudy, Lt Gray
1		0.5	6.83	648	9.46		Cloudy, Gray

(Select A-G) (Clarity, Color)

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargrave
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-10
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 11
SAMPLE NAME: GS-10-W(9-11)

WIND FROM:	N	NE	E	SE	(S)	SW	W	NW	LIGHT	MEDIUM	(HEAVY)
WEATHER:	SUNNY		(CLOUDY)		RAIN				TEMPERATURE:	45 °F	

11 + 11 = 22 - 13.5

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/12/07	11:50	.	.	13.50	8.6	X 1	8.24
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	(2.5") = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	1/12/07	12:30	B	3	80 ml	(40 ml)	(HCl)	(YES)	(NO)	√
2	Amber Glass	/ /	:		2	500 ml	500 ml, (1L)	None	(YES)	(NO)	√
3	Green Poly	/ /	:		1	100 ml	250 ml, (500 ml), 1L	(NaOH)	(YES)	(NO)	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, (500 ml), 1L	(HNO_3)	(YES)	(NO)	√
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, (500 ml), 1L	(HNO_3)	(YES)	(YES)	√
6	White Poly	/ /	:		1	205 ml	(250 ml), 500 ml, 1L	None	(YES)	(NO)	√
7	Yellow Poly	/ /	:		1	10 ml	250 ml, (500 ml), 1L	(H_2SO_4)	(YES)	(NO)	√

Total Bottles (include duplicate count): 10

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3			.		.		
2	B	1.0	6.45	642	12.58		Cloudy BLK
1		0.5	6.40	718	12.5		Cloudy BLK/GSL
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargval
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
SITE ADDRESS: Portland, Oregon

BORING ID: GS-10
SAMPLE DEPTH: 27
SAMPLE NAME: GS-10-W (23.27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE: 45 °F		

11+27-38

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
12-07	13:25	10x1.	.	23.8	14.2	X 1	3.61
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	12-07	13:40	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	4.0	6.56	812	12.81		Sediment, Lt.
2		2.0	6.67	821	12.9		Sediment, Lt.
1		1.5	6.29	824	12.8		Clear, Lt.
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Harvard
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-10
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 52
SAMPLE NAME: GS-10-W(48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:		°F

11x52=03

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
11-2-01	15:00	.	.	28.03	34.37	X 1	8.76
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	√
2	Amber Glass	11-2-01	15:38	G	2	500 ml	500 ml, 1L	None	YES	NO	√
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	√
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	√
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	√
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	√
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	√

Total Bottles (include duplicate count): 10

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			6.70		13.08		
3	G	10	6.70	446	13.08		Sediment, Water
2		6	6.70	246	13.79		
1		2	6.83	759	13.8		Sediment, Water

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: S Hargval
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-10
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: (73-77)
SAMPLE NAME: GS-10-W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	61 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/3/07	08:00	12.0	89.0	22.0	67.0	X 1	17.09
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	01/03/07	09:05	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	18	6.69	744	14.25		slight tint cloudy grey
2	G	10	6.91	832	13.94		Cloudy grey
1	G	5	6.86	841	13.88		Clear/Colorless

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: [signature] (PRINTED NAME) TIM STONE (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-10
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 10.2
SAMPLE NAME: GS-10-WC98-10.2

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/3/07	09:50	13.0	113.00	39.81	75.19	X 1	19.17
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/3/07	11:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	10	6.67	655	13.85		[illegible]
2	G	15	6.69	[illegible]	13.78		[illegible]
1	G	5	6.72	[illegible]	13.70		[illegible]

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Jim Stone (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-10
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127
SAMPLE NAME: GS-10-W(123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/3/07	11:50	13.0	140.00	63.40	76.6	X 1	19.53
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/3/07	12:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	20	6.80	677	13.20		slight Cloudy/ grey tint
2	G	15	6.78	672	12.99		slight Cloudy, grey tint
1	G	5	6.88	625	12.49		slight Cloudy, grey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

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Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-10
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
SAMPLE NAME: GS-10-W(148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	49 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/3/07	14:00	13.0	165.0	24.60	140.40	X 1	35.80
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/3/07	15:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	40.0	6.88	653	14.09		clear/colorless
3	G	36.0	6.69	645	14.08		clear/colorless
2	G	24.0	6.92	614	14.10		slight cloudy/gray
1	G	12.0	6.97	580	14.02		cloudy/gray

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6'
SAMPLE NAME: GS-11-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	40 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/4/07	15:00	11.0	17.0	8.50	8.5	X 1	2.16
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/4/07	15:35	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	2.5	6.93	228	8.11		clear / grey tint
2	G	1.5	6.98	217	8.01		slight cloudy / grey tint
1	G	0.5	7.88	165	7.88		cloudy / dark grey (slight sheen)

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone
(PRINTED NAME)

Tim Stone
(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 9-11
SAMPLE NAME: GS-11-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	36 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/4/07	15:40	11.0	22.0	18.70	3.3	X 1	0.84
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/4/07	16:20	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		~~1~~	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4			.		.		
3			.		.		
2			.		.		
1	G	0.9	6.56	624	10.58		slight cloudy / grey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
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Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 23-27
SAMPLE NAME: GS-11-W(23-27)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	38 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/5/07	~~10:00~~ 1030	18.0 (leadline)	~~39.57~~ 0 (from drillers)	~~22.40~~ ~~24.00~~ 15.5 (water level indicator)	~~10.00~~ 16.4 (subtraction)	X 1 [(DTB-DTW) * factor from below]	4.18

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/5/07	10:55	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C		Water Quality
4							
3	G	4.5	6.77	767	12.95		clear / colorless
2	G	2.0	7.17	753	12.91		clear / slight grey tint
1	G	0.5	7.54	736	11.73		clear / slight grey tint

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
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Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 48-52
SAMPLE NAME: GS-11-W(48-52)
GS-61-W(48-52) [1300]

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:		39 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/5/07	12:15	13.0	65.00	26.80	38.2	X 1	9.75
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/5/07	12:50	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	DS
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	DS
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 16

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	10	6	6.79	775	10.9		clear/slight gray tint
2	5	6	6.84	767	11.1		clear/gray tint
1	2	6	6.88	763	10.9		slight cloudy/gray tint

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: JIM STONE (PRINTED NAME) Jim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
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PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 73-77
SAMPLE NAME: GS-11-W(73-77)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	39 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/5/07	14:20	12.0	89.0	19.76	69.24	X 1	17.66
		(leadline)	(from drillers)	(water level indicator)	(subtraction)	[(DTB-DTW) * factor from below]	

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/5/07	15:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	20.0	6.77	667	10.4		slight cloudy/grey tint
2	G	15.0	6.74	654	10.35		slight cloudy/grey tint
1	G	6.0	6.83	587	10.0		cloudy/grey

[Select A-G] (Clarity/Color)

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 98-102
SAMPLE NAME: GS-11-W(98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/8/07	09:10	15.0	115.0	38.50	76.50	X 1	19.51
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/8/07	09:40	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	G	20.	6.73	759	13.97		Clear / Colorless
2	G	10.	6.71	755	13.45		
1	G	5.	6.59	750	13.55		Clear / slight gray tint

[Select A-G] [Clarity, color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone
(PRINTED NAME)

Tim Stone
(SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 123-127
SAMPLE NAME: GS-11-W(123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	50° F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/8/07	11:00	13.0	140.0	38.85	101.15	X 1	25.79
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/8/07	11:35	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	27.0	G	7.07	0.73	13.25		Clear/colorless
3	20	G	7.05	0.75	13.23		Clear/colorless
2	10	G	7.06	0.69	13.04		Clear/colorless
1	5	G	7.10	0.63	13.07		Clear/slightly tint

[Select A-G] [Clarity/Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stalb (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-11
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
SAMPLE NAME: GS-11-W(148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	49° F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/8/07	13:10	13.0	168	109.40	55.6	X 1	14.18
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/8/07	14:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C		Water Quality
4							
3	G	15	7.70	646	12.85		↑
2	G	10	7.74	635	12.84		
1	G	5	7.65	624	12.79		Clear, Colorless
	[Select A-G]						[Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
SITE ADDRESS: Portland, Oregon
BORING ID: GS-11
SAMPLE DEPTH: ~~173-177~~ 169-173
SAMPLE NAME: GS-11-W(173-177)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	48 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/8/07	15:40	13.0	190.00	44.66	145.34	X 1	37.06
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/8/07	16:20	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	40	7.01	599	13.95		Cloudy/grey
3	G	30	7.03	593	13.93		Cloudy/grey
2	G	20	7.06	528	13.82		Cloudy/grey
1	G	10	7.29	462	13.68		Cloudy/grey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) [signature] (SIGNATURE)

* Bedrock encountered @ 173' bmL. Could not push hydropunch to desired depth (173-177)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-12
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 4-6
SAMPLE NAME: GS-12-W(4-6)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		SNOW		TEMPERATURE:	33 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/10/06	10:10	11.0	17.0	9.31	7.69	X 1	1.96
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/10/06	10:35	B	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	B	2.0	6.96	468	8.64		slight cloudy/gr
2	B	1.5	7.04	469	8.60		slight cloudy/gr
1	B	0.5	7.12	420	8.45		cloudy/gray/slig

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
SITE ADDRESS: Portland, Oregon

BORING ID: GS-12
SAMPLE DEPTH: 9-11
SAMPLE NAME: GS-12-W(9-11)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:		33 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/10/07	10:50	11.0	22.0	14.80	7.2	X 1	1.84
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/10/07	11:15	B	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4							
3	B	2.0	6.94	383	10.60		
2	B	1.5	7.03	394	10.54		
1	B	0.5	6.79	395	10.19		Cloudy/grey

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-12
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: ~~27 ft~~ 23-27
SAMPLE NAME: GS-12-W (23-27)
GS-62-W (23-27) (3 in)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	35	°F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/10/07	12:30	14.0	41.0	13.83	27.17	X 1	6.93
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5"	0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used]
1	VOA Glass	1/10/07	13:00	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	✓

Total Bottles (include duplicate count): ~~12~~ 20

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	7.0	6.94	589	12.75		
3	G	5.0	6.99	577	11.67		
2	G	3.0	7.00	511	11.65		slightly cloudy/grey
1	G	0.5	7.05	504	11.72		cloudy/grey
	(Select A-G)	10.0	6.92	587	12.83		[Clarity, Color] slightly cloudy/grey

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) T Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-12
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 48-52
SAMPLE NAME: GS-12-W(48-52)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	36 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/10/07	14:00	14.0	66.0	47.88	18.12	X 1	4.62
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Green Poly	1/10/07	14:15	G	1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	✓
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	—

Total Bottles (include duplicate count): 10

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	7.0	6.71	802	14.09		Clear / Colorless
3	G	5.0	6.72	801	14.08		slight cloudy / grey
2	G	3.0	6.78	790	13.42		Cloudy / grey
1	G	1.0	6.85	693	12.25		Cloudy / grey

[Select A-G] VERY [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO BORING ID: GS-12
SITE ADDRESS: Portland, Oregon SAMPLE DEPTH: 73-77
ID: GS-12-W(73-77)
DUP ID: GS-62-W(73-77) 1600

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	35 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/10/07	15:20	14.0	91.0	25.45	65.55	X 1	16.71
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080

(circle casing diameter)

2.5 = 0.255

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	Amber Glass	/ /	:		1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	
2	Green Poly	1/10/07	15:50	G	1	50 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
3	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
4	VOA Glass	/ /	:		3	80 ml	40 ml	HCl	YES	NO	✓
5	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
6	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
7	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
8	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8/6

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
AMBER - Glass	(Free Cyanide) (PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Amenable Cyanide)
VOA - Glass	(8260B)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Si) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
1	G	1.0	6.80	742	13.07		slight cloudy/gray
2	(Select A-G) G	10.0	6.76	731	13.75		clear / colorless
3	G	10.0	6.67	731	13.79		clear / colorless

[Clarity/Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-12
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 98-102
SAMPLE NAME: GS-12-W(98-102)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	35 °F	

* 6" OVERIDE CASING-@82' B.M.L. (90' of Casing)

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/11/07	10:25	14.0	116.0	40.25	75.75	X 1	19.32
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/11/07	10:50	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	20.0	6.81	914	13.02		slight cloudy/gray
3	G	15.0	6.64	904	12.50		clear/colorless
2	G	5.0	6.63	934	12.57		slight cloudy/gray
1	G	1.0	6.68	929	12.45		clear/colorless

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-12
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: ~~148-152~~ 123-127
SAMPLE NAME: GS-12-W(123-127)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN				TEMPERATURE:	35 °F	

* 6" OVERIDE Casing @ 102' B.M.L. (110' of casing)

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/11/07	12:50	14.0	141.00	31.8	109.2	X 1	27.85
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)² x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/11/07	13:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type

BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
VOA - Glass	(8260B)
AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	30.0	7.08	642	12.60		clear/colorless
3	G	25.0	7.09	638	12.53		clear/colorless
2	G	15.0	7.08	631	12.43		clear/slight gray tint
1	G	5.0	7.08	610	11.13		clear/colorless

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: Tim Stone (PRINTED NAME) Tim Stone (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: GASCO
BORING ID: GS-12
SITE ADDRESS: Portland, Oregon
SAMPLE DEPTH: 148-152
SAMPLE NAME: GS-12-W(148-152)

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN						TEMPERATURE:	36 °F	

*6" OVERIDE CASING @ 132' B.M.L. (140' of casing)

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft, measured from Top of Casing (TOC))

Date	Time	TOC to Mudline	DTB from TOC	DTW from TOC	DTB-DTW		Purge Volume (gal)
1/11/07	14:45	14.0	166.0	110.0	56.0	X 1	14.28
		(leadline)	(from drillers)	(water level indicator)	(subtraction)		[(DTB-DTW) * factor from below]

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	1.5" = 0.092	2" = 0.163	2.5" = 0.255	3" = 0.367	4" = 0.653	6" = 1.469

(circle casing diameter)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Fill Order	Bottle Type	Date	Time	Method §	Amount	Volume Needed	Bottle Size	Pres.	Ice	Filter	[√ if used] √
1	VOA Glass	1/11/07	15:30	G	3	80 ml	40 ml	HCl	YES	NO	✓
2	Amber Glass	/ /	:		2	500 ml	500 ml, 1L	None	YES	NO	✓
3	Green Poly	/ /	:		1	100 ml	250 ml, 500 ml, 1L	NaOH	YES	NO	✓
4	Red Total Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	NO	✓
5	Red Diss. Poly	/ /	:		1	150 ml	250 ml, 500 ml, 1L	HNO_3	YES	YES	✓
6	White Poly	/ /	:		1	205 ml	250 ml, 500 ml, 1L	None	YES	NO	
7	Yellow Poly	/ /	:		1	10 ml	250 ml, 500 ml, 1L	H_2SO_4	YES	NO	

Total Bottles (include duplicate count): 8

Analysis by Bottle Type	BOTTLE TYPE	ANALYSIS BY BOTTLE TYPE
	VOA - Glass	(8260B)
	AMBER - Glass	(PAHs-Total) (PAHs-Lab Filtered)
	GREEN - Poly	(Free Cyanide) (Amenable Cyanide)
	RED TOTAL - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	RED DISSOLVED - Poly	(Al) (Sb) (As) (Ba) (Be) (Cd) (Ca) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Hg) (Ni) (K) (Se) (Ag) (Na) (Tl) (Zn)
	WHITE - Poly	(Chloride) (Nitrate) (Sulfate) (Alkalinity) (Carbonate) (Bicarbonate)
	YELLOW - Poly	(Ammonia)

WATER QUALITY DATA

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	Temp °C	[redacted]	Water Quality
4	G	15.0	7.09	571	12.84		
3	G	10.0	7.11	568	12.86		slight cloudy / quiet
2	G	5.0	7.16	558	12.56		slight cloudy / quiet
1	G	1.0	7.29	480	12.18		cloudy / yellow

[Select A-G] [Clarity, Color]

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Inertial Pump

SAMPLER: TIM STONE
(PRINTED NAME)

(SIGNATURE) Tim Stone

Columbia Analytical Services INC.
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GROUNDWATER ★ SHORT HOLD TIMES ★

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: 6650 SW Redwood Lane, Suite 6
CITY/STATE/ZIP: Portland OR 97224
E-MAIL ADDRESS: bernhardt@anchorqea.com
PHONE #: 503 715 6265 FAX#: 503 670 1126
SAMPLER'S SIGNATURE: Kelly R. Tikkanen

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐ (total)	Metals, Total or Dissolved (See list below)	Cyanide	Hex-Chrom ☐	Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Cadmium	Bicarbonate	Alkalinity		REMARKS
GS-09-W(4-6)	10/2/06	1420		W	8		X					X			X	X	X		X	X	X			
GS-09-W(9-11)	10/2/06	1645		W	8		X					X			X	X	X		X	X	X			
GS-09																								

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS: Lab Filter one amber (PAHS), other amber = total PAH

SHORT HOLD TIMES!

★ Free Cl + Nitrate ★

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikkanen Date/Time: 10-7-06/0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. Tikkanen Firm: Anchor QEA	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

★ SHORT HOLD TIMES! ★

SEDIMENT CHEM

CHAIN OF CUSTODY

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An Employee - Owned Company

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SR#: _____

PAGE 1 OF 1 COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000039-02
PROJECT MANAGER:
COMPANY/ADDRESS: 16650 SW Redwood Lane, Suite 110
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: [illegible]@anchorenv.com
PHONE #: 503.715.6265 FAX#: 503.670.1128
SAMPLER'S SIGNATURE: Kellie R. Hemmer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS - 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Total Solids	Sulfides			REMARKS
GS-09-S(4-6)	9/10/06	1620		S	7		X						X	X	X		X		X	X					
~~GS-09~~	~~[illegible]~~																								

KRT

NO metals

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be Bi Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

+ arsenic

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

SHORT HOLD TIMES!

★ VOCS ★

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kellie R. Hemmer 10/9/06 1600	Signature:	Signature:	Signature:
Date/Time:	Date/Time:	Date/Time:	Date/Time:
Printed Name: Kellie R. Hemmer	Printed Name:	Printed Name:	Printed Name:
Firm: Anchor Env.	Firm:	Firm:	Firm:

RCOC #1 06/03

Columbia Analytical Services INC.
An Employee - Owned Company

GEOTECH 1 & 2

CHAIN OF CUSTODY

SR#: _____

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: 6650 SW Redwood Lane, Suite 110
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: lschorzman@anchorenv.com
PHONE: 503.713.6265 FAX#: 503.670.1128
SAMPLER'S SIGNATURE: Kelly R. Tikkemeyer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Grain Size	Atterberg Limits	Moisture	Specific Gravity	REMARKS
GS-09-S(4-6)	10/7/06	1620		S		4											X			X	X	X	X	
~~GS-09-S(4-6)~~	~~10/7/06~~	~~1620~~		~~S~~																				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikkemeyer — Date/Time: 10-7-06/1600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikkemeyer — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
An Employee - Owned Company

Short Hold Times!!!

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF _____ COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: (dba) SW Portland Ave, Suite 110
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS*: jschomp@anchorenv.com
PHONE #: 503.915.6265 FAX: 503.670.1638
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Organics see attached Analysis Sheet for Compounds	Cations	Metals & Cyanide	Alkalinity	REMARKS
GS-09-W(23-27)	10-9-06	1330		W	8			X							X		X	X	X				X	X	no pH, no TOC, no TS
GS-09-S(9-11)	10-9-06	1020		S	7			X							X		X		X			X			
GS-09-S(23-27)	10-9-06	1450		S	7			X							X		X		X			X			
GS-09-S(23-27)	10-9-06	1450		S	4													X	X		X				no S, no NH3-N, no NO2

Geotech soil/chem water

TOC for soil chem or Geotech - not both

left msg for Lynda @ CAS @ 9am 10-10-06 - KRT

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

SHORT HOLD TIMES!!! *VOCs*

Free CN & Nitrate

Lab filter are amber (PAHs), other amber = total PAHs

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikkemeier — Date/Time: 10-10-06/1630	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikkemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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SHORT HOLD TIMES

CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Environmental, LLC
6650 SW Redwood Lane, Suite 110
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: JSCHOENEN@ANCHORENV.COM
PHONE: 510-915-6265 FAX: 503-670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ 8021☐ BTEX☐ ☐ Fuel Fingerprint (FIG) ☐ NW HCID Screen ☐ Oil ☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics Tri☐ Tetra☐ 8151M PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Carbonate & Bicarbonate	Sulfide	Atterberg Limits	Moisture Content	PH, Soil TOC, PCB Congeners	Amenable + Free Cyanide	REMARKS
GS-09-W(48-52)	10-10-06	1245		W	8			X				X			X			X	X	X		X				X
GS-09-W(73-77)	10-10-06	1720		W	6			X							X			X								X
GS-09-S(48-52)	10-10-06	1345		S	7			X	X	X				*	X			X		X		X				
GS-09-S(65-66)	10-10-06	1415		S	4																			X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

SHORT HOLD TIMES
VOCS, Free CN, NO_3
(TOTAL PAHS ONLY ON SOIL)*

Lab filter one amber (PAHs), other amber = total PAHs

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 10/11/06-0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Jim Schoenen Firm: ANCHOR-PDX	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

Columbia Analytical Services INC.
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CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: Conoco - OFFSHORE GW FSA
PROJECT NUMBER: 040029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503 670-1105 FAX#: 670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	GRAIN SIZE ATTERBERG LIMITS MOISTURE, pH, SOM	TOC, SPEC. GRAVITY	REMARKS
GS-09-S(9799)	10/11/00	1230		Soil	4														X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 10/12/00 - 0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Firm: ANCHOR-PDX	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: Cosco - GW FSA
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ARCHOR ENV. - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Ammonia/Cyanide	Total Cyanide			REMARKS
GS-02-W(98-108)	10/1/06	1630		H2O	6		X						X						X	X				
GS-09-GW-(100)	10/1/06	1700		H2O	6		X						X						X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 10-11-06/0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Firm: ARCHOR-PDX	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO-GW FSA
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tatemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide ☒	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC + TP			REMARKS
GS-09-S(98-102)	10-12-06	1045		SOIL	7			X							X		X			X		X	X		
GS-09S(123-127)	10-12-06	1450		SOIL	7			X							X		X			X		X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tatemeier — Date/Time: 10-13-06/1600	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Kelly R. Tatemeier — Firm: Anchor Env.	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

RCOC #1 06/03

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO - GWFST
PROJECT NUMBER: 000029-09
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE#: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: [illegible]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT ☐ 1664 HEM ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics Tri ☐ Tetra ☐ 8151M PCP ☐	PAHs 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Amenable Cyanide	Free Cyanide			REMARKS
GS-09-W(23-27)	10-12-09	1345		H_2O	6			X							X						X	X		
GS-09-W(48-52)	10-12-09	1620		H_2O	6			X							X						X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [illegible] Date/Time: 10-13-09 10:00	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly Tikkemeier Firm: Anchor Env	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO - GW FSA
PROJECT NUMBER: 0000 39-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	Hex-Chrom☐	TOX 9020☐ AOX 1650☐ 506☐	Sulfate	TOC + TS			REMARKS
GS-09-3 (48-52)	11/8/06	0930		Soil	7		X							X		X				X	X			
GS-09-5 (77-79)	11/8/06	1445		Soil	7		X							X		X				X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [illegible] Date/Time: 11/9/06 0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: [illegible] Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
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CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 1 COC #: _____

PROJECT NAME: GASCO - GW FSA
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX: 503-670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide			REMARKS
GS-01-W(173-77)	11/1/06	1200		H_2O	6		X						X						X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 11/1/06 0600	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

Columbia Analytical Services INC
An Employee - Owned Company

WATER

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO-GW FSA
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tiemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Amenable Cyanide	Free Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-07-W (4-6)	10-16-06	0945		H_2O	8		X						X			X	X		X	X	X	X
GS-07-W (9-11)	10-16-06	1300		H_2O	8		X						X			X	X		X	X	X	X

TOTAL DISSOLVED

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION
P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS
___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results
_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tiemeier — Date/Time: 10-17-06/0900	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tiemeier — Firm: Anchor ENV	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SOIL

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO - GW FSA
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - RDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX #: 503-670-1128
SAMPLER'S SIGNATURE: Kelly E. Tillemeier

	SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC	Atterberg Limits, Moisture	pH, SO_4, TOC, Specific Gravity	REMARKS
SOIL SITEWIDE	GS-07-S(4-6)	10-16-06	1330		SOIL	7		X						X			X	X			X	X			
	GS-07-S(9-11)	10-16-06	1350		SOIL	7		X						X			X	X			X	X			
GEOTECH	GS-07-S(4-6)	10-16-06	1330		SOIL	2																	X		
	GS-07-S(15-18)	10-16-06	1410		SOIL	4																	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly E. Tillemeier Date/Time: 10-17-06/0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly E. Tillemeier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly Tikemeier

	SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (* see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC + TS	Atterberg Limits, moisture, Grain Size	Physical TOC Specific Gravity	REMARKS
SOIL SCREEN	GS-07-S (43-47)	10-17-06	1310		SOIL	1		X					X			X		X		X	X			
	GS-07-S (48-52)	10-17-06	1530		SOIL	1		X					X			X		X		X	X			
GEOTECH	GS-07-S (28-30)	10-17-06	1321		SOIL	2																X		
	GS-07-S (41-43)	10-17-06	1400		SOIL	4																X	X	
	GS-07-S (53-55)	10-17-06	1535		SOIL	2																X		
	GS-07-S (62-63)	10-17-06	1540		SOIL	4																X	X	
	GS-07-S (70-72)	10-17-06	1620		SOIL	2																		

REPORT REQUIREMENTS

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___ V. EDD

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Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly J. Tikemeier — Date/Time: 10-18-06/0600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly K. Tikemeier — Firm: Anchor Env	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tikkenen

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐ Total + Dissolved	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, (NO_3), BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-07-W(23-27)	10-17-06	0915		H_2O	8		X						X			X	X		X	X	X	X		
GS-07-W(48-52)	10-17-06	1420		H_2O	8		X						X			X	X		X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikkenen — Date/Time: 10-18-06/0000	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikkenen — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 1 OF 2 COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 0000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly T. Ittemeier

	SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC + TS	After analysis, filter, analyze for TOC	REMARKS
SOIL SCHEM	GS-07-S (98-102)	10-18-06	1315		SOIL	7		X							X		X				X	X		
	GS-07-S (123-127)	10-18-06	1600		SOIL	7		X							X		X				X	X		
	GS-07-S (145-148)	10-18-06	1645		SOIL	7		X							X		X				X	X		
GEOTECH	~~GS-07-S (70-72)~~	~~10-18-06~~	~~1020~~																					
	GS-07-S (80-82)	10-18-06	1000		SOIL	4																X	X	
	GS-07-S (90-92)	10-18-06	1030		SOIL	2																X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly T. Ittemeier 10-19-06/0600 (Signature / Date/Time)	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly T. Ittemeier / Anchor Env. (Printed Name / Firm)	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tikkemeyer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Amenable Cyanide	Free Cyanide				REMARKS
GS-07-W(73-77)	10/18	0820		H2O	6		X						X						X	X					
GS-57-W(73-77)	10/18	0830		H2O	6		X						X						X	X					
GS-07-W(98-102)	10/18	1130		H2O	6		X						X						X	X					
GS-07-CW(100)	10/18	1155		H2O	6		X						X						X	X					
GS-07-W(123-127)	10/18	1345		H2O	6		X						X						X	X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikkemeyer Date/Time: 10-17-06/0600	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Printed Name: Kelly R. Tikkemeyer Firm: Anchor Env	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

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SR#: _____

PAGE 1 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-08
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV- PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. TAkemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☒ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide ☒	Hex-Chrom☐ pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC + TS				REMARKS
GS-07-S(70-175)	10-19-06	1220		SOIL	7			X					X		X				X	X				

SOIL CHEM

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. TAkemeier — Date/Time: 10-20-06 10:00	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. TAkemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-08
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (* see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	(PAHS) 8310☐ SIM☐ TOTAL + DISSOLVED	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide			REMARKS
GS-07-W(18-15)	10-19-06	0915		H_2O	6		X						X						X	X					
GS-07-W(170-174)	10-19-06	1645		H_2O	6		X						X						X	X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

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P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikemeier — Date/Time: 10-20-06/0900	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Kelly R. Tikemeier — Firm: Anchor Env	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

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PAGE 1 OF 2 SR#: _____ COC #: _____

PROJECT NAME:
PROJECT NUMBER: GASCO
PROJECT MANAGER: 000029-02
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-7108 FAX #: 503-670-7128
SAMPLER'S SIGNATURE: Kelly R. Tremeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	Hex-Chrom☐	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC				REMARKS
GS-05S (3-4)	10-24-06	1550		SOIL	7			X						X		X			X		X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tremeier — Date/Time: 10-25-06/0600	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Kelly R. Tremeier — Firm: Anchor Env.	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

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An Employee-Owned Company

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX: 503-670-1625
SAMPLER'S SIGNATURE: Kelly R Tikkenoler

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics Tri☐ Tetra☐ 8151M PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide	Alkalinity	Carbonate+Bicarbonate	REMARKS
GS-05-W(4-6)	10-21-05	1630		H_2O	6			X						X			X	X		X	X	X	X
GS-05-W(9-11)	10-21-05	1740		H_2O	8			X						X			X	X		X	X	X	X

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R Tikkenoler — Date/Time: 10-25-06/10:00	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikkenoler — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Thomeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below) (Total + Dissolved)	Cyanide☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, NH_3-N, BOD, TSS, TDS (circle)	Hex-Chrom☐	DOC (circle) NO_2+NO_3, Total-P, TKN, TOC,	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide	Alkalinity	Carbonate & Bicarbonate	REMARKS
GS-05-W(23-27)	10-25-06	1110		H_2O	8		X						X			X	X		X	X	X	X		
GS-05-W(55-59)	10-25-06	1730		H_2O	8		X						X			X	X		X	X	X	X		
GS-08-W(4-6)	10-25-06	1200		H_2O	10		X						X	X		X	X		X	X	X	X		
GS-08-W(9-11)	10-25-06	1350		H_2O	10		X						X	X		X	X		X	X	X	X		
GS-08-W(23-27)	10-25-06	1530		H_2O	10		X						X	X		X	X		X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly R. Thomeier 10-26-06 16:00 (Signature / Date/Time)	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly R Thomeier / Anchor Env (Printed Name / Firm)	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

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SOIL

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - POX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1695
SAMPLER'S SIGNATURE: Kelly Tikkanen

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC			REMARKS
GS-05-S (9-11)	10/25/04	0950		SOIL	7		X					X			X		X		X		X				
GS-05-S (20-22)		1025			7		X					X			X		X		X		X				
GS-05-S (45-48)		1455			7		X					X			X		X		X		X				
GS-08-S (3-4)		1025			7		X					X			X		X		X		X				
GS-08-S (9-10)		1230			7		X					X			X		X		X		X				
GS-08-S (20-23)		1420			7		X					X			X		X		X		X				

SOIL SAMPLES

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly Tikkanen — Date/Time: 10-26-04 10:00	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Kelly Tikkanen — Firm: Anchor Env	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

RCOC #1 06/03

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SR#: _____

PAGE 3 OF 3 COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV- PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly Tikkemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Atterberg Limits, Particle Grain Size	pH, SO4, TOC, Specific Gravity			REMARKS
GS-05-S (4-11)	10-25-06	1035		SOIL	2															X	X				
GS-05-S (20-22)		1045			4															X	X				
GS-05-S (33-36)		1530			2															X					
GS-05-S (39-42)		1530			4															X	X				
GS-05-S (45-48)		1455			2															X					
GS-08-S (6-8)		1200			2															X					
GS-08-S (20-23)		1420			4															X	X				
GS-08-S (29-30)		1645			2															X					
GS-08-S (40-43)		1700			4															X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly Tikkemeier Date/Time: 10-26-06/0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly Tikkemeier Firm: Anchor Env	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENVI-FOX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R Thomeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☐) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below) (Total + Dissolved)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, (NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-05-W(73-77)	10-26-06	1330		H_2O	6		X						X						X	X			
GS-05-W(98-102)	10-26-06	1535		H_2O	6		X						X						X	X			
GS-05-CW(100)	10-26-06	1610		H_2O	6		X						X						X	X			
GS-08-W(48-52)	10-26-06	1130		H_2O	10		X						X	X		X	X		X	X	X	X	
GS-58-W(48-52)	10-26-06	1200		H_2O	10		X						X	X		X	X		X	X	X	X	
GS-08-W(73-77)	10-26-06	1410		H_2O	8		X						X	X					X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
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TURNAROUND REQUIREMENTS

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___ 5 Day
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_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R Thomeier — Date/Time: 10-27-06/0600	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Kelly R Thomeier — Firm: Anchor Env.	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000039-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	Hex-Chrom☐ pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TDS	8270 full List + TIC by phone on 11/21/06		REMARKS
GS-05-S (95-98)	10-26-06	1425		SOIL	7		X							X		X				X	X	X		
GS-08-S (43-45)		0830		SOIL	7		X							X	X	X		X		X	X			
GS-[illegible]-S (43-45)		0840																						
GS-58-S (43-45)		0840		SOIL	7		X							X	X	X		X		X	X			
GS-08-S (95-98)		1620		SOIL	7		X							X	X	X				X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
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INVOICE INFORMATION

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TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
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Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg Si

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly R Tittemeier 10-27-06 / 0600 (Signature / Date/Time)	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly R Tittemeier / Anchor Env (Printed Name / Firm)	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

Columbia Analytical Services INC.
An Employee - Owned Company

GEOTECH

CHAIN OF CUSTODY

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SR#: _____

PAGE 3 OF 3 COC #_____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX: 503-670-1128
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Atterberg Limits, Moisture	Grain Size, SO4, TOC, Specific Gravity			REMARKS
GS-05-S (59-64)	10-26-06	0910		SOIL	4															X	X				
GS-05-S (69-73)	10-26-06	0915		SOIL	2															X					
GS-05-S (79-84)	10-26-06	1500		SOIL	4															X	X				
GS-05-S (89-92)	10-26-06	1555		SOIL	2															X					
GS-08-S (50-53)	10-26-06	1220		SOIL	2															X					
GS-08-S (63-65)		1300		SOIL	4															X	X				
GS-08-S (69-71)		1330		SOIL	2															X					
GS-08-S (82-84)		1515		SOIL	4															X	X				
GS-08-S (90-92)		1645		SOIL	2															X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Keil R. Tikkenen — Date/Time: 10-27-06/0900	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Keil R. Tikkenen — Firm: Anchor Env.	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

Columbia Analytical Services INC.
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CHAIN OF CUSTODY

WATER

SR#: _____

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 1 OF 2 COC # _____

PROJECT NAME: GRSCO - O/S GW
PROJECT NUMBER: 060029-02
PROJECT MANAGER: JOHN EDWARDS
COMPANY/ADDRESS: ANCHOR ENV.
CITY/STATE/ZIP: PORTLAND, OR
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 670-1128
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT ☐ 1664 HEM ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐ TOTAL LIST	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	FREE CYANIDE	AMENABLE CYANIDE			REMARKS
GS-05-W(123-127)	10/27/06	0945		H_2O	6			X							X						X	X			
-05-W(148-152)		1300			6			X							X						X	X			
-08-W(98-102)		0800			8			X							X	X					X	X			
-08-DW(100)		0830			8			X							X	X					X	X			
-08-W(123-127)		1115			8			X							X	X					X	X			
-08-W(148-152)		1530			8			X							X	X					X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 10-28-06/0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Tim Stone Firm: ANCHOR - PDX	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000039-05
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly C Ptlenecke

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics Tri☐ Tetra☐ 8151M PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide ☒	Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC				REMARKS
GS-05-S (123-126)	10-27-05	0800		SOIL	7		X						X		X				X	X						
GS-05-S (145-148)	10-27-05	1115		SOIL	7		X						X		X				X	X						

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly C Ptlenecke 10-28-05 1100			
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly C Ptlenecke / Anchor Env			
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

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SR#: _____

PAGE 1 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tikkanen

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐ TOTAL DISSOLVED	Metals, Total or Dissolved (See list below)	Cyanide ☐	Hex-Chrom ☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide			REMARKS
GS-05-W(173-177)	10-30-06	1420		H_2O	6		X						X							X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikkanen Date/Time: 10-31-06/0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. Tikkanen Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-05
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	(PAHS) 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Sulfide	TOC + TS				REMARKS
GS-05-S (170-173)	10-28-06	1030		SOIL	7			X							X		X				X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikemeier — Date/Time: 10-30-06 1600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikemeier — Firm: Anchor Env	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX #: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below) TOTAL + DISSOLVED	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Amenable Cyanide	Free Cyanide				REMARKS
GS-05-W(191-195)	10-31-06	1220		H_2O	6			X							X						X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikemeier — Date/Time: 11-01-06/0600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

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PAGE 1 OF 2 COC # _____

PROJECT NAME: GASCO - O/S GW
PROJECT NUMBER: 000029-02 / BG11 / TASK 04
PROJECT MANAGER: JOHN EDWARDS
COMPANY/ADDRESS: ANCHOR ENV. PORTLAND, OR
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 670-1128
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, (Cl, SO_4) PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	FREE CYANIDE	IMMEDIABLE CYANIDE	PAHS - DISSOLVED	ALKALINITY, CARBONATE, BICARBONATE	REMARKS
GS-00-W(28-27)	11-8-06	1105		W	10		X							X	X		X	X		X	X	X	X
GS-00-W(48-52)	11-8-06	1550		W	10		X							X	X		X	X		X	X	X	X

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

TDS

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

* LAB FILTERED

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 11-2-06/0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Tim Gale Firm: Anchor-PDX	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO - O/S GW
PROJECT NUMBER: 000089-02 / 0811 / T04
PROJECT MANAGER: JOHN EDWARDS
COMPANY/ADDRESS: ANCHOR - PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX#: 670-1128
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	8021☐ BTEX☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC			REMARKS
GS-00-S(4-6)	11/1/00	0800		S	7		X								X	X	X		X		X	X				
GS-00-S(9-11)		0820		S	7		X								X	X	X		X		X	X				
GS-00-S(20-23)		1000		S	7		X								X	X	X		X		X	X				
GS-00-S(45-48)		1300		S	7		X								X	X	X		X		X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 11-2-00/0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Jim Stone Firm: ANCHOR-PDX	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000629-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV-PDX
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R Tikkemaker

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☐) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	(HPAHS) PAHS 8310☐ SIM☐	Metals, Total or Dissolved (see list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	PAHs - Dissolved		REMARKS
GC-00-W(65-69)	11-2-06	1000		H_2O	8			X						X	X					X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

*LAB FILTERED

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R Tikkemaker — Date/Time: 11-3-06/1000	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikkemaker — Firm: Anchor Env	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-05
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Thomas

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond, (Cl, SO_4, PO_4, F, NO_2, NO_3, NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3, TSS, TDS (circle)	Hex-Chrom☐	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate+Bicarbonate	REMARKS
GS-04-W(4-6)	12-12-06	1040		H_2O	10		X							X	X		X	X		X	X	X	X
GS-04-W(9-11)	↓	1230		↓	10		X							X	X		X	X		X	X	X	X
GS-04-W(27-31)	↓	1515		↓	10		X							X	X		X	X		X	X	X	X

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Thomas — Date/Time: 12-13-06/0600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Thomas — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX: 503-670-1128
SAMPLER'S SIGNATURE: Kelly T. Ikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHs 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	Hex-Chrom ☐	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Sulfide	TOC + P			REMARKS
GS-04-S(4-6)	12-12-06			SOIL	7		X						X	X	X			X		X	X			
GS-04-S(9-11)	↓			↓	7		X						X	X	X			X		X	X			
GS-04-S(24-27)	↓			↓	7		X						X	X	X			X		X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly T. Ikemeier — Date/Time: 12-13-06 / 10:00	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly T. Ikemeier — Firm: Anchor Env	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE: 503-670-1108 FAX: 503-670-1125
SAMPLER'S SIGNATURE: Kelly C Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Atterberg Limits	Grain Size	pH, SAR, TOC	Specific Gravity	REMARKS
GS-04-S(10-11)	12-7-06	1535		S	2													X	X		X		
GS-04-S(19-21)	↓	1545		S	4													X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly C Tikemeier Date/Time: 12-13-06/0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly C Tikemeier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: Tesco
PROJECT NUMBER:
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Environmental
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Todd Schoenen

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐ Total & Dissolved	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate & Bicarbonate	8270-TIC 8270-TIC	REMARKS
GS-04-W(48-52)	12/13/06	9:45		H2O	10		X						X	X		X	X		X	X	X	X			
GS-04-W(73-77)	12/14/06	14:30		H2O	9		X						X	X					X	X					X
GS-04-W(98-102)	12/15/06	1700		H2O	8		X						X	X					X	X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sn Tl Sn V Zn Hg
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sn Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Todd Schoenen — Date/Time: 12-14-06/1600	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Todd Schoenen — Firm: Anchor	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

RCOC #1 06/03

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER:
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Environmental
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly A. Tillemans

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS		Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT ☐ 1664 HEM ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☒	Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Sulfide	TDS & TS	8270 TIC		REMARKS
GS-04-S(45-48)	12/13/06	9:45		SOIL	7			✓							✓	✓	✓		✓		✓	✓				
GS-04-S(69-70)	12/13/06	11:00		SOIL	1																		✓			
GS-04-S(95-98)	12/13/06	1540		SOIL	7			✓							✓	✓	✓				✓	✓				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 12/14/06 06:00	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: John L. Scherrer Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER:
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Tiemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity, Chloride, Nitrate, Nitrite, Phosphate	Cond, Sulfate, TOC, pH, SO_4	Sample Quantity	REMARKS
GS-04-S(30-31)	12/13/06	10:00			2															✓	✓			
GS-04-S(38-40)	12/13/06	10:00			4															✓	✓	✓	✓	
GS-04-S(50-51)	12/13/06	11:00			2															✓	✓			
GS-04-S(60-61)	12/13/06	11:00			4															✓	✓	✓	✓	
GS-04-S(70-71)	12/13/06	11:00			2															✓	✓			
GS-04-S(78-81)	12/13/06	1655			4															✓	✓	✓	✓	
GS-04-S(91-93)	12/13/06	1650			2															✓	✓			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tiemeier Date/Time: 12-14-06 1000	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. Tiemeier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX #: 503-670-1128
SAMPLER'S SIGNATURE: Jack Schemm

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate & Bicarbonate	REMARKS
GS-01-W(133)	12/10/03	1215		H2O	8		X							X					X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature: Jack Schemm	Date/Time: 12-10-03/1200	Signature:	Date/Time:	Signature:	Date/Time:	Signature:	Date/Time:
Printed Name: Jack Schemm	Firm: Anchor Env.	Printed Name:	Firm:	Printed Name:	Firm:	Printed Name:	Firm:

Columbia Analytical Services Inc.
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SR#: _____

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PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Environmental
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly K Titemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☐) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide				REMARKS
GS-04-W(48-152)	12-15-00	1149		H_2O	8		X						X	X					X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly K Titemeier — Date/Time: 12-15-00/1500	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly K Titemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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WATER

CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: Anchor GASCO
PROJECT NUMBER: 000029-002
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly Thomas

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-03-W(4-6)	12-18-04	1315		H_2O	8			X						X			X	X		X	X	X	X	
GS-03-W(13-15)	12-18-04	1620		H_2O	8			X						X			X	X		X	X	X	X	
KRT GS-03-W6																								

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly Thomas Date/Time: 12-19-04 / 1600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly Thomas Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SOIL

CHAIN OF CUSTODY

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SB#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 060029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly K. Tikenedar

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐					REMARKS
GS-03-S(4-6)	12-18-06	1705		SOIL	7			X							X		X		X		X	X			
GS-03-S(9-11)	↓	1740		SOIL	7			X							X		X		X		X	X			
GS-03-S(20-23)	↓	1805		SOIL	7			X							X		X		X		X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly K. Tikenedar Date/Time: 12-19-06/1000	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly K. Tikenedar Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
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PAGE 3 OF 3 SR#: _____ COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly L. Tikenoede

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	Hex-Chrom☐	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Atterberg Limits, Moisture	Grain Size	pH SO4, TOC	Specific Gravity	REMARKS
GS-03-S(9-11)	12-18-06	1745		S	2															X	X			
GS-03-S(19-20)	12-18-06	1735		S	4															X	X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly L. Tikenoede Date/Time: 12-19-06 / 0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly L. Tikenoede Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

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SR#: _____

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PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly T. Kremeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☑) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (F/Q) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	(PAHS) 8310☐ SIM☐ Total or Dissolved	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl^-, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate Bicarbonate	REMARKS
GS-03-W(63-67)	12-9-06	0850		H2O	8		X					X			X	X		X	X	X	X		
GS-03-W(48-52)	↓	1055		↓	8		X					X			X	X		X	X	X	X		
GS-03-W(73-77)		1230			6		X					X						X	X				
GS-03-W(98-102)	↓	1415		↓	6		X					X						X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly T. Kremeier — Date/Time: 12-9-06 1330	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly T. Kremeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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CHAIN OF CUSTODY

SB#: _____

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PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-OP
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Pitzenberger

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC				REMARKS
GS-03-S(45-48)	12-19-06	1010		S	7		X						X		X		X		X	X				
GS-03-S(95-98)	↓	1355		S	7		X						X		X				X	X				
GS-03-S(121-122)	↓	1550		S	7		X						X		X				X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Pitzenberger Date/Time: 12-19-06/1850	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. Pitzenberger Firm: Anchor Env	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 3 OF 3 COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly Tatemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT ☐ 1664 HEM ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals: Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Atterberg's Limits	Grain Size	pH, SO4, TDC	Specific Gravity	REMARKS
GS-03-S (29-32)	12-19-06	1015		SOIL	2													X	X				
GS-53-S (29-32)		1015			2													X	X				
GS-03-S (39-43)		1020			4													X	X	X	X		
GS-03-S (50-52)		1205			2													X	X				
GS-03-S (59-61)		1215			4													X	X	X	X		
GS-03-S (70-73)		1225			2													X	X				
GS-03-S (78-81)		1405			4													X	X	X	X		
GS-03-S (89-92)		1410			2													X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly Tatemeier Date/Time: 12-19-06/1850	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly Tatemeier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
An Employee - Owned Company

WATER

CHAIN OF CUSTODY

SR#: _____

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PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: C000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly L. Tikemeyer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	(PAHS) 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide			REMARKS
GS-03-W/MW-[illegible]	[illegible]	1110		H_2O	6		X						X						X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly L. Tikemeyer Date/Time: 12-2-04 [illegible]	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly L. Tikemeyer Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
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CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. T. Kennedy

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate & Bicarbonate	REMARKS
GS-01-W(4-6)	12-21-06	1150		H_2O	6		X					X	X		X	X		X	X	X	X	
GS-01-W(9-11)	12-21-06	1330		H_2O	6		X					X	X		X	X		X	X	X	X	
GS-01-W(23-27)	12-21-06	1600		H_2O	10		X					X	X		X	X		X	X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. T. Kennedy Date/Time: 12-22-06/0000	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. T. Kennedy Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

SOIL

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SB#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly C. Titkemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☐) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Solids	TOC				REMARKS
GS-01-S(4-6)	12-21-06	1510		SOIL	7		X						X		X		X		X	X						
GS-01-S(9-11)		1530		SOIL	7		X						X		X		X		X	X						
GS-01-S(20-23)	▼	1605		SOIL	7		X						X		X		X		X	X						

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly C. Titkemeier 12-22-06/0600			
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly C. Titkemeier / Anchor Env.			
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

RCOC #1 06/03

Columbia Analytical Services INC.
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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly K. Tikenoe

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Atterberg Limits	Moisture	Grain Size	pH SO4 TOC	Specific Gravity	REMARKS
GS-01-S(10-12)	12-21-04	1610		S	2															X	X				
GS-01-S(20-25)	12-21-04	1620		S	4															X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly K. Tikenoe 12-22-04/0400	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Signature / Date/Time	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm
Kelly K. Tikenoe Anchor Env.			
Printed Name / Firm			

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WATER

CHAIN OF CUSTODY

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SR#: _____ PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-09
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly C. Thiemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-01-W (48-52)	12-26-06	0950		H_2O	10		X					X	X		X	X		X	X	X	X		
GS-01-W (73-77)	12-26-06	1140		H_2O	6		X					X						X	X				

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

REPORT REQUIREMENTS

- ___ I. Routine Report: Method Blank, Surrogate, as required
- ✓ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 Day
- ✓ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly C. Thiemeier — Date/Time: 12-27-06/0800	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly C. Thiemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

RCOC #1 06/03

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Fitzmeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Sulfide	TOC+TP			REMARKS
GS-01-S(45-48)	122604	0905		SOIL	7		X						X		X		X		X	X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Fitzmeier Date/Time: 12-27-03 1000	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Printed Name: Kelly R. Fitzmeier Firm: Anchor Env.	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GMSCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Keith C. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Arsenic & Lead TCLP	Cyanide	pH, SO_4, TDC	Specific Conductance	REMARKS
GS-01-S (30.5-33)		0925			2														X	X			
GS-01-S (40-42.5)		0915			4														X	X	X	X	
GS-01-S (50-52)		1105			2														X	X			
GS-01-S (59-61.5)		1115			4														X	X	X	X	
GS-01-S (70.5-73)		1125			2														X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5-Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Keith C. Tikemeier Date/Time: 12-27-00/0600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Keith C. Tikemeier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

Columbia Analytical Services INC.
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CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 3 COC # 8

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly K. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	(PAHS) 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, (Cl, SO4) PO4, F, NO2, (NO3-BOD, TSS, TDS (circle) DOC (circle) NO2+NO3, TKN, TOC,	NH3-N, COD, Total-P, TKN, TOC,	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate+Bicarbonate	REMARKS
GS-02-W(4-6)	12-27-06	1215		H_2O	10		X							X	X		X	X		X	X	X	X	
GS-02-W(9-11)	↓	1315		↓	10		X							X	X		X	X		X	X	X	X	
GS-02-W(23-27)	↓	1510		↓	10		X							X	X		X	X		X	X	X	X	

Total Metals (Metals, Total or Dissolved)

REPORT REQUIREMENTS

- ___ I. Routine Report: Method Blank, Surrogate, as required
- ✓ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Kelly K. Tikemeier	12-28-06/0600						
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Kelly K. Tikemeier	Anchor Env.						
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R Tittemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☐) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC + TS				REMARKS
GS-02-S(4-6)	12-27-00	1425		SOIL	7		X							X	X	X		X		X	X				
GS-02-S(9-11)	↓	1435		SOIL	7		X							X	X	X		X		X	X				
GS-02-S(20-23)	↓	1530		SOIL	7		X							X	X	X		X		X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R Tittemeier — Date/Time: 12-28-00 / 1600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tittemeier — Firm: Anchor Env	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Tiffenmeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom.☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity, Chloride, Sulfate, Nitrate, Nitrite	Grain Size	pH, SO_4, TOC	Specific Gravity	REMARKS
GS-02-S(9-11)	12-27-06	1505		S	2														X	X				
GS-02-S(20-23)	12-27-06	1540		S	4														X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tiffenmeier — Date/Time: 12-28-06 0600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tiffenmeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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WATER

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260☐) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH-Cond.-Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-01-W(48-52)	12-28-06	0900		H_2O	10		X						X	X		X	X		X	X	X	X		
GS-01-W(73-77)	12-28-06	1030		H_2O	10		X						X	X		X	X		X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikemeier — Date/Time: 12-29-06 / 0600	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

Columbia Analytical Services INC.
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SOIL

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 2 OF 3 SR#: _____ COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Ethenecker

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	Hex-Chrom☐	$(NH_3$-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC				REMARKS
GS-02-S(45-49)	12-2-06	0850		SOIL	7		X						X	X	X		X		X	X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Ethenecker Date/Time: 12-2-06 0850	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. Ethenecker Firm: Anchor Env	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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GEOTECH

CHAIN OF CUSTODY

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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kellie T. Hemeder

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Atterberg Limits	Moisture	Grain Size	pH, SO_4, TOC	Specific Gravity	REMARKS
GS-02-S (39.5-39)	12-28-06	0905		S	2															X	X			
GS-02-S (40-42)	↓	0915		S	4															X	X	X	X	
GS-02-S (53-54)	↓	1005		S	2															X	X			
GS-02-S (60-63)	↓	1010		S	4															X	X	X	X	
GS-02-S (70-73)	↓	1020		S	2															X	X			
GS-02-S (78-80)	↓	1140		S	4															X	X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kellie T. Hemeder — Date/Time: 12-29-06 10:00	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kellie T. Hemeder — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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WATER

CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000039-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - PORTLAND
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐ 8270LL☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	BTEX☐ 8021☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbon Tetrachloride	REMARKS
GS-10w (4-6)	11/2/07	1120		H2O	10			X							X	X		X	X		X	X	X	X		
GS-10w (9-11)		1230		H2O	10			X							X	X		X	X		X	X	X	X		
" (23-27)		1340		H2O	10			X							X	X		X	X		X	X	X	X		
" (48-52)		1538		H2O	10			X							X	X		X	X		X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
X III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 11/2/07 1730	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Stephanie Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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Soil

CHAIN OF CUSTODY

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SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000039-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ 8021☐ BTEX☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics : 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	Hex-Chrom☐	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC				REMARKS
GS-10-S(4-6)	01-02	1300		Soil	7		X							X	X	X		X		X	X					
GS-10-S(9-11)	↓	1340		Soil	7		X							X	X	X		X		X	X					
GS-10-S(20-23)	↓	1400		Soil	7		X							X	X	X		X		X	X					
GS-10-S(45-46)	↓	1510		Soil	7		X							X	X	X		X		X	X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
✓ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 1/2/07	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Jim Rasch Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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Geotech

CHAIN OF CUSTODY

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SR#: _____

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-07
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Attach Lab Limits, Methods	Bam Size	pH, SO_4, TDS	Specific Gravity	REMARKS
GS-10-5(9-11)	01-02-07	1340		Soil	2															X	X			
GS-10-5(20-23)		1400		Soil	4															X	X	X	X	
GS-10-5(29-31)		1530		Soil	2															X	X			
GS-10-5(39-41)		1545		Soil	4															X	X	X	X	
GS-10-5(49-51)		1625		Soil	2															X	X			
GS-10-5(59-61)		1645		Soil	4															X	X	X	X	
GS-10-5(69-71)	↓	1635		Soil	2															X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
✓ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 1/2/07	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm Anchor	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

Columbia Analytical Services INC.
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Water

CHAIN OF CUSTODY

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SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 0000399-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
GS-10-W(73-77)	11/3/07	09:05		H_2O	8		X						X	X					X	X	X	X		
GS-10-W(98-102)	↓	11:00		↓	8		X						X	X					X	X	X	X		
GS-10-W(123-127)	↓	12:30		↓	8		X						X	X					X	X	X	X		
GS-10-W(148-152)	↓	15:00		↓	8		X						X	X					X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
X III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [illegible] Date/Time: 11/6/07 0800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: [illegible] Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
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Gastadon

CHAIN OF CUSTODY

SR#: _____

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PAGE 2 OF 3 COC #_____

PROJECT NAME: GASCO
PROJECT NUMBER: 000026.02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity/Moisture	Grain Size	pH/SO4/TOC	Specific Gravity	REMARKS
GS-10-S(80-83)	11/3/07	1115		Soil	4															X	X	X	X	
GS-10-S(90-93)	11/3/07	1045		Soil	2															X	X			
~~GS-11~~																								

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
X III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

Columbia Analytical Services INC.
An Employee - Owned Company

S-1

CHAIN OF CUSTODY

SR#: _____

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029.02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals (Total or Dissolved) (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC				REMARKS
GS-10-S(9598)	1/3/07	0945		Soil	7		X							X	X	X		X		X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
X III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [illegible]	Signature	Signature	Signature
Date/Time: 1/4/07 / 0600	Date/Time	Date/Time	Date/Time
Printed Name: [illegible]	Printed Name	Printed Name	Printed Name
Firm: Anchor	Firm	Firm	Firm

Columbia Analytical Services INC.
An Employee - Owned Company

Water

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Pontiac
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ (8260 ☐) 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 SGT ☐ 1664 HEM ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals: Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide	Alkalinity	Total Phenols	REMARKS
GS-11-S(4-6)	11/1/07	1535		H2O	8		X							X		X	X		X	X	X	X	
GS-11-S(9-11)	11/1/07	1620		H2O	8		X							X		X	X		X	X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
✓ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 11/5/07 0600	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm Anchor	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

Columbia Analytical Services INC.
An Employee - Owned Company

Water

CHAIN OF CUSTODY

SR#: _____

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - Bellevue
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide	Alkalinity	Chloride/Bromide	REMARKS
GS-11-W (23-27)	1/5/07	1055		H_2O	8		X						X			X	X		X	X	X	X		
GS-11-W (48-52)	↓	1250		H_2O	8		X						X			X	X		X	X	X	X		
GS-61-W (48-52)	↓	1350		H_2O	8		X						X			X	X		X	X	X	X		
GS-11-W (73-77)	↓	1500		H_2O	6		X						X				X		X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
✓ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 1/5/07 1600	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Jason Reeves Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
An Employee - Owned Company

Geotech

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 2 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 600029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - PORTLAND
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity, Lipids/Moisture	Grain Size	Oil/Solid TOC	Specific Gravity	REMARKS
GS-11-S (9-11)	11/5/07	0915		Soil	2														X	X				Archive/Hold
GS-11-S (20-22)	11/5/07	1000		Soil	4														X	X	X	X		
GS-11-S (30-32)	11/5/07	1220		Soil	2														X	X				
GS-11-S (40-42)	11/5/07	1240		Soil	4														X	X	X	X		
GS-11-S (49-51)	11/5/07	1330		Soil	2														X	X				
GS-11-S (59-61)	11/5/07	1340		Soil	4														X	X	X	X		
GS-11-S (68-70)	11/5/07	1350		Soil	2														X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
✓ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Archive/Hold

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [illegible] Date/Time: 11/5/07 1800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
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Soil

CHAIN OF CUSTODY

SR#: _____

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 3 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 0000 29-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor - PORTLAND
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8270LL☐	Hydrocarbons (*see below) Gas☐ Diesel☐	BTEX☐ 8021☐ 8260☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ (SIM)	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐	AOX 1650☐ 506☐				REMARKS
GS-11-S (4-6)	11/5/07	0900		Soil			X							X		X		X		X	X				
GS-11-S (9-11)	↓	0915		Soil			X							X		X		X		X	X				
GS-11-S (20-23)	↓	0930		Soil			X							X		X		X		X	X				
GS-11-S (115-118)	↓	1200		Soil			X							X		X		X		X	X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
✓ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [illegible] Date/Time: 11/5/07 1800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: [illegible] Firm: Anchor	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
An Employee - Owned Company

WATER

CHAIN OF CUSTODY

SR#: _____

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 1 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000089-08
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Tillemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	(PAHS) 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide			REMARKS
GS-11-W(98-102)	1-8-07	0940		H2O	6			X							X						X	X			
GS-11-W(123-127)		1135			6			X							X						X	X			
GS-11-W(148-152)		1400			6			X							X						X	X			
GS-11-W(173-177)		1620			6			X							X						X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tillemeier	Signature:	Signature:	Signature:
Date/Time: 1-9-07 0900	Date/Time:	Date/Time:	Date/Time:
Printed Name: Kelly R. Tillemeier	Printed Name:	Printed Name:	Printed Name:
Firm: Anchor Env.	Firm:	Firm:	Firm:

Columbia Analytical Services INC.
An Employee - Owned Company

SOIL

CHAIN OF CUSTODY

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Tikkemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC+TS				REMARKS
GS-11-S (95-98)		0915		SOIL	7			X							X		X					X	X		
GS-11-S (120-123)		1055		SOIL	7			X							X		X					X	X		
GS-11-S (145-148)		1255		SOIL	7			X							X		X					X	X		
GS-11-S (170-173)		1515		SOIL	7			X							X		X					X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly R. Tikkemeier 1-9-07/0600			
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly R. Tikkemeier / Anchor Env.			
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

Columbia Analytical Services INC
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WATER

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000009-002
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R Tikkemeyer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below) Total + Dissolved	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate, Bicarbonate	REMARKS
GS-12-W(4-6)	1-10-07	1035		H_2O	10		X						X	X		X	X		X	X	X	X
GS-12-W(9-11)	↓	1115		↓	10		X						X	X		X	X		X	X	X	X
GS-12-W(23-27)	↓	1300		↓	10		X						X	X		X	X		X	X	X	X
GS-62-W(23-27)	↓	1310		↓	10		X						X	X		X	X		X	X	X	X
GS-12-W(48-52)	↓	1415		↓	10		X						X	X		X	X		X	X	X	X
GS-12-W(73-77)	↓	1550		↓	8		X						X	X					X	X		
GS-62-W(73-77)	↓	1600		↓	8		X						X	X					X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R Tikkemeyer — Date/Time: 1-10-07/1700	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R Tikkemeyer — Firm: Anchor Envir	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

RCOC #1 06/03

Columbia Analytical Services INC.
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SOIL

CHAIN OF CUSTODY

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SB#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. T. Kemmer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐Fuel Fingerprint (FIQ) ☐NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC+TP			REMARKS
GS-12-S (4-6)	1-10-07	1304		SOIL	7		X							X	X	X		X		X	X			
GS-12-S (9-11)	↓	1240		↓	7		X							X	X	X		X		X	X			
GS-62-S (9-11)	↓	1245		↓	7		X							X	X	X		X		X	X			
GS-12-S (20-23)	↓	1200		↓	7		X							X	X	X		X		X	X			
GS-12-S (45-48)	↓	1405		↓	7		X							X	X	X		X		X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. T. Kemmer — Date/Time: 1-10-07 1700	Signature: — Date/Time:	Signature: — Date/Time:	Signature: — Date/Time:
Printed Name: Kelly R. T. Kemmer — Firm: Anchor Env.	Printed Name: — Firm:	Printed Name: — Firm:	Printed Name: — Firm:

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SR#: _____

PAGE 1 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. T. Kiemaier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide			REMARKS
GS-12-W (98-102)	1-11-07	1050		H_2O	8		X							X	X					X	X			
GS-12-W (123-127)	1-11-07	1330		H_2O	8		X							X	X					X	X			
GS-12-W (148-152)	1-11-07	1530		H_2O	8		X							X	X					X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. T. Kiemaier Date/Time: 1-11-07/1800	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. T. Kiemaier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. T. Kremeyer

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	BTEX☐ 8021☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	Hex-Chrom☐ NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	Sulfide	TOC + TS			REMARKS
GS-12-S(95-98)	1-11-07	1030		SOIL	7		X								X	X	X				X	X			
GS-162-S(95-98)	1-11-07	1035		SOIL	7		X								X	X	X				X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. T. Kremeyer — Date/Time: 1-11-07/1800	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. T. Kremeyer — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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CHAIN OF CUSTODY

SR#: _____

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PAGE 1 OF 1 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Thiemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ (8260 BTEX) 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	(PAHs) 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, (Cl, SO_4) PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate - Bicarbonate	REMARKS
GS-06-W(4-6)	1-15-07	1045		H_2O	10		X					X	X		X	X		X	X	X	X	X		
GS-06-W(9-11)	1-15-07	1145		H_2O	10		X					X	X		X	X		X	X	X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Thiemeier — Date/Time: 1-15-07/1450	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Thiemeier — Firm: Anchor Env.	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SR#: _____

PAGE 1 OF 3 COC # _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-C8
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Tikemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐ (Total + Dissolved)	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Free Cyanide	Amenable Cyanide	Alkalinity	Carbonate + Bicarbonate	REMARKS
GS-06-W(23-27)	1-17-07	1130		H_2O	10		X						X	X		X	X		X	X	X	X	
GS-56-W(23-27)	1-17-07	1140		H_2O	10		X						X	X		X	X		X	X	X	X	
GS-06-W(48-52)	1-17-07	1320		H_2O	10		X						X	X		X	X		X	X	X	X	
GS-56-W(48-52)	1-17-07	1330		H_2O	10		X						X	X		X	X		X	X	X	X	
GS-06-W(73-77)	1-17-07	1455		H_2O	8		X						X	X					X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Cb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Tikemeier — Date/Time: 1-17-07/1730	Signature — Date/Time	Signature — Date/Time	Signature — Date/Time
Printed Name: Kelly R. Tikemeier — Firm: Anchor Env	Printed Name — Firm	Printed Name — Firm	Printed Name — Firm

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SOIL

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SR#: _____

PAGE 2 OF 3 COC #: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 000029-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly C. Tittemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	Hex-Chrom ☐	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Sulfide	TOC+T	PAHS	8270-TIC	REMARKS
GS-06-S (4-6)	1-17-07	1130		SOIL	7		X							X	X	X	X	X		X	X			
GS-56-S (4-6)		1135					X							X	X	X	X	X		X	X			
GS-06-S (9-11)		1200					X							X	X	X	X	X		X	X			
GS-06-S (20-23)		1030					X							X	X	X	X	X		X	X			
GS-06-S (41-44)		1310					X							X	X	X	X	X		X	X			
GS-56-S (41-49)		1315					X							X	X	X	X	X		X	X			
GS-06-S (65-69)		1455					X							X	X	X				X	X		X	
GS-06-S (95-98)		1620					X							X	X	X				X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly C. Tittemeier Date/Time: 1-17-07/1730	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly C. Tittemeier Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
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PAGE 3 OF 3 COC # _____ SR#: _____

PROJECT NAME: GASCO
PROJECT NUMBER: 0000049-02
PROJECT MANAGER:
COMPANY/ADDRESS: Anchor Env.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: Kelly R. Hoenig

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	Atterberg Limits + Moisture	Grain Size	pH, TDS, SO_4	Specific Gravity	REMARKS
GS-06-S(7-20)	1-17-07	1205		S	2														X	X			
GS-06-S(20-23)		1045		S	4														X	X	X	X	
GS-06-S(48-53)		1330		S	2														X	X			
GS-06-S(48-53)		1335		S	2														X	X			
GS-06-S(41-44)		1320		S	4														X	X	X	X	
GS-06-S(48-53)		1515		S	2														X	X			
GS-06-S(61-64)		1520		S	4														X	X	X	X	
GS-06-S(61-64)		1525		S	4														X	X	X	X	
GS-06-S(69-73)		1530		S	2														X	X			
GS-06-S(80-83)		1610		S	4														X	X	X	X	
GS-06-S(90-92)																			X	X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Hoenig Date/Time: 1-17-07 1730	Signature: Date/Time:	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Kelly R. Hoenig Firm: Anchor Env.	Printed Name: Firm:	Printed Name: Firm:	Printed Name: Firm:

Columbia Analytical Services INC.
An Employee - Owned Company

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1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: Gasco Offshore GW
PROJECT NUMBER: 000029-02/BG11/T04
PROJECT MANAGER:
COMPANY/ADDRESS: ANCHOR ENV.
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 503-670-1108 FAX#: 670-1128
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics by 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Fuel Fingerprint (FIQ) NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	8270D-SVOC+TICs	8260D-VOC+TICs	FREE CYANIDE	AMENABLE CYANIDE	REMARKS
GS-06-W(98-102)	1/16/07	0830		H_2O	9									X	X					X	X	X	X	
GS-06-W(123-127)	↓	1050		↓	8		X							X	X							X	X	
GS-06-W(148-152)	↓	1330		↓	8		X							X	X							X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature: [signature]	Date/Time: 1-18-07/1500	Signature:	Date/Time:	Signature:	Date/Time:	Signature:	Date/Time:
Printed Name: Tim Stone	Firm: ANCHOR-PDX	Printed Name:	Firm:	Printed Name:	Firm:	Printed Name:	Firm:

APPENDIX E
FIELD WATER QUALITY MEASUREMENTS

OCT 5 -
OCT. 13

TURBIDITY MONITORING RECORD

GASCO--Offshore Groundwater Investigation

Date	Time	Color/clarity 100' upstream	Color/Clarity immediate drilling area	Color/Clarity 100' downstream	Notes
10/5/06	NA	—	—	—	No IN-WATER WORK
10/6/06	12:50	← No VISUAL DIFFERENCE →			Prior to drilling / after setting GS-09
	16:50	← No VIS. DIFF →			
10/9/06	09:00	← No VISUAL DIFFERENCE →			GS-09
	12:30	← No Visual difference →			"
10/10/06	07:45	← No visual difference →			GS-09
	11:30	← NO VIS. DIFF. →			GS-09
	15:50	TURB NOTED →		Clear / No turb	" (drilling water spilled thru manhole)
10/11/06	09:00	← No Visual difference →			
	13:00	← No visual difference →			
	17:00	← No visual difference →			
10/12/06	08:00	← No Vis. difference →			
	11:00	turb. noted ~ 5' downstream of borehole // drilling stopped // problem repaired			
	12:00	No vis. difference →			
10/13/06	08:25	← No vis. difference →			
	12:30	← No visual difference →			
	16:30	← No visible difference noted →			

turbidity results transcribed for 10/5 - 10/13/06
• (see field notebook in project file)

OCT. 16 -
OCT. 31, 2006

TURBIDITY MONITORING RECORD

GASCO--Offshore Groundwater Investigation

Date	Time	Color/clarity 100' upstream	Color/Clarity immediate drilling area	Color/Clarity 100' downstream	Notes
10/16/06	08:00	clear / colorless	clear/colorless	clear/colorless	DRILLING STARTUP
"	12:00	clear / colorless	clear / colorless	clear / colorless	GW Sample collection
"	16:00	slight cloudy/tan	slight cloudy/tan	slight cloudy/tan	END of day (barge wakes)
10/17/06	08:00	clear/colorless	clear/colorless	clear/colorless	drilling
	12:00	slight cloudy	slight cloudy	slight cloudy	boat wakes
	16:00	clear	clear	clear	water sample / drilling
10/18/06	08:00	clear	clear	clear	water sampling
	12:00	cloudy	cloudy	cloudy	drilling / boat wakes
	16:00	clear	clear	clear	attempting to set screen /
10/19/06	08:00	clear	clear	clear	setting screen
	12:00	clear	clear	clear	drilling
	16:00	cloudy	cloudy	cloudy	water sampling / boat wakes
10/20/06	08:30	clear/colorless	clear/colorless	clear/colorless	pulling up core (173-193')
10/23/06	NO DRILLING				
GS-05 10/24/06	15:30	~~tan~~ cloudy/tan	cloudy/tan	cloudy/tan	boat wakes/waves/ begin drilling
10 25/06	NO IN WATER WORK → GS-05 - GS-08 drilled on shore / NO BARGE				
10/26/06	10:30	cloudy	clear	cloudy	
10/26/06	→ DRILLING ON SHORE → NO PATHWAY TO cause turbidity (GS-05 - GS-08)				
10/27/06	NO IN-WATER WORK → drilling GS-05/GS-08 on shoreline				
10/30/06	NO IN WATER DRILLING → GS-05 (on shoreline)				
10/31/06	AM	NO in-water work (completing GS-05)			
	PM	slight cloudy tan	cloudy/tan	slight cloudy/tan	loading from shoreline to barge

TURBIDITY MONITORING RECORD

December 2006

GASCO--Offshore Groundwater Investigation

Date	Time	Color/clarity 100' upstream	Color/Clarity immediate drilling area	Color/Clarity 100' downstream	Notes
12/12/06	10:30	Cloudy/tan	Cloudy/tan	Cloudy/tan	SET UP/DRILL GS-04
	12:15	Cloudy/tan	→	→	"
	16:00	Cloudy/tan	→	→	"
12/13/06	12:00	Cloudy/tan	→	→	DRILL GS-04
	16:00	CLOUDY/TAN	→	→	DRILL GS-04
12/14/06	AM/PM	River continually turbid / continual rainfall			GS-04
12/15/06	12:00	Cloudy/brown	Cloudy/Brown	Cloudy/Brown	GS-04
	15:00	"	"	"	"
12/18/06	11:00	slight cloudy/tan	slight cloudy/tan	slight cloudy/tan	GS-03 (DAY 1)
	14:00	"	"	"	
12/19/06	11:30	clear	clear	clear	GS-03
	14:25	clear	clear	clear	"
12/20/06	AM/PM	DEMOB from	GS-03		
	11:00	SLIGHT CLDY/tan	cloudy/tan	CLOUDY/TAN	NUMEROUS BOAT/TUG WAKES
	16:00	slight cloudy/tan	slight cloudy/tan	slight cloudy/tan	" "
12/21/06	12:30	NO VISUAL	DIFFERENCE	→	GS-01
	16:30	"	"	"	
12/26/06	08:45	NO VISUAL	DIFFERENCE	→	GS-01
	11:50	"	"	"	(VERY TURBID BACKGROUND)
12/27/06	AM/pm	Cloudy/tan	→	→	GS-02
12/28/06	AM/PM	CLOUDY/TAN	→	→	(VERY TURBID BACKGROUND)
12/29/06	AM/PM	RIVER TURBID Throughout			Completed GS-02

January 2007

TURBIDITY MONITORING RECORD

GASCO--Offshore Groundwater Investigation

Date	Time	Color/clarity 100' upstream	Color/Clarity immediate drilling area	Color/Clarity 100' downstream	Notes
1/2/07	12:00	slight cloudy/tan	→	→	GS-10 (day 1)
	15:00	slight cloudy/tan	→	→	
01/03/07	10:00	NO VISUAL DIFFERENCE			GS-10 ~~FESH~~ DS
	14:00	"	"	"	
01/04/07	AM/PM	RIVER TURBID (EXTREMELY) THROUGHOUT			GS-10/GS-11
01/05/07	AM/PM	RIVER TURBID →			GS-11
01/08/07	AM/PM	NO VISUALLY APPARENT DIFFERENCE			GS-11
01/09/07	AM/PM	No visual difference observed			GS-11
01/10/07	AM/PM	No visual difference observed			GS-12
01/11/07	AM/PM	No visual difference observed			GS-12
01/12/07	AM/PM	NO VISUALLY APPARENT DIFF.			GS-12
01/15/07	AM/PM	NO VISUALLY APPARENT DIFF			GS-06
01/16/07		SNOW - NO IN WATER WORK			
01/17/07	10:00	Clear/	slight cloudy	slight cloudy	GS-06
	13:30	cloudy/tan	slight cloudy	slight cloudy	
01/18/07	09:00	cloudy	slight cloudy	slight cloudy	GS-06
	13:00	slight cloudy	slight cloudy	slight cloudy	
01/19/07	AM	Move from GS-06 / slight increased turbidity when moving barge.			
01/22/07	AM	slight turbidity plume generated during placement of armor cap material (spud locations GGS-06). Plume dissipated ~35 minutes after each placement event.			

APPENDIX F
FIELD PHOTOS

Photo 1—*barge, forklift, and sonic drill rig (used during October 2006) near barge loading access point at the site*

Photo 2—*compact sonic drill rig used at location GS-00 and GS-08*

Photo 3—*all-terrain sonic drill rig used during December 2006 and January 2007*

Photo 4—*typical near-shore drilling setup*

Photo 5—*typical setup of core processing areas on barge*

Photo 6—*setup for containment of water and soil generated during drilling operations*

Photo 7—*typical shallow groundwater sample collection (peristaltic pump)*

Photo 8—*typical deep zone groundwater sample collection (inertial pump)*

Photo 9—*soil sample collection and logging of lithology*

Photo 10—*drilling operations*

Photo 11—*sonic drill rig setup on shore at location GS-05*

Photo 12—*drilling setup at location GS-04*

Photo 13—*drilling setup at location GS-06*

Photo 14—*spud-divot location markers at location GS-06*

Photo 15—*repair spud-divots in pilot sediment cap at location GS-06*

Photo 16—*core of bedrock and cobble recovered at location GS-00*

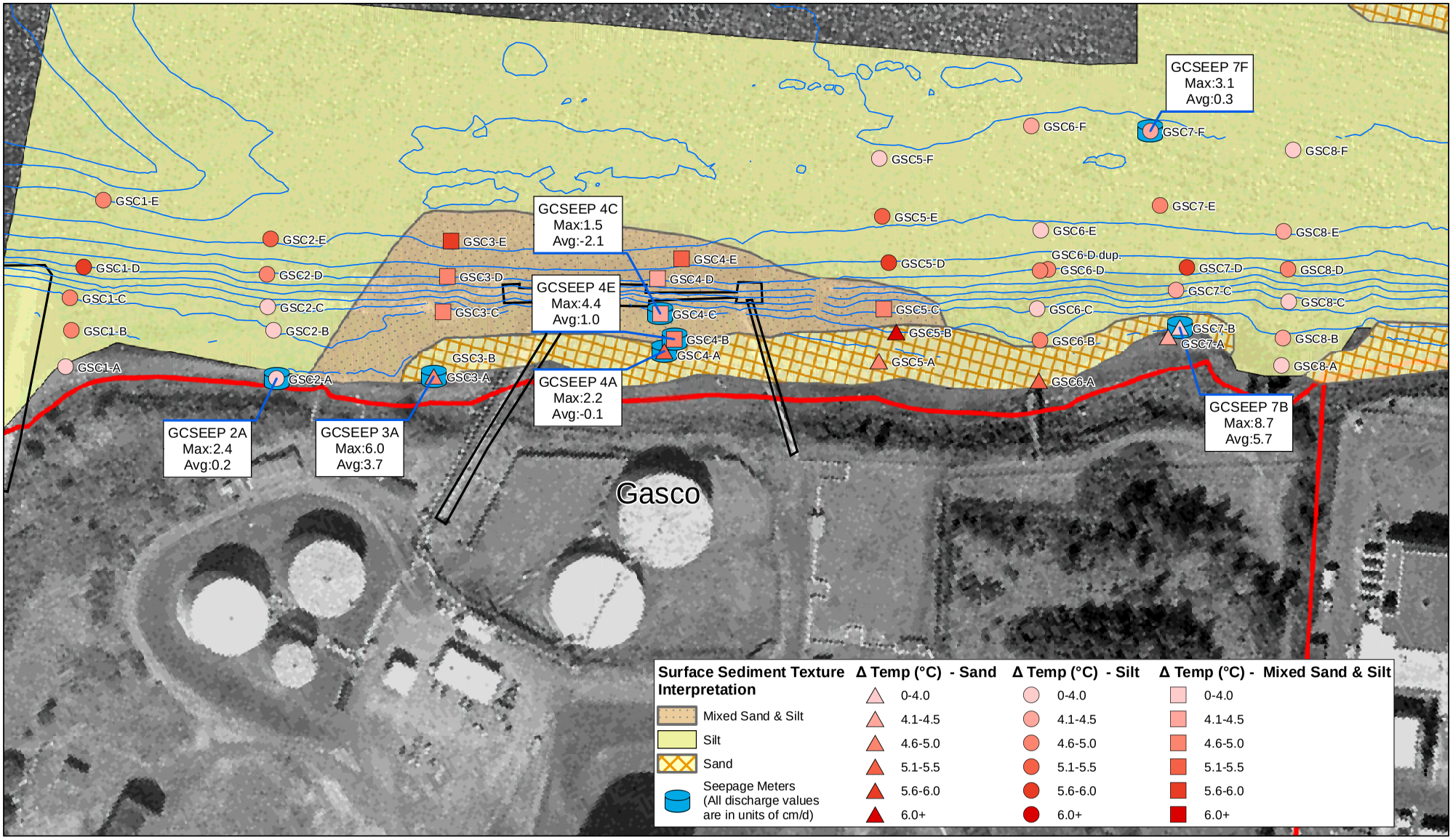
Photo 17—*sonic core sampler and coring bit*

Photo 18—*wooden core boxes for archive storage of continuous sonic cores*

APPENDIX G
DATA VALIDATION REPORTS (POCKET DVD)

APPENDIX H
LAB REPORTS (POCKET DVD)

APPENDIX I
LWG MAPS



integral consulting inc

LWG Lower Willamette Group

0 25 50 100 Feet

N

LEGEND

2003 Bathymetric 5 Ft. Contours (NAVD 88)

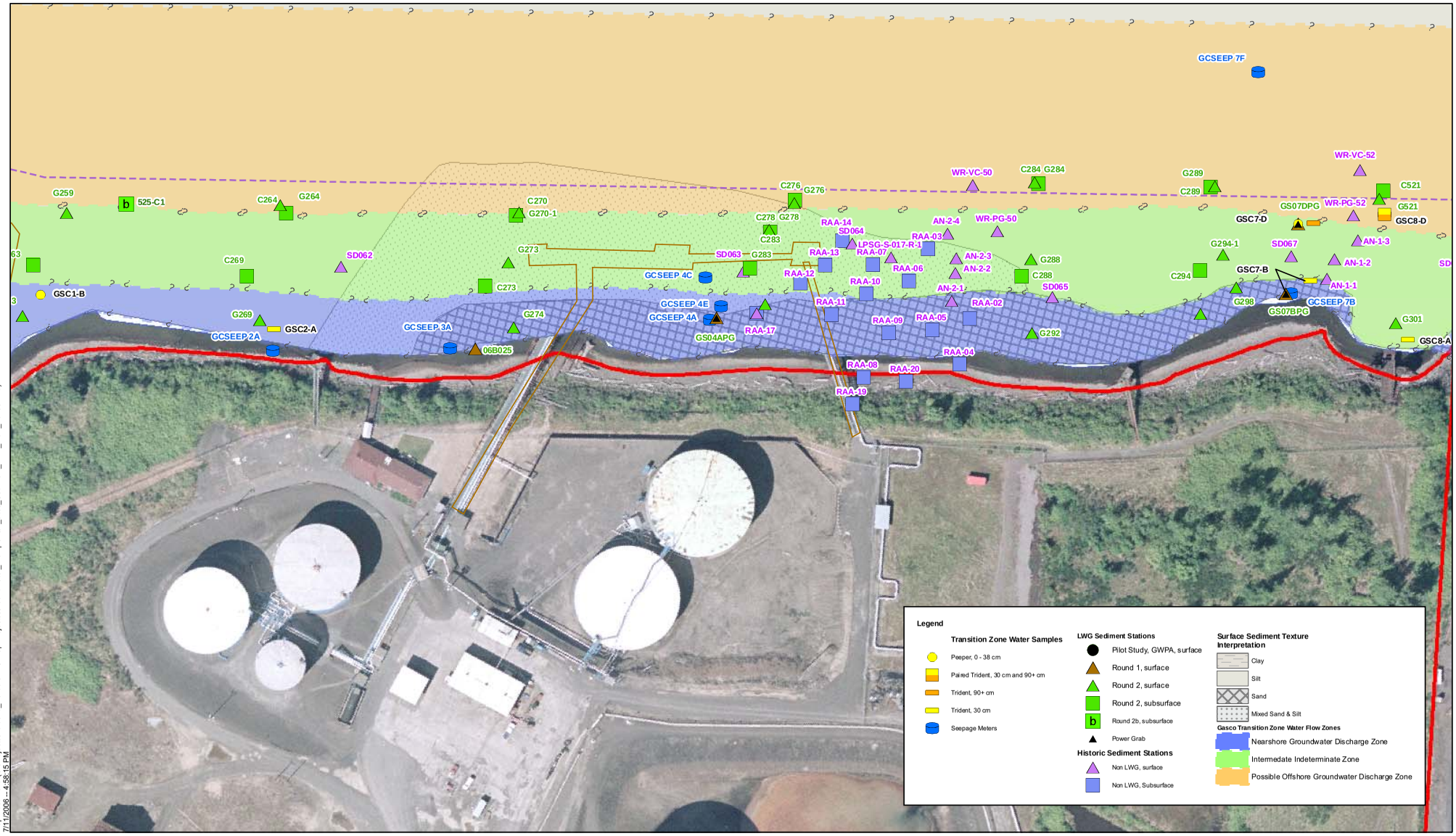
Site Property Boundary

FEATURE SOURCES:
Aerial Photo: Spencer B. Cross, October 2001.
Base Map features from Portland Metro's RLIS.
Channel and River Miles: Developed from US Army Corps of Engineers information.
Docks & In-water Structures: created by heads-up digitizing from the October 2001 0.33 ft. resolution color orthophotos.
Cross-Sections: locations are approximate and drawn by measuring from Figure 2-2 (SECOR 2004)

Map Document: (O:\Projects\Portland_Harbor\LWG-Map-Projects\Groundwater_Workplan\gasco_trident_8-5-05_2.mxd)
12/30/2005 -- 11:36:10 AM

DRAFT
Privileged and Confidential
Work Product Prepared in Anticipation of Litigation

Figure 7-2
Portland Harbor RI/FS
Round 2 Groundwater Pathway Assessment
Site Characterization Summary Report
Gasco Trident and Seepage Meter Results



Map Document: (O:\Projects\Portland_Harbor\LWG-Map-Projects\Groundwater_Workplan\all_sites_Sediment_TZW_Flow_Zones.mxd)
7/11/2006 -- 4:56:15 PM

integral consulting inc.

LWG Lower Willamette Group

FEATURE SOURCES:
RLIS Aerial Images of February 2005 'leaf off' flight (6" pixel),
Transportation, Property, or Boundaries: Metro RLIS.
Channel & River miles: US Army Corps of Engineers.
Bathymetric Information: David Evans and Associates, Inc., Winter 2004

N

0 25 50 100 150 Feet

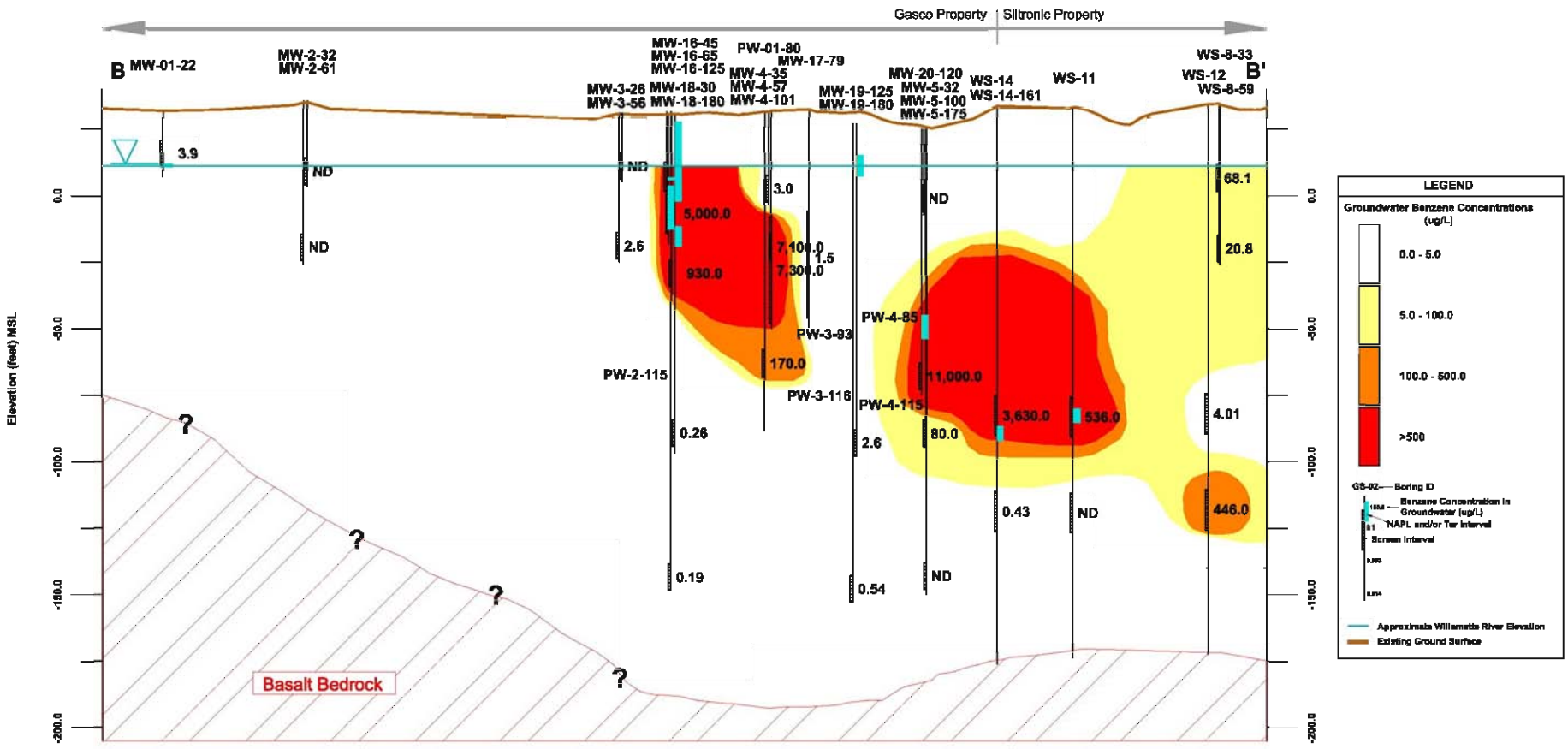
Navigation Channel
Site Property Boundary
Docks & In-water Structures

DRAFT
PRIVILEGED AND CONFIDENTIAL
Work Product Prepared in Anticipation of Litigation

Figure 7-7
Portland Harbor RI/FS
Round 2 Groundwater Pathway Assessment
Site Characterization Summary Report
Gasco Interpreted Groundwater Discharge Areas - Flow Zones

APPENDIX J

CROSS SECTION B-B’ GROUNDWATER CHEMISTRY



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

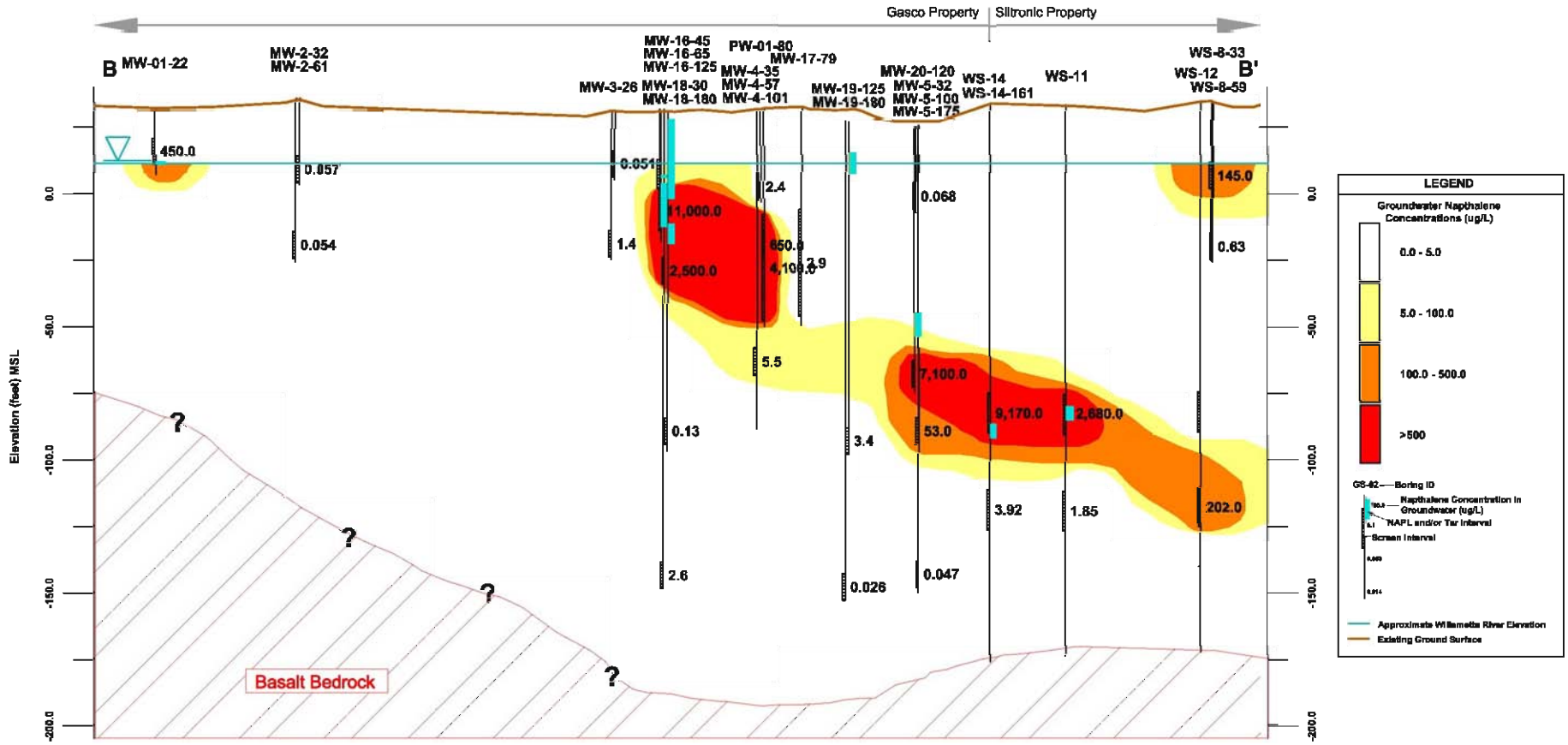
0 200
Scale in Feet

5x Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5a
Cross Section B-B'
Benzene Groundwater Concentrations (ppb), Gasco/Siltronic Site
NW Natural, Portland, Oregon

Apr 30, 2007 7:50am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XS9.dwg Benzene



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

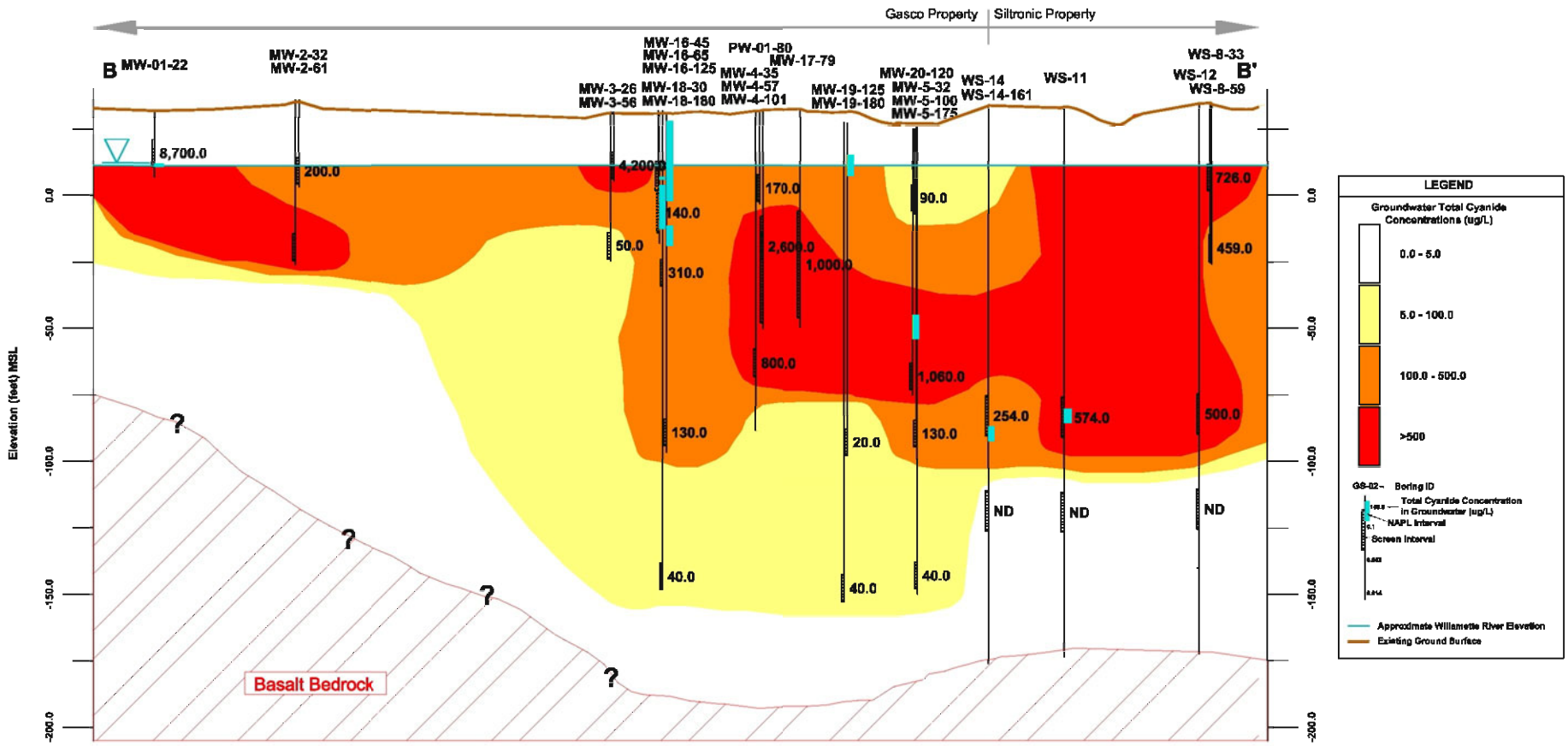
0 200
Scale in Feet

5x Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5b
Cross Section B-B'
Napthalene Groundwater Concentrations (ppb), Gasco/Siltronic Site
NW Natural, Portland, Oregon

Apr 30, 2007 7:50am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XS3.dwg Napthalene



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

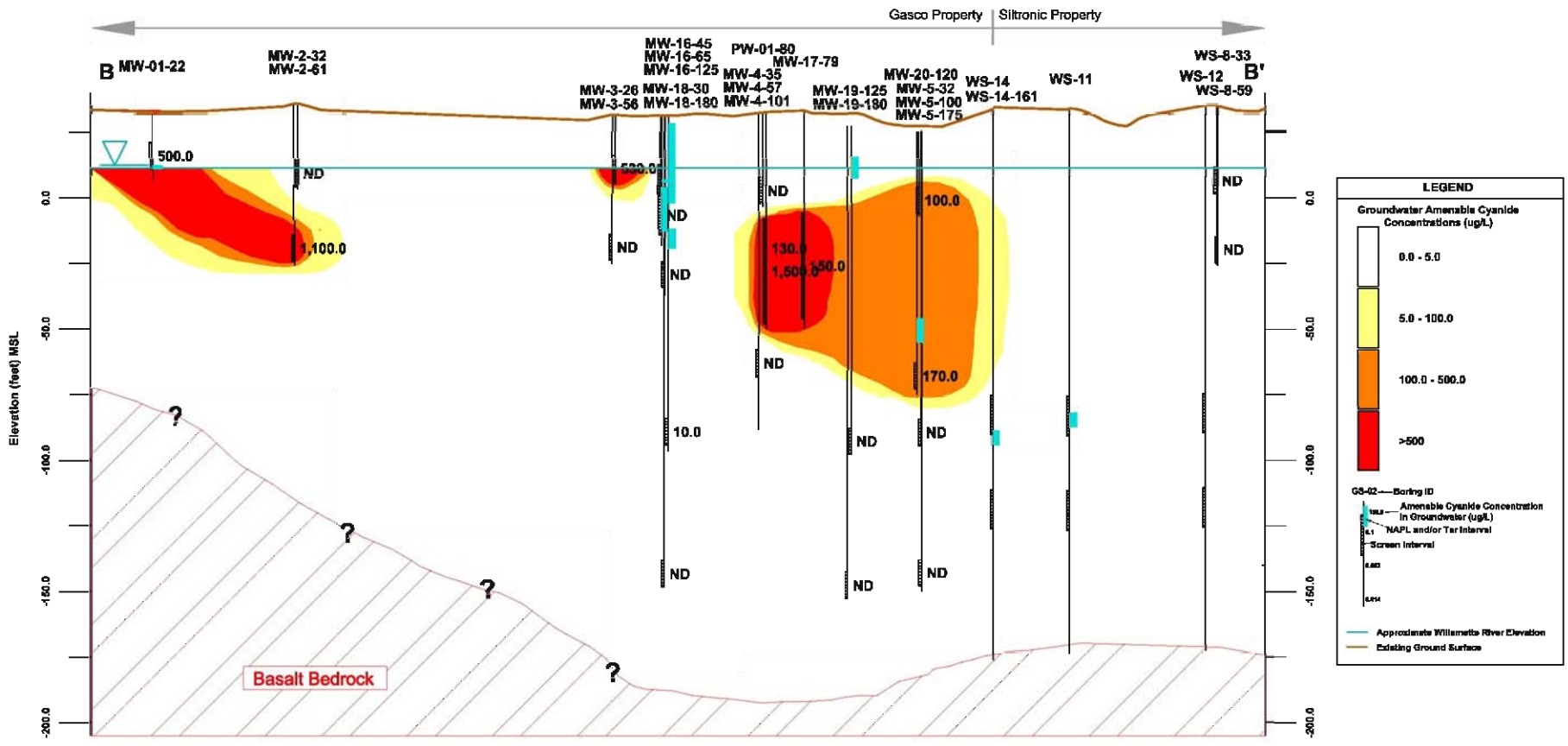
0 200
Scale in Feet

5x Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5c
Cross Section B-B'
Total Cyanide Groundwater Concentrations (ppb), Gasco/Siltronic Site
NW Natural, Portland, Oregon

Apr 30, 2007 7:51am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CAD\stuff\ForReport\XS3.dwg Cyanide



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

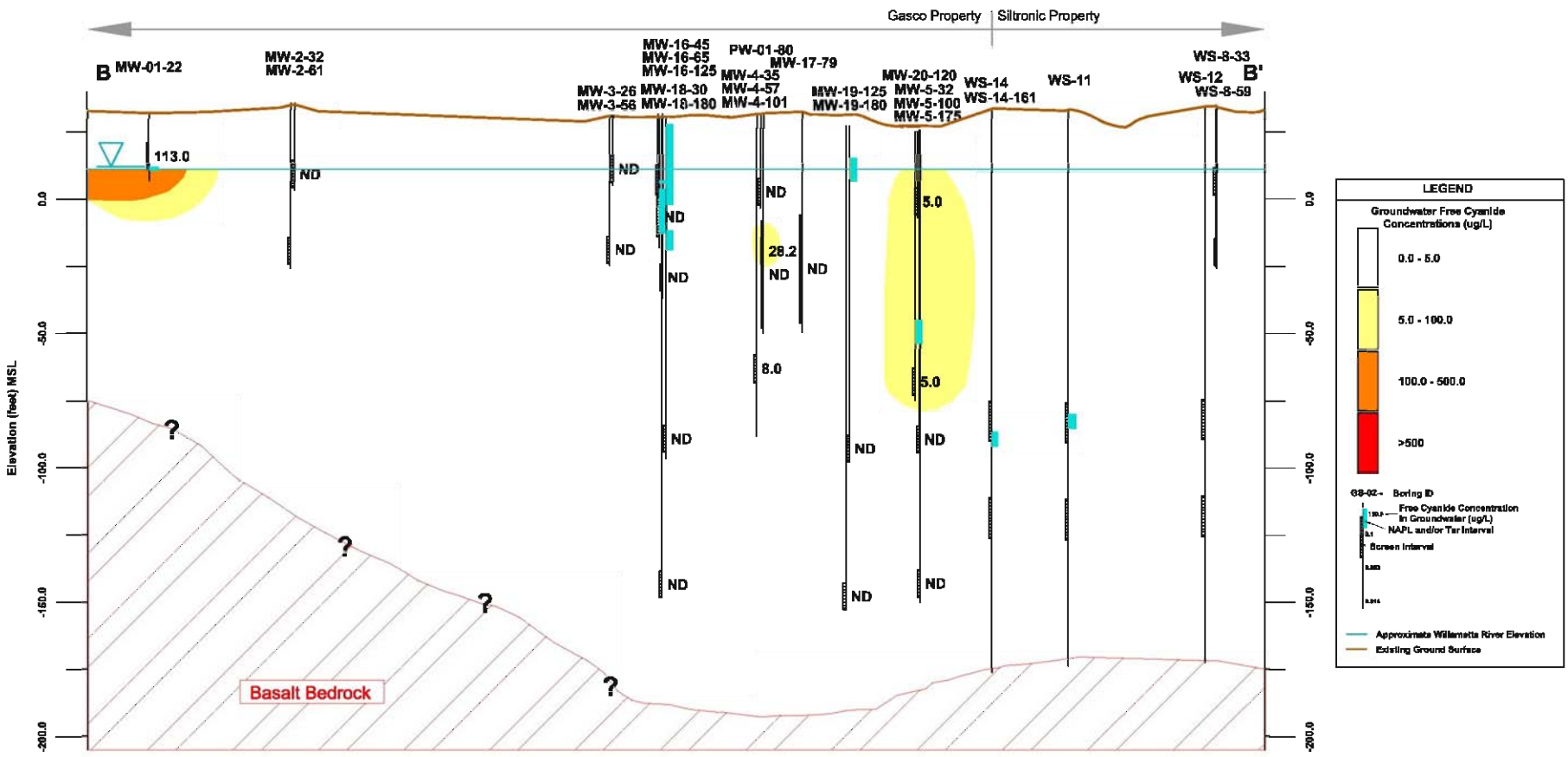
0 200
Scale in Feet

5x Vertical Exaggeration

Apr 30, 2007 7:51am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSB.dwg Amenable Cyanide

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5d
Cross Section B-B'
Amenable Cyanide Groundwater Concentrations (ppb), Gasco/Siltronic Site
NW Natural, Portland, Oregon



Notes:
1. Vertical Datum: City of Portland
2. Horizontal Datum: Oregon State Plane NAD(83)
3. See Boring Logs for Sample Details

0 200
Scale in Feet

5x Vertical Exaggeration

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 5e
Cross Section B-B'
Free Cyanide Groundwater Concentrations (ppb), Gasco/Siltronic Site
NW Natural, Portland, Oregon

Apr 30, 2007 7:52am jpelc C:\Documents and Settings\jpelc\My Documents\Gasco\CADstuff\ForReport\XSB.dwg Free Cyanide