2008 Progress and Performance Evaluation
Troutdale Gravel Aquifer
Boeing Portland Facility
Gresham, Oregon

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Prepared for

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1.0 INTRODUCTION

This revised report documents performance of the Troutdale Gravel Aquifer (TGA) corrective measures that are currently being implemented at the Boeing-Portland facility in Gresham, Oregon, as shown on Figure 1. This report incorporates modifications and edits requested by the Oregon Department of Environmental Quality (DEQ) during their review of the previous report version. This final report supersedes the previous report. This semiannual corrective measures performance evaluation report covers activities conducted from July 1 through December 31, 2008. A summary of TGA corrective measures implementation, operation, remedial progress, and performance evaluation is provided in this report. This report also summarizes TGA investigations conducted during this reporting period, ongoing coolant release remediation response inside the 85-105 building, and activities associated with the 85-001 building expansion project. This report provides recommendations for modifications to the existing monitoring plan and remedy actions.

This report is submitted as required under Order on Consent No. LQSR-NWR-04-12(h) issued to The Boeing Company (Boeing) by the DEQ (2008). The DEQ Order on Consent requires Boeing to continue to perform the site remedial actions included within the final remedy specified in the U.S. Environmental Protection Agency (EPA) Order on Consent (EPA 1994), the Decision and Response to Comments (Final Decision) (EPA 1997a), and Statement of Basis (EPA 1997b).

2.0 REMEDY BACKGROUND

The current pump and treat system for the TGA has been operational since 1999. Below is a summary of the TGA remedy background and recent TGA activities associated with the 85-001 building expansion project, soil vapor extraction (SVE) treatment system, and the 85-105 building coolant release remedy.

2.1 TGA GROUNDWATER REMEDY BACKGROUND

Boeing has conducted investigations and implemented corrective actions relative to volatile organic compounds (VOCs) in soil and groundwater at the Boeing facility since 1986. Several interim corrective actions (ICAs) were undertaken by Boeing beginning in 1986 to stabilize VOCs in the soil and groundwater at the Boeing Portland facility and to address protection of human health and the environment. These actions included providing an alternate water supply to owners of impacted wells, abandonment of supply wells, soil excavation, installation and expansion of the ICA groundwater extraction and treatment system, and installation and testing of a SVE system. These interim measures were documented in the interim measures evaluation report (Landau Associates 1995a) and summarized in the Phase 2 corrective measures study (CMS; Landau Associates 1996a).

2.1.1 CORRECTIVE ACTION OBJECTIVES AND CLEANUP LEVELS

The Phase 2 CMS, the EPA Statement of Basis, and the Final Decision identified areas of the Boeing Portland facility where corrective measures were to be implemented. These corrective action areas were based on the known or potential presence of VOCs in soil and groundwater, and on the evaluation of the source areas identified in the Phase III RCRA facility investigation report (Landau Associates 1995b). Corrective actions have been implemented at the Boeing Portland facility to address VOC contamination in the TGA, specifically to provide protection of human health and the environment from exposure to the TGA VOC plume through ingestion, dermal contact, or inhalation pathways. Corrective action objectives (CAOs) were developed in the Phase 2 CMS to meet this goal. These objectives were confirmed in the EPA Final Decision and provided the basis for corrective action implementation (Landau Associates 1997). The goal of the corrective actions is for TGA restoration to be obtained within 10 to 20 years from the completion of the corrective measures implementation (CMI) construction (1999).

Groundwater quality samples are collected from TGA monitoring wells and extraction wells to evaluate the remedy progress. The TGA monitoring program and the corrective action areas are summarized in Table 1 and on Figure 2.

2.1.1.1 Selected Corrective Measures

The current groundwater extraction and treatment system is shown on Figure 3 and started full time operation in 1999. In 2000, the pumping of E-1 was suspended as part of the groundwater extraction system for the Downgradient Area corrective action area. As discussed in the well abandonment plan (Landau Associates 1999a) and the 1999 TGA annual performance evaluation report (Landau Associates 2000), well E-1 was no longer needed to maintain the effectiveness of the hydraulic barrier system or to continue capture of the TGA plume, and VOC concentrations in the well were below the maximum contaminant level (MCL). Shutdown of well E-1 occurred on April 13, 2000. E-1 was abandoned in 2004 as part of a land transfer procedure.

The operational shutdown of extraction wells E-5 through E-9 was recommended in the 2000 TGA annual performance evaluation report (Landau Associates 2001). The extraction wells were part of the West Area (E-5), Central Area (E-6 and E-7), East Area (E-8), and East Yard Area (E-9) corrective action areas. The shutdown of the extraction wells was based on low mass removal rates and low groundwater yields. The operational shutdown of E-5 through E-9 was conducted in October 2002 (Landau Associates 2002). To compensate for the changes in the TGA groundwater capture, the pump rates at E-11 (West Area) and E-12 (Downgradient Area) were increased (Landau Associates 2003).

Currently, the following wells are actively pumping as part of the TGA groundwater extraction and treatment system: E-2, E-3, E-4, E-12, and E-13 (located in the Downgradient Area); E-10, E-11, E-14, E-15, and E-16 (located in the West Area); and DP-1 (located in the Central Area).

2.2 SVE SYSTEM BACKGROUND

SVE operation began at the Boeing Portland facility in December 1994 with the performance of three SVE pilot tests: two in the Central Area (VE-1 and VE-2) and one in the West Area (VE-3). Based on the results of the pilot tests, EPA requested that Boeing implement an SVE interim measure within the West Area on a continuous basis. A full-scale SVE interim measure that included operation of SVE well VE-3 and three additional vapor extraction wells in the West Area (VE-4, VE-5, and VE-6) began continuous operation in July 1996. The SVE system is shown on Figure 4. The operation of three of the four vapor extraction wells (VE-3, VE-4, and VE-5) has been discontinued with EPA approval because VOC mass removal was below the well shutoff criterion of 0.1 lb/day (EPA 2002). Vapor observation well VOW-3 was abandoned in August 2001. VE-6 has continuously operated as a SVE vapor extraction well during this reporting period.

The Central Area dual-phase extraction component of the selected corrective measures consisted of installing and testing four dual-phase extraction wells (DP-1 through DP-4). The goal of this

corrective measure was to increase the rate of VOC mass removal from the Central Area vadose zone and groundwater. Based on test results and the criteria established prior to testing, only wells DP-1 and DP-4 were included in the final CMI design. DP-4 has operated as a dual-phase extraction well during this reporting period.

Historically, the EPA-approved SVE shutdown process consisted of the following procedures:

1. Shut down the identified well for a 2-month period.
2. Restart the well at the end of the 2-month period.
3. Collect a soil vapor discharge sample for VOC analysis and measure vapor extraction discharge rate 1 week and 4 weeks after restarting the well; shut down the well after collecting the sample at 4 weeks.
4. Calculate the average (mean) VOC mass removal rate over 4 weeks of system operation.
5. If the average VOC mass removal rate obtained in step 4 is greater than 0.1 lb/day, report steps 1 through 3. If the average VOC mass removal rate is less than or equal to 0.1 lb/day, permanently shut down the well.

2.3 COOLANT RELEASE REMEDY BACKGROUND

Starting in August 2006, the air stripper tower of the Groundwater Treatment System (GWTS) was observed to intermittently shut down. During diagnostic checks on the GWTS, water containing coolant was observed in the 85-105 building footing sump, which is routed through the GWTS for treatment prior to discharge to the City of Gresham storm sewer. Upon discovery of the coolant release, Boeing immediately shut off the footing sump drain pump to discontinue transfer of water to the GWTS, and initiated an investigation by installing eight monitoring wells (LAI-1 through LAI-8) in the upper portion of the TGA. The results of the investigation indicated that coolant material did not migrate laterally or horizontally and the building sump drain was acting as a collection system.

Since August 2007, water collected in the 85-105 building footing sump has been recovered and treated using the sump treatment system. The sump treatment system consists of a conveyance line that transports the accumulated water from the sump vault to Building 85-124, where the water is treated through an oil/water separator, then monitored by an in-line fats, oil, and greases (FOG) monitor. If FOG concentrations are above 75 parts per million (ppm), the water is automatically routed through granular activated carbon (GAC) vessels prior to discharge to the sanitary sewer. If the in-line FOG monitor indicates concentrations are below 75 ppm, then water is automatically routed directly to the sanitary sewer for disposal. Quarterly groundwater samples, along with operation and maintenance (O&M) system compliance samples, are collected to verify that the system operated below the sanitary sewer discharge permit limits.

In December 2007, five injection wells (IW-1 through IW-5) were installed directly upgradient of the release area. In 2008, two injection events were conducted using an oxygen releasing component (EHC-O™) mixture to enhance the aerobic biodegradation of the biological oxygen demand (BOD) of the petroleum-based contaminant. The installation of the injection wells and the EHC-O™ injection program were proposed in the interim remedial action measure (IRAM) work plan (Landau Associates 2007), which has subsequently been approved by DEQ (DEQ 2007). A description of these injection activities is summarized in Section 4.5 of this report.

2.4 BUILDING EXPANSION PROJECT BACKGROUND

Boeing is currently proposing an expansion of the 85-001 building to allow for upgrades to the facility's plating shop operations. The proposed footprint of the building is along the western portion of the existing 85-001 building, in the West Area and Central Area. Several environmental features will need to be removed for the building expansion construction including GWTS conveyance lines; TGA monitoring wells [BOP-1(i), BOP-2(i), and BOP-4(i)]; two TGA extraction wells (E-10 and E-14); two TGA injection wells (IW-6 and IW-7); and three TGA vapor observation wells (VOW-4, VOW-6, and VOW-9). In addition to the TGA wells, one Troutdale Sandstone Aquifer (TSA) extraction well (EW-22) will be slated for decommissioning. Currently, the start of the construction phase for the building expansion project is slated for early to mid 2010. A future work plan will be submitted to DEQ describing the proposed decommissioning activities and the project schedule.

In preparation for the building construction effort, several investigations and site-specific testing have been conducted to evaluate ways to enhance the TGA remedy in the vicinity of the proposed building project. A description of these efforts is provided below.

2.4.1 ENVIRONMENTAL INVESTIGATIONS

Three environmental investigations (April 2008, September 2008, and November 2008) were conducted to determine the presence and extent of contaminants in the soil within the proposed building footprint and related utility modifications.

The initial subsurface investigation was a combination of environmental and geotechnical borings conducted in April 2008 (Landau Associates 2008a). Borings located along the southeast portion of the proposed 85-001 building construction area indicated the presence of TCE. Two additional investigations were conducted along the southwest building corner to further delineate the extent of TCE contamination and to prepare recommendations for handling procedures for future excavation.

The subsurface investigations were conducted using roto-sonic drill methods and sampling procedures described in the Environmental Strategic Plan (ESP; Landau Associates 2008b). The three environmental subsurface investigations were comprised of advancing a total of 36 borings. Borings were advanced to depths ranging from 5 to 40 ft below ground surface (BGS) during the initial investigation. All borings during the two additional investigations were advanced to a depth of 5 to 6 ft BGS in anticipation of shallow excavations associated with utility relocations for the building construction.

A combination of discrete (1-ft intervals) and composite (5-ft intervals) soil samples were collected during the three investigations. Groundwater was not encountered in any of the environmental borings during these investigations; therefore, no groundwater samples were collected. Low-level acetone concentrations [7.1 to 18.0 micrograms per liter (µg/L)] were reported in several of the samples; however, the detections were not associated with site activities, and were attributed to laboratory contamination. Low-level TCE concentrations above the laboratory reporting limits were reported in 13 of the 77 submitted samples. Sample results indicated TCE concentrations were below the DEQ Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Site (RBCs; DEQ 2003) with the exception of two locations: B-22 from 0 to 1 ft BGS (120 µg/L) and B-22 from 4 to 5 ft BGS (14 µg/L). The two boring locations are along the southwestern portion of the existing 85-001 building. Detailed descriptions of the three investigations have been submitted to DEQ (Landau Associates 2008a,c and 2009a).

2.4.2 TRACER TEST EVALUATION

Due to the 85-001 building expansion and the removal of several remediation system extraction wells, enhanced bioremediation was chosen as a method to continue active remediation after the building construction has been completed. The 2008 tracer testing was designed to obtain design parameters for a full-scale bioremediation injection to be conducted in the vicinity of the building 85-001 expansion.

Tracer testing consisted of injecting two photosensitive colored dyes at two TGA locations and monitoring downgradient wells for dye arrival time and dye concentration testing. On March 17 and 18, 2008, TGA extraction well E-10 was injected with 95,000 gallons of red rhodamine WT tracer solution. On March 25, 2008, monitoring well BOP-4(i) was injected with approximately 25,770 gallons of green fluoroscein tracer solution. Groundwater monitoring for the dye material in select TGA wells was conducted between March 17 and May 12, 2008. Thirteen wells were monitored with sample collection occurring on an hourly to weekly basis, dependent on field observations of tracer dye concentrations. Monitoring was performed with autosamplers and manually utilizing extraction pumps, where present, or dedicated sampling pumps.

Tracer test analyses indicated a low effective porosity for flow, resulting in a large radius of influence (ROI) and large maximum extent of influence; and high induced groundwater velocities (i.e., induced by artificial gradient due to extraction and injection).

The results of the tracer test were used to develop a large-scale electron donor injection program where the active pumping of select extraction wells were used to assist with the movement of the inject media through the target areas of the TGA. The results of the tracer dye testing also suggest that substantial leakage does not occur across the confining unit (CU1) between the TGA and TSA aquifers. A complete summary of the tracer test was submitted to the DEQ in conjunction with the Bioremediation Work Plan (Landau Associates 2008d).

2.4.3 ELECTRON DONOR INJECTION

Enhanced bioremediation in the form of electron donor injection activities began in September 2008. Bioremediation was initiated in Central and West Remedy Areas with high TCE concentrations and where expansion of Building 85-001 will occur. Bioremediation activities included the installation of two temporary injection wells (IW-6 and IW-7), groundwater quality monitoring, and injection of electron donor substrate to the target treatment zone of the TGA aquifer. Bioremediation activities were performed in general accordance with the Bioremediation Work Plan. The injection utilized groundwater monitoring wells and extraction wells that are slated for decommissioning to facilitate the planned expansion of Building 85-001. Bioremediation was implemented to enhance remediation in an area of the TGA that will no longer be accessible to direct pumping once building expansion is completed.

In October 7 and 8, 2008, baseline water quality samples were collected from select extraction wells, monitoring wells, and the influent and effluent of the GWTS. Samples were collected from wells surrounding the injection zone and the GWTS to establish baseline water quality data prior to commencement of injection activities.

On October 20, 2008, extraction wells E-2, E-3, E-4, and E-14 were temporarily shut down in preparation for the start of the injection. Suspension of extraction at these wells was to prevent movement of vegetable oil emulsion toward extraction wells during and immediately following injection, and to avoid distribution of emulsion near extraction wells that will operate following injection. Wells E-2, E-3, and E-4 will be restarted following a 3-month monitoring phase after the completion of injection activities. Well E-14 is located within the building expansion footprint and will be decommissioned as part of the building expansion project.

In November and December 2008, approximately 217,478 gallons of vegetable oil emulsion (including flush volume) were injected to six TGA wells. The concentration of vegetable oil as injected was on average 17 percent.

The injection of electron donor substrate was completed on December 12, 2008. Upon the completion of the injection, a 3-month monitoring phase was commenced. During the monitoring phase, the TGA extraction wells (E-2, E-3, E-4, E-10, E-11, E-14, E-15, and E-16) in the area remained shut down. Upon the completion of the 3-month phase, Landau Associates will submit a report summarizing all bioremediation activities and results.

3.0 TGA SOIL INVESTIGATIONS

In 2008, several TGA environmental soil investigations were conducted throughout the facility. Summary reports for each of the investigations have been submitted separately to DEQ. The locations of the TGA soil investigations are shown on Figure 5. Below is a brief description of the investigations and findings.

3.1 BUILDING 85-120 COOLANT INVESTIGATION

Based on a site meeting with Boeing Management on September 19, 2008, and subsequent telephone conversations, Boeing observed a release of approximately 30,000 gallons of coolant and water mixture in the basement of Building 85-120. The coolant mixture consisted of 10 percent Holcutt coolant material (a water soluble cutting oil) and 90 percent water. The basement of the 85-120 building consists of a thick concrete slab with an epoxy water sealant top coat. The coolant pooled on the concrete slab of the basement at Building 85-120 and was quickly recovered.

The purpose of this investigation was to evaluate the possible leakage of the coolant through the basement concrete slab by way of a nearby sump drain pipe by advancing four direct-push borings along the outside of the basement wall.

A total of four direct-push soil borings (DP-1 through DP-4) were advanced along the southeast corner of Building 85-120 with boring depths ranging from 26 to 35 ft BGS. Direct-push borings were continuously sampled utilizing a 5-ft long sampler. A total of 16 soil samples were analyzed for diesel- and motor oil-range petroleum hydrocarbons [total petroleum hydrocarbons (TPH-D and TPH-O)] using Method NWTPH-Dx.

Analytical results indicate no presence of TPH-Dx above the laboratory reporting limit for the submitted samples, with the exception of three samples. TPH-D was reported in one sample (DP-2 from 31 to 32 ft) at 5.1 mg/kg, which is below the RBC (3,900 mg/kg). TPH-O was reported in two samples from DP-4 ranging from 13 to 14 mg/kg, which is below the RBC (9,800 mg/kg). All other analytical results were below the respective reporting limits. Based on field observations and soil sample analytical results, no evidence of impact to soil was identified during this investigation (Landau Associates 2009b).

3.2 COLUMN C-14 INVESTIGATION

On November 24, 2008, during removal of machinery and concrete pad modification activities, workers observed signs of petroleum-impacted soil near column C-14 within the 85-001 building. Boeing removed portions of overlying concrete to excavate impacted soil. The overlying concrete was removed to the maximum amount that site access would allow without undermining nearby equipment

foundations. Landau Associates' personnel collected representative soil samples from the limits of the excavation to characterize retained soil. A total of eight discrete soil samples (S-1 through S-8) were collected from the excavation at bottom depths ranging from 2.0 to 2.5 ft BGS and from 4.3 to 4.5 ft BGS. Field screening of the soil samples indicated that additional excavation was warranted in the northeastern portion of the excavation. The NE portion of the excavation was advanced to a depth of 7 to 7.5 ft BGS and two additional bottom samples were collected. Laboratory analytical results of the ten confirmation soil samples detected TPH-D and TPH-O in all samples, with two samples (S-1 and S-3) exceeding RBCs. Based on the analytical results from the samples collected on November 25, 2009, the southeastern portion of the excavation was extended to 6.5 to 7.0 ft BGS. The excavation was backfilled based on field screening results that indicated only low-level impacts. Based on the analytical results, low-level petroleum-impacted soil appears to be present beneath the C-14 equipment foundation area. At the time of this sampling event, the horizontal extent of the contamination was not fully investigated and the excavation was advanced to allow for the modification of equipment foundations. The location of the excavation will be stored electronically to allow for future investigations as access is acquired (i.e., future foundation modifications or building demolition). A complete summary of this investigation was submitted to DEQ (Landau Associates 2008d).

3.3 GWTS INCIDENT INVESTIGATION

On September 19, 2008, Boeing personnel discovered a leak in the GWTS influent piping. The GWTS stripper tower was subsequently shut down to investigate the location and cause of the leak. Representatives from Landau Associates and Terra Hydr arrived onsite on September 20, 2008 to investigate and repair a broken pressure relief valve on the GWTS influent piping. The broken valve was causing the release of approximately 2,400 gallons of untreated groundwater onto surface soil within the remediation compound. The malfunction was observed to be caused by small rocks located inside the conveyance piping. Upon completion of the repairs, the system resumed normal operation.

On September 22, 2008, Landau Associates collected four surface soil samples in the area of the spill and submitted them for laboratory analysis. No chemicals of potential concern (COPC) were detected above the laboratory reporting limits. A technical memorandum summarizing this incident was submitted to DEQ (Landau Associates 2008e).

3.4 MAZAK INVESTIGATION

On April 4 and 15, 2008, Landau Associates conducted a focused shallow soil investigation at an excavation associated with the Mazak equipment installation, located directly to the south of Column

F-14 within Building 85-001. Initially, only the concrete slab was removed, exposing the soil directly beneath the concrete. On April 4, 2008, Landau Associates' personnel collected four discrete soil samples from soil directly beneath the concrete slab. The analytical results from the initial soil samples detected TPH-O concentrations that exceeded the RBC cleanup level (23,000 mg/kg). Low-level TPH-D and lead concentrations were reported for all of the samples, and low-level TPH-G, toluene, and total xylenes concentrations were reported for some of the samples; however, these concentrations were below the respective RBCs.

Due to the elevated TPH-O concentrations in the initial soil samples, Boeing excavated the soil to a depth of 4 ft below the bottom of the concrete slab. The lateral extent of contamination was not delineated and no lateral removal of soil was conducted due to the ongoing operations in the vicinity and to prevent undermining of the surrounding slab. On April 15, 2008, Landau Associates' personnel collected four confirmation soil samples from the base of the excavation. The sample results from the base of the excavation indicated low-level concentrations of TPH-D, TPH-O, TPH-G, and total lead; however, these concentrations were all reported at levels below the respective RBCs. Analytical results from the base of the Mazak excavation indicated benzene, toluene, ethylbenzene, and xylenes (BTEX) were not present at the laboratory reporting limits.

On March 31, 2008, Landau Associates conducted soil sampling in the vicinity of the collection pad excavation, located directly south of column K-28 within the 85-001 building. During the start of excavation work, workers noticed a petroleum-like odor. Boeing stopped work and had a concrete corer come onsite to provide six access holes for soil sampling along the proposed excavation limits. Landau Associates' personnel collected composite soil samples from six borings at a depth of 0 to 2 ft below the bottom of the concrete pad. Analytical results of the soil samples detected low-level concentrations of total lead in all six samples. TPH-O was reported at a concentration above the laboratory reporting limit for one sample. No other petroleum hydrocarbon constituents were detected in any of the samples submitted for analysis. A summary of these investigation activities was submitted to DEQ (Landau Associates 2008f).

4.0 REMEDY PROGRESS DATA

This section of the report presents a summary of remedy progress monitoring data collected during 2008 with a focus on the later portion of the year (July through December), including TGA and TSA groundwater quality data, groundwater level data, soil vapor offgas data, groundwater extraction well performance data, and GWTS effluent and influent water quality data. This section of the report also includes remedy progress data associated with the 85-105 building coolant release. Laboratory reports and data validation memorandums for data collected between July 1 and December 31, 2008 are provided in Appendix A. Historical TGA groundwater quality data is presented in Appendix B.

4.1 TGA GROUNDWATER QUALITY

Groundwater quality sampling from TGA monitoring wells is conducted on a semiannual basis in general accordance with the Phase 2 CMS. In addition, sampling and analysis of the discharge from groundwater extraction wells has been performed on a quarterly basis. The locations of groundwater monitoring wells and groundwater extraction wells are shown on Figure 2 and in Table 1.

Groundwater samples from each sampling event were analyzed for VOCs. The analytical results for the COPCs at each monitoring well and extraction well, along with select Upper TSA water quality data, are presented in Table 2. The interpreted extent of TCE and 1,1,1-trichloroethane (1,1,1-TCA) in the TGA, based on the results from August 2008 semiannual sampling event and the November 2008 quarterly sampling event are illustrated on Figures 6 through 9. Analytical results for the third and forth quarters of 2008 indicate COPC concentrations are below the respective MCLs with the exception of TCE. For the purposes of this report, TCE concentrations will be used to benchmark remediation progress.

Due to the active electron donor injection activities, several TGA extraction wells were temporarily shut down starting in late October through the end of the reporting period. The temporarily shutdown extraction wells included E-2, E-3, E-4, E-10, E-11, E-14, E-15, and E-16. A general increase in TCE concentrations within the area of the shut down extraction pumping was observed in nearby wells between August (active pumping phase) to November (inactive pumping phase), as shown on Figure 7.

Wells located within the West and Central Area, located within the proposed 85-001 building expansion project, continue to report the highest TCE concentrations. The highest TCE concentrations were observed from samples collected at BOP-1(i) with concentrations ranging from 280 to 290 µg/L during this reporting period. Well BOP-57(ia) and extraction well E-14 also reported elevated TCE concentrations at 140 µg/L and 250 µg/L, respectively. This area was part of the electron donor injection

activities summarized in Section 2.4.3. The concentration trends will continue to be monitored following the electron donor injection until the wells require decommissioning to facilitate the construction project.

August and November quarter 2008 groundwater quality data within the Central Area indicate the highest TCE concentrations were observed from samples collected at E-7 (18 to 150 µg/L). TCE concentrations at BOP-9(i) have been slightly above to below the MCL since August 2006. Extraction pumping for DP-1 is operated to assist with the remediation within the Central Area.

Remediation within the East Area has been achieved. Sample results from well BOP-58(i) have consistently reported TCE concentrations below the MCL since conception of sampling, while BOP-12(i) reported TCE concentrations below the MCL since 1989. Extraction well E-8 was installed to assist with remediation within the East Area; however, active operation of the extraction well was discontinued in 2002 and, since the shutdown, the well operated intermittently for groundwater quality monitoring purposes only.

Remediation within the East Yard Area has also been achieved. Wells BOP-19(i), BOP-48(i), and BOP-36(i) were installed to monitor groundwater quality and E-9 was installed to assist with the remediation. BOP-19(i) groundwater quality results indicate TCE concentrations consistently below the MCL since 1998. The maximum TCE concentration reported for BOP-19(i) was 30 µg/L in August 1991. Groundwater quality results from BOP-48(i) have consistently indicated TCE concentrations below the MCL since February 2006, while results from BOP-36(i) have consistently reported results below the MCL since the beginning of groundwater quality monitoring at this location. Extraction well E-9 was shut down in 2002 and has operated intermittently for groundwater quality sampling purposes.

Remediation within the Downdgradient Area is currently monitored using data collected from BOP-7(i), D-2(i), D-7(i), D-8(i), D-11(i), D-12(i), and D-13(i). Active remediation extraction pumping for the Downgradient Area is conducted at E-2, E-3, E-4, E-12, and E-13. Well D-2(i) has consistently reported TCE concentrations below the MCL since the beginning of sample collection at this well. TCE concentrations below the MCL have been reported for samples collected at D-7(i) since August 2000. TCE concentrations at D-8(i) have steadily decreased from 570 µg/L (November 1988) to 17 µg/L (August 2008). TCE concentrations at D-11(i) have consistently been below the MCL since August 2001, while concentrations at D-12(i) have decreased from 200 µg/L (January 1992) to consistently below the MCL since August 2007. TCE concentrations at D-13(i) have historically been below the MCL, with the exception of one TCE detection (5.1 µg/L in 1994), since the start of sample collection in 1991. Vertical profiling was conducted in November 2008 at E-3, E-12, and BOP-7(i) by installing multiple diffusion bags samplers (DBS) at select intervals throughout the wells screens. The vertical profile results indicate a small range of variability between the conventional purge samples and the DBS results. The DBS results at E-12 indicate TCE concentrations range from 5.1 to 7.8 µg/L, with the highest

concentration observed toward the base of the screen interval. The conventional purge samples from the August and November 2008 sampling events indicate a TCE concentration range of 4.8 to 4.0 µg/L at E-12. The DBS results for the multiple sampling intervals at E-3 indicate TCE concentrations ranging from 43 to 78 µg/L, with the highest concentration observed toward the upper screen interval. The conventional purge samples from the August and November 2008 sampling events at E-3 indicate a TCE concentration range of 63 to 71 µg/L. The DBS results for BOP-7(i) indicate the highest TCE concentration toward the top of the well screen (67 µg/L). The conventional purge samples results from the August and November 2008 sampling events at BOP-7(i) indicate TCE concentrations ranged from 68 to 82 µg/L. To evaluate the possibility of vertical gradients within the TGA, relative percent differences between each of the DBS results and the conventional purge results for each of the three wells were evaluated. The small variability in the data indicates no obvious vertical flow paths through the TGA.

4.2 TSA GROUNDWATER QUALITY MONITORING DATA

The CMI performance monitoring plan (Landau Associates 1999b) includes TSA data reporting and evaluation to document the effect of TGA activities on the TSA. The plan identifies five specific TSA wells [BOP-22(ds), BOP-60(ds), BOP-61(ds), BOP-62(ds), and BOP-65(ds)] at which data will be collected to support evaluations. Well BOP-22(ds) was suspected to be acting as a downward migration pathway from the TGA to the Upper TSA; therefore, in July 2008, replacement well BOP-22R(ds) was installed (GSI 2009). Upon completion of the installation, BOP-22(ds) was abandoned in January 2009, in accordance with the DEQ-approved work plan (Landau Associates 2008c). The locations of these wells are shown on Figure 2. The TSA fourth quarter 2008 report has previously been submitted to DEQ; figures and tables from the report are included in Appendix A.

Vertical profile samples were collected from select TSA wells to evaluate potential vertical gradients within the TSA. The select wells include BOP-22(ds), BOP-22R(ds), BOP-60(ds), BOP-65(ds), EW-3, EW-13, EW-22, and TGA wells BOP-7(i), E-3, and E-12 (as discussed in Section 4.1). The vertical profile samples were collected using multiple DBS installed at target intervals within the well screen length. Upon collection of the DBS, confirmation samples were collected using conventional purge methods.

TSA groundwater quality data at five wells [BOP-22(ds), BOP-60(ds), BOP-61(ds), BOP-62(ds), and BOP-65(ds)] were reviewed to assess whether the TGA is a source of VOCs to the TSA. Table 2 summarizes VOC results between July and December 2008. TCE and TCA concentrations for the TSA wells are shown on Figures 6 through 9. Well BOP-61(ds) is typically dry; however, a groundwater quality sample was collected during the August 2008 semiannual sampling event (the TCE concentration was 5.2 µg/L). TCE and TCA concentrations at BOP-62(ds) have been below the respective MCLs since

February 2001 (beginning of monitoring at this well). BOP-60(ds) has reported fluctuating TCE concentrations between 5.7 and 14 μg/L for conventional purge samples during this reporting period. However, TCE concentrations collected from multiple DBS have ranged from 46 μg/L to 210 μg/L during this reporting period. The relative percent difference between the conventional purge samples and the DBS continues to be evaluated. TCE concentrations from replacement well BOP-22R(ds) continue to indicate no concentrations above the reporting limit. However, the November 14, 2008 results indicate a TCE concentration (30 μg/L) that was attributed to the emergency Portland Water Bureau (PWB) pumping event.

4.3 TGA GROUNDWATER LEVEL MONITORING

Groundwater levels in the TGA monitoring wells were measured during the August 2008 semiannual sampling event, and the TGA extraction water levels were measured during both the August and November 2008 events. The TGA groundwater level measurements and elevations are summarized in Table 3. Because TGA monitoring wells water levels are conducted on a semiannual basis, the August data was utilized to develop water level contours; inferred groundwater flow directions based on the water level data is presented on Figure 10.

Groundwater contour data indicate that the active pumping at extractions wells in the Downgradient Area (E-2, E-3, E-4, E-12, E-13); the West Area (E-10, E-11, E-14, E-15, and E-16), and the Central Area (DP-1) has been sufficient to maintain an inward hydraulic capture of the TGA plume.

4.4 SOIL VAPOR EXTRACTION OFFGAS MONITORING

SVE offgas monitoring data, including sampling results for VOCs data, have been used to estimate VOC mass removal rates and cumulative VOC mass removal for existing active SVE wells at the facilities in the West Area and Central Area. Quarterly SVE offgas samples were collected from West Area SVE well VE-6 and from the Central Area well DP-4 during this reporting period. Vapor extraction wells VE-3 and VE-4 were dismantled in July 2002 because of low mass removal rates. Well DP-4 was originally designed as a dual-phase (soil vapor and groundwater) extraction well, but operates only as a vapor extraction well.

Offgas samples and vapor flow rates from the West Area SVE wells were collected and analyzed for VOCs in accordance with the procedures described in the Operation and Maintenance Manual (SECOR 1996). The DP-4 offgas sample was collected and analyzed for VOCs in accordance with the procedures described in the final design report (AGI 1999). VOC concentrations were quantified using EPA method TO-14A at an analytical laboratory. Vapor flow rates were used in conjunction with offgas

VOC concentrations to estimate VOC mass removal rates and cumulative VOC mass removal from SVE wells.

SVE operation, maintenance, and monitoring activities were conducted on a monthly basis while the offgas samples were collected on a quarterly basis. VOC mass removal rates versus time for the SVE systems are shown on Figure 11. The SVE interim measure monitoring plan, which was presented in the SVE interim measure operations and maintenance plan (SECOR 1996), indicates that each SVE well would be operated until continued operation is considered impracticable. The Phase 2 SVE interim measure work plan (Landau Associates 1996b) describes a VOC mass removal rate of 0.1 lb/day criterion for initial shutdown of a SVE well. Subsequent plans (Phase 2 CMS Report; Landau Associates 1996a) called for operating the SVE well in a pulsed mode once the 0.1 lb/day criterion was met to assess whether pulsed operation would be effective in increasing the overall VOC mass removal rate.

The VOC mass removal rate at VE-6 has steadily declined to below the 0.1 lb/day removal criterion (November 2003). The VOC mass removal rates at DP-4 have been consistently reported below the criterion since February 2002. The total system SVE (combined VE-6 and DP-4) mass removal rate has remained below 0.1 lb/day since August 2003. Approximately 4.0 lbs of VOCs were removed from the combined SVE systems during 2008, based on laboratory VOC concentrations, yielding a cumulative VOC mass removal of approximately 3,739 lbs since the beginning of SVE operation at the facility.

Water table depression pumping in the West Area was implemented in late 1998 and early 1999 to expose more soil for VOC recovery by the SVE system. Water table depression pumping consisted of raising the groundwater extraction rate in well E-10 and initiating groundwater extraction in wells E-14, E-15, and E-16. The water table depression appears to have assisted with the historical VOC removal rates in VE-6 (Figure 11).

4.5 COOLANT RELEASE REMEDY PROGRESS

In 2008, two injection events were conducted using an EHC-O™ mixture to enhance the aerobic biodegradation of the BOD of the petroleum-based contaminant. In February 2008, a total of 850 pounds of EHC-O ™ was injected at the five injection wells (170 pounds per well) and, in October 2008, a total of 2,088 pounds was injected (approximately 408 to 450 pounds per well). Both injection events were conducted in accordance with the DEQ-approved IRAM.

To monitor the extent of the coolant release, groundwater samples have been collected from the eight newly installed TGA coolant release wells (LAI-1 through LAI-8); existing TGA monitoring wells [BOP-9(i), BOP-10(i,s), BOP-56(i), BOP-58(i), and BOP-59(i)]; and TGA extraction wells (DP-1, E-6, E-7, and E-8). To evaluate possible downward migration of the coolant material, groundwater samples have been collected from select Upper TSA wells [BOP-62(ds) and EW-13].

To monitor and assess the effect of EHC-O™ in the groundwater, groundwater samples have been collected on a monthly basis for field and laboratory analysis from wells LAI-4 and LAI-7, and from the footing sump drain beginning in March 2008. The locations of the monitoring wells and the relevant site features are shown on Figure 12.

Groundwater sample results for total TPH-Dx collected from the select wells are summarized in Table 3. Groundwater characterization sample results are summarized in Table 4. Total TPH-Dx concentrations for the August and November 2008 sampling events are shown on Figure 12.

Due to the glycerin component to the coolant, a site-specific cleanup level of 1.35 mg/L for total diesel- and motor oil-range petroleum hydrocarbons (total TPH-Dx) was developed for groundwater using guidance from the RBCs (DEQ 2003).

The total TPH-Dx results indicate the following:

- No TPH-Dx results were reported above the laboratory reporting limits for samples collected at the select Upper TSA [BOP-62(ds) and EW-13] wells. This data indicate the coolant release is isolated to the TGA and has not migrated downward to the underlying Upper TSA.

- Analytical results for TGA wells BOP-9(i), BOP-10(i), BOP-10(s), BOP-56(i), BOP-58(i), BOP-59(i), DP-1, E-6, E-7, and E-8 continue to indicate no total TPH-Dx results above the laboratory reporting limits. Historical low-level TPH-Dx has been periodically reported in samples collected from LAI-1, LAI-3, and LAI-5; however, the total TPH-Dx concentrations have decreased to below or near the reporting limit. This data indicate the horizontal migration of the coolant material has been isolated to the area near the reported release and indicate that the coolant has not migrated laterally through the TGA.

- Historical total TPH-Dx concentrations above the site-specific cleanup level (1.35 mg/L) have been reported at wells LAI-5, LAI-6, and LAI-7; however, the results from the November 2008 event indicate concentration trends have decreased to below or near the laboratory reporting limits at these identified wells. The total TPH-Dx concentration reported in LAI-8 fluctuates near the cleanup level and has been above the cleanup level for the duration of 2008.

- Total TPH-Dx concentrations above the site-specific cleanup level (1.35 mg/L) have been consistently reported for LAI-4. Prior to the EHC-O™ injection, TPH-Dx concentrations at LAI-4 ranged from 90 mg/L (August 2007) to the initial concentration of 31,800 mg/L (September 2006). TPH-Dx concentrations have ranged from 26 mg/L to 91 mg/L during 2008. Decreases in concentrations were seen after both EHC-O™ injections, followed by indications of rebounds in concentration. This data indicate the horizontal migration of the coolant material has been isolated to the area near the reported release and support the evaluation that the coolant has not migrated laterally through the TGA.

- Historical total TPH-Dx concentrations above the site-specific cleanup level have been reported for the samples collected from the footing sump drain. TPH-Dx concentrations ranged from below laboratory reporting limits to 2.1 mg/L during 2008.

- An evaluation of the laboratory and field analysis results for samples collected from LAI-4, LAI-7, and the footing sump drain (prior to and after the EHC-O™ injection) is discussed below in Section 5.3 of this report.

Several of the coolant release wells are located within the interior of the 85-105 building, which had not been previously accessible until recent limited access drilling methods were advanced. The installation of these wells has allowed the opportunity to evaluate possible VOC impacts in previously inaccessible areas. Therefore, the coolant release wells (LAI-4, LAI-5, and LAI-7) are periodically sampled for VOC analysis. The VOC results are summarized in Table 5.

TCE concentrations from samples collected from LAI-4 ranged from concentrations below the reporting limit to 0.7 µg/L. Samples from LAI-6 indicate TCE concentrations ranging from 4.5 µg/L to 28 µg/L, and samples from LAI-7 indicate TCE concentrations between 5.2 µg/L to 7.4 µg/L. The active extraction pumping at DP-1 is operated to assist with the hydraulic capture of the isolated TCE dissolved plume within the vicinity of the 85-105 building area (Central Area).

4.6 85-001 BUILDING EXPANSION PROJECT

Prior to commencing with the electron donor injection program, baseline groundwater samples were collected from select TGA wells located within the vicinity of the injection area. The baseline groundwater quality results are summarized in Table 6.

During part of the injection activities, extraction wells E-10, E-11, E-15, and E-16 were left on to help distribute the injected emulsion as outlined in the Bioremediation Work Plan. The extracted groundwater was rerouted into temporary holding tanks to prevent injected emulsion from being extracted and routed to the GWTS. The extracted groundwater was then used to create vegetable oil emulsion and reinjected into the ground. As the injection progressed, these extraction wells were turned off. Wells E-10, E-11, and E-15 were used as injection points. Extraction wells E-10 and E-14 are slated for decommissioning; wells E-11, E-15, and E-16 will not resume pumping, but will be used for groundwater quality monitoring. The use of E-11, E-15, and E-16 as extraction wells will be evaluated annually.

On December 4, 2008, vegetable oil emulsion was discovered in the GWTS air stripper; per the Bioremediation Work Plan, water samples for BOD and TOC analyses have been collected weekly from E-2, E-12, GWTS influent and effluent, and the stormwater outfall. Results of this initial sampling event indicated elevated BOD concentrations ranging from 268 mg/L in E-2 to 2.3 mg/L at the stormwater outfall. Due to the elevated BOD concentration, E-2 was shut down on October 20, 2008 per DEQ authorization, and remains in shutdown; however, E-12 remains operational to provide hydraulic control along the western portion of the remediation area. The Bioremediation Work Plan work plan specified a 3-month post-injection monitoring phase following injection activities to monitor groundwater quality.

The results of the 3-month post-injection monitoring phase are summarized in Table 7. A BOD benchmark (33 mg/L) was established in the Bioremediation Work Plan as a target level for additional treatment prior to discharge to the Columbia Slough; however, there is no established BOD cleanup level or discharge limit. The stormwater outfall samples indicate that discharge BOD concentrations are below the benchmark value, with the exception of the sample collected on December 18, 2008, with a BOD concentration of 37 mg/L. The BOD concentrations have been decreasing in all samples since the December 18, 2008 sampling event.

5.0 PERFORMANCE EVALUATION

This section presents a summary of the treatment systems performance data collected in 2008 and evaluation of the performance of each extraction well.

5.1 GROUNDWATER EXTRACTION SYSTEM MONITORING DATA

Groundwater extraction system monitoring data includes VOC analytical data from sampling the discharge of each TGA extraction well and extraction well flow rate data. Each extraction well was sampled quarterly throughout the reporting period and flow rate data were collected monthly. These data are presented and evaluated in this section in terms of an average daily mass removal rate in pounds per day (lbs/day), total gallons extracted at each extraction well, and the average yield in gallons per minute (gpm) for each extraction well.

Average total mass removal rates (lbs/day) of VOCs [TCE, TCA, total 1,2-dichloroethene (1,2-DCE), and 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-TF)] from each TGA groundwater extraction well for 2008 are presented on Figure 13. The mass removed for other COPCs is not presented because the constituents contributed less than 10 percent of the total VOC mass removed.

The approximate average extraction rate (gallons/minute) at each extraction well for this reporting period (July through December 2008) is summarized in Table 8. These average rates are based on the total gallons removed each measurement period divided by the number of minutes in the measurement period that the well was actively pumping. Extraction wells E-5 through E-9 have been shut down since 2002, with the exception of brief operation time for sample collection and maintenance. In preparation for the electron donor injection activities, the following temporary extraction well shutdowns were conducted:

- E-2, E-3, E-4, and E-14: temporary cessation of extraction pumping starting on October 20, 2008. Extraction pumping is scheduled to resume at E-2, E-3, and E-4 upon the completion of the 3-month post-injection monitoring phase (March 2009). Extraction well E-14 was utilized as an electron donor injection well and slated for decommissioning; therefore, resumed extraction pumping from this well is not anticipated.

- E-11: temporary cessation of extraction pumping starting on November 24, 2008 in preparation for receipt of electron donor material. Due to the presence of donor material in the well, future extraction from the well will be delayed until groundwater quality results indicate the donor material is no longer present as described in the DEQ-approved Bioremediation Work Plan.

- E-10 and E-15: temporary cessation of extraction pumping starting on November 19 and December 2, 2008, respectively, in preparation for receipt of electron donor material. Well E-10 has been slated for decommissioning to facilitate the 85-001 building expansion project.

- E-16: temporary cessation of extraction pumping starting on December 1, 2008 to decrease the amount of electron donor extraction to the GWTS. Future extraction pumping at E-16 will be delayed until groundwater quality data indicate the donor material is not present. For the current time, the well will be utilized as a monitoring well, per the DEQ-approved Bioremediation Work Plan.

Per DEQs authorization (DEQ 2008), TSA extraction well EW-22 was permanently shut down on October 29, 2008, to minimize downward vertical gradients from the TGA to the Upper TSA. Hydraulic capture of the TCE plume along the western portion of the TSA remedy area is maintained by pumping at Upper TSA extraction well EW-3.

In compliance with Boeing Portland's National Pollutant Discharge Elimination System (NPDES) permit (NPDES number 101761), quarterly samples of the GWTS effluent were collected by Landau Associates and submitted for chemical analysis. The NPDES permit effluent water quality requirements and the analytical results for the August and November 2008 events are summarized in Table 2. NPDES permit requirements for the effluent were not exceeded during this reporting period.

5.2 SOIL VAPOR SYTEM PERFORMANCE EVALUTION

The VOC mass removal rate at both VE-6 and DP-4 has decreased throughout the reporting period. Well VE-6 declined to below the 0.1 lb/day removal criterion in November 2003 and the VOC mass removal rates at DP-4 have been consistently reported below the criterion since February 2002. The total system SVE (combined VE-6 and DP-4) mass removal rate has remained below 0.1 lb/day since August 2003.

5.3 COOLANT RELEASE SYSTEM PERMORANCE EVALUATION

Groundwater monitoring indicates that EHC-O™ has resulted in enhanced treatment of petroleum hydrocarbons. Enhanced treatment is evidenced by a general decrease in petroleum concentrations at the footing sump following both injections; a general increase in oxygen reductive potential in LAI-4, LAI-7, and the footing sump; and an increase in sulfate concentrations at LAI-7.

TPH-Dx concentrations at LAI-4 and LAI-7 have fluctuated since the first injection, but are generally trending downward. The fluctuations in TPH-Dx concentrations can be attributed to a number of variables including seasonal groundwater level changes, as well as enhanced desorption and dissolution of TPH from soil to groundwater caused by aquifer disturbance in the source area from injection well installation and EHC-O™ injection. Due to the fluctuation of TPH-Dx concentrations as well as redox

indicators, Landau Associates will continue monitoring to establish trends before determining if additional EHC-O™ injections are needed.

Analytical samples collected from the in-line monitor and coolant treatment system influent and effluent have been collected to monitor the system and verify sanitary discharge permit acceptance levels. The treatment system influent sample represents conditions inside the sump vault from the Building 85-105 footing sump drain.

Analytical results for water samples collected from the system influent and effluent, and two GAC vessels, are summarized in Table 9.

The results of the analytical tests indicate FOG concentrations remain within the sanitary sewer discharge permit limit of 100 mg/L. During 2008, a total of 1,537,051 gallons of water was treated by the sump treatment system and discharged to the sanitary sewer. Based on the results of the in-line oil and water monitor, approximately 21,775 gallons of water was automatically routed through the GAC system prior to discharge to the sanitary during 2008. During 2008, the sump treatment system operated continuously for the duration of the year. The percent operation (uptime) of the system during this period was approximately 100 percent.

6.0 RECOMMENDATIONS

This section presents recommendations based on the data and evaluations. Recommendations include: continued and modified operation of the groundwater extraction system, continued operation and monitoring of the coolant release treatment system, and approval of the proposed long-term performance monitoring program.

6.1 GROUNDWATER EXTRACTION AND TREATMENT PROGRAM

The TGA groundwater treatment system has been operational since 1999. Extraction well E-1 is the only well to have been permanently removed from the long-term monitoring program. However, due to the 85-001 building expansion project, two TGA extraction wells (E-10 and E-14) along with one TSA extraction well (EW-22) will be decommissioned to allow for construction of the building. The proposed process for decommissioning of the extraction wells, associated conveyance lines, and needed modifications to the SCADA groundwater monitoring program will be submitted to DEQ prior to the commencement of the activities. Currently, the startup of the construction phase for the building expansion project is scheduled for early to mid 2010.

6.2 SVE PROGRAM MODIFICATION

VOC mass removal rates in DP-4 and VE-6 have exhibited a decreasing trend since the system was started in 1995. The VOC mass removal rates in DP-4 and VE-6 have been below the 0.10 lb/day criterion since February 2002 and November 2003, respectively. Because VOC mass removal rates at DP-4 and VE-6 are less than the shutdown criterion of 0.10 lb/day, it is recommended that the shutdown procedures described in Section 5.2.1.2 of the Phase 2 CMS be initiated at these wells. The proposed shutdown procedures will consist of the following:

- Shut down VE-6 and DP-4 for 2 months.
- Restart wells and collect both VOC samples and vapor extraction rates after 1 week and 4 weeks post-startup.
- Calculate average VOC mass removal rate for a 4-week period.
- If VOC mass removal rate is greater than 0.1 lb/day, then resume operation of system. If mass removal rate is less than 0.1 lb/day, then decommission the SVE system.

6.3 COOLANT RELEASE REMEDY

It is planned that the sump treatment system will continue to be operated, monitored, and maintained. A combination of monthly O&M site visits, quarterly in-line FOG monitoring and calibrations, and quarterly treatment system influent and effluent sampling will be conducted to monitor the progress of the treatment system. Due to fluctuations in the groundwater data collected from LAI-4, LAI-7, and the footing sump, Landau Associates recommends continuing monthly sampling at these wells to collect additional injection performance data. The following coolant release remedy recommendations are requested:

- Based on analytical results and the lack of presence of TPH-Dx compounds, we recommend modification of the groundwater quality monitoring program for the coolant release from quarterly to annual (August) for the following wells: BOP-9(i), BOP-10(i), BOP-56(i), BOP-58(i), BOP-59(i), DP-1, E-6, E-7, E-8, BOP-62(ds), BOP-65(ds), and EW-13.

- Due to historical TPH-Dx non-detect concentrations and distance from coolant release, we propose to discontinue groundwater sampling for coolant release monitoring for wells: BOP-10(s), BOP-56(i), BOP-58(i), BOP-62(ds), and EW-13.

- Continue quarterly groundwater quality monitoring for total TPH-Dx, and VOCs at LAI-1 through LAI-8. Landau Associates will continue to assess the effectiveness of EHC-O™ injections and determine if additional injections are needed.

6.4 PERFORMANCE MONITORING PROGRAM

The current performance monitoring program is presented in Table 1 and has been the guiding document during this reporting period. We propose the following changes to the performance monitoring program:

Extraction Well Monitoring

- Currently, the performance monitoring program requires monitoring of water levels in the groundwater extraction wells on a monthly basis. We propose to modify the monitoring frequency from monthly to once per quarter. TGA groundwater elevations typically have not shown large changes in elevations in the short timeframes that would warrant monthly monitoring.

- TGA water quality samples have been collected quarterly at the 16 extractions wells (E-2 through E-16 and DP-1) as part of the performance monitoring program. We propose to reduce sampling frequency on actively pumping wells (E-2, E-3, E-4, E-12, E-13, and DP-1) from quarterly to semiannual (February and August). Extraction wells E-5 through E-9 were shut down in 2002 and have only operated for limited periods of time for sampling or maintenance purposes. We propose to reduce the sampling frequency at inactive extraction wells from quarterly to annual (August). Extraction wells located near the recently conducted electron donor injection area (E-10, E-11, E-14, E-15, and E-16) will continue to be

Groundwater Monitoring Wells

Analytical results for samples collected at several monitoring wells indicate either no TCE concentrations above the laboratory reporting limits or stable to decreasing TCE concentrations below the MCL. Based on this information, we request the following modifications to the groundwater monitoring well sampling program

- Downgradient Area wells [D-2(i) and D-13(i)] have reported no TCE concentrations above the reporting limit since May 1988 and August 2001, respectively. Both wells are located outside of the dissolved plume and the locations of the wells are duplicates of well D-7, which is located closer to the current western edge of the dissolved plume. We propose to discontinue monitoring at D-2(i) and D-13(i) and decommission the wells.

- Downgradient Area wells [D-7(i) and D-11(i)] have historical low-level TCE concentrations below the MCL. The locations of the wells are near the dissolved plume edge and, therefore, provide useful information for evaluating the plume. However, due to the stable low-level concentrations, we recommend reducing the sampling frequency from semiannual to annual (August).

- Groundwater data from East Yard Area wells [BOP-19(i), BOP-48(i), BOP-36(i)] indicate the remediation has progressed and is almost complete in this area. Extraction well E-9 was installed to assist with the remediation, but has been in shutdown mode since 2002. Groundwater data is currently collected on a semiannual basis for the monitoring wells and quarterly for the extraction well. We propose to discontinue monitoring and remove wells BOP-19(i) and BOP-36(i) from the monitoring program and decrease the sampling frequency at BOP-48(i) from semiannual to annual (August). We further recommend reducing the sampling frequency at extraction well E-9 from quarterly to annual (August).

- Groundwater data from the East Area wells [BOP-58(i) and BOP-12(i)] indicate remediation has progressed and is almost complete in this area. Extraction well E-8 was installed to assist with the remediation in this area; this well has been in shutdown mode since 2002. Analytical data from the two wells indicate TCE concentrations at BOP-12(i) have consistently been below the MCL since 1989 and TCE concentrations at BOP-58(i) have never been reported at concentrations above the MCL. Based on this information, we propose to discontinue sample collection from BOP-12(i) and BOP-58(i). We further recommend reducing the sampling frequency at extraction well E-8 from quarterly to annual (August)

6.5 LONG-TERM CORRECTIVE MEASURES OPERATION PLAN MODIFICATION

Other than the above recommendations, no changes to the current corrective measures operation and no additional corrective measures are recommended at this time. This approach is based on the evaluation of performance data that indicates: 1) VOC mass is being removed from the facility, and 2)

aquifer restoration and/or containment of the TGA plume are occurring as previously predicted and consistent with the CAOs. Boeing will continue to evaluate changes to the groundwater extraction and treatment system, and to the soil vapor extraction system, based on the most current operational data. As appropriate and as requested by the authorizing agency, Boeing will also continue to evaluate new technologies for possible implementation.

7.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of Boeing for specific application to the TGA remedy at the Portland facility. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

This document has been prepared under the supervision and direction of the following key staff

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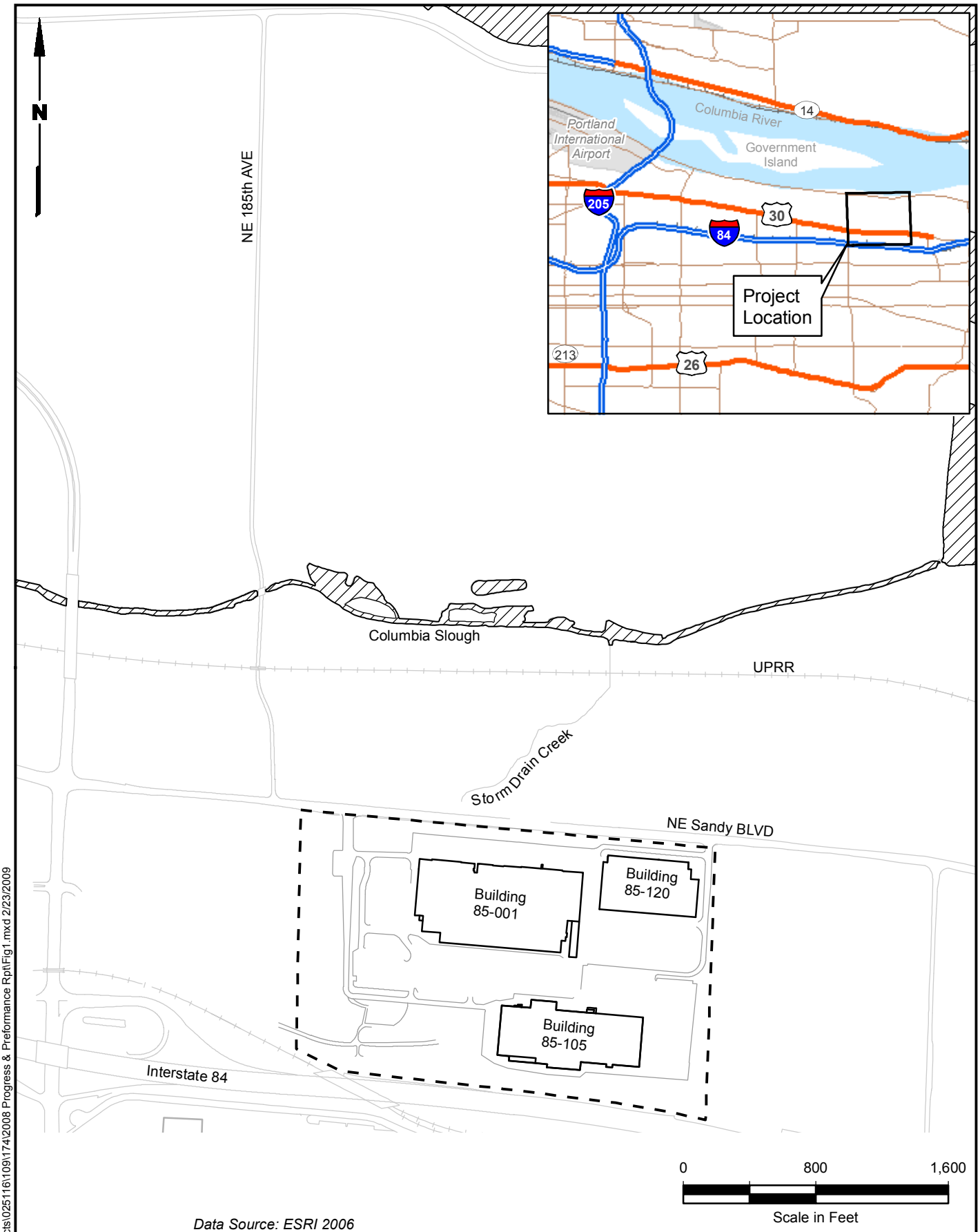

Data Source: ESRI 2006

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LANDAU ASSOCIATES

Boeing Portland	**Boeing Portland Site Map**	Figure 1

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Legend

- ● TGA Monitoring Well
- Ⓔ TGA Extraction Well
- ▲ TSA Monitoring Well
- ◭ TSA Extraction Well

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
2. Corrective Action Areas defined in Phase II Corrective Measures Study (1996).

N

COLUMBIA RIVER

Approximate Limit of the TGA

NE 185th AVE

COLUMBIA

Columbia Slough

Storm Drain Creek

NE SANDY BLVD

NE 181st AVE

INTERSTATE 84

THE BOEING COMPANY

Downgradient Area

West Area

Southwest Area

East Yard Area

Central Area

East Area

D-13
D-2
D-7
D-8
D-12
E-13
D-11
E-12
BOP-22(ds)
BOP-7
BOP-22R(ds)
E-2
E-3
E-4
BOP-8
EW-22
E-14
BOP-1
BOP-2
BOP-16
E-10
BOP-4
E-15
BOP-6
BOP-60(ds)
BOP-57
E-11
E-5
E-16
EW-3
BOP-56
E-8
BOP-61(ds)
BOP-65(ds)
EW-13
BOP-58
BOP-10
E-7
BOP-9
BOP-62(ds)
E-6
DP-1
BOP-59
BOP-11
BOP-12
E-9
BOP-19
BOP-36
BOP-48
BOP-13

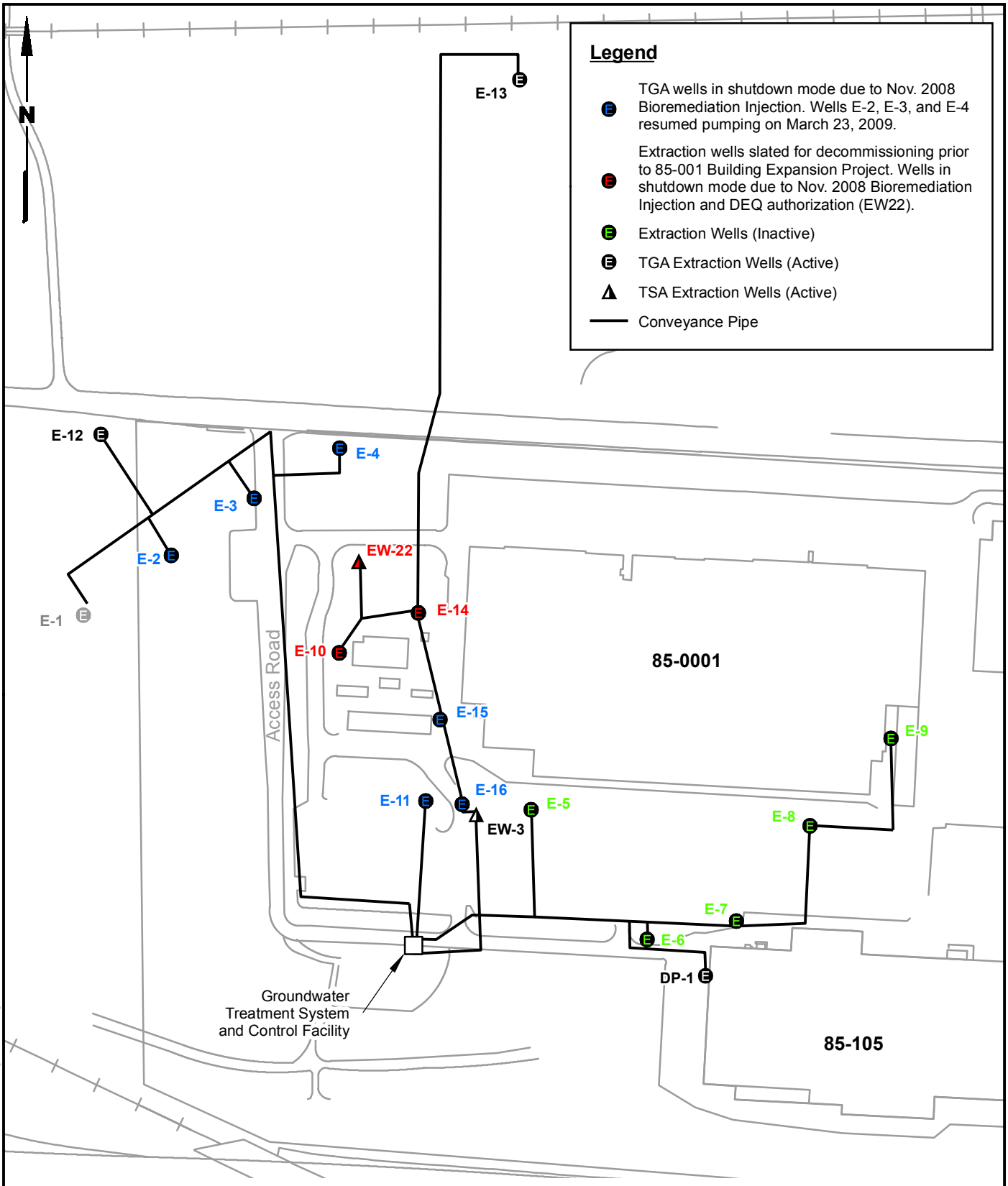
0 500 1,000
Scale in Feet

LANDAU ASSOCIATES

Boeing Portland

TGA Groundwater Monitoring Locations and Corrective Action Areas

Figure 2



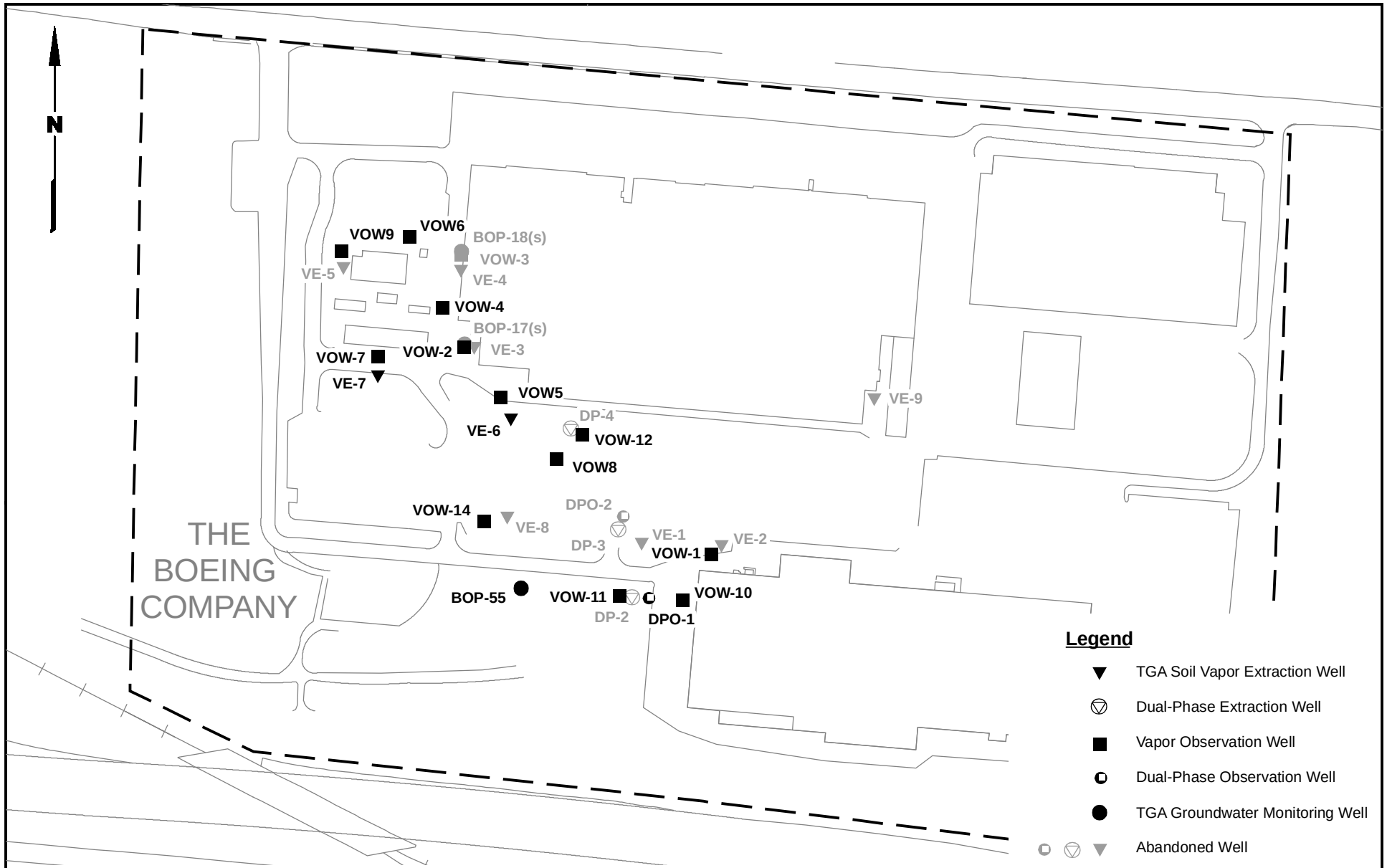
Note
1. Pumping at extraction well E-1 suspended 4/13/00, well abandoned on 6/29/04

Y:\Projects\025116\109\1741\2008 Annual Monitoring Report\Fig3.mxd 4/8/2009

LANDAU ASSOCIATES

Boeing Portland	**Groundwater Extraction and Treatment System Configuration**	Figure 3

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig4.mxd 4/7/2009



0 300 600

Scale in Feet

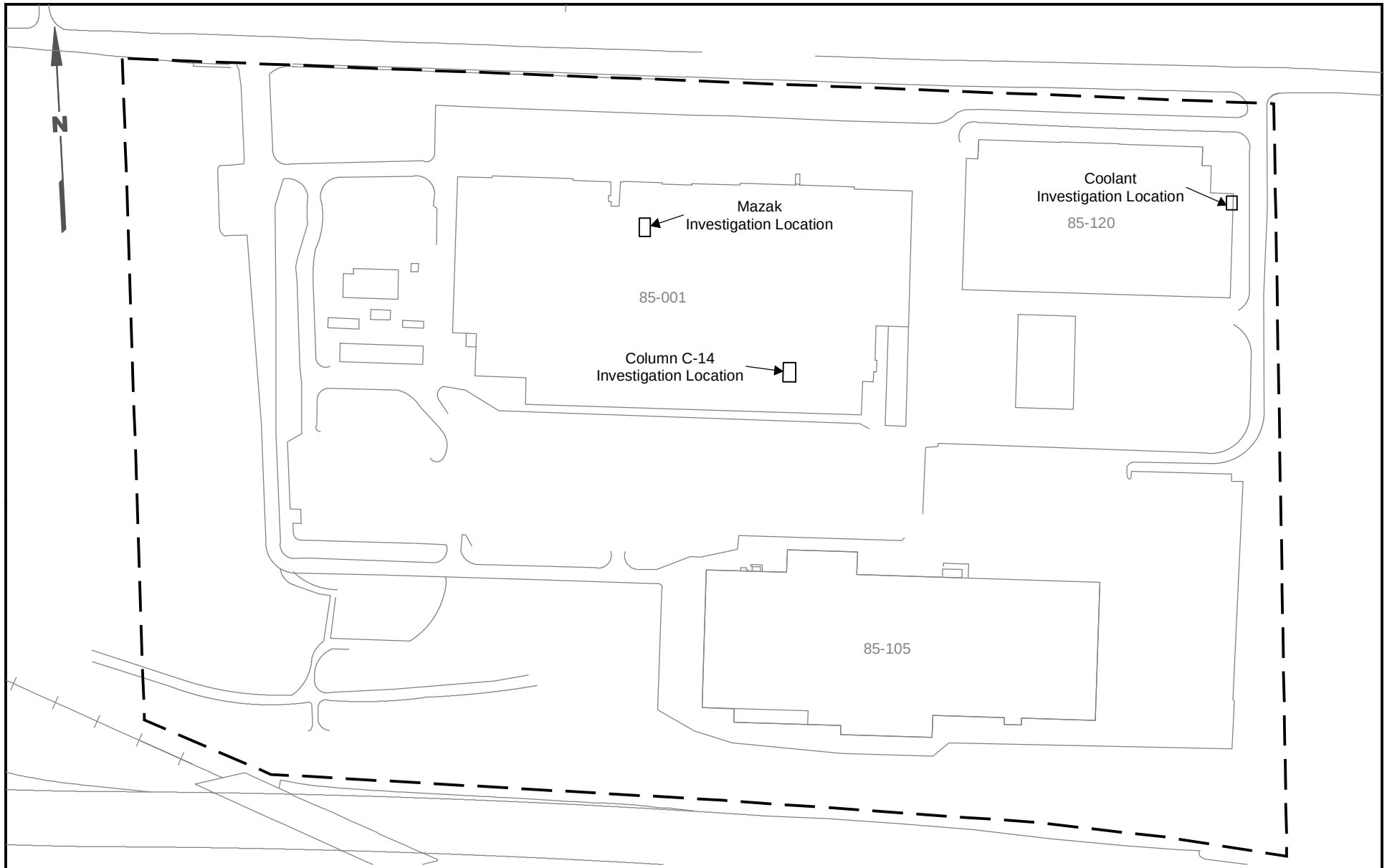
LANDAU ASSOCIATES

Boeing Portland

TGA Soil Vapor Extraction and Monitoring System

Figure 4

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig5.mxd 4/7/2009



LANDAU ASSOCIATES

Boeing Portland

TGA Soil Investigation Location Map

Figure 5

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig6.mxd 4/8/2009

Legend

- E-13 4.3 — TGA Extraction Well and TCE Concentration in Groundwater Samples Collected August 2008
- D-12 3.2 — TGA Monitoring Well and TCE Concentration in Groundwater Samples Collected August 2008
- BOP-22 1.3 — TSA Monitoring Well and TCE Concentration in Groundwater Samples Collected August 2008
- EW-3 3.3 — TSA Extraction Well and TCE Concentration in Groundwater Samples Collected August 2008
- 5 — Approximate TCE Concentration Contour (µg/L) and MCL

Notes

ND=Not detected above the reporting limit

(a) Vertical profile sample collected. Reported concentrations represent highest value during August 2008.
(b) TCE concentration for BOP-01 was collected in September 2008.
(c) TCE concentration for BOP-57 is the BOP-57(ia) result. Concentration for BOP-57(ib)=140 µg/L.

1. TSA analytical results are shown as part of the CMI specified evaluation of TGA activity affect on TSA water quality.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

Approximate TGA Capture Zone

Approximate Limit of the TGA

D-13 ND
D-2 ND
D-7 1.0
D-8 17
D-12 3.2
E-13 5.1
D-11 ND
E-12 4.8
BOP-22(ds) 82
BOP-7 82
E-3 63
E-4 170
E-2 8.2
E-14 250
BOP-2 4.9
BOP-1(b) 290
BOP-16 6.2
E-10 18
BOP-4 21
E-15 33
BOP-60(ds) 210 (a)
BOP-57 12 (c)
E-11 34
E-5 7.5
E-16 13
BOP-56 40
E-8 6.2
E-9 3.7
BOP-36 ND
BOP-19 ND
BOP-48 1.3
BOP-61(ds) 5.2
BOP-10 72
BOP-9 3.4
E-6 17
E-7 18
LAI-7 6.6
BOP-58 ND
BOP-62(ds) 0.6
BOP-59 18
DP1 47
LAI-4 0.1
LAI-6 14
BOP-12 0.2

5
10
100

NE SANDY BLVD
THE BOEING COMPANY
INTERSTATE 84

0 360 720
Scale in Feet

LANDAU ASSOCIATES

Boeing Portland

TCE Concentrations in TGA-August 2008

Figure 6

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig7.mxd 4/8/2009

Legend

- **E-13 7.6** — TGA Extraction Well and TCE Concentration in Groundwater Samples Collected November 2008
- **BOP-7 68** — TGA Monitoring Well and TCE Concentration in Groundwater Samples Collected November 2008
- **EW-13 6.3** — TSA Extraction Well and TCE Concentration in Groundwater Samples Collected November 2008
- **BOP-22 80** — TSA Monitoring Well and TCE Concentration in Groundwater Samples Collected November 2008
- **5** — Approximate TCE Concentration Contour (µg/L) and MCL

Notes

ND=Not detected above the reporting limit.
NM=Not measured.

(a) Vertical profile sample collected. Reported concentrations represent highest value during November 2008.

1. TSA analytical results are shown as part of the CMI specified evaluation of TGA activity affect on TSA water quality.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

Approximate Limit of the TGA

Approximate TGA Capture Zone

NE SANDY BLVD

THE BOEING COMPANY

E-13 7.6
E-12 7.8 (a)
BOP-22(ds) 80 (a)
BOP-7 68 (a)
E-4 260
E-3 78 (a)
BOP-22R(ds) 30 (a)
E-2 2.2
E-10 35
E-15 34
BOP-60(ds) 59 (a)
E-11 24
E-16 21
E-5 34
E-9 1.3
E-8 12
BOP-61(ds) NM
BOP-65(ds) 6.9 (a)
E-7 150
LAI-7 5.2
E-6 41
BOP-62(ds) NM
DP-1 49
LAI-6 16
LAI-4 ND

5
10
100
100

0 360 720
Scale in Feet

LANDAU ASSOCIATES

Boeing Portland

TCE Concentrations in TGA- November 2008

Figure 7

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig8.mxd 4/8/2009

Legend

- **E-13 ND** — TGA Extraction Well and TCA Concentration in Groundwater Samples Collected August 2008
- **BOP-7 1.8** — TGA Monitoring Well and TCA Concentration in Groundwater Samples Collected August 2008
- **EW-13 ND** — TSA Extraction Well and TCA Concentration in Groundwater Samples Collected August 2008
- **BOP-22 ND** — TSA Monitoring Well and TCA Concentration in Groundwater Samples Collected August 2008
- 5 — Approximate TCA Concentration Contour (µg/L) and MCL

Notes

MCL for 1, 1, 1-TCA is 200 µg/L
ND=Not Detected
NS=Not Sampled

(a) Veritcal profile sample collected. Reported concentrations represent highest value during November 2008.
(b) 1,1,1-TCA Concentration for BOP-57 is the BOP-57(ia) result. Concentration for BOP-57(ib)=19 µg/L.

1. TSA analytical results are shown as part of the CMI specified evaluation of TGA activity affect on TSA water quality.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

Approximate Limit of the TGA

Approximate TGA Capture Zone

D-13 ND
D-2 ND
D-7 ND
D-8 ND
E-13 ND
D-12 ND
D-11 ND
NE SANDY BLVD
E-12 ND
BOP-22(ds) ND (a)
BOP-7 1.8
BOP-22R(ds)
E-3 1.8
E-4 2.9
E-2 ND
BOP-2 ND
E-14 ND
BOP-16 ND
BOP-1 ND
E-10 1.0
BOP-4 1.2
E-15 8.7
BOP-60(ds) 100 (a)
BOP-57 ND (b)
E-11 8.9
E-5 ND
BOP-56 ND
E-16 1.5
BOP-65(ds) NS (a)
E-9 ND
BOP-19 3.9
BOP-36 ND
BOP-48 ND
E-8 ND
BOP-61(ds) ND (a)
BOP-10 ND
E-7 ND
BOP-58 ND
BOP-9 ND
E-6 ND
BOP-62(ds) ND (a)
BOP-59 ND
DP-1 ND
LAI-7 ND
LAI-6 ND
LAI-4 ND
BOP-12 ND
THE BOEING COMPANY

0 360 720
Scale in Feet

LANDAU ASSOCIATES

Boeing Portland

1,1,1-TCA Concentrations in TGA-August 2008

Figure 8

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig9.mxd 4/8/2009

Legend

- **E-13 0.3** — TGA Extraction Well and TCA Concentration in Groundwater Samples Collected November 2008
- **BOP-7 1.8** — TGA Monitoring Well and TCA Concentration in Groundwater Samples Collected November 2008
- **EW-13 ND(a)** — TSA Extraction Well and TCA Concentration in Groundwater Samples Collected November 2008
- **BOP-22 ND** — TSA Monitoring Well and TCA Concentration in Groundwater Samples Collected November 2008
- **5** — Approximate TCA Concentration Contour (µg/L) and MCL

Note

MCL for 1,1,1-TCA is 200 µg/L
ND=Not Detected
NS=Not Sampled

(a) Vertical profile sample collected. Reported concentrations represent highest reported value during November 2008.

1. TSA analytical results are shown as part of the CMI specified evaluation of TGA activity affect on TSA water quality.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

Approximate TGA Capture Zone

Approximate Limit of the TGA

NE SANDY BLVD

THE BOEING COMPANY

E-13 0.3

E-12 0.3(a)

BOP-22(ds) ND

E-4 4

BOP-7 1.8 (a)

E-3 2.5(a)

BOP-22R(ds) 0.3 (a)

E-2 0.9

E-10 2.3

E-15 11

5

BOP-60 (ds) 28

E-11 4.8

E-16 5.6

E-5 ND

E-9 0.7

E-8 ND

BOP-61(ds) NS

BOP-65(ds) ND

E-7 ND

E-6 ND

BOP-62(ds) NS

DP-1 ND

LAI-7 ND

LAI-6 ND

LAI-4 ND

0 360 720

Scale in Feet

LANDAU ASSOCIATES

Boeing Portland

1,1,1-TCA Concentrations in TGA-November 2008

Figure 9

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig10.mxd 4/7/2009

Legend

- E-3 — TGA Extraction Well and Groundwater Elevation August 2008
- BOP-7 6.47 — TGA Monitoring Well and Groundwater Elevation August 2008
- 5 — Approximate Groundwater Elevation Contour (ft.MSL)

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

COLUMBIA RIVER

Approximate Limit of the TGA

Approximate TGA Capture Zone

NE 185th AVE

NE SANDY BLVD

NE 181st AVE

THE BOEING COMPANY

INTERSTATE 84

D-13 7.06
D-2 4.57
D-7 5
D-8 4.75
E-13
D-12 4.38
D-11 1.99
E-12
BOP-7 6.47
E-4
E-3
E-2
BOP-16 9.13
BOP-2 7.9
BOP-1 7.57
E-10
BOP-4 8.77
E-15
BOP-57 15.51
E-11
E-16
E-5
BOP-56 36.97
BOP-10 73.54
BOP-9 17.72
E-9
BOP-36 75.19
BOP-19 76.44
BOP-48 81.2
E-8
LAI-2 86.46
LAI-1 84.71
E-7
BOP-58 89.64
E-6
LAI-3 88.45
LAI-8 80.38
LAI-4 87.69
BOP-59 80.62
LAI-7 85.58
LAI-5 89.98
DP-1
LAI-6 88.6
BOP-12 85.64

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85

0 500 1,000
Scale in Feet

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Boeing Portland

TGA Groundwater Elevation Contours and Capture Zone- August 2008

Figure 10

N

BOP-62(ds)
ND, ND

EW-13
ND, ND

Sump Drain

LAI-1
0.90, ND

LAI-2
ND, 0.77

LAI-3
ND, ND

LAI-7
ND, 0.93

LAI-8
Dry, **5.8**

1.0

LAI-4
34; 53

LAI-6
ND, ND

IW-1

IW-2

IW-3

IW-4

LAI-5
ND, ND

IW-5

ALUMINUM CELL
(FLAP SUPPORT MACHINING)

DRAG BRACE MACHINING

INSPECTION

Legend

- TGA Extraction Well
- TGA Monitoring Well
- TGA Injection Well
- TSA Monitoring Well
- TSA Extraction Well
- ND — Not Detected
- LAI-4 34, 53 — Well Identification; Total Diesel-and Motor Oil-Range Petroleum Hydrocarbons For August (1st Number) and November 2008 (2nd Number)
- – –1– – — Approximate Total TPH-Dx Concentration Contour (mg/L)

Notes:

1. Figure only shows west portion of Building
2. Red values are above site-specific cleanup level (1.35 mg/L)
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation

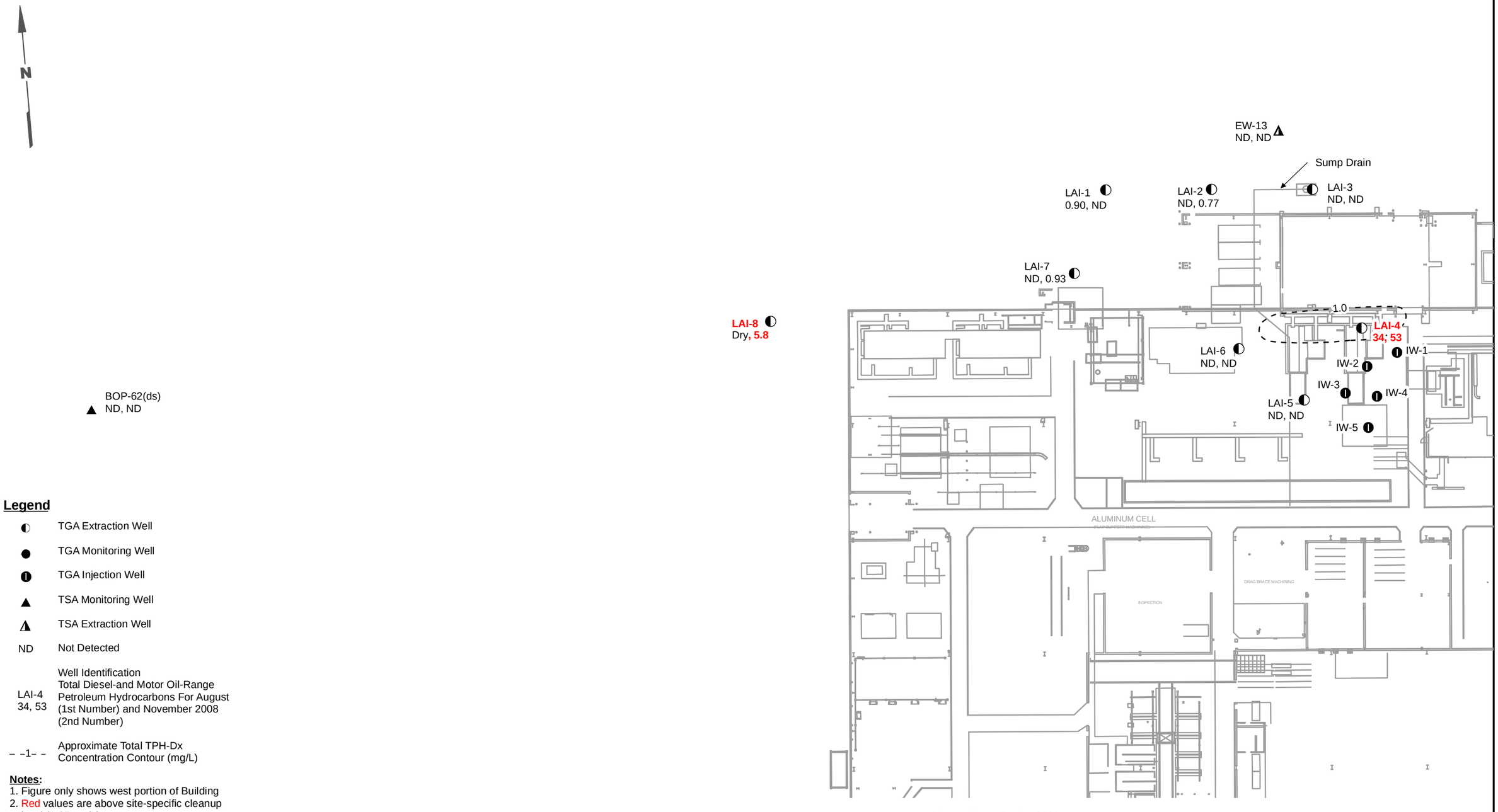
Adapted from: Boeing 2006

0 50 100
Scale in Feet

LANDAU ASSOCIATES

Boeing Portland 85-105 Investigation Portland, Oregon	**Coolant Release Analytical Results August and November 2008**	Figure 11

Y:\Projects\025116\109\174\2008 Progress & Preformance Rpt\Fig11.mxd 3/10/2009



Legend

- TGA Extraction Well
- TGA Monitoring Well
- TGA Injection Well
- TSA Monitoring Well
- TSA Extraction Well
- ND — Not Detected
- LAI-4 34, 53 — Well Identification; Total Diesel-and Motor Oil-Range Petroleum Hydrocarbons For August (1st Number) and November 2008 (2nd Number)
- – –1– – Approximate Total TPH-Dx Concentration Contour (mg/L)

Notes:

1. Figure only shows west portion of Building
2. Red values are above site-specific cleanup level (1.35 mg/L)
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation

0 50 100

Scale in Feet

Adapted from: Boeing 2006

Boeing Portland
85-105 Investigation
Portland, Oregon

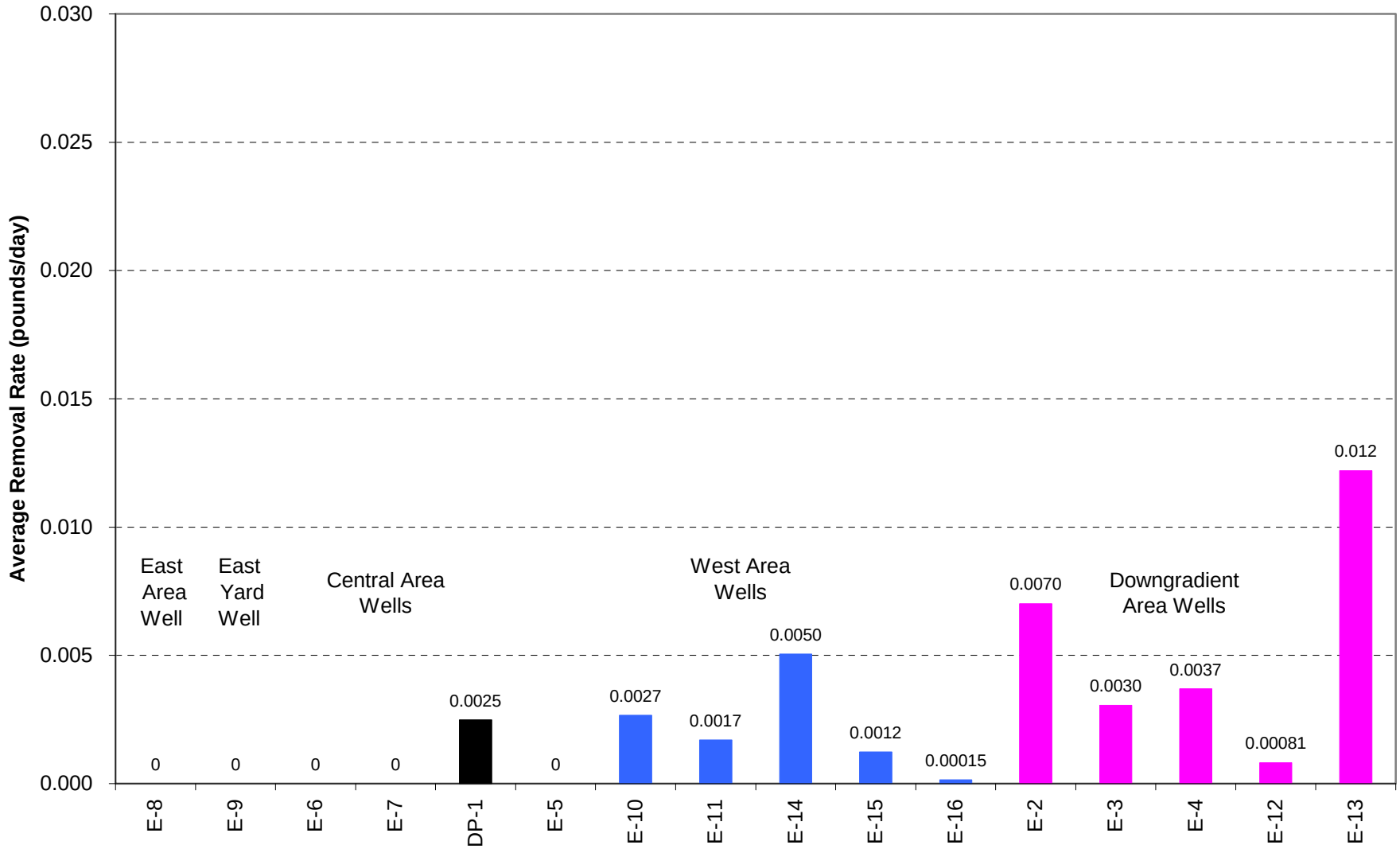
Coolant Release Analytical Results August and November 2008

Figure 12

LANDAU ASSOCIATES

Y:\Projects\025116\109\174\2008 Annual Monitoring Report\Fig12.mxd 4/7/2009

Source: S:\Projects\025\116\Projects\R\TGA\2008Prog-Perf Rpt\ASH BackupTGA Semiannual Perf Eval_Figure Mass removal rates.xls



Notes: Total VOCs include the following constituents: TCA, TCE, total 1,2-DCE, PCE, 1,1-DCE, and Freon-TF.
Pumping operations at Well E-1 were suspended on 4/13/00.

LANDAU ASSOCIATES

Boeing Portland

Average Total VOC Mass Removal Rate for 2008

Figure 13

TABLE 1
PERFORMANCE MONITORING LOCATIONS (a)

Aquifer and Well Use	Location	2008 Sampling Frequency			Proposed 2009 Sampling Frequency		
		Groundwater Elevation	Groundwater Quality	SVE Data	Groundwater Elevation	Groundwater Quality	SVE Data
West Area							
TGA Well	BOP-1(i)	S	S	--	S	S	--
TGA Well	BOP-2(i)	S	S	--	S	S	--
TGA Well	BOP-4(i)	S	S	--	S	S	--
TGA Well	BOP-16(i)	S	S	--	S	S	--
TGA Well	BOP-57(ia)	S	S	--	S	S	--
TGA Well	BOP-57(ib)	S	S	--	S	S	--
TGA-SVE	VE-6	--	--	Q	--	--	D
TGA-VOW	VOW-2	--	--	Q	--	--	D
TGA-VOW	VOW-4(s,d)	--	--	Q	--	--	D
TGA-VOW	VOW-5(s,d)	--	--	Q	--	--	D
TGA-VOW	VOW-6(s,d)	--	--	Q	--	--	D
TGA-VOW	VOW-7(s,d)	--	--	Q	--	--	D
TGA-VOW	VOW-8(s,d)	--	--	Q	--	--	D
TGA-VOW	VOW-9(s,d)	--	--	Q	--	--	D
TGA Extraction Well	E-5	M	Q	--	Q	A	--
TGA Extraction Well	E-10	M	Q	--	Q	Q	--
TGA Extraction Well	E-11	M	Q	--	Q	Q	--
TGA Extraction Well	E-14	M	Q	--	Q	Q	--
TGA Extraction Well	E-15	M	Q	--	Q	Q	--
TGA Extraction Well	E-16	M	Q	--	Q	Q	--
Upper TSA Well	BOP-60(ds) (b)	S	--	--	S	--	--
Central Area							
TGA Well	BOP-10(i)	S	S/C-Q	--	S	S/C-A	--
TGA Well	BOP-56(i)	S	S/C-Q	--	S	S/C-D	--
TGA Well	BOP-59(i)	S	S/C-Q	--	S	S/C-A	--
TGA Extraction Well	E-6	M	Q	--	Q	A	--
TGA Extraction Well	E-7	M	Q	--	Q	A	--
TGA-SVE	DP-4	--	--	Q	--	--	D
TGA Extraction Well	DP-1	M	Q/C-Q	--	Q	S/C-A	--
Upper TSA Well	BOP-65(ds) (b)	S	S	--	S	S	--
East Yard							
TGA Well	BOP-19(i)	S	S	--	S	A	--
TGA Well	BOP-48(i)	S	S	--	S	A	--
TGA Well	BOP-36(i)	S	S	--	S	A	--
TGA Extraction Well	E-9	M	Q	--	Q	A	--
Upper TSA Well	BOP-61(ds) (b)	S	S	--	S	S	--
East Area							
TGA Well	BOP-12(i)	S	S	--	S	A	--
TGA Well	BOP-58(i)	S	S	--	S	A	--
TGA Extraction Well	E-8	M	Q	--	Q	A	--
Southwest Area							
TGA Well	BOP-9(i)	S	S/C-Q	--	S	S/C-A	--
TGA Well	BOP-11(i)	S	--	--	S	--	--
Upper TSA Well	BOP-62(ds) (b)	S	S/C-Q	--	S	S/C-D	--

TABLE 1
PERFORMANCE MONITORING LOCATIONS (a)

Aquifer and Well Use	Location	2008 Sampling Frequency			Proposed 2009 Sampling Frequency		
		Groundwater Elevation	Groundwater Quality	SVE Data	Groundwater Elevation	Groundwater Quality	SVE Data
Downgradient Area							
TGA Well	BOP-7(i)	S	S	--	S	S	--
TGA Well	D-2(i)	S	S	--	D	D	--
TGA Well	D-7(i)	S	S	--	S	A	--
TGA Well	D-8(i)	S	S	--	S	S	--
TGA Well	D-11(i)	S	S	--	S	A	--
TGA Well	D-12(i)	S	S	--	S	S	--
TGA Well	D-13(i)	S	S	--	D	D	--
TGA Extraction Well	E-2	M	Q	--	Q	S	--
TGA Extraction Well	E-3	M	Q	--	Q	S	--
TGA Extraction Well	E-4	M	Q	--	Q	S	--
TGA Extraction Well	E-12	M	Q	--	Q	S	--
TGA Extraction Well	E-13	M	Q	--	Q	S	--
Upper TSA Well	BOP-22(ds) (b,c)	--	M	--	--	D	--
Upper TSA Well	BOP-22R(ds) (b)	Q	Q	--	Q	Q	--
							--
Coolant Release							
	LAI-1	Q	Q	--	Q	Q	--
	LAI-2	Q	Q	--	Q	Q	--
	LAI-3	Q	Q	--	Q	Q	--
	LAI-4	Q	Q	--	Q	Q	--
	LAI-5	Q	Q	--	Q	Q	--
	LAI-6	Q	Q	--	Q	Q	--
	LAI-7	Q	Q	--	Q	Q	--
	LAI-8	Q	Q	--	Q	Q	--
	BOP-10(s)	Q	Q	--	D	D	--
	BOP-58(i)	Q	Q	--	D	D	--
	EW-13	Q	Q	--	D	D	--

S = Semiannual; Q = Quarterly; M = Monthly; D = Discontinue Monitoring; -- = No Data
S/C-Q = Well sampled for multiple purposes. First abbreviation indicates sampling frequency for VOC remedy/second abbreviation indicates sampline frequency for coolant release.
Shaded cells indicate wells with proposed modification to monitoring frequency

(a) From Table 3-3 of Five-Year Performance Evaluation, January 2001 through December 2005, based on Phase 2 Corrective Measures Study (1996).
(b) TSA water quality data collected to evaluate remedy performance as part of TGA corrective measure performance. Diffusion Bag Samples (DBS) to be utilized for TSA sample collection.
(c) Well BOP-22(ds) was decommissioned in January 2009.

TABLE 2
GROUNDWATER QUALITY SUMMARY
TGA AND SELECT TSA WELLS
JULY 1 THROUGH DECEMBER 31, 2008

Area	Location	Sample Type	Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl chloride
East Area-TGA											
	BOP-12i	Purge	8/14/2008	ND	ND	ND	ND	ND	ND	0.2	ND
	BOP-58i	Purge	8/11/2008	ND	ND	ND	ND	ND	ND	ND	ND
	E-8	Purge	8/11/2008	ND	1.4	ND	1.4	ND	3.7	6.2	ND
	E-8	Purge	11/5/2008	0.7	2.5	ND	2.5	ND	5.6	12	ND
East Yard-TGA											
	BOP-19i	Purge	8/12/2008	ND	ND	ND	ND	3.9	ND	ND	ND
	BOP-48i	Purge	8/12/2008	ND	ND	ND	ND	ND	ND	1.3	ND
	BOP-36i	Purge	8/12/2008	ND	ND	ND	ND	ND	ND	ND	ND
	E-9	Purge	8/11/2008	ND	ND	ND	ND	ND	ND	3.7	2.1
	E-9	Purge	11/5/2008	ND	ND	ND	ND	0.7	ND	1.3	ND
Central Area-TGA											
	BOP-10i	Purge	8/11/2008	ND	10	ND	10	ND	73	72	ND
	BOP-10i	Purge	11/7/2008	ND	15	ND	15	ND	35	64	ND
	BOP-56i	Purge	8/11/2008	ND	5.6	ND	5.6	ND	9.8	40	ND
	BOP-59i	Purge	8/11/2008	ND	24	ND	24	ND	1.1	18	ND
	BOP-59i	Purge	8/11/2008	ND	24	ND	24	ND	1.3	18	ND
	E-6	Purge	8/11/2008	ND	3.8	ND	3.8	ND	26	17	ND
	E-6	Purge	11/6/2008	ND	15	0.3	15.3	ND	40	41	ND
	E-7	Purge	8/11/2008	ND	11	ND	11	ND	62	18	ND
	E-7	Purge	11/4/2008	ND	26	ND	26	ND	300	150	ND
	DP-1	Purge	8/11/2008	ND	110	3.2	113.2	ND	2.1	47	ND
	DP-1	Purge	11/5/2008	ND	130	1.5	131.5	ND	2.2	49	ND
West Area-TGA											
	BOP-01i	Purge	9/4/2008	1.4	2.3	ND	2.3	ND	16	290	ND
	BOP-01i	Purge	9/4/2008	1.3	2.2	ND	2.2	ND	16	280	ND
	BOP-02i	Purge	8/8/2008	ND	ND	ND	ND	ND	ND	4.9	ND
	BOP-04i	Purge	8/8/2008	ND	1.1	ND	1.1	1.2	1.5	21	ND
	BOP-16i	Purge	8/11/2008	1.2	1.6	ND	1.6	ND	ND	6.2	ND
	BOP-57ia (a)	Purge	8/15/2008	ND	2.6	ND	2.6	ND	1.6	12	ND
	BOP-57ib (a)	Purge	8/15/2008	26	6.1	ND	6.1	19	1.4	140	ND
	E-5	Purge	8/8/2008	ND	ND	ND	ND	ND	1.6	7.5	ND
	E-5	Purge	11/5/2008	ND	3.4	ND	3.4	ND	3.4	34	ND
	E-10	Purge	8/8/2008	1.4	1.8	ND	1.8	1.0	1.4	18	ND
	E-10	Purge	11/6/2008	0.9	4.2	ND	4.2	2.3	4.8	35	ND
	E-11	Purge	8/8/2008	6.6	6.8	ND	6.8	8.9	2.5	34	ND
	E-11	Purge	11/5/2008	3.8	5.9	ND	5.9	4.8	1.8	24	ND
	E-14	Purge	8/8/2008	4.9	3.9	ND	3.9	ND	14	250	ND
	E-15	Purge	8/8/2008	9.8	5.3	ND	5.3	8.7	2.7	33	ND
	E-15	Purge	11/5/2008	12	6.1	ND	6.1	11	3.7	34	ND
	E-16	Purge	8/8/2008	1.2	3.1	ND	3.1	1.5	1.8	13	ND
	E-16	Purge	11/5/2008	3.4	3.9	ND	3.9	5.6	2.6	21	ND
Southwest Area - TGA											
	BOP-09i	Purge	8/11/2008	ND	ND	ND	ND	ND	ND	3.4	ND

TABLE 2
GROUNDWATER QUALITY SUMMARY
TGA AND SELECT TSA WELLS
JULY 1 THROUGH DECEMBER 31, 2008

Area	Location	Sample Type	Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl chloride
Downgradient Area TGA											
	BOP-07i	Purge	8/12/2008	5	3.7	ND	3.7	1.8	2.4	82	ND
	BOP-07i	Purge	11/11/2008	4.8	3.0	ND	3.0	1.8	2.3	68	ND
	BOP-07i-157	DBS	11/11/2008	4.9	2.9	ND	2.9	1.9	2.2	67	ND
	BOP-07i-163	DBS	11/11/2008	3.1	1.8	ND	1.8	1.3	1.6	42	ND
	BOP-07i-169	DBS	11/11/2008	3.2	1.9	ND	1.9	1.3	1.7	44	ND
	BOP-07i-175	DBS	11/11/2008	4.3	2.4	ND	2.4	1.6	2.0	60	ND
	D-02i	Purge	8/7/2008	ND	ND	ND	ND	ND	ND	ND	ND
	D-07i	Purge	8/7/2008	ND	ND	ND	ND	ND	ND	1.0	ND
	D-08i	Purge	8/7/2008	1.1	ND	ND	ND	ND	ND	17	ND
	D-11i	Purge	8/7/2008	ND	ND	ND	ND	ND	ND	ND	ND
	D-12i	Purge	8/7/2008	ND	ND	ND	ND	ND	ND	3.2	ND
	D-13i	Purge	8/8/2008	ND	ND	ND	ND	ND	ND	ND	ND
	E-2	Purge	8/12/2008	1.0	ND	ND	ND	ND	ND	8.2	ND
	E-2	Purge	11/5/2008	1.2	0.2	ND	0.2	0.9	ND	2.2	ND
	E-3	Purge	8/12/2008	6.5	3.6	ND	3.6	1.8	2.2	63	ND
	E-3	Purge	11/7/2008	9.0	4.4	ND	4.4	2.5	2.6	71	ND
	E3-85	DBS	11/7/2008	4.7	3.0	ND	3.0	1.2	ND	43	ND
	E3-96	DBS	11/7/2008	9.5	4.6	ND	4.6	2.2	ND	78	ND
	E3-107	DBS	11/7/2008	8.3	3.9	ND	3.9	2.0	ND	60	ND
	E3-118	DBS	11/7/2008	8.5	4.1	ND	4.1	2.2	ND	61	ND
	E-4	Purge	8/12/2008	35	2.3	ND	2.3	2.9	4.9	170	ND
	E-4	Purge	11/5/2008	54	ND	ND	ND	4.0	9.1	260	ND
	E-12	Purge	8/12/2008	ND	ND	ND	ND	ND	ND	4.8	ND
	E-12	Purge	11/7/2008	0.4	0.2	ND	0.2	0.2	ND	4.0	ND
	E-12-123	DBS	11/7/2008	0.5	0.3	ND	0.3	0.2	ND	5.1	ND
	E-12-136	DBS	11/7/2008	0.6	0.4	ND	0.4	0.3	ND	5.8	ND
	E-12-149	DBS	11/7/2008	0.6	0.3	ND	0.3	0.2	ND	5.1	ND
	E-12-161	DBS	11/7/2008	0.8	0.5	ND	0.5	0.3	ND	7.8	ND
	E-13	Purge	8/7/2008	ND	ND	ND	ND	ND	ND	5.1	ND
	E-13	Purge	11/5/2008	1.5	0.3	ND	0.3	0.3	0.3	7.6	ND
GWTS Influent/Effluent											
	Tower Influent		8/25/2008	1.1	ND	ND	ND	ND	ND	7.3	ND
	Tower Influent Dup		8/25/2008	1.1	ND	ND	ND	ND	ND	7.6	ND
	Tower Influent		11/5/2008	1.7	0.6	ND	0.6	0.5	0.4	8.4	ND
	Tower Influent Dup		11/5/2008	1.6	0.6	ND	0.6	0.5	0.4	8.5	ND
	Tower Efflulent		8/25/2008	ND	ND	ND	ND	ND	ND	ND	ND
	Tower Efflulent Dup		8/25/2008	ND	ND	ND	ND	ND	ND	ND	ND
	Tower Efflulent		11/5/2008	ND	ND	ND	ND	ND	ND	ND	ND
	Tower Efflulent Dup		11/5/2008	ND	ND	ND	ND	ND	ND	ND	ND
TSA Monitoring Wells											
	BOP-22ds	Purge	7/8/2008	2.5	3.6	ND	3.6	ND	1.2	84	ND
	BOP-22ds	Purge	8/8/2008	2.1	4.3	ND	4.3	ND	1.2	82	ND
	BOP-22ds	Purge	9/8/2008	2.9	3.9	ND	3.9	ND	ND	63	ND
	BOP-22ds	Purge	10/16/2008	2.0	4.0	ND	4.0	ND	1.1	80	ND
	BOP-22ds	Purge	10/27/2008	2.6	4.6	ND	4.6	ND	1.3	79	ND
	BOP-22ds	Purge	11/14/2008	1.6	3.7	ND	3.7	ND	0.8	56	ND
	BOP-22(ds)-222	DBS	11/14/2008	2.2	6.8	ND	6.8	ND	1.2	75	ND
	BOP-22(ds)-227	DBS	11/14/2008	3.0	7.6	ND	7.6	ND	2.6	120	ND
	BOP-22(ds)-227 Dup	DBS	11/14/2008	2.9	7.5	ND	7.5	ND	2.5	100	ND
	BOP-22(ds)-231	DBS	11/14/2008	4.8	9.1	ND	9.1	ND	3.8	170	ND
	BOP-22(ds)-236	DBS	11/14/2008	2.5	6.7	ND	6.7	ND	1.6	73	ND
	BOP-22(ds)-240	DBS	11/14/2008	2.6	5.5	ND	5.5	ND	0.9	82	ND
	BOP-22ds	Purge	12/3/2008	ND	0.3	ND	0.3	ND	ND	5.4	ND
	BOP-22ds	Purge	12/11/2008	0.2	0.5	ND	0.5	ND	ND	6.6	ND
	BOP-22Rds	Purge	10/27/2008	ND	ND	ND	ND	ND	ND	ND	ND
	BOP-22Rds	Purge	11/14/2008	1.0	2.7	ND	2.7	0.3	0.4	30	ND
	BOP-22Rds-246	DBS	11/14/2008	ND	ND	ND	ND	ND	ND	ND	ND
	BOP-22Rds-251	DBS	11/14/2008	ND	ND	ND	ND	ND	ND	ND	ND
	BOP-22Rds-255	DBS	11/14/2008	ND	ND	ND	ND	ND	ND	ND	ND
	BOP-22Rds-260	DBS	11/14/2008	ND	ND	ND	ND	ND	ND	ND	ND
	BOP-22Rds-264	DBS	11/14/2008	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2
GROUNDWATER QUALITY SUMMARY
TGA AND SELECT TSA WELLS
JULY 1 THROUGH DECEMBER 31, 2008

Area	Location	Sample Type	Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl chloride
	BOP-22Rds	Purge	12/3/2008	ND	ND	ND	ND	ND	ND	0.2	ND
	BOP-22Rds	Purge	12/11/2008	ND	ND	ND	ND	ND	ND	ND	ND
	BOP-60ds	Purge	8/15/2008	3.9	1.3	ND	1.3	4.0	0.5	14	ND
	BOP-60ds-158	DBS	8/14/2008	110	10	0.2	10.2	100	2.6	210	ND
	BOP-60ds-163	DBS	8/14/2008	3.7	1.4	ND	1.4	3.2	0.4	14	ND
	BOP-60ds-166	DBS	8/14/2008	3.9	1.2	ND	1.2	3.3	0.3	14	ND
	BOP-60ds	Purge	11/14/2008	2.2	0.3	ND	0.3	3.2	ND	5.7	ND
	BOP-60ds-159	DBS	11/14/2008	24	2.5	ND	2.5	28	2.7	59	ND
	BOP-60ds-163	DBS	11/14/2008	20	2.2	ND	2.2	22	2.1	49	ND
	BOP-60ds-163 Dup	DBS	11/14/2008	19	2.2	ND	2.2	22	2.1	50	ND
	BOP-60ds-167	Purge	11/14/2008	17	2.0	ND	2.0	20	2.0	46	ND
	BOP-61ds	Purge	8/15/2008	ND	0.3	ND	0.3	ND	0.3	5.2	ND
	BOP-62ds	Purge	8/15/2008	ND	ND	ND	ND	ND	ND	0.6	ND
	BOP-65ds	Purge	11/14/2008	ND	1.1	ND	1.1	ND	0.2	4.6	ND
	BOP-65ds-108	DBS	11/14/2008	ND	1.3	ND	1.3	ND	ND	6.9	ND
	BOP-65ds-112	DBS	11/14/2008	ND	1.1	ND	1.1	ND	ND	6.2	ND

DBS = Diffusion Bag Sampler Type.
ND = Not detected.

(a) West Area wells BOP-57(ia, ib) are installed with short (5 ft) screens. BOP-57(ia) is screened at the base of the TGA, while BOP-57(ib) is screened within the first layer on Confining Unit 1 (CU1).

Notes:
1. TSA water quality data collected as part of the TGA remedy implementation.
2. Data are parts per billion (µg/L).

TABLE 3
GROUNDWATER ELEVATION DATA
TGA MONITORING WELLS
JULY 1 THROUGH DECEMBER 31, 2008

	Date	Time	Reference Elev. (a) (ft, MSL)	Depth to Water (ft)	Groundwater Elevation (ft)
TGA WELLS					
BOP-1(i)	8/6/2008	9:30	86.78	79.21	7.57
BOP-2(i)	8/6/2008	9:37	86.40	78.50	7.90
BOP-4(i)	8/6/2008	9:45	88.94	80.17	8.77
BOP-7(i)	8/6/2008	10:00	83.08	76.61	6.47
BOP-9(i)	8/6/2008	10:10	114.74	97.02	17.72
BOP-9(i)	11/3/2008	11:35	114.74	95.25	19.49
BOP-10(s)	11/3/2008	11:46	108.78	34.53	74.25
BOP-10(i)	8/6/2008	10:15	109.19	35.65	73.54
BOP-10(i)	11/3/2008	11:52	109.19	36.65	72.54
BOP-11(i)	8/6/2008	12:13	135.44	125.30	10.14
BOP-12(i)	8/6/2008	10:55	128.84	43.20	85.64
BOP-13(i)	8/6/2008	10:41	129.52	20.95	108.57
BOP-16(i)	8/6/2008	11:03	89.08	79.95	9.13
BOP-19(i)	8/6/2008	14:05	84.37	7.93	76.44
BOP-36(i)	8/6/2008	14:20	84.82	9.63	75.19
BOP-48(i)	8/6/2008	14:12	94.17	12.97	81.20
BOP-56(i)	8/6/2008	13:44	99.07	62.10	36.97
BOP-56(i)	11/3/2008	13:42	99.07	62.92	36.15
BOP-57(ia) (b)	8/6/2008	13:40	95.45	79.94	15.51
BOP-57(ib) (b)	8/6/2008	13:47	94.57	80.05	14.52
BOP-58(i)	8/6/2008	14:28	103.79	14.15	89.64
BOP-58(i)	11/3/2008	12:12	103.79	14.95	88.84
BOP-59(i)	8/6/2008	14:30	110.20	29.58	80.62
BOP-59(i)	11/3/2008	12:20	110.20	29.81	80.39
D-2(i)	8/6/2008	12:10	18.77	14.20	4.57
D-7(i)	8/6/2008	11:57	45.38	40.38	5.00
D-8(i)	8/6/2008	12:01	29.30	24.55	4.75
D-11(i)	8/6/2008	12:30	77.11	75.12	1.99
D-12(i)	8/6/2008	12:21	33.51	29.13	4.38
D-13(i)	8/7/2008	13:00	13.73	6.67	7.06

TABLE 3
GROUNDWATER ELEVATION DATA
TGA MONITORING WELLS
JULY 1 THROUGH DECEMBER 31, 2008

	Date	Time	Reference Elev. (a) (ft, MSL)	Depth to Water (ft)		Groundwater Elevation (ft)
COOLANT RELEASE WELLS						
LAI-1	8/6/2008	18:04	109.86	25.15		84.71
LAI-1	11/3/2008	10:28	109.86	25.52		84.34
LAI-2	8/6/2008	17:54	109.89	23.43		86.46
LAI-2	11/3/2008	10:18	109.89	23.36		86.53
LAI-3	8/6/2008	17:46	109.85	21.40		88.45
LAI-3	11/3/2008	10:06	109.85	21.91		87.94
LAI-4	8/6/2008	16:45	110.71	23.02		87.69
LAI-4	11/3/2008	10:35	110.71	22.33		88.38
LAI-5	8/6/2008	17:25	110.56	20.58		89.98
LAI-5	11/3/2008	10:49	110.56	20.80		89.76
LAI-6	8/6/2008	17:03	110.65	22.05		88.60
LAI-6	11/3/2008	10:59	110.65	21.79		88.86
LAI-7	8/6/2008	17:15	109.90	24.32		85.58
LAI-7	11/3/2008	11:05	109.90	25.66		84.24
LAI-8	8/6/2008	16:51	110.59	30.21		80.38
LAI-8	11/3/2008	11:20	110.59	29.70		80.89
TSA WELLS						
BOP-22(ds)	8/6/2008	11:12	81.93	85.10		-3.17
BOP-22(ds)	10/27/2008	13:40	81.93	87.60		-5.67
BOP-22(ds)	11/24/2008	12:45	81.93	78.12		3.81
BOP-22R(ds)	10/27/2008	11:15	82.91	89.62		-6.71
BOP-22R(ds)	11/14/2008	14:05	82.91	89.62		-6.71
BOP-22R(ds)	12/3/2008	13:55	82.91	86.21		-3.3
BOP-60 (ds)	8/6/2008	16:26	92.75	107.20		-14.45
BOP-60(ds)	11/24/2008	10:47	92.75	90.10		2.65
BOP-61(ds)	8/6/2008	13:20	94.64	97.45		-2.81
BOP-61(ds)	11/24/2008	14:21	94.64	96.44		-1.80
BOP-62(ds)	8/6/2008	13:25	114.32	126.76		-12.44
BOP-62(ds)	11/24/2008	11:41	114.32	114.12		0.20
BOP-65(ds)	8/6/2008	---	104.22	>112.22	(c)	<-8.00
BOP-65(ds)	11/24/2008	11:49	104.22	102.16		2.06

(a) Reference Elevation for the top of PVC well casing.

(b) West Area wells BOP-57(ia, ib) are installed with short (5 ft) screens. BOP-57(ia) is screened at the base of the TGA, while BOP-57(ib) is screened within the first layer on Confining Unit 1 (CU1).

(c) Measured water level is in sump; well is effectively dry.

TABLE 4
WATER ANALYTICAL RESULTS
TPH-Dx AND FIELD PARAMETERS
COOLANT RELEASE INVESTIGATION
BOEING PORTLAND FACILITY

			NWTPH-Dx (mg/L) (a)			Field Parameters		
			Diesel	Motor Oil	Total TPH-Dx	pH	Dissolved Oxygen (mg/L)	ORP (mV)
TGA Wells				**Cleanup Level (b)**	**1.35**			
BOP-9(i)	MW97A	5/15/2008	0.25 U	0.50 U	ND	6.76	6.55	95.9
BOP-9(i)	NK79A	8/14/2008	0.25 U	0.50 U	ND	6.22	8.22	125.5
BOP-9(i)	NZ33F	11/7/2008	0.25 U	0.50 U	ND	6.29	5.70	118.9
BOP-10(i)	MI48H	2/7/2008	0.25 U	0.50 U	ND	6.78	4.07	90.8
BOP-10(i)	MW97B	5/14/2008	0.25 U	0.50 U	ND	6.54	4.93	109.2
BOP-10(i)-Dup	MW97C	5/14/2008	0.25 U	0.50 U	ND	6.54	4.93	109.2
BOP-10(i)	NK49A	8/12/2008	0.25 U	0.50 U	ND	6.36	4.78	115.2
BOP-10(i)	NZ33D	11/7/2008	0.25 U	0.50 U	ND	6.94	3.09	80.3
BOP-10(s)	MI48I	2/7/2008	0.25 U	0.50 U	ND	6.26	4.78	103.8
BOP-10(s)	MW97D	5/15/2008	0.25 U	0.50 U	ND	6.32	4.74	120.6
BOP-10(s)	NK79B	8/14/2008	0.25 U	0.50 U	ND	6.04	4.42	106.2
BOP-10(s)	NY53F	11/4/2008	0.25 U	0.50 U	ND	6.39	7.17	156.8
BOP-56(i)	MI48K	02/07/2008	0.25 U	0.50 U	ND	6.92	5.58	97.1
BOP-56(i)	MW70D	05/14/2008	0.25 U	0.50 U	ND	6.92	7.56	97.1
BOP-56(i)	NK79C	08/14/2008	0.25 U	0.50 U	ND	7.17	5.20	4.2
BOP-56(i)	NY53C	11/04/2008	0.25 U	0.50 U	ND	6.59	7.97	144.2
BOP58(i)	MW97E	5/15/2008	0.25 U	0.50 U	ND	6.47	5.28	124.7
BOP58(i)	NK79D	8/14/2008	0.25 U	0.50 U	ND	6.30	5.19	120.3
BOP58(i)	NZ33E	11/7/2008	0.25 U	0.50 U	ND	6.35	4.85	157.7
BOP59(i)	MI48M	2/7/2008	0.25 U	0.50 U	ND	6.96	4.06	37.7
BOP59(i)	MW97F	5/15/2008	0.25 U	0.50 U	ND	6.79	4.82	113.2
BOP59(i)	NK79E	8/14/2008	0.25 U	0.50 U	ND	7.22	4.56	73.3
BOP59(i)	NY53E	11/4/2008	0.25 U	0.50 U	ND	6.60	5.93	151.4
DP1	MI48N	02/11/2008	0.25 U	0.50 U	ND	6.77	3.96	73.0
DP1	MW70I	05/14/2008	0.25 U	0.50 U	ND	6.80	3.69	137.4
DP1	NK49E	08/12/2008	0.25 U	0.50 U	ND	6.17	4.32	56.5
DP1	NY53H	11/05/2008	0.25 U	0.50 U	ND	6.64	3.82	163.9
E-6	MI48O	02/11/2008	0.25 U	0.50 U	ND	7.15	1.28	6.0
E-6	MW70F	05/14/2008	0.25 U	0.50 U	ND	7.42	4.17	-26.6
E-6	NK49B	08/12/2008	0.25 U	0.50 U	ND	7.06	2.21	112.5
E-6	NY67A	11/06/2008	0.25 U	0.50 U	ND	6.92	2.23	133.2
E-7	MI48P	2/11/2008	0.25 U	0.50 U	ND	6.76	1.09	55.9
E-7	MW70G	5/14/2008	0.25 U	0.50 U	ND	6.98	2.99	-19.7
E-7	NK49C	8/12/2008	0.25 U	0.50 U	ND	6.44	4.15	113.3
E-7	NY53B	11/4/2008	0.25 U	0.50 U	ND	7.10	3.77	144.1
E-8	MI48Q	2/11/2008	0.25 U	0.50 U	ND	6.78	2.34	50.9
E-8	MW70H	5/14/2008	0.25 U	0.50 U	ND	7.78	3.21	-98.6
E-8	NK49D	8/12/2008	0.25 U	0.50 U	ND	7.80	2.67	75.5
E-8	NY53G	11/5/2008	0.25 U	0.50 U	ND	6.73	2.21	154.2
LAI-1	MI48E	2/6/2008	0.25 U	0.50 U	ND	---	---	---
LAI-1	MW40C	5/13/2008	0.25 U	0.84	0.84	6.17	5.15	82.6
LAI-1	NK72A	8/14/2008	0.25 U	0.90	0.90	6.35	9.39	-37.6
LAI-1	NY67B	11/6/2008	0.25 U	0.50 U	ND	6.36	8.20	150.4

TABLE 4
WATER ANALYTICAL RESULTS
TPH-Dx AND FIELD PARAMETERS
COOLANT RELEASE INVESTIGATION
BOEING PORTLAND FACILITY

			NWTPH-Dx (mg/L) (a)			Field Parameters		
			Diesel	Motor Oil	Total TPH-Dx	pH	Dissolved Oxygen (mg/L)	ORP (mV)
TGA Wells				**Cleanup Level (b)**	**1.35**			
LAI-2	MI48D	2/6/2008	0.25 U	0.50 U	ND	---	---	---
LAI-2	MW40E	5/13/2008	0.25 U	0.50 U	ND	6.20	0.92	105.6
LAI-2	NK99B	8/15/2008	0.25 U	0.50 U	ND	6.23	12.67	25.5
LAI-2	NZ31A	11/7/2008	0.25 U	0.77	0.77	6.36	4.26	146.3
LAI-3	MI48C	2/6/2008	0.25 U	0.50 U	ND	---	---	---
LAI-3	MW40D	5/13/2008	0.25 U	0.50 U	ND	6.54	4.07	92.2
LAI-3	NK99A	8/15/2008	0.25 U	0.50 U	ND	6.55	12.41	-21.2
LAI-3	NZ31B	11/7/2008	0.25 U	0.50 U	ND	6.58	7.17	158.0
LAI-4	MH73F	2/5/2008	26	36	62	6.67	1.88	107.0
LAI-4	MO93A	3/25/2008	12	14	26	6.60	2.33	28.5
LAI-4	MT19C	4/21/2008	20	26	46	6.56	1.58	-27.7
LAI-4	MW70A	5/14/2008	17	24	41	6.14	3.21	-42.8
LAI-4	NC71A	6/24/2008	61	100 U	61	6.51	0.98	-119.6
LAI-4	NF56A	7/14/2008	39	52	91	6.38	3.00	87.3
LAI-4	NK72C	8/14/2008	15	19	34	6.47	8.41	-24.8
LAI-4	NP40A	9/16/2008	27	31	58	6.74	2.54	81.4
LAI-4	NW90A	10/28/2008	13	19	32	7.91	2.47	65.1
LAI-4	NY67D	11/6/2008	24	29	53	6.55	1.63	131.3
LAI-4	OE69A	12/16/2008	31	34	65	8.60	2.61	11.3
LAI-5	MI48G	2/6/2008	0.25 U	0.50 U	ND	---	---	---
LAI-5	MW70B	5/14/2008	0.25 U	0.50 U	ND	6.54	7.25	57.6
LAI-5	NK99C	8/15/2008	0.25 U	0.50 U	ND	6.67	9.79	33.7
LAI-5	NZ31C	11/7/2008	0.25 U	0.50 U	ND	6.62	6.60	164.4
LAI-6	MI48F	2/6/2008	0.25 U	0.50 U	ND	---	---	---
LAI-6	MW70C	5/14/2008	0.25 U	0.64	0.64	6.76	6.23	83.0
LAI-6	NK99D	8/15/2008	0.25 U	0.50 U	ND	6.58	9.98	34.4
LAI-6	NZ31D	11/7/2008	0.25 U	0.50 U	ND	6.67	5.45	178.1
LAI-7	MI48B	2/6/2008	0.25 U	1.0	1.0	6.83	0.64	114.7
LAI-7	MO93B	3/25/2008	0.25 U	0.50 U	ND	7.06	6.75	-28.2
LAI-7	MT19B	4/21/2008	0.54	2.1	2.6	6.76	4.75	119.0
LAI-7	MW40B	5/13/2008	0.25 U	0.94	0.94	6.74	2.48	-17.1
LAI-7	NC71B	6/24/2008	0.25 U	0.75	0.75	6.68	0.99	-58.3
LAI-7	NF56B	7/14/2008	0.25 U	0.50 U	ND	6.88	2.90	85.6
LAI-7	NK72B	8/14/2008	0.25 U	0.50 U	ND	7.01	8.67	-36.8
LAI-7	NP40B	9/16/2008	0.25 U	0.72	0.72	6.74	2.98	82.8
LAI-7	NW90B	10/28/2008	0.25 U	0.50 U	ND	6.76	1.55	49.7
LAI-7	NY67C	11/6/2008	0.25 U	0.93	0.93	6.86	7.92	150.8
LAI-7	OE69B	12/16/2008	0.25 U	0.50 U	ND	7.65	3.16	30.5
LAI-8	MI48A	2/6/2008	0.86	0.57	1.43	NM	NM	NM
LAI-8	MW40A	5/13/2008	2.3	0.87	3.17	NM	NM	NM
LAI-8	NK72D	8/14/2008	1.6	4.2	5.8	6.99	4.37	-49.2
TSA Wells								
BOP-62(ds)	MI48L	2/7/2008	0.25 U	0.50 U	ND	8.07	0.88	52.2
BOP-62(ds)	MW70E	5/14/2008	0.25 U	0.50 U	ND	7.85	4.57	110.2

TABLE 4
WATER ANALYTICAL RESULTS
TPH-Dx AND FIELD PARAMETERS
COOLANT RELEASE INVESTIGATION
BOEING PORTLAND FACILITY

			NWTPH-Dx (mg/L) (a)			Field Parameters		
			Diesel	Motor Oil	Total TPH-Dx	pH	Dissolved Oxygen (mg/L)	ORP (mV)
TGA Wells				**Cleanup Level (b)**	**1.35**			
BOP-62(ds)	NL00A	8/18/2008	0.25 U	0.50 U	ND	7.11	6.35	158.3
BOP-62(ds)	NY53D	11/4/2008	0.25 U	0.50 U	ND	7.63	3.88	142.9
BOP-65(ds)	MI48J	02/07/2008	0.25 U	0.50 U	ND	7.64	8.58	90.6
EW-13	MI48R	2/11/2008	0.25 U	0.50 U	ND	7.48	5.41	63.9
EW-13	MW70J	5/14/2008	0.25 U	0.50 U	ND	7.61	4.21	-38.1
EW-13	NK49F	8/12/2008	0.25 U	0.50 U	ND	7.36	6.51	49.7
EW-13	NY53A	11/4/2008	0.25 U	0.50 U	ND	7.30	6.51	140.4
Sump								
Sump Drain	MO93C	3/25/2008	0.72	0.50 U	0.72	6.79	2.15	43.0
Sump Drain	MT19A	4/21/2008	1.6	2.5 U	1.60	6.63	2.67	146.0
Sump Drain	NC71C	6/24/2008	0.25 U	0.50 U	ND	6.45	1.92	-30.4
Sump Drain	NF56C	7/14/2008	0.25 U	0.50 U	ND	6.57	2.13	90.0
Sump Drain	NP40C	9/16/2008	0.25 U	0.50 U	ND	6.27	2.11	101.3
Sump Drain	NW90C	10/28/2008	0.93	1.2	2.1	6.52	2.31	118.2

U = Indicates compound was analyzed for, but was not detected at the given reporting limit.
ND = Not detected.
NM = Not measured.
Boxed value indicates concentration above the cleanup level.

(a) Samples analyzed after September 27, 2006 had silica gel and acid wash preparation steps conducted.
(b) Site-specific DEQ Risk-Based cleanup standard based on sum of diesel and motor oil components

TABLE 5
WATER CHARACTERIZATION ANALYTICAL RESULTS
COOLANT RELEASE INVESTIGATION
BOEING PORTLAND FACILITY

	Consent Order Cleanup Levels	LAI-4 MW70A 05/14/2008	LAI-4 NK72C 08/14/2008	LAI-4 NY67D 11/06/2008	LAI-6 MI48F 02/06/2008	LAI-6 MW70C 05/14/2008	LAI-6 NK99D 08/15/2008	LAI-6 NZ31D 11/07/2008	LAI-7 MW40B 05/13/2008	LAI-7 NK72B 08/14/2008	LAI-7 NY67C 11/06/2008
VOLATILES (µg/L)											
Methods SW8260B/EPA 624											
Vinyl Chloride	2.0	1.0 U	**1.1**	**1.0**	1.0 U	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.2**
1,1-Dichloroethene	7.0	1.0 U	0.2 U	0.6 U	1.0 U	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	70.0	1.0 U	0.2 U	0.6 U	1.0 U	1.0 U	0.2 U	0.2 U	**0.4**	**0.3**	**1.7**
cis-1,2-Dichloroethene	70.0	**2.2**	**2.1**	**1.7**	**4.5**	**14**	**6.8**	**5.4**	**47**	**60**	**73**
1,1,1-Trichloroethane	200.0	1.0 U	0.2 U	0.6 U	1.0 U	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	5.0	1.0 U	**0.7**	0.6 U	**4.5**	**28**	**14**	**16**	**7.4**	**6.6**	**5.2**
Tetrachloroethene	5.0	1.0 U	**0.2**	0.6 U	1.0 U	**1.8**	**1.5**	**1.3**	**2.2**	**1.9**	**1.5**

U = Indicates compound was analyzed for, but was not detected at the given reporting limit.
NA = Not analyzed.
Bold indicates concentrations detected above the laboratory reporting limits.
Boxed values are above the respective cleanup levels

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
BASELINE INJECTION SAMPLING
BOEING OF PORTLAND

	BOP-16i NT51H 10/8/2008	E-2 NT51E 10/8/2008	E-3 NT51F 10/8/2008	E-4 NT51G 10/8/2008	E-16 NT51I 10/8/2008	GWTS Influent NT51C 10/8/2008	IW-6 NT51A 10/7/2008	IW-7 NT51B 10/7/2008
VOLATILES (µg/kg)								
Method SW8260B								
Chloromethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Chloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
Acetone	3.0 U	3.0 U	**3.5**	3.0 U	3.0 U	NA	3.0 U	**3.4**
Carbon Disulfide	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,1-Dichloroethene	**1.6**	**1.5**	**12**	**30**	**2.2**	NA	**2.7**	**10**
1,1-Dichloroethane	0.2 U	0.2 U	**0.3**	**0.7**	0.2 U	NA	**0.9**	**3.4**
trans-1,2-Dichloroethene	0.2 U	0.2 U	**0.2**	0.2 U	0.2 U	NA	**0.2**	0.2 U
cis-1,2-Dichloroethene	**2.1**	**0.7**	**5.2**	**2.7**	**4.4**	NA	**6.4**	**4.5**
Chloroform	**0.5**	**0.2**	**0.7**	**0.4**	**0.7**	NA	**1.1**	**0.4**
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
2-Butanone	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	NA	2.5 U	2.5 U
1,1,1-Trichloroethane	**1.2**	**0.8**	**3.0**	**4.1**	**3.6**	NA	**2.7**	**2.0**
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	**0.4**	0.2 U
Vinyl Acetate	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U
Bromodichloromethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,2-Dichloropropane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Trichloroethene	**7.9**	**11**	**89**	**180**	**20**	NA	**48**	**1,100**
Dibromochloromethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	**0.2**
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
2-Chloroethylvinylether	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U
Bromoform	0.2 U	**0.6**	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
4-Methyl-2-Pentanone (MIBK)	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	NA	2.5 U	2.5 U
2-Hexanone	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	NA	2.5 U	2.5 U
Tetrachloroethene	**0.4**	**0.5**	**2.8**	**5.5**	**2.7**	NA	**4.2**	**57**
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	**0.6**
Chlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Styrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Trichlorofluoromethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2 U	**0.4**	**4.4**	**14**	0.2 U	NA	0.2 U	**1.3**
m,p-Xylene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	NA	0.4 U	0.4 U
o-Xylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Acrolein	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U
Methyl Iodide	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U
Bromoethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Acrylonitrile	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U
1,1-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
BASELINE INJECTION SAMPLING
BOEING OF PORTLAND

	BOP-16i NT51H 10/8/2008	E-2 NT51E 10/8/2008	E-3 NT51F 10/8/2008	E-4 NT51G 10/8/2008	E-16 NT51I 10/8/2008	GWTS Influent NT51C 10/8/2008	IW-6 NT51A 10/7/2008	IW-7 NT51B 10/7/2008
Dibromomethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,1,1,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U
1,3,5-Trimethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,2,4-Trimethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
Ethylene Dibromide	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Bromochloromethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
2,2-Dichloropropane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,3-Dichloropropane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Isopropylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
n-Propylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
Bromobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
2-Chlorotoluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
4-Chlorotoluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
tert-Butylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
sec-Butylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
4-Isopropyltoluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
n-Butylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U
TOTAL METALS (µg/L)								
Method EPA200.8								
Arsenic	NA	NA	NA	NA	NA	**0.6**	NA	NA
CONVENTIONALS (mg/L)								
Nitrate (EPA300.0)	**2.7**	**3.2**	**2.8**	**2.8**	**2.6**	NA	**2.1**	**4.1**
Sulfate (EPA300.0)	**10.0**	**11.7**	**10.6**	**10.2**	**8.0**	NA	**9.6**	**18.5**
Total Organic Carbon (EPA415.1)	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Biochemical Oxygen Demand (EPA405.1)	NA	NA	NA	NA	NA	2 U	NA	NA
DISSOLVED GASES (µg/L)								
Method RSK-175								
Methane	**4.2**	0.7 U	**0.9**	**2.0**	0.7 U	NA	0.7 U	**8.8**
Ethane	**2.0**	1.2 U	1.2 U	1.2 U	1.2 U	NA	1.2 U	**4.2**
Ethene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	NA	1.1 U	**2.8**

U = Indicates the compound was undetected at the reported concentration
Bold indicates detected compound.
NA = Not analyzed.

TABLE 7
ELECTRON DONOR INJECTION MONITORING RESULTS
BOEING OF PORTLAND

			Field Parameters		Analytical Parameters		
Location	Lab ID	Date Collected	Dissolved Manganese (mg/L)	Dissolved Iron (mg/L)	Total Arsenic EPA200.8 (µg/L)	Total Organic Carbon EPA415.1/EPA 9060 (mg/L)	Biochemical Oxygen Demand EPA5210B/405.1 (mg/L)
GWTS Monitoring							
Baseline Influent	NT51C	10/08/2008	0	0	0.6	1.5 U	2 U
Baseline Effluent Side	NT51D	10/08/2008	0	0	0.6	1.5 U	2 U
Influent	A812049-01	12/4/2008 (a)	NA	NA	NA	1.72	3.1
Effluent Side	A812049-02	12/4/2008 (a)	NA	NA	NA	NA	3.8
Effluent Top	A812049-03	12/4/2008 (a)	NA	NA	NA	NA	2.9
Outfall	A812049-04	12/4/2008 (a)	NA	NA	NA	NA	2.3
Influent	A812118-03	12/11/2008	NA	NA	NA	20.6	40.9
Effluent Side	A812118-04	12/11/2008	NA	NA	NA	NA	34.2
Effluent Top	A812118-05	12/11/2008	NA	NA	NA	NA	59.0
Outfall	A812118-06	12/11/2008	NA	NA	NA	NA	23.7
Outfall Eddy	A812118-07	12/11/2008	NA	NA	NA	NA	25.6
Influent	A812171-03	12/18/2008	NA	NA	NA	142	125
Effluent Side	A812171-04	12/18/2008	NA	NA	NA	NA	127
Effluent Top	A812171-05	12/18/2008	NA	NA	NA	NA	129
Outfall	A812171-06	12/18/2008	NA	NA	NA	NA	37.0
Outfall Eddy	A812171-07	12/18/2008	NA	NA	NA	NA	17.8
Influent	A812221-04	12/31/2008	NA	NA	NA	0.40	2.0 U
Effluent Side	A812221-06	12/31/2008	NA	NA	NA	NA	2.0 U
Effluent Top	A812221-05	12/31/2008	NA	NA	NA	NA	3.4
Outfall	A812221-02	12/31/2008	NA	NA	NA	NA	2.0 U
Outfall Eddy	A812221-03	12/31/2008	NA	NA	NA	NA	2.0 U
Monitoring Wells							
Baseline E-2	NT51E	10/08/2008	NA	NA	NA	1.5 U	NA
E-2	A812049-05	12/04/2008	NA	NA	NA	NA	268
E-2	A812118-02	12/11/2008	NA	NA	NA	NA	486
E-2	A812171-01	12/18/2008	NA	NA	NA	684	1,950
E-12	A812049-06	12/04/2008	NA	NA	NA	NA	37.7
E-12	A812118-01	12/11/2008	NA	NA	NA	NA	2.0 U
E-12	A812171-02	12/18/2008	NA	NA	NA	3.99	446
E-12	A812221-01	12/31/2008	NA	NA	NA	3.59	2.0 U

(a) = E-12 pumping to GWTS, not E-2 or other wells shutoff per injection workplan.
U = Indicates the compound was undetected at the reported concentration.
NA = Not Analyzed

TABLE 8
GALLONS EXTRACTED
GROUNDWATER TREATMENT SYSTEM

Location	July 2008 Gallons Pumped	July 2008 Run Time Operational Minutes	July 2008 Pump Rate (gpm)	July 2008 Avg. Yield (gpm)	August 2008 Gallons Pumped	August 2008 Run Time Operational Minutes	August 2008 Pump Rate (gpm)	August 2008 Avg. Yield (gpm)	September 2008 Gallons Pumped	September 2008 Run Time Operational Minutes	September 2008 Pump Rate (gpm)	September 2008 Avg. Yield (gpm)
E-2	2,247,799	44,599	50.40	50.35	2,091,107	44,639	46.85	46.91	1,763,769	41,308	42.70	40.88
E-3	160,365	44,546	3.60	3.59	138,385	44,639	3.10	3.10	173,745	40,219	4.32	4.03
E-4	89,635	37,912	2.36	2.01	111,575	44,630	2.50	2.50	103,251	41,301	2.50	2.39
E-5	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-6	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-7	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-8	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-9	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-10	0	0	0.00	0.00	1,378,402	44,609	30.90	30.92	928,800	41,303	22.49	21.53
E-11	173,926	44,586	3.90	3.90	142,753	44,610	3.20	3.20	132,149	41,296	3.20	3.06
E-12	528,944	44,565	11.87	11.85	571,328	44,635	12.80	12.82	621,285	41,281	15.05	14.40
E-13	7,396,570	44,548	166.04	165.69	7,296,644	39,386	185.26	163.67	1,012,680	16,098	62.91	23.47
E-14	136,147	39,132	3.48	3.05	183,017	44,638	4.10	4.11	185,967	41,326	4.50	4.31
E-15	91,036	44,592	2.04	2.04	79,933	43,096	1.85	1.79	78,462	41,296	1.90	1.82
E-16	39,299	44,591	0.88	0.88	3,372	8,672	0.39	0.08	41,313	41,312	1.00	0.96
EW-3	5,025,795	40,774	123.26	112.59	5,471,160	43,098	126.95	122.72	5,254,944	41,318	127.18	121.81
EW-13	582,053	44,441	13.10	13.04	618,381	38,780	15.95	13.85	397,356	27,404	14.50	9.21
EW-22	7,380,287	38,257	192.92	165.33	8,675,611	44,610	194.48	194.60	8,041,304	41,301	194.70	186.40
DP-1	30,605	11,771	2.60	0.69	59,607	30,258	1.97	1.34	116,893	41,282	2.83	2.71
Total	**23,882,459**				**26,821,274**				**18,851,920**			

TABLE 8
GALLONS EXTRACTED
GROUNDWATER TREATMENT SYSTEM

Location	October 2008				November 2008				December 2008			
	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)
E-2	1,510,210	28,048	53.84	33.83	0	0	0.00	0.00	305	5,779	0.05	0.01
E-3	120,235	28,039	4.29	2.69	0	0	0.00	0.00	0	0	0.00	0.00
E-4	65,426	28,041	2.33	1.47	0	0	0.00	0.00	0	0	0.00	0.00
E-5	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-6	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-7	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-8	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-9	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-10	409,360	10,523	38.90	9.17	211,237	7,256	29.11	4.89	0	0	0.00	0.00
E-11	148,985	44,536	3.35	3.34	0	0	0.00	0.00	0	0	0.00	0.00
E-12	320,924	22,621	14.19	7.19	0	0	0.00	0.00	0	0	0.00	0.00
E-13	5,326,525	44,298	120.24	119.32	5,768,353	44,298	130.22	133.53	5,603,361	44,424	126.13	125.52
E-14	86,368	19,246	4.49	1.93	0	0	0.00	0.00	0	0	0.00	0.00
E-15	119,017	44,536	2.67	2.67	57,438	15,859	3.62	1.33	0	0	0.00	0.00
E-16	41,043	44,552	0.92	0.92	20,729	28,823	0.72	0.48	0	0	0.00	0.00
EW-3	5,083,857	41,258	123.22	113.89	1,217,760	23,058	52.81	28.19	5,505,898	44,347	124.16	123.34
EW-13	647,978	44,564	14.54	14.52	555,055	41,804	13.28	12.85	536,237	44,399	12.08	12.01
EW-22	7,664,220	40,821	187.75	171.69	0	0	0.00	0.00	0	0	0.00	0.00
DP-1	15,795	44,522	0.35	0.35	139,305	42,302	3.29	3.22	157,365	44,516	3.54	3.53
Total	**21,559,945**				**7,969,878**				**11,803,167**			

Notes:
1. Average yield reflects total gallons pumped divided by total minutes for the measuring period.
2. Well E-1 was abandoned in June 2004 and is no longer shown.
3. EW-3, EW-13, and EW-22 are TSA extraction wells.
4. Wells E-5 through E-9 were not operated this quarter except for sampling.
5. Well E-10 was offline in July 2008.

TABLE 9
COOLANT RELEASE TREATMENT SYSTEM PERMANCE EVALUATION
BOEING PORTLAND FACILITY

			POLAR/NON-POLAR OIL AND GREASE (mg/L) Method E1664			NWTPH-Dx (mg/L)	
Location	Lab ID	Date Collected	Total Hexane Extractable Material (HEM)	Non-Polar Extractable Material (SGT)	HEM Polar Oil & Grease	Diesel	Motor Oil
OWS Inf	MI48T	2/11/2008	8.0	7.0	5.0 U	1.7	2.4
GAC 1 Inf	MI48V	2/11/2008	15.0	11.6	5.1 U	NA	NA
GAC 2 Inf	MI48W	2/11/2008	5.0 U	5.0 U	5.0 U	NA	NA
System Eff	MI48U	2/11/2008	12.4	9.4	5.4 U	NA	NA
OWS Inf	MX49E	5/20/2008	1230	1150	80.0	86	110
GAC 1 Inf	MX49G	5/20/2008	117	96.1	20.9	NA	NA
GAC 2 Inf	MX49H	5/20/2008	4.8 U	4.8 U	4.8 U	NA	NA
System Eff	MX49F	5/20/2008	84.2	70.6	13.6	NA	NA
OWS Inf	NL60B/NM01A	8/21/2008	4.8 U	4.8 U	4.8 U	0.25 U	0.50 U
GAC 1 Inf	NL60D	8/21/2008	4.7 U	4.7 U	4.7 U	NA	NA
GAC 2 Inf	NL60E	8/21/2008	4.7 U	4.7 U	4.7 U	NA	NA
System Eff	NL60C	8/21/2008	4.8 U	4.8 U	4.8 U	NA	NA
OWS Inf	NY67F	11/6/2008	4.8 U	4.8 UJ	4.8 U	0.25 UJ	0.50 UJ
GAC 1 Inf	NZ31F	11/8/2008	4.8 U	4.8 UJ	4.8 U	NA	NA
GAC 2 Inf	NY67G	11/6/2008	4.7 U	4.7 UJ	4.7 U	NA	NA
System Eff	NZ31E	11/8/2008	45.2	36.0 J	9.2	NA	NA

U = Indicates compound was analyzed for, but was not detected at the given reporting limit.
J = Indicates analyte was positively identified; the value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
NA = Not analyzed.

APPENDIX A

Selected Portions of Historical TGA and TSA Documents

EXERPT FROM

PERFORMANCE MONITORING PLAN, CORRECTIVE MEASURE IMPLEMENTATION

(Landau Associates 1999)

2.0 OBJECTIVES AND APPROACH

The corrective action objectives (CAO) for this corrective action were established in the Phase 2 Corrective Measure Study (CMS) (Landau Associates 1996). These CAOs are as follows:

CAO-a. Decrease volatile organic compound (VOC) concentrations (i.e., mass removal) throughout the site to achieve maximum contaminant levels (MCL). If this is not feasible, then minimize the areal extent of groundwater contamination that exceeds MCLs and provide long-term containment for those areas with concentrations above MCLs.

CAO-b. Prevent exposure to TGA groundwater that contains VOCs at concentrations above MCLs.

CAO-c. Protect environmental receptors by preventing discharge of TGA groundwater to surface water at VOC contaminant concentrations that may exceed ambient water quality criteria.

CAO-d. Prevent the further spread of contamination in the TGA (i.e., prevent the migration of groundwater containing VOCs above MCLs).

CAO-e. Protect groundwater quality in the TSA.

CAO-f. Allow existing uses of groundwater resources in east Multnomah County.

CAO-g. Reduce concentrations of VOCs and minimize migration of VOCs from deep vadose zone soils to the TGA, which could compromise satisfying objective "a" for groundwater noted above.

The purpose of this plan is to provide a framework for collecting and evaluating the data needed to assess the progress of the corrective measure toward achieving these CAOs. To assess the progress toward achieving these objectives, the plan includes the measurement and evaluation of the following parameters:

- Groundwater quality to assess VOC concentration trends at selected monitoring well locations and to assess the performance of individual groundwater extraction wells in removing VOC mass; groundwater quality data will be used to address CAO-a and CAO-e
- Groundwater levels to assess hydraulic gradients between selected monitoring wells, hydraulic capture of the VOC plume, and hydraulic influence of individual extraction wells; groundwater level data will be used to address CAO-b
- VOC concentrations in extracted soil vapor to assess the VOC mass removal rate of the SVE and dual-phase extraction systems; VOC concentrations in soil vapor will be used to address CAO-g
- Soil vacuum to assess radius of influence of vapor extraction wells; soil vacuum data will be used to address CAO-g
- Groundwater extraction (i.e., groundwater volume removal) data to allow the mass of dissolved phase VOCs removed by pumping to be calculated and to assess the performance of individual extraction wells; groundwater extraction data will be used to address CAO-a
- VOC concentrations in treated groundwater to monitor compliance with applicable water discharge standards and to assess treatment system effectiveness; VOC concentrations in treated groundwater will be used to address CAO-c and CAO-d.

The Phase 2 CMS divided the site into six separate areas termed corrective action areas, as shown on Figure 1. The delineation of these areas was based on the need to identify areas with similar contaminant sources, contaminant levels, and hydrogeologic conditions to evaluate potential corrective actions at the site. The performance monitoring plan retains these areas and includes the measurement and evaluation of the above listed parameters in each of the six areas to assess the progress toward achieving the corrective action objectives for each area. Details on the performance monitoring plan (e.g., monitoring locations, parameters, sampling schedule) are presented in the following section.

N

NE SANDY BLVD

BOP-22(ds)
BOP-22(dg)

BOP-21(ds)

BOP-20(ds)
BOP-20(dg)

EW-22

85-001

85-120

BOP-23(ds)
BOP-23(dg)

EW-23

BOP-60(ds)
BOP-60(dg)

EW-3

BOP-61(ds)
BOP-61(dg)

BOP-65(ds)

EW-13

BOP-66(ds)

BOP-31(ds)
BOP-31(dg)

BOP-62(ds)

85-105

BOP-42(ds)
BOP-42(dg)

Interstate 84

BOP-13(ds)
BOP-13(dg)

Legend

- BOEING AND CASCADE PROPERTY BOUNDARIES
- TSA MONITORING WELL
- UPPER TSA EXTRACTION WELL
- LOWER TSA EXTRACTION WELL

0 250 500

Scale in Feet

Y:\Projects\025116\608\674\Fig1.mxd 12/1/2008

LANDAU ASSOCIATES
PROWELL ENVIRONMENTAL
PEGASUS GEOSCIENCE

TSA Remedial Action
East Multnomah County,
Oregon

TSA Remedy Extraction and Monitoring Well Locations Monitored by The Boeing Company

Figure
1

TABLE A-1
TSA EXTRACTION WELL GROUNDWATER ELEVATION DATA
THE BOEING COMPANY
FOURTH QUARTER 2008

	Date	Time	M.P. Elev.	Depth to Water	Water Level Elevation (ft, MSL) October 2008	Water Level Elevation (ft, MSL) September 2008	Monthly Change in Water Level
WEST SYSTEM TSA EXTRACTION WELLS							
EW-3	10/1/2008	10:22	94.26	124.35	-30.09	-29.48	-0.61
EW-13	10/1/2008	9:13	103.59	148.71	-45.12	-42.73	-2.39
EW-22	10/1/2008	11:23	81.45	150.62	-69.17	-63.76	-5.41

	Date	Time	M.P. Elev.	Depth to Water	Water Level Elevation (ft, MSL) November 2008	Water Level Elevation (ft, MSL) October 2008	Monthly Change in Water Level
WEST SYSTEM TSA EXTRACTION WELLS							
EW-3	11/17/2008	13:43	94.26	91.74	2.52	-30.09	32.61
EW-13	11/17/2008	15:48	103.59	143.44	-39.85	-45.12	5.27
EW-22	11/17/2008	12:37	81.45	76.13	5.32	-69.17	74.49

	Date	Time	M.P. Elev.	Depth to Water	Water Level Elevation (ft, MSL) December 2008	Water Level Elevation (ft, MSL) November 2008	Monthly Change in Water Level
WEST SYSTEM TSA EXTRACTION WELLS							
EW-3	12/15/2008	11:35	94.26	93.42	0.84	2.52	-1.68
EW-13	12/15/2008	11:59	103.59	144.34	-40.75	-39.85	-0.90
EW-22	12/15/2008	13:19	81.45	77.66	3.79	5.32	-1.53

TABLE A-2
TSA MONITORING WELL QUARTERLY GROUNDWATER ELEVATION DATA
THE BOEING COMPANY
FOURTH QUARTER 2008

	Date	Time	M.P. Elev.	Depth to Water	Water Level Elevation (ft, MSL) November 2008	Water Level Elevation (ft, MSL) August 2008	Change in Water Level
TSA MONITORING WELLS							
BOP-13(ds)	11/24/2008	13:36	128.94	>130.24 (a)	<-1.30 (a)	<-1.30 (a)	NA
BOP-13(dg)	11/24/2008	13:53	128.71	130.54	-1.83	-2.54	0.71
BOP-20(ds)	11/24/2008	12:21	77.45	74.82	2.63	-9.78	12.41
BOP-20(dg)	11/24/2008	12:27	77.32	74.55	2.77	-10.23	13.00
BOP-22(ds)	11/24/2008	12:45	81.93	78.12	3.81	-3.17	6.98
BOP-22(dg)	11/24/2008	12:50	81.05	75.78	5.27	3.27	2.00
BOP-23(ds)	11/24/2008	10:28	76.97	72.62	4.35	3.57	NA
BOP-23(dg)	11/24/2008	10:36	76.96	73.22	3.74	-3.24	6.98
BOP-31(ds)	11/24/2008	10:12	99.04	>91.94 (b)	<7.10 (b)	<7.10 (b)	NA
BOP-31(dg)	11/24/2008	10:17	98.51	95.96	2.55	-4.70	7.25
BOP-42(ds)	11/24/2008	13:03	130.74	129.86	0.88	-3.66	4.54
BOP-42(dg)	11/24/2008	13:18	130.71	130.55	0.16	0.21	-0.05
BOP-60(ds)	11/24/2008	10:47	92.75	90.10	2.65	-14.45	17.10
BOP-60(dg)	11/24/2008	10:59	93.59	90.61	2.98	-13.31	16.29
BOP-61(ds)	11/24/2008	14:21	94.64	96.44	-1.80	-2.81	NA
BOP-61(dg)	11/24/2008	11:20	94.43	92.85	1.58	-2.12	3.70
BOP-62(ds)	11/24/2008	11:41	114.32	114.12	0.20	-12.44	12.64
BOP-65(ds)	11/24/2008	11:49	104.22	102.16	2.06	<-8.00	NA
BOP-66(ds)	11/24/2008	11:58	102.97	>100.17 (b)	<2.80 (b)	<2.80 (b)	NA

(a) Measured water level is in sump; well is effectively dry.

(b) Water level is below bottom of screen or well is dry. Value shown is depth to bottom of screen.

TABLE B-1
SUMMARY OF GROUNDWATER QUALITY FOR COPCS (a)
FOURTH QUARTER 2008
THE BOEING COMPANY

Sample Location or I.D.	Sample Date	Lab ID	Trichloro-ethene (TCE)	cis-1,2-Dichloro-ethene (cis-1,2-DCE)	Tetra-chloro-ethene (PCE)	1,1-Dichloro-ethene (DCE)	Vinyl Chloride (VC)
TSA Wells:							
BOP-22(ds) (b)	10/16/2008	NV18A	80	4.0	1.1	2.0	0.2 U
BOP-22(ds) (b)	10/27/2008	NW58B	79	4.6	1.3	2.6	0.2 U
BOP-22(ds)	11/14/2008	OA45M	56	3.7	0.8	1.6	0.2 U
BOP-22(ds)-222	11/14/2008	K0811244-020	75	6.8	1.2	2.2	0.50 U
BOP-22(ds)-227	11/14/2008	K0811244-018	120	7.6	2.6	3.0	0.50 U
BOP-22(ds)-227 Dup	11/14/2008	K0811244-019	100	7.5	2.5	2.9	0.50 U
BOP-22(ds)-231	11/14/2008	K0811244-023	170	9.1	3.8	4.8	0.50 U
BOP-22(ds)-236	11/14/2008	K0811244-022	73	6.7	1.6	2.5	0.50 U
BOP-22(ds)-240	11/14/2008	K0811244-021	82	5.5	0.9	2.6	0.50 U
BOP-22(ds) (b)	12/3/2008	OC58A	5.4	0.3	0.2 U	0.2 U	0.2 U
BOP-22(ds) (b)	12/11/2008	OD88B	6.6	0.5	0.2 U	0.2	0.2 U
BOP-22R(ds) (b)	10/27/2008	NW58A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BOP-22R(ds)	11/14/2008	OA45N	30	2.7	0.4	1.0	0.2 U
BOP-22R(ds)-246	11/14/2008	K0811244-025	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
BOP-22R(ds)-251	11/14/2008	K0811244-024	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
BOP-22R(ds)-255	11/14/2008	K0811244-028	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BOP-22R(ds)-260	11/14/2008	K0811244-027	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BOP-22R(ds)-264	11/14/2008	K0811244-026	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BOP-22R(ds) (b)	12/3/2008	OC58B	0.2	0.2 U	0.2 U	0.2 U	0.2 U
BOP-22R(ds) (b)	12/11/2008	OD88A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BOP-60(ds) (b)	11/14/2008	OA45L	5.7	0.3	0.2 U	2.2	0.2 U
BOP-60(ds)-159	11/14/2008	K0811244-017	59	2.5	2.7	24	0.5 U
BOP-60(ds)-163	11/14/2008	K0811244-015	49	2.2	2.1	20	0.5 U
BOP-60(ds)-163 Dup	11/14/2008	K0811244-016	50	2.2	2.1	19	0.5 U
BOP-60(ds)-167	11/14/2008	K0811244-014	46	2.0	2.0	17	0.5 U
BOP-65(ds) (b)	11/14/2008	OA45K	4.6	1.1	0.2	0.2 U	0.2 U
BOP-65(ds)-108	11/14/2008	K0811244-013	6.9	1.3	0.5 U	0.5 U	0.5 U
BOP-65(ds)-112	11/14/2008	K0811244-012	6.2	1.1	0.5 U	0.5 U	0.5 U

TABLE B-1
SUMMARY OF GROUNDWATER QUALITY FOR COPCS (a)
FOURTH QUARTER 2008
THE BOEING COMPANY

Sample Location or I.D.	Sample Date	Lab ID	Trichloro-ethene (TCE)	cis-1,2-Dichloro-ethene (cis-1,2-DCE)	Tetra-chloro-ethene (PCE)	1,1-Dichloro-ethene (DCE)	Vinyl Chloride (VC)
West Groundwater Treatment System (GWTS) Extraction Wells:							
EW-3 (b)	11/14/2008	OA45P	2.6	0.4	0.2 U	0.2 U	0.2 U
EW-3-173	11/14/2008	OA45F	2.4	0.4	0.2 U	0.2 U	0.2 U
EW-3-179	11/14/2008	OA45G	2.3	0.4	0.2 U	0.2 U	0.2 U
EW-3-185	11/14/2008	OA45H	2.4	0.4	0.2 U	0.2 U	0.2 U
EW-3-191	11/14/2008	OA45I	2.4	0.3	0.2 U	0.2 U	0.2 U
EW-3-196	11/14/2008	OA45J	2.4	0.4	0.2 U	0.2 U	0.2 U
EW-13 (b)	11/4/2008	NY65A	6.3	1.6	0.3	0.2 U	0.2 U
EW-22 (b)	11/14/2008	OA45O	0.6	0.2 U	0.2 U	0.2 U	0.2 U
EW-22-181	11/14/2008	OA45A	0.5	0.2 U	0.2 U	0.2 U	0.2 U
EW-22-181 Split	11/14/2008	K0811244-002	0.59	0.50 U	0.50 U	0.50 U	0.50 U
EW-22-191	11/14/2008	OA45B	0.5	0.2 U	0.2 U	0.2 U	0.2 U
EW-22-191 Split	11/14/2008	K0811244-001	0.52	0.50 U	0.50 U	0.50 U	0.50 U
EW-22-200	11/14/2008	OA45C	0.4	0.2 U	0.2 U	0.2 U	0.2 U
EW-22-200 Split	11/14/2008	K0811244-005	0.52	0.50 U	0.50 U	0.50 U	0.50 U
EW-22-200 Dup	11/14/2008	K0811244-006	0.54	0.50 U	0.50 U	0.50 U	0.50 U
EW-22-210	11/14/2008	OA45D	0.4	0.2 U	0.2 U	0.2 U	0.2 U
EW-22-210 Split	11/14/2008	K0811244-004	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
EW-22-219	11/14/2008	OA45E	0.4	0.2 U	0.2 U	0.2 U	0.2 U
EW-22-219 Split	11/14/2008	K0811244-003	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

U = Compound was analyzed for but not detected at the given detection limit.

(a) Analytical results are reported for constituents of potential concern (COPC) as identified in the final TSA Endangerment Assessment (EMCON and Landau Associates, Inc., October 6, 1995) and final TSA feasibility study (Landau Associates, Inc., and EMCON March 4, 1996).

(b) Sample collected using conventional purge sample method or grab sample from extraction wells; all other samples collected using diffusion bags.

NOTE:

1. Concentrations reported as µg/L, or parts per billion (ppb).

TABLE B-2
GWTS EFFLUENT TEMPERATURE
FOURTH QUARTER 2008
THE BOEING COMPANY

	GWTS Effluent Average Monthly Temperature (deg F)
Current Quarter:	
4th Quarter 2008	
December 2008	51
November 2008	53
October 2008	53
Previous Three Quarters:	
3rd Quarter 2008	
September 2008	51
August 2008	52
July 2008	55
2nd Quarter 2008	
June 2008	51
May 2008	52
April 2008	52
1st Quarter 2008	
March 2008	51
February 2008	52
January 2008	52

Note: Monthly average is calculated by the PLC from daily measurements.

APPENDIX C

Historical TGA and Select TSA Groundwater Quality Data

(Provided in Appendix B CD)

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-01i	6/4/1986	94	--	--	310	290	96	2500	--
West Area	BOP-01i	9/3/1986	69	--	--	380	210	77	2300	--
West Area	BOP-01i	12/2/1986	110	--	--	390	220	99	2700	--
West Area	BOP-01i	4/16/1987	76	--	--	250	1700	65	1700	--
West Area	BOP-01i	6/10/1987	69	--	260	260	2300	75	1900	--
West Area	BOP-01i	6/24/1987	69	--	270	270	2400	74	1800	--
West Area	BOP-01i	7/8/1987	170	--	--	320	2100	110	2100	--
West Area	BOP-01i	7/10/1987	87	--	320	320	2700	82	2400	--
West Area	BOP-01i	9/9/1987	100	--	--	270	2500	65	2100	--
West Area	BOP-01i	10/13/1987	190	--	--	300	3700	110	5900	--
West Area	BOP-01i	12/1/1987	170	--	--	320	3100	76	2600	--
West Area	BOP-01i	7/12/1988	130	--	--	210	4700	94	1800	--
West Area	BOP-01i	1/18/1989	270	--	--	370	5400	91	2400	--
West Area	BOP-01i	1/18/1989	260	--	--	370	5300	98	2300	--
West Area	BOP-01i	7/26/1989	330	350	--	350	5800	79	1800	--
West Area	BOP-01i	2/6/1990	340	360	5.9	366	3000	92	3500	--
West Area	BOP-01i	2/6/1990	360	370	6.1	376	3300	95	3600	--
West Area	BOP-01i	8/7/1990	680	--	--	380	2600	87	3000	--
West Area	BOP-01i	2/6/1991	670	350	20 U	350	2300	83	2500	60 U
West Area	BOP-01i	8/6/1991	610	250	5.5	256	1700	75	2500	3 U
West Area	BOP-01i	1/20/1992	560	230	4.6	235	1300	110	2900	2 U
West Area	BOP-01i	7/14/1992	500	150	3	153	940	85	3600	2 U
West Area	BOP-01i	2/17/1993	460	110	2.3	112.3	420	84	3200	2 U
West Area	BOP-01i	7/27/1993	320	56	1.1	57.1	240	170	6300	2 U
West Area	BOP-01i	7/27/1993	370	51	1.2	52.2	280	161	6700	2 U
West Area	BOP-01i	2/28/1994	290	57	1	58	200	170	5600	2 U
West Area	BOP-01i	8/4/1994	280 J	40 J	1 J	41 J	150 J	180 J	7100 J	2 UJ
West Area	BOP-01i	3/8/1995	140	24	1 U	24	82	130	6600	2 U
West Area	BOP-01i	8/9/1995	200	50 U	50 U	50 U	86	200	6700	100 U
West Area	BOP-01i	2/19/1996	160	50 U	50 U	50 U	64	340	10000	100 U
West Area	BOP-01i	8/5/1996	170 J	22 J	5 UJ	22 J	62 J	200 J	8300 J	10 UJ
West Area	BOP-01i	2/17/1997	170	50 U	50 U	50 U	79	260	8600	100 U
West Area	BOP-01i	2/17/1997	160	21	1 U	21	75	220	7700	2 U
West Area	BOP-01i	8/25/1997	170	50 U	50 U	50 U	64	290	8900	100 U
West Area	BOP-01i	8/25/1997	160	50 U	50 U	50 U	66	270	8400	100 U
West Area	BOP-01i	3/9/1998	160	31	1 U	31	120	200	7400	2 U
West Area	BOP-01i	3/9/1998	140	50 U	50 U	50 U	100	190	7100	100 U
West Area	BOP-01i	8/28/1998	130	22	1 U	22	100	180	6500	2 U
West Area	BOP-01i	8/28/1998	130	22	1 U	22	96	170	6300	2 U
West Area	BOP-01i	2/19/1999	66	17	1 U	17	140 J	120	4900	2 U
West Area	BOP-01i	2/19/1999	56	15	1 U	15	100 J	110	4000	2 U
West Area	BOP-01i	8/25/1999	41	24	1 U	24	79	84	2000	1 U
West Area	BOP-01i	8/25/1999	41	23	1 U	23	78	80	2100	1 U
West Area	BOP-01i	2/16/2000	28	21	1 U	21	45	60	1100	1 U
West Area	BOP-01i	2/16/2000	28	21	1 U	21	45	59	1200 J	1 U
West Area	BOP-01i	8/30/2000	9 J	16	1 U	16	21	45	730	1 U
West Area	BOP-01i	8/30/2000	13 J	16	1 U	16	22	45	750	1 U
West Area	BOP-01i	2/22/2001	20 U	20 U	20 U	20 U	20 U	36	700 J	20 U
West Area	BOP-01i	2/22/2001	13	20	1 U	20	20	40	640 J	1 U
West Area	BOP-01i	8/15/2001	11	16	1 U	16	13	33	620	1 U
West Area	BOP-01i	8/15/2001	9.2	13	5 U	13	11	29	600	5 U
West Area	BOP-01i	2/26/2002	7.6	11	5 U	11	8.1	28 J	570	5 U
West Area	BOP-01i	2/26/2002	6.9	8	5 U	8	6.6	21 J	480	5 U
West Area	BOP-01i	8/20/2002	5	9	1 U	9	3.2	40	560	1 U
West Area	BOP-01i	8/20/2002	5.7	8.3	1 U	8.3	3.4	35	660	1 U
West Area	BOP-01i	2/20/2003	2.7	5.9	1 U	5.9	3.1	25	350	1 U
West Area	BOP-01i	2/20/2003	2.6	5.8	1 U	5.8	3.1	25	370	1 U
West Area	BOP-01i	8/19/2003	2.4	5.3	1 U	5.3	2.2	25	460	1 U
West Area	BOP-01i	8/19/2003	2.5	5.4	1 U	5.4	2.4	29	520	1 U
West Area	BOP-01i	2/27/2004	5 U	5 U	5 U	5 U	5 U	17	330 J	5 U
West Area	BOP-01i	2/27/2004	4.2	4.6	1 U	4.6	2.3	16	250 J	1 U
West Area	BOP-01i	8/18/2004	5.2	5 U	5 U	5 U	5 U	26	490	5 U
West Area	BOP-01i	8/18/2004	4.8	5	1 U	5	1 U	25	480	1 U
West Area	BOP-01i	2/15/2005	5 U	5 U	5 U	5 U	5 U	17	320	5 U
West Area	BOP-01i	2/15/2005	5 U	5 U	5 U	5 U	5 U	15	270	5 U
West Area	BOP-01i	8/9/2005	2.4	3.5	1 U	3.5	1.2	15	230	1 U
West Area	BOP-01i	8/9/2005	3 U	3.4	3 U	3.4	3 U	13	220	3 U

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-01i	2/11/2006	1 U	1.9	1 U	1.9	1 U	16	200	1 U
West Area	BOP-01i	2/11/2006	1 U	1.9	1 U	1.9	1 U	14	200	1 U
West Area	BOP-01i	8/16/2006	2 U	3.8	2 U	--	2 U	18	290	2 U
West Area	BOP-01i	8/16/2006	2 U	3.9	2 U	--	2 U	18	290	2 U
West Area	BOP-01i	2/9/2007	1 U	2.3	1 U	--	1 U	8.5	130 J	1 U
West Area	BOP-01i	2/9/2007	1 U	2.8	1 U	--	1 U	10	160 J	1 U
West Area	BOP-01i	8/14/2007	3 U	3 U	3 U	--	3 U	9.7	190	3 U
West Area	BOP-01i	8/14/2007	3 U	3 U	3 U	--	3 U	8.4	170	3 U
West Area	BOP-01i	2/21/2008	1 U	1.9	1 U	--	1 U	11	170	1 U
West Area	BOP-01i	2/21/2008	1 U	1.9	1 U	--	1 U	11	170	1 U
West Area	BOP-01i	9/4/2008	1.4	2.3	1 U	--	1 U	16	290	1 U
West Area	BOP-01i	9/4/2008	1.3	2.2	1 U	--	1 U	16	280	1 U
West Area	BOP-02i	1/30/1986		--	v	--	157		1850	--
West Area	BOP-02i	5/27/1986	62	--	--	320	190	100	1800	--
West Area	BOP-02i	9/2/1986	51	--	--	275	158	94	1910	--
West Area	BOP-02i	12/2/1986	98	--	--	390	210	110	2400	--
West Area	BOP-02i	4/16/1987	73	--	--	280	2400	68	1400	--
West Area	BOP-02i	6/10/1987	66	--	260	260	3500	73	1790	--
West Area	BOP-02i	6/23/1987	65	--	320	320	3400	77	1600	--
West Area	BOP-02i	7/8/1987	190	--	--	500	4000	120	2800	--
West Area	BOP-02i	7/10/1987	91	--	380	380	3900	96	2000	--
West Area	BOP-02i	9/9/1987	120	--	--	300	4800	79	1800	--
West Area	BOP-02i	10/13/1987	230	--	--	310	4700	110	4700	--
West Area	BOP-02i	12/2/1987	200	--	--	410	4000	81	2100	--
West Area	BOP-02i	7/11/1988	160	--	--	230	6300	86	1600	--
West Area	BOP-02i	1/31/1989	230	--	--	250 J	5400	73	1200	--
West Area	BOP-02i	5/22/1989	330	--	--	380	5000	100	3100	--
West Area	BOP-02i	7/25/1989	200	320	--	320	3700	110	3300	--
West Area	BOP-02i	11/14/1989	210	470	--	470	2800	130	4900	--
West Area	BOP-02i	2/12/1990	200	180	--	180	3000	400	4800	--
West Area	BOP-02i	6/8/1990	490	--	--	250	4100	220	8000	--
West Area	BOP-02i	6/8/1990	390	180	--	180	3600	250	7500	--
West Area	BOP-02i	8/7/1990	440	220	--	220	3200	200	7000	--
West Area	BOP-02i	11/5/1990	540	170	100 U	170	3500	220	6700	300 U
West Area	BOP-02i	2/6/1991	530	160	100 U	160	3500	180	6800	300 U
West Area	BOP-02i	5/14/1991	490	160	50 U	160	2300	220	6200	100 U
West Area	BOP-02i	8/6/1991	240	150	50 U	150	1100	120	2400	150 U
West Area	BOP-02i	11/8/1991	56	110	5 U	110	350	30	660	10 U
West Area	BOP-02i	1/20/1992	91	110	20 U	110	310	27	610	40 U
West Area	BOP-02i	5/27/1992	77	110	1.8	111.8	340	37	840	2 U
West Area	BOP-02i	5/27/1992	84	120	2	122	330	39	840	2 U
West Area	BOP-02i	7/14/1992	100	100	1.6	102	460	97	1700	2 U
West Area	BOP-02i	10/20/1992	49	73	20 U	73	180	20 U	500	40 U
West Area	BOP-02i	2/17/1993	59	73	1.2	74.2	150	12	310	2 U
West Area	BOP-02i	5/10/1993	48	64	1.1	65	140	13	380	2 U
West Area	BOP-02i	7/27/1993	43	62	1.2	63.2	140	14	330	2 U
West Area	BOP-02i	11/29/1993	39	52	1.1	53.1	120	24	460	2 U
West Area	BOP-02i	3/1/1994	40	48	1 U	48	100	11	280	2 U
West Area	BOP-02i	5/23/1994	45	59	1.1	60	110	11	300	2 U
West Area	BOP-02i	8/4/1994	38 J	46 J	1 J	47 J	86 J	10 J	300 J	2 UJ
West Area	BOP-02i	10/20/1994	100	140	10 U	140	380	80	2000	20 U
West Area	BOP-02i	2/13/1995	200	78	1 U	78	330	140	4000	2 U
West Area	BOP-02i	5/23/1995	140	57	25 U	57	190	110	3300	50 U
West Area	BOP-02i	8/18/1995	96	66	10 U	66	150	53	1300	20 U
West Area	BOP-02i	11/6/1995	42	42	5 U	42	74	14	380	10 U
West Area	BOP-02i	2/20/1996	92	75	25 U	75	440	110	3600	50 U
West Area	BOP-02i	5/29/1996	77	56	50 U	56	360	71	3000	100 U
West Area	BOP-02i	8/5/1996	160	64	50 U	64	340	130	3800	100 U
West Area	BOP-02i	11/18/1996	84	50	10 U	50	150	42	1300	20 U
West Area	BOP-02i	2/14/1997	73	80	20 U	80	220	72	2500	40 U
West Area	BOP-02i	5/23/1997	77	68	25 U	68	200	60	2300	50 U
West Area	BOP-02i	8/25/1997	110	69	25 U	69	210	88	2900	50 U
West Area	BOP-02i	2/27/1998	69	64	45 U	64	130	65	2500	90 U
West Area	BOP-02i	8/28/1998	49	30	1 U	30	50	19	600	2 U
West Area	BOP-02i	2/16/1999	2.4	2.8	1 U	2.8	2.9	2	49	2 U
West Area	BOP-02i	8/25/1999	2.6	3.2	1 U	3.2	3.2	2.2	45	1 U

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-02i	2/16/2000	2.4	3.4	1 U	3.4	2.8	1.4	31	1 U
West Area	BOP-02i	8/30/2000	1	1.1	1 U	1.1	1.3	1 U	11	1 U
West Area	BOP-02i	2/22/2001	1 U	1.4	1 U	1.4	1.4	1 U	8.8 J	1 U
West Area	BOP-02i	8/15/2001	1 U	1 U	1 U	1	1 U	1 U	5.9	1 U
West Area	BOP-02i	2/26/2002	1 U	1 U	1 U	1 U	1 U	1 U	6	1 U
West Area	BOP-02i	8/20/2002	1 U	1 U	1 U	1 U	1 U	1 U	4.1	1 U
West Area	BOP-02i	2/21/2003	1 U	1 U	1 U	1 U	1 U	1 U	4	1 U
West Area	BOP-02i	8/19/2003	1 U	1 U	1 U	1 U	1 U	1 U	4.5	1 U
West Area	BOP-02i	2/24/2004	1 U	1 U	1 U	1 U	1 U	1 U	4.7	1 U
West Area	BOP-02i	8/13/2004	1 U	1 U	1 U	1	1 U	1 U	6.5	1 U
West Area	BOP-02i	2/11/2005	1 U	1 U	1 U	1	1 U	1 U	3.6	1 U
West Area	BOP-02i	8/9/2005	1 U	1 U	1 U	1	1 U	1 U	4.4	1 U
West Area	BOP-02i	2/11/2006	1 U	1 U	1 U	1	1 U	1 U	3	1 U
West Area	BOP-02i	8/16/2006	1 U	1 U	1 U	--	1 U	1 U	4.3	1 U
West Area	BOP-02i	2/9/2007	1 U	2	1 U	--	1.1	1.3	12	1 U
West Area	BOP-02i	8/14/2007	0.8	0.4	0.2 U	--	0.8	0.3	4	0.2 U
West Area	BOP-02i	2/21/2008	1.1	0.3	0.2 U	--	1	0.4	4.4	0.2 U
West Area	BOP-02i	8/8/2008	1 U	1 U	1 U	--	1 U	1 U	4.9	1 U
West Area	BOP-04i	2/5/1986	--	--	--	--	124	--	1260	--
West Area	BOP-04i	6/3/1986	52	--	--	290	160	86	2300	--
West Area	BOP-04i	9/3/1986	52	--	--	440	150	92	1900	--
West Area	BOP-04i	12/1/1986	91	--	--	340	180	120	1800	--
West Area	BOP-04i	4/15/1987	72	--	--	250	2300	62	890	--
West Area	BOP-04i	5/27/1987	43	--	285	285	2560	69	1140	--
West Area	BOP-04i	6/10/1987	48	--	290	290	3100	69	1100	--
West Area	BOP-04i	6/24/1987	53	--	350	350	3600	74	1200	--
West Area	BOP-04i	7/8/1987	110	--	--	500	3600	94	1700	--
West Area	BOP-04i	7/10/1987	67	--	400	400	3900	83	1500	--
West Area	BOP-04i	9/9/1987	94	--	--	320	5700	75	1400	--
West Area	BOP-04i	10/15/1987	190	--	--	580	7200	75	1600	--
West Area	BOP-04i	12/1/1987	190	--	--	500	5100	85	1700	--
West Area	BOP-04i	7/12/1988	180	--	--	200	6600	80	890	--
West Area	BOP-04i	1/30/1989	180	--	--	220	4300	78	710	--
West Area	BOP-04i	5/17/1989	170	--	--	170	2900	52	1200	--
West Area	BOP-04i	7/26/1989	120	--	--	150	1700	52	1000	--
West Area	BOP-04i	11/6/1989	140	140	2.5	143	2000	65	1200	--
West Area	BOP-04i	2/12/1990	180	--		110	1900	190	1400	--
West Area	BOP-04i	6/9/1990	170	--	--	77	620	29	860	75 U
West Area	BOP-04i	8/7/1990	150	55	1.5	57	380	32	800	--
West Area	BOP-04i	11/5/1990	170	53	10 U	53	420	30	660	30 U
West Area	BOP-04i	11/6/1990	170	62	10 U	62	460	28	740	30 U
West Area	BOP-04i	2/6/1991	290	72	10 U	72	730	36	820	2 U
West Area	BOP-04i	5/14/1991	340	59	10 U	59	790	28	550	20 U
West Area	BOP-04i	8/7/1991	340	72	2.5	75	1100	33	790	2 U
West Area	BOP-04i	1/20/1992	400	73	10 U	73	1400	54	1100	20 U
West Area	BOP-04i	7/14/1992	170	52	10 U	52	560	26	650	20 U
West Area	BOP-04i	7/14/1992	230	54	1.3	55	590	29	680	2 U
West Area	BOP-04i	2/17/1993	170	30	1 U	30	340	25	410	2 U
West Area	BOP-04i	7/27/1993	180	25	1.3	26.3	280	17	250	2 U
West Area	BOP-04i	3/1/1994	92	50	1 U	50	210	10	340	2 U
West Area	BOP-04i	8/4/1994	140 J	12 J	1 UJ	12 J	180 J	14 J	150 J	2 UJ
West Area	BOP-04i	2/8/1995	180	82	1.3	83.3	580	30	780	2 U
West Area	BOP-04i	8/17/1995	140	96	10 U	96	360	23	690	20 U
West Area	BOP-04i	2/8/1996	74	47	10 U	47	210	16	500	20 U
West Area	BOP-04i	8/5/1996	100	71	10 U	71	270	23	760	20 U
West Area	BOP-04i	2/17/1997	49	34	5 U	34	130	11	310	10 U
West Area	BOP-04i	8/26/1997	86	64	5 U	64	180	18	460	10 U
West Area	BOP-04i	3/9/1998	58	38	1 U	38	110	13	290	2 U
West Area	BOP-04i	8/28/1998	68	33	1 U	33	120	11	250	2 U
West Area	BOP-04i	2/19/1999	31	14	1 U	14	50	4.8	92	2 U
West Area	BOP-04i	8/26/1999	43	25	1 U	25	74	4.9	140	1 U
West Area	BOP-04i	2/16/2000	51	31	1 U	31	89	6.7	190	1 U
West Area	BOP-04i	8/30/2000	18	27	1 U	27	38	5.9	140	1 U
West Area	BOP-04i	2/22/2001	39	32	2 U	32	67	5.6	160 J	2 U
West Area	BOP-04i	8/15/2001	21	27	1 U	27	38	2.2	88	1 U
West Area	BOP-04i	2/28/2002	14	18	1 U	18	25	4.6	100	1 U

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-04i	8/20/2002	17	16	1 U	16	20	4.4	77	1 U
West Area	BOP-04i	2/20/2003	2.1	11	1 U	11	6.3	4.4	57	1 U
West Area	BOP-04i	8/19/2003	2	11	1 U	11	5.6	3	46	1 U
West Area	BOP-04i	2/27/2004	9.5	9.6	1 U	9.6	15	3.2	59	1 U
West Area	BOP-04i	8/18/2004	6	7.2	1 U	7.2	5.7	2.3	37	1 U
West Area	BOP-04i	2/17/2005	4.2	4	1 U	4	4.8	1 U	22	1 U
West Area	BOP-04i	8/10/2005	2.8	5.8	1 U	5.8	4.3	2.1	28	1 U
West Area	BOP-04i	2/11/2006	1 U	3.4	1 U	3.4	3	2	23	1 U
West Area	BOP-04i	8/16/2006	1 U	5.4	1 U	--	3.4	3	38	1 U
West Area	BOP-04i	2/9/2007	1 U	4.1	1 U	--	2	2.5	22	1 U
West Area	BOP-04i	8/14/2007	1 U	4.5	1 U	--	3	3.3	41	1 U
West Area	BOP-04i	2/21/2008	0.7	4.2	0.2 U	--	2.9	3.3	20	0.2 U
West Area	BOP-04i	8/8/2008	1 U	1.1	1 U	--	1.2	1.5	21	1 U
West Area	BOP-16i	4/16/1987	47	--			670	45	1100	--
West Area	BOP-16i	5/22/1987	7.5	--	36	36	174	9.4	274	--
West Area	BOP-16i	6/10/1987	28 J	--	130	130	540	38	1000	--
West Area	BOP-16i	6/24/1987	23 J	--	140	140	490	37	1000	--
West Area	BOP-16i	7/8/1987	34	--	--	--	450	42	1200	--
West Area	BOP-16i	7/10/1987	29 J	--	180	180	520	40	1200	--
West Area	BOP-16i	9/9/1987	34 J	--	--	130	400	33	890	--
West Area	BOP-16i	10/14/1987	31	--	--	140	420	31	870	--
West Area	BOP-16i	12/2/1987	38	--	--	150	480	39	1000	--
West Area	BOP-16i	7/8/1988	24	--	--	160	790	36	1200	--
West Area	BOP-16i	2/1/1989	53	--	--	200	420	32	630	--
West Area	BOP-16i	8/4/1989	51	--	--	270	840	30	770	--
West Area	BOP-16i	8/9/1990	53	--	--	190	330	23	850	--
West Area	BOP-16i	11/5/1990	48	140	3.4	143.4	280	22	690	3 U
West Area	BOP-16i	2/12/1991	71	240	5.3	245	360	22	850	15 U
West Area	BOP-16i	2/12/1991	44	130	3 J	133	260	19	730	15 U
West Area	BOP-16i	8/13/1991	35	100	2.2 J	102	180	11	400	10 U
West Area	BOP-16i	1/22/1992	20	98	5 U	98	170	7.3	440	15 U
West Area	BOP-16i	1/22/1992	14	100	10 U	100	160	6.3 J	450	30 U
West Area	BOP-16i	7/16/1992	21	84	10 U	84	130	7.9 J	340	20 U
West Area	BOP-16i	7/16/1992	23	81	1.6	83	120	8.6	310	2 U
West Area	BOP-16i	2/17/1993	22 J	86 J	2.4 J	88.4	110 J	7.8 J	230	2 U
West Area	BOP-16i	7/26/1993	15	60	1.7	61.7	92	7.8	210	2 U
West Area	BOP-16i	2/17/1994	13	64	1.8	66	82	6.2	170	2 U
West Area	BOP-16i	8/9/1994	12	48	1 U	48	62	5.1	160	2 U
West Area	BOP-16i	10/24/1994	26	42	2 U	42	98	12	410	4 U
West Area	BOP-16i	2/8/1995	14	43	1 U	43	74	4.4	160	2 U
West Area	BOP-16i	8/28/1995	16	44	1 U	44	71	5	170	2 U
West Area	BOP-16i	2/19/1996	14	42	1 U	42	56	4.5	160	2 U
West Area	BOP-16i	8/16/1996	14	37	1 U	37	54	4.8	150	2 U
West Area	BOP-16i	8/16/1996	13	38	1 U	38	53	4.8	150	2 U
West Area	BOP-16i	2/18/1997	11	43	1 U	43	42	4.1	130	2 U
West Area	BOP-16i	8/20/1997	13	38	1 U	38	41	4	120	2 U
West Area	BOP-16i	8/20/1997	13	41	1 U	41	43	4.3	120	2 U
West Area	BOP-16i	2/26/1998	9.7	35	1 U	35	32	2.9	110	2 U
West Area	BOP-16i	2/26/1998	9.3	33	1 U	33	31	2.9	100	2 U
West Area	BOP-16i	8/25/1998	12 J	39 J	1 U	39	31 J	3.8 J	110 J	2 U
West Area	BOP-16i	8/25/1998	8.8 J	28 J	1 U	28	20 J	2.4 J	84 J	2 U
West Area	BOP-16i	2/17/1999	5.5	23	1 U	23	15	2	69	2 U
West Area	BOP-16i	8/21/1999	4.6	18	1 U	18	11	1.8	51	1 U
West Area	BOP-16i	2/18/2000	4.2	17	1 U	17	9.4	1.7	48	1 U
West Area	BOP-16i	8/27/2000	3	9.8	1 U	9.8	5.1	1	27	1 U
West Area	BOP-16i	2/21/2001	3.1	12	1 U	12	6.5	1.3	34 J	1 U
West Area	BOP-16i	8/17/2001	2.3	7.8	1 U	7.8	4.3	1 U	25	1 U
West Area	BOP-16i	2/24/2002	1.8	6.4	1 U	6.4	3.1	1 U	20	1 U
West Area	BOP-16i	8/16/2002	1.9	5.1	1 U	5.1	1.9	1 U	18	1 U
West Area	BOP-16i	2/17/2003	1.5	4.5	1 U	4.5	2.3	1 U	15	1 U
West Area	BOP-16i	8/13/2003	1.7	5.1	1 U	5.1	2.6	1 U	16	1 U
West Area	BOP-16i	2/24/2004	1.5	3.9	1 U	3.9	2.2	1 U	15	1 U
West Area	BOP-16i	8/12/2004	1.5	3.7	1 U	3.7	1 U	1 U	13	1 U
West Area	BOP-16i	2/9/2005	1.1	2.9	1 U	2.9	1.3	1 U	11	1 U
West Area	BOP-16i	8/9/2005	1.2	2.7	1 U	2.7	1.4	1 U	9.6	1 U
West Area	BOP-16i	2/9/2006	1	2	1 U	2	1.4	1 U	8.7	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-16i	8/10/2006	1.1	2.5	1 U		1.1	1 U	10	1 U
West Area	BOP-16i	2/8/2007	1.8	3	0.2 U		1.2	0.5	13	0.2 U
West Area	BOP-16i	8/8/2007	1.4	2.1	0.2 U		1	0.4	9.6	0.2 U
West Area	BOP-16i	2/21/2008	1.8	2.1	0.2 U		1.3	0.4	9.8	0.2 U
West Area	BOP-16i	8/11/2008	1.2	1.6	1 U		1 U	1 U	6.2	1 U
West Area	BOP-57ia	8/1/1994	600	81	2.2	83.2	5500	32	1400	2 U
West Area	BOP-57ia	10/26/1994	65	65	1.3	66.3	410	10	300	2 U
West Area	BOP-57ia	2/7/1995	98	300	5.4	305.4	550	36	800	2 U
West Area	BOP-57ia	5/22/1995	150	300	5.1	305.1	830	24	930	10 U
West Area	BOP-57ia	8/24/1995	260	140	5 U	140	1900	21	880	10 U
West Area	BOP-57ia	2/9/1996	190	25	5 U	25	980	12	430	10 U
West Area	BOP-57ia	8/16/1996	110	180	10 U	180	520	16	570	20 U
West Area	BOP-57ia	2/20/1997	130	170	5 U	170	580	22	740	10 U
West Area	BOP-57ia	8/21/1997	120	270	10 U	270	460	22	700	20 U
West Area	BOP-57ia	3/2/1998	27	110	3.9	113.9	180	9.6	380	6 U
West Area	BOP-57ia	8/26/1998	40	190	2.4	192.4	120	13	350	2 U
West Area	BOP-57ia	2/16/1999	66	120	2.4	122.4	230	11	540	2 U
West Area	BOP-57ia	8/24/1999	31	38	1 U	38	130	6.5	170	1 U
West Area	BOP-57ia	2/23/2000	26	1 U	1 U	1	76	6.9	190	1 U
West Area	BOP-57ia	8/31/2000	13	60	1.1	61.1	32	5.8	140	1 U
West Area	BOP-57ia	2/26/2001	5.1	67	3.7	70.7	21	7	130	2 U
West Area	BOP-57ia	8/21/2001	5.8	55	1 U	55	13	5.7	110	1 U
West Area	BOP-57ia	3/10/2002	4.2	34	1 U	34	9.7	4.5	72	1 U
West Area	BOP-57ia	8/20/2002	3.5	27	1 U	27	4.4	4.3	56	1 U
West Area	BOP-57ia	2/25/2003	2.1	15	1 U	15	3.8	2.8	34	1 U
West Area	BOP-57ia	8/15/2003	1.9	22	1 U	22	4	3.9	46	1 U
West Area	BOP-57ia	2/27/2004	2	15	1 U	15	4.3	3.7	44	1 U
West Area	BOP-57ia	8/20/2004	1.2	18	1 U	18	1.8	3.9	46	1 U
West Area	BOP-57ia	2/15/2005	1 U	12	1 U	12	2.5	3.1	36	1 U
West Area	BOP-57ia	8/9/2005	1 U	12	1 U	12	1.2	3.1	31	1 U
West Area	BOP-57ia	2/9/2006	1 U	5	1 U	5	1.1	1.4	17	1 U
West Area	BOP-57ia	8/10/2006	1 U	4.8	1 U	--	1 U	1 U	15	1 U
West Area	BOP-57ia	2/9/2007	1 U	4.2	1 U	--	1	1.3	13	1 U
West Area	BOP-57ia	8/14/2007	0.4	4.6	0.2 U	--	0.8	2.3	15	0.2 U
West Area	BOP-57ia	2/19/2008	0.8	4.1	0.2 U	--	0.9	2.3	18	0.2 U
West Area	BOP-57ia	8/15/2008	1 U	2.6	1 U	--	1 U	1.6	12	1 U
West Area	BOP-57ib	8/1/1994	56	4.8	1 U	4.8	370	2.6	93	2 U
West Area	BOP-57ib	10/26/1994	16	1.7	1 U	1.7	100	1 U	44	2 U
West Area	BOP-57ib	3/8/1995	10	2.6	1 U	2.6	54	1 M	78	2 U
West Area	BOP-57ib	5/31/1995	5.6	1.9	1 U	1.9	39	1 U	31	2 U
West Area	BOP-57ib	8/24/1995	6.4	2.6	1 U	2.6	36	1 U	46	2 U
West Area	BOP-57ib	2/13/1996	7.8	2.8	1 U	2.8	44	1 U	64	2 U
West Area	BOP-57ib	8/19/1996	11	4	1 U	4	42	1 U	95	2 U
West Area	BOP-57ib	2/20/1997	13	4.4	1 U	4.4	47	1.4	120	2 U
West Area	BOP-57ib	8/27/1997	13	5.7	1 U	5.7	51	1.7	140	2 U
West Area	BOP-57ib	3/10/1998	14	2.8	1 U	2.8	52	1 U	64	2 U
West Area	BOP-57ib	8/27/1998	11	2.5	1 U	2.5	39	1 U	68	2 U
West Area	BOP-57ib	2/16/1999	8.3	4.4	1 U	4.4	41	1.4	160	2 U
West Area	BOP-57ib	8/25/1999	13	2.8	1 U	2.8	38	1 U	75	1 U
West Area	BOP-57ib	2/23/2000	9.2	3.9	1 U	3.9	37	1.3	110	1 U
West Area	BOP-57ib	8/31/2000	26	5.7	1 U	5.7	50	2	180	1 U
West Area	BOP-57ib	2/26/2001	26	10	2 U	10	79	3.2	270	2 U
West Area	BOP-57ib	8/21/2001	30	8.7	1 U	8.7	70	3	240	1 U
West Area	BOP-57ib	3/7/2002	24	8	3 U	8	56	3 U	220	3 U
West Area	BOP-57ib	8/20/2002	21	7.8	1 U	7.8	34	1.9	200	1 U
West Area	BOP-57ib	2/25/2003	42	11	1 U	11	71	4.2	280	1 U
West Area	BOP-57ib	8/15/2003	34	10	3 U	10	67	3 U	250	3 U
West Area	BOP-57ib	2/27/2004	35	9.6	3 U	9.6	60	3 U	280	3 U
West Area	BOP-57ib	8/18/2004	32	8.9	2 U	8.9	43	2.1	270	2 U
West Area	BOP-57ib	2/15/2005	44	13	5 U	13	67	5 U	350	5 U
West Area	BOP-57ib	8/10/2005	51	12	1 U	12	56	4.3	310	1 U
West Area	BOP-57ib	2/9/2006	54	12	1 U	12	67	5.1	320	1 U
West Area	BOP-57ib	8/10/2006	54	13	3 U	--	56	3.9	380	3 U
West Area	BOP-57ib	2/9/2007	18	8	1 U	--	22	1.1	130	1 U
West Area	BOP-57ib	8/14/2007	38	9.8	3 U	--	34	3 U	210	3 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-57ib	2/19/2008	46	12	1 U	--	41	1.7	190	1 U
West Area	BOP-57ib	8/15/2008	26	6.1	1 U	--	19	1.4	140	1 U
West Area	E-5	3/28/1989	320	160	--	160	8300	98	2300	--
West Area	E-5	4/6/1989	450	170	--	170	11000	92	2200	--
West Area	E-5	4/12/1989	590	--	--	--	18000	--	1900	--
West Area	E-5	4/18/1989	540	--	--	--	14000	--	2100	--
West Area	E-5	4/25/1989	--	--	--	--	11000	--	1900	--
West Area	E-5	5/2/1989	570	--	--	--	13000	--	2200	--
West Area	E-5	5/9/1989	730	--	--	--	19000	--	1700	--
West Area	E-5	5/16/1989	1000	--	--	--	22000	--	1700	--
West Area	E-5	5/23/1989	1100	--	--	--	27000	--	1600	--
West Area	E-5	5/30/1989	680	--	--	--	21000	--	1200	--
West Area	E-5	6/7/1989	500 U	--	--	--	24000	500 U	1500	--
West Area	E-5	6/13/1989	1200	110 M	--	110	34000	150 J	1500	--
West Area	E-5	6/20/1989	1400	130 J	--	130	39000	110 J	1500	--
West Area	E-5	6/27/1989	980	87 J	--	87	29000	90	1400	--
West Area	E-5	7/5/1989	820	130 J	--	130	26000	110 M	1400	--
West Area	E-5	7/11/1989	720	170	--	170	23000	120	1500	--
West Area	E-5	7/18/1989	630	170 J	--	170	18000	150	1600	--
West Area	E-5	7/25/1989	710	140 J	--	140	21000	110 J	1500	--
West Area	E-5	8/1/1989	830	170 J	--	170	22000	170	1700	--
West Area	E-5	8/8/1989	980	290	--	290	28000	130 M	1600	--
West Area	E-5	8/15/1989	940	320	--	320	27000	200	1900	--
West Area	E-5	8/22/1989	980	300	--	300	27000	200	1700	--
West Area	E-5	8/29/1989	1100	350	--	350	31000	220	2200	--
West Area	E-5	9/5/1989	990	380	--	380	300	140	2100	--
West Area	E-5	11/15/1989	860	280	--	280	17000	130 J	2200	--
West Area	E-5	11/21/1989	1700	310	--	310	37000	150	2500	--
West Area	E-5	11/28/1989	1800	260	--	260	38000	170 J	2500	--
West Area	E-5	12/5/1989	930	270	--	270	19000	160 J	2300	--
West Area	E-5	12/12/1989	610	210	--	210	14000	130	2100	--
West Area	E-5	12/19/1989	560	220	--	220	15000	140 J	2300	--
West Area	E-5	1/4/1990	1300	300	--	300	26000	140 J	2700	--
West Area	E-5	1/17/1990	670	250	--	250	14000	150 J	2500	--
West Area	E-5	1/31/1990	550	220	--	220	13000	98 J	2300	--
West Area	E-5	2/14/1990	430	190 J	--	190	13000	--	2200	--
West Area	E-5	2/28/1990	290	150 J	--	150	13000	99 M	2000	--
West Area	E-5	3/14/1990	460	--	--	--	9500	--	2400	--
West Area	E-5	3/28/1990	290	180	--	180	4500	120	2200	--
West Area	E-5	4/11/1990	500	190	--	190	7200	170	2600	--
West Area	E-5	4/25/1990	230	150	--	150	3400	100	1800	--
West Area	E-5	5/8/1990	1200	250	--	250	17000	120 J	3000	--
West Area	E-5	5/22/1990	1700	210	--	210	22000	--	2800	--
West Area	E-5	6/6/1990	1500	160 J	--	160	21000	--	3300	--
West Area	E-5	6/19/1990	1000	140 J	--	140	17000	--	2700	--
West Area	E-5	7/3/1990	950	150 J	--	150	17000	110 J	2500	--
West Area	E-5	7/17/1990	1200	440	--	440	16000	120 J	3400	--
West Area	E-5	7/31/1990	1100	150 J	--	150	14000	--	2600	--
West Area	E-5	8/14/1990	790 J	230	3.7	234	14000	120	3600	--
West Area	E-5	8/28/1990	520	180	--	180	6500	110 M	2200	--
West Area	E-5	9/10/1990	320	160	--	160	4200	97 M	1600	--
West Area	E-5	9/27/1990	390	190	--	190	4400	120	1800	--
West Area	E-5	10/9/1990	480	230	--	230	4600	130	2200	--
West Area	E-5	10/29/1990	650	180	--	180	7700	120	2000	--
West Area	E-5	11/14/1990	650	150	--	150	8200	98	2000	--
West Area	E-5	11/28/1990	790	170	50 U	170	10000	100	2200	150 U
West Area	E-5	12/11/1990	810	120	100 U	120	12000	--	1900	300 U
West Area	E-5	1/2/1991	960	140	100 U	140	12000	85 M	2100	300 U
West Area	E-5	1/15/1991	1000	120	100 U	120	16000	69 J	1800	300 U
West Area	E-5	2/5/1991	990	110	100 U	110	15000	64 M	1500	300 U
West Area	E-5	3/5/1991	580	55 M	100 U	55	9900	51 M	1100	300 U
West Area	E-5	4/2/1991	330	65 J	100 U	65	5500	100 U	970	200 U
West Area	E-5	5/7/1991	700	100 U	100 U	100	9500	100 U	1400	200 U
West Area	E-5	6/3/1991	720	54 J	100 U	54	13000	100 U	1300	200 U
West Area	E-5	7/1/1991	1200	58 M	100 U	58	19000	56 M	2100	200 U
West Area	E-5	8/5/1991	500	53 J	100 U	53	6000	100 U	1100	200 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	E-5	9/3/1991	290	58	20 U	58	2800	48	1200	60 U
West Area	E-5	10/2/1991	150	56	25 U	56	2100	51	860	50 U
West Area	E-5	11/4/1991	110	64	20 U	64	1200	54	740	40 U
West Area	E-5	12/4/1991	570	70	20 U	70	8900	49	1300	40 U
West Area	E-5	1/6/1992	290	49	25 U	49	3500	37	970	50 U
West Area	E-5	2/4/1992	1000	52	2 U	52	7100	37	1200	4 U
West Area	E-5	3/3/1992	580	31 J	50 U	31	7700	26 J	770	100 U
West Area	E-5	4/6/1992	600	40 J	50 U	40	7800	37 J	850	100 U
West Area	E-5	5/4/1992	510	36 J	50 U	36	5200	28 M	950	100 U
West Area	E-5	6/2/1992	670	34 J	50 U	34	7800	29 M	760	100 U
West Area	E-5	7/6/1992	660	32 M	50 U	32	5200	21 M	600	100 U
West Area	E-5	8/10/1992	140	35	25 U	35	1300	32	490	50 U
West Area	E-5	9/1/1992	420	46	20 U	46	4000	37	710	40 U
West Area	E-5	10/1/1992	93	26	5 U	26	750	26	440	10 U
West Area	E-5	11/2/1992	79	29	10 U	29	530	23	350	20 U
West Area	E-5	12/1/1992	83	40	5 U	40	510	41	450	10 U
West Area	E-5	1/1/1993	250	34	5 U	34	3300	26	660	10 U
West Area	E-5	2/1/1993	370	35	20 U	35	5400	28	990	40 U
West Area	E-5	3/3/1993	560	49 J	50 U	49	5600	50 U	1130	100 U
West Area	E-5	3/29/1993	310	50 U	50 U	50	3800	50 U	770	100 U
West Area	E-5	4/28/1993	390	32 M	50 U	32	4300	30 M	1200	100 U
West Area	E-5	5/25/1993	510	36 J	50 U	36	4800	27 J	1000	100 U
West Area	E-5	6/23/1993	260	50 U	50 U	50	3200	50 U	990	100 U
West Area	E-5	7/30/1993	360	50 U	50 U	50	3800	50 U	910	100 U
West Area	E-5	8/25/1993	580	46 J	50 U	46	5800	56	1800	100 U
West Area	E-5	9/29/1993	200	50 U	50 U	50	1700	33 J	770	100 U
West Area	E-5	10/27/1993	140	25	10 U	25	1400	27	840	20 U
West Area	E-5	11/22/1993	100	24	10 U	24	840	22	580	20 U
West Area	E-5	12/27/1993	160	38	10 U	38	2000	25	970	20 U
West Area	E-5	1/26/1994	250	41	10 U	41	2600	28	1100	20 U
West Area	E-5	2/23/1994	270	52	20 U	52	2500	39	1400	40 U
West Area	E-5	4/4/1994	230	30	20 U	30	3400	24	960	40 U
West Area	E-5	4/26/1994	300	28	20 U	28	3800 J	20	910	40 U
West Area	E-5	6/29/1994	140	20 U	20 U	20	2200	20 U	530	40 U
West Area	E-5	12/21/1994	200	43	1 U	43	1300	25	630	2 U
West Area	E-5	3/3/1995	250	25	1 U	25	2500 J	21	640 J	2 U
West Area	E-5	6/1/1995	260	26	1 U	26	2700	24	760	2 U
West Area	E-5	8/29/1995	300	45 U	45 U	45	2200	45 U	740	90 U
West Area	E-5	11/9/1995	110	25 U	25 U	25	600	25 U	320	50 U
West Area	E-5	3/4/1996	89	20 U	20 U	20	670	20 U	170	40 U
West Area	E-5	5/31/1996	88	9.6	5 U	9.6	650	5.8	180	10 U
West Area	E-5	8/26/1996	130	22	20 U	22	720	20 U	350	40 U
West Area	E-5	11/20/1996	65	29	5 U	29	270	8.9	350	10 U
West Area	E-5	5/27/1997	70	24	5 U	24	260	9.2	310	10 U
West Area	E-5	9/2/1997	100	25	3 U	25	290	14	330	6 U
West Area	E-5	11/3/1997	54	24	1 U	24	160	13	280	2 U
West Area	E-5	2/24/1998	12	14	3 U	14	53	4.9	140	6 U
West Area	E-5	5/5/1998	40	22	1 U	22	110 J	12	290	2 U
West Area	E-5	8/3/1998	35	14	1 U	14	100	8.3	170	2 U
West Area	E-5	11/2/1998	14	14	1 U	14	23	14	160	2 U
West Area	E-5	2/1/1999	6.9	10	1 U	10	24	5.8	140	2 U
West Area	E-5	5/3/1999	23	16	1 U	16	160	10	240	1 U
West Area	E-5	8/2/1999	5.5	11	1 U	11	12	9.1	150	1 U
West Area	E-5	11/1/1999	4.7	10	1 U	10	4.8	8.8	140	1 U
West Area	E-5	2/4/2000	4.9	7.2	1 U	7.2	45	5.6	99	1 U
West Area	E-5	5/1/2000	3.8	7.8	1 U	7.8	6.4	5.5	110	1 U
West Area	E-5	8/2/2000	3.1	7.5	1 U	7.5	5.4	4.9	83	1 U
West Area	E-5	11/1/2000	2.6	8.9	1 U	8.9	3.6	6.5	90	1 U
West Area	E-5	2/1/2001	2	8.8	1 U	8.8	3.4	5.7	86	1 U
West Area	E-5	5/1/2001	2.2	8.8	1 U	8.8	1.8	5.4	91	1 U
West Area	E-5	8/6/2001	2.2	10	1 U	10	1 U	5.7	88	1 U
West Area	E-5	11/1/2001	1 U	9.6	1 U	9.6	1.1	5.8	98	1 U
West Area	E-5	2/2/2002	1.4	4.5	1 U	4.5	1.3	3.2	58	1 U
West Area	E-5	5/8/2002	1.6	5.3	1 U	5.3	1 U	3.5	64	1 U
West Area	E-5	8/1/2002	1.8	12	1 U	12	1 U	4.9	76	1 U
West Area	E-5	11/4/2002	2	11	1 U	11	1 U	5.2	67	1 U
West Area	E-5	12/4/2002	1.3	9.9	1 U	9.9	1 U	3.7	49	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Shutdown of Extraction Pumping										
West Area	E-5	2/4/2003	1 U	4.3	1 U	4.3	1 U	2.6	28	1 U
West Area	E-5	5/7/2003	1 U	4.6	1 U	4.6	2.6	2.6	28	1 U
West Area	E-5	8/6/2003	1 U	4.6	1 U	4.6	2.5	2.7	27	1 U
West Area	E-5	11/5/2003	1 U	5.3	1 U	5.3	1 U	2.7	35	1 U
West Area	E-5	2/3/2004	1 U	3.8	1 U	3.8	1 U	2.3	22	1 U
West Area	E-5	5/6/2004	1 U	4.5	1 U	4.5	1 U	2.2	29	1 U
West Area	E-5	8/3/2004	1 U	5.7	1 U	5.7	1 U	2.9	36	1 U
West Area	E-5	11/1/2004	1 U	4.3	1 U	4.3	1 U	2.5	29	1 U
West Area	E-5	2/3/2005	1 U	3	1 U	3	1 U	2	19	1 U
West Area	E-5	5/3/2005	1 U	3.1	1 U	3.1	1 U	2.1	21	1 U
West Area	E-5	8/2/2005	1 U	3.2	1 U	3.2	1 U	2	19	1 U
West Area	E-5	12/16/2005	0.4	3.3	0.2 U	3.3	0.2	2.3	24	0.2 U
West Area	E-5	2/6/2006	1 U	2.4	1 U	2.4	1 U	1.9	21	1 U
West Area	E-5	5/9/2006	1 U	2.8	1 U	--	1 U	1.6	20	1 U
West Area	E-5	8/8/2006	1 U	1.2	1 U	--	1 U	1 U	9.9	1 U
West Area	E-5	11/29/2006	0.2 U	1.6	0.2 U	--	0.2 U	1.9	17	0.2 U
West Area	E-5	2/6/2007	0.3	2.6	0.2 U	--	0.2 U	2.1	20	0.2 U
West Area	E-5	5/10/2007	3.5	6.1	0.4 U	--	2.2	2.4	27	0.4 U
West Area	E-5	8/8/2007	0.9	2.7	0.2 U	--	0.2 U	2.2	18	0.2 U
West Area	E-5	11/8/2007	1 U	1.8	1 U	--	1 U	1.8	14	1 U
West Area	E-5	2/12/2008	1 U	2.4	1 U	--	1 U	2.4	14	1 U
West Area	E-5	5/12/2008	1 U	1 U	1 U	--	1 U	1.3	7.2	1 U
West Area	E-5	8/8/2008	1 U	1 U	1 U	--	1 U	1.6	7.5	1 U
West Area	E-5	11/5/2008	0.6 U	3.4	0.6 U	--	0.6 U	3.4	34	0.6 U
West Area	E-10	11/28/1990	550	240	--	240	5600	110	2800	--
West Area	E-10	3/20/1991	480	160	50 U	160	4300	77	2200	150 U
West Area	E-10	3/21/1991	460	180	50 U	180	3800	77	2300	150 U
West Area	E-10	3/26/1991	400	170	20 U	170	3400	100	2800	40 U
West Area	E-10	4/2/1991	390	140	50 U	140	3100	95	3000	100 U
West Area	E-10	4/17/1991	420	140	50 U	140	3200	110	3200	100 U
West Area	E-10	5/7/1991	440	130	100 U	130	2800	100	3300	200 U
West Area	E-10	5/21/1991	320	150	50 U	150	2300	100	2900	100 U
West Area	E-10	6/3/1991	400	140	50 U	140	2700	100	3200	100 U
West Area	E-10	6/17/1991	470	170	50 U	170	2900	110	3500	100 U
West Area	E-10	7/1/1991	430	130	50 U	130	2600	110	3100	100 U
West Area	E-10	7/15/1991	440	140	50 U	140	2200	110	3300	100 U
West Area	E-10	8/5/1991	410	140	50 U	140	2200	100	2900	100 U
West Area	E-10	8/19/1991	480	140	50 U	140	2500	100	3200	100 U
West Area	E-10	9/3/1991	361	150	50 U	150	2100	93	3200	150 U
West Area	E-10	9/16/1991	280	140	50 U	140	1900	99	2200	100 U
West Area	E-10	10/2/1991	220	130	50 U	130	1600	99	2500	100 U
West Area	E-10	10/16/1991	260	170	25 U	170	2000	120	3000	50 U
West Area	E-10	11/4/1991	200	140	25 U	140	1500	93	2700	50 U
West Area	E-10	12/4/1991	220	110	25 U	110	1100	89	2400	50 U
West Area	E-10	1/6/1992	200	120	25 U	120	1200	100	2700	50 U
West Area	E-10	2/4/1992	270	98	25 U	98	870	80	2400	50 U
West Area	E-10	3/3/1992	230	81	25 U	81	1200	67	2000	50 U
West Area	E-10	4/6/1992	260	130	25 U	130	1300	120	2600	50 U
West Area	E-10	5/4/1992	200	100	25 U	100	730	75	2300	50 U
West Area	E-10	6/2/1992	180	97	25 U	97	660	67	1900	50 U
West Area	E-10	7/6/1992	310	130	25 U	130	780	130	3000	50 U
West Area	E-10	8/10/1992	200	120	50 U	120	690	91	2400	100 U
West Area	E-10	9/1/1992	190	120	100 U	120	690	94 J	2700	200 U
West Area	E-10	10/1/1992	190	120	50 U	120	600	83	2500	100 U
West Area	E-10	11/2/1992	200	120	50 U	120	580	62	2300	100 U
West Area	E-10	12/1/1992	160	89	10 U	89	430	66	1700	20 U
West Area	E-10	1/1/1993	140	78	10 U	78	400	63	1600	20 U
West Area	E-10	2/1/1993	160	100	10 U	100	500	77	2500	20 U
West Area	E-10	3/3/1993	200	120	10 U	120	570	88	2700	20 U
West Area	E-10	3/29/1993	130	84	20 U	84	350	55	1900	40 U
West Area	E-10	4/28/1993	130	85	20 U	85	350	61	2000	40 U
West Area	E-10	5/25/1993	170	92	20 U	92	310	68	2100	40 U
West Area	E-10	6/23/1993	110	78	20 U	78	250	63	1500	40 U
West Area	E-10	7/30/1993	120	77	20 U	77	270	69	1800	40 U
West Area	E-10	8/25/1993	150	93	20 U	93	320	84	2200	40 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	E-10	9/29/1993	160	78	50 U	78	330	94	2400	100 U
West Area	E-10	10/27/1993	130	79	20 U	79	260	70	1800	40 U
West Area	E-10	11/22/1993	120	83	20 U	83	290	72	2000	40 U
West Area	E-10	12/27/1993	110	77	20 U	77	270	70	1900	40 U
West Area	E-10	1/26/1994	97	65	20 U	65	210	49	1500	40 U
West Area	E-10	2/23/1994	140 J	98 J	20 U	98	240 J	69 J	1800 J	40 U
West Area	E-10	4/4/1994	120	78	20 U	78	280 J	56	1800	40 U
West Area	E-10	4/26/1994	130	79	20 U	79	280 J	62	1900	40 U
West Area	E-10	6/29/1994	120	83	20 U	83	250	68	1800	40 U
West Area	E-10	10/26/1994	130	160	2.5	162.5	450	44	1000	2 U
West Area	E-10	12/21/1994	160	120	1.7	122	410	72	2300	2 U
West Area	E-10	3/3/1995	95 J	64 J	10 UJ	64	320 J	35 J	1800 J	20 UJ
West Area	E-10	6/1/1995	150	96	50 U	96	410	77	2400	100 U
West Area	E-10	8/29/1995	160	94	5 U	94	360	75	1900	10 U
West Area	E-10	11/9/1995	140	81	20 U	81	250	61	2000	40 U
West Area	E-10	3/4/1996	180	120	20 U	120	570	100	3100	40 U
West Area	E-10	5/31/1996	99	70	25 U	70	310	90	2000	50 U
West Area	E-10	8/26/1996	110	94	20 U	94	400	60	2200	40 U
West Area	E-10	11/20/1996	110	110	20 U	110	290	66	2200	40 U
West Area	E-10	3/6/1997	78	70	20 U	70	150	55	1500	40 U
West Area	E-10	5/27/1997	89	82	15 U	82	200	51	1600	30 U
West Area	E-10	9/2/1997	86	78	9 U	78	170	51	1500	18 U
West Area	E-10	11/3/1997	110	91	1 U	91	180	73	1900	2 U
West Area	E-10	2/24/1998	63	73	10 U	73	130	40	1300	20 U
West Area	E-10	5/5/1998	89	66	1 U	66	150 J	59	1500	2 U
West Area	E-10	8/3/1998	72	54	1 U	54	120	47	1100	2 U
West Area	E-10	11/23/1998	37	31	1 U	31	54	22	580	2 U
West Area	E-10	1/20/1999	28	33	1 U	33	55	22	450	2 U
West Area	E-10	2/1/1999	25 J	27 J	1 U	27	44 J	13 J	260 J	2 U
West Area	E-10	3/2/1999	20	18	1 U	18	30	11	300	2 U
West Area	E-10	5/3/1999	18	24	1 U	24	36	9.3	200	1 U
West Area	E-10	8/2/1999	18	20	1 U	20	28	5.7	150	1 U
West Area	E-10	11/1/1999	11	14	1 U	14	18	3.2	89	1 U
West Area	E-10	2/4/2000	11	15	1 U	15	17	3.7	97	1 U
West Area	E-10	5/1/2000	8	9.3	1 U	9.3	10	2.2	63	1 U
West Area	E-10	8/2/2000	6.1	9.2	1 U	9.2	9.2	2.2	63	1 U
West Area	E-10	11/1/2000	4.5	8.2	1 U	8.2	8.3	2.1	48	1 U
West Area	E-10	2/1/2001	5.8	9.4	1 U	9.4	9.3	2.1	55	1 U
West Area	E-10	5/1/2001	5.7	8.2	1 U	8.2	7.9	1.8	48	1 U
West Area	E-10	8/6/2001	5.1	8.3	1 U	8.3	7.6	1.6	43	1 U
West Area	E-10	11/1/2001	5	6.5	1 U	6.5	7	1.4	41	1 U
West Area	E-10	2/2/2002	4.6	5.7	1 U	5.7	5.4	1.4	39	1 U
West Area	E-10	5/8/2002	4.6	7.8	1 U	7.8	5.3	1.7	47	1 U
West Area	E-10	8/1/2002	3.2	5.6	1 U	5.6	3.4	1.4	33	1 U
West Area	E-10	11/4/2002	3.1	5.3	1 U	5.3	3.7	1.3	32	1 U
West Area	E-10	2/4/2003	2.4	5.7	1 U	5.7	3.5	2	34	1 U
West Area	E-10	5/7/2003	2.6	5.5	1 U	5.5	3	1.8	34	1 U
West Area	E-10	8/6/2003	2.4	4.8	1 U	4.8	2.9	1.6	33	1 U
West Area	E-10	11/5/2003	3	3.8	1 U	3.8	3.2	1 U	26	1 U
West Area	E-10	2/3/2004	1 U	1 U	1 U	1	1 U	1 U	2.4	1 U
West Area	E-10	5/6/2004	2.3	3.2	1 U	3.2	1 U	1 U	24	1 U
West Area	E-10	8/3/2004	2.8	4.2	1 U	4.2	2.4	2.1	47	1 U
West Area	E-10	11/1/2004	3.5	3	1 U	3	1.8	1 U	23	1 U
West Area	E-10	2/3/2005	1.5	2.5	1 U	2.5	1.4	1 U	18	1 U
West Area	E-10	5/3/2005	1.5	2.4	1 U	2.4	1.8	1 U	20	1 U
West Area	E-10	8/2/2005	1.9	2.4	1 U	2.4	1.3	1 U	18	1 U
West Area	E-10	12/16/2005	1.8	2.2	1 U	2.2	1.4	1 U	16	1 U
West Area	E-10	2/6/2006	2	2.4	1 U	2.4	1.7	1.6	27	1 U
West Area	E-10	5/9/2006	1.4	2.6	1 U	--	1.4	1.4	23	1 U
West Area	E-10	8/8/2006	1.7	3.1	1 U	--	1.7	1.4	26	1 U
West Area	E-10	11/9/2006	1.8	2.4	0.2 U	--	1.4	1.6	19	0.2 U
West Area	E-10	2/8/2007	1.1	3.4	1 U	--	1.5	2	22	1 U
West Area	E-10	5/10/2007	1.8	2.8	0.6 U	--	1.7	1.3	23	0.6 U
West Area	E-10	8/8/2007	1.8	2.6	0.2 U	--	1.6	1.8	27	0.2 U
West Area	E-10	11/7/2007	2.6	2	0.4 U	--	1.3	0.8	18	0.4 U
West Area	E-10	2/14/2008	1.5	1.7	1 U	--	1	1.4	19	1 U
West Area	E-10	5/12/2008	1 U	1.6	1 U	--	1.5	2	15	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	E-10	8/8/2008	1.4	1.8	1 U	--	1	1.4	18	1 U
West Area	E-10	11/6/2008	0.9	4.2	0.2 U	--	2.3	4.8	35	0.2 U
West Area	E-11	3/27/1991	170	540	20 U	540	1600	66	1600	40 U
West Area	E-11	3/28/1991	190	490	20 U	490	1300	80	1900	40 U
West Area	E-11	4/2/1991	150	440	20 U	440	830	87	2300	40 U
West Area	E-11	4/17/1991	140	380	20 U	380	820	86	2100	40 U
West Area	E-11	5/7/1991	140	320	20 U	320	730	67	1600	40 U
West Area	E-11	5/21/1991	120	370	20 U	370	910	64	1400	40 U
West Area	E-11	6/3/1991	150	330	20 U	330	920	58	1600	40 U
West Area	E-11	6/17/1991	160	350	20 U	350	960	62	1500	40 U
West Area	E-11	7/1/1991	180	310	20 U	310	1100	58	1400	40 U
West Area	E-11	7/15/1991	210	400	20 U	400	1200	69	1700	40 U
West Area	E-11	8/5/1991	220	330	20 U	330	1400	60	1400	40 U
West Area	E-11	8/19/1991	210	300	20 U	300	1200	52	1400	40 U
West Area	E-11	9/3/1991	210	330	20 U	330	1600	60	1700	60 U
West Area	E-11	9/16/1991	160	280	20 U	280	1500	48	1000	40 U
West Area	E-11	10/2/1991	150	290	20 U	290	1800	54	1300	40 U
West Area	E-11	10/16/1991	190	350	6.6 J	357	2100	62	1400	20 U
West Area	E-11	11/4/1991	160	300	15 U	300	1900	52	1300	30 U
West Area	E-11	12/4/1991	250	250	15 U	250	2200	50	1200	30 U
West Area	E-11	1/6/1992	230	270	15 U	270	2200	58	1300	30 U
West Area	E-11	4/6/1992	340	320	10 U	320	2600	71	1200	20 U
West Area	E-11	5/4/1992	250	240	25 U	240	1800	34	960	50 U
West Area	E-11	6/2/1992	170	240	25 U	240	1600	39	790	50 U
West Area	E-11	7/6/1992	520	250	25 U	250	3100	44	1100	50 U
West Area	E-11	8/10/1992	350	320	20 U	320	3300	65	1400	40 U
West Area	E-11	9/1/1992	260	300	25 U	300	2600	54	1300	50 U
West Area	E-11	10/1/1992	420	310	50 U	310	3900	69	1500	100 U
West Area	E-11	11/2/1992	300	350	10 U	350	2600	41	1200	20 U
West Area	E-11	12/1/1992	730	290	50 U	290	5700	140	1900	100 U
West Area	E-11	1/1/1993	230	220	20 U	220	1800	40	880	40 U
West Area	E-11	2/1/1993	270	250	20 U	250	2300	45	1100	40 U
West Area	E-11	3/3/1993	690	340	20 U	340	5000	86	1700	40 U
West Area	E-11	3/29/1993	330	240	50 U	240	2700	39 M	1000	100 U
West Area	E-11	4/28/1993	320	210	50 U	210	2800	50 U	950	100 U
West Area	E-11	5/25/1993	570	280	50 U	280	3500	84	1500	100 U
West Area	E-11	6/23/1993	290	200	50 U	200	2800	73	1300	100 U
West Area	E-11	7/30/1993	270	160	50 U	160	1800	63	950	100 U
West Area	E-11	8/25/1993	270	230	50 U	230	1800	59	1100	100 U
West Area	E-11	9/29/1993	190	190	10 U	190	1400	27	690	20 U
West Area	E-11	10/27/1993	240	200	5 U	200	1800	37	860	10 U
West Area	E-11	11/22/1993	180	200	10 U	200	1300	38	850	20 U
West Area	E-11	12/27/1993	180	210	10 U	210	1400	33	900	20 U
West Area	E-11	1/26/1994	180	160	10 U	160	1200	29	720	20 U
West Area	E-11	2/23/1994	180	190	10 U	190	1200	33	780	20 U
West Area	E-11	4/4/1994	180	190	10 U	190	1400	27	770	20 U
West Area	E-11	4/26/1994	220	190	10 U	190	1400 J	35	830	20 U
West Area	E-11	6/29/1994	180	190	10 U	190	1200	38	790	20 U
West Area	E-11	10/26/1994	58	160	3.5	163.5	280	19	470	2 U
West Area	E-11	12/21/1994	180	210	4.9	215	850	36	720	2 U
West Area	E-11	3/3/1995	140	180	10 U	180	760 J	28	630	20 U
West Area	E-11	6/1/1995	130	150	25 U	150	730	25 U	600	50 U
West Area	E-11	8/29/1995	200	220	10 U	220	1200	32	830	20 U
West Area	E-11	11/9/1995	200	160	12	172	1200	30	690	20 U
West Area	E-11	3/4/1996	140	140	10 U	140	630	25	580	20 U
West Area	E-11	5/31/1996	130	170	10 U	170	600	25	630	20 U
West Area	E-11	8/26/1996	110	170	10 U	170	500	20	540	20 U
West Area	E-11	11/20/1996	140	170	10 U	170	550	20	620	20 U
West Area	E-11	3/6/1997	130	150	5 U	150	390	21	510	10 U
West Area	E-11	5/27/1997	160	140	5 U	140	610	23	540	10 U
West Area	E-11	9/2/1997	110	160	5 U	160	400	19	490	10 U
West Area	E-11	11/3/1997	120	180	2.4	182.4	430	24	590	2 U
West Area	E-11	2/24/1998	99	130	5 U	130	410	16	430	10 U
West Area	E-11	5/5/1998	150	150	2.5	152.5	520 J	30	610	2 U
West Area	E-11	8/3/1998	110	140	2.5	142.5	440	24	480	2 U
West Area	E-11	11/2/1998	73	120	5 U	120	310	18	480	10 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	E-11	2/1/1999	88 J	130 J	2.1	132	220 J	22 J	370 J	2 U
West Area	E-11	5/3/1999	47	140	2.4	142	150	15	490	1 U
West Area	E-11	8/2/1999	31	110	1.2	111.2	94	13	260	1 U
West Area	E-11	11/1/1999	32	80	5 U	80	90	10	220	5 U
West Area	E-11	2/4/2000	42	76	1.4	77	120	14	300	1 U
West Area	E-11	5/1/2000	38	65	1.5	66.5	120	12	160	1 U
West Area	E-11	8/2/2000	31	45	1 U	45	88	8.6	170	1 U
West Area	E-11	11/1/2000	30	48	1 U	48	98	9.3	200	1 U
West Area	E-11	2/1/2001	29	50	1 U	50	82	9.7	180	1 U
West Area	E-11	5/1/2001	30	54	1 U	54	74	9	180	1 U
West Area	E-11	8/6/2001	7	40	4	44	48	7.3	140	2 U
West Area	E-11	11/1/2001	21	46	1 U	46	55	7.4	170	1 U
West Area	E-11	2/2/2002	16	36	2 U	36	41	6.4	130	2 U
West Area	E-11	5/8/2002	14	29	1 U	29	30	5.6	110	1 U
West Area	E-11	8/1/2002	17	31	1 U	31	36	7	120	1 U
West Area	E-11	11/4/2002	27	43	1 U	43	54	8.1	140	1 U
West Area	E-11	2/4/2003	18	32	1 U	32	42	6.8	110	1 U
West Area	E-11	5/7/2003	21	31	1 U	31	45	6.9	110	1 U
West Area	E-11	8/6/2003	16	26	1 U	26	41	6.4	99	1 U
West Area	E-11	11/5/2003	18	29	1 U	29	39	5.4	110	1 U
West Area	E-11	2/3/2004	16	26	1 U	26	25	6	100	1 U
West Area	E-11	5/6/2004	14	24	1 U	24	26	4.6	90	1 U
West Area	E-11	8/3/2004	12	23	1 U	23	30	5.1	95	1 U
West Area	E-11	11/1/2004	12	23	1 U	23	20	4.8	89	1 U
West Area	E-11	2/3/2005	11	16	1 U	16	25	5	80	1 U
West Area	E-11	5/3/2005	7.8	17	1 U	17	20	4	70	1 U
West Area	E-11	8/2/2005	11	15	1 U	15	19	4.4	60	1 U
West Area	E-11	12/16/2005	8.6	12	1 U	12	18	3.6	50	1 U
West Area	E-11	2/6/2006	10	13	1 U	13	21	4	62	1 U
West Area	E-11	5/9/2006	5	8.6	1 U	--	8.2	2.4	38	1 U
West Area	E-11	8/8/2006	5.2	10	1 U	--	9.8	1.8	47	1 U
West Area	E-11	11/9/2006	6.4	10	1 U	--	11	2.8	48	1 U
West Area	E-11	2/6/2007	2.6	9	1 U	--	9.8	3.1	43	1 U
West Area	E-11	5/10/2007	4.8	8.6	1 U	--	9	2.5	40	1 U
West Area	E-11	8/8/2007	4.5	7	1 U	--	7.4	2.2	33	1 U
West Area	E-11	11/7/2007	6.8	8.7	1 U	--	8.4	2.9	38	1 U
West Area	E-11	2/12/2008	5.8	7.1	1 U	--	8.3	2.6	34	1 U
West Area	E-11	5/12/2008	5.7	7	1 U	--	7.8	2.8	35	1 U
West Area	E-11	8/8/2008	6.6	6.8	1 U	--	8.9	2.5	34	1 U
West Area	E-11	11/5/2008	3.8	5.9	0.6 U	--	4.8	1.8	24	0.6 U
West Area	E-14	1/20/1999	180 J	40 J	1 U	40	150 J	190 J	5900	2 U
West Area	E-14	2/1/1999	160 J	24	1 U	24	120 J	150 J	3400 J	2 U
West Area	E-14	3/2/1999	94	20	1 U	20	68	120	3800	2 U
West Area	E-14	5/3/1999	83	19 J	45 U	19	59	100	3800	45 U
West Area	E-14	8/2/1999	97	33	1 U	33	88	85	2600	1 U
West Area	E-14	11/1/1999	56	28	20 U	28	54	71	1900	20 U
West Area	E-14	2/4/2000	61	30	1 U	30	66	60	1900	1 U
West Area	E-14	5/1/2000	53	23	1 U	23	54	43	850	1 U
West Area	E-14	8/2/2000	43	21	1 U	21	43	40	870	1 U
West Area	E-14	11/1/2000	35	23 J	25 U	23	38	32	730	25 U
West Area	E-14	2/1/2001	46	25	1 U	25	43	38	880	1 U
West Area	E-14	5/1/2001	50	26	1 U	26	42	36	720	1 U
West Area	E-14	8/6/2001	37	22	10 U	22	32	30	750	10 U
West Area	E-14	11/1/2001	29	20	5 U	20	36	24	790	5 U
West Area	E-14	2/2/2002	28	14	10 U	14	23	26	670	10 U
West Area	E-14	5/8/2002	27	16	10 U	16	10 U	28	700	10 U
West Area	E-14	8/1/2002	26	14	10 U	14	16	29	630	10 U
West Area	E-14	11/4/2002	33	18	5 U	18	5 U	33	780	5 U
West Area	E-14	2/4/2003	15	12	1 U	12	12	26	480	1 U
West Area	E-14	5/7/2003	13	9	3 U	9	8.2	22	440	3 U
West Area	E-14	8/6/2003	15	9.4	1 U	9.4	9.5	33	630	1 U
West Area	E-14	11/5/2003	28	14	5 U	14	16	27	800	5 U
West Area	E-14	2/3/2004	19	10	1 U	10	7.1	20	530	1 U
West Area	E-14	5/6/2004	25	12	1 U	12	11	27	660	1 U
West Area	E-14	8/3/2004	18	7.4	1 U	7.4	5.9	32	750	1 U
West Area	E-14	11/1/2004	28	10	1 U	10	7.8	27	540	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	E-14	2/3/2005	14	8.8	5 U	8.8	5.6	19	420	5 U
West Area	E-14	5/3/2005	11	7.5	1 U	7.5	6	21	350	1 U
West Area	E-14	8/2/2005	9	6.6	5 U	6.6	5 U	15	310	5 U
West Area	E-14	12/16/2005	7.7	6	5 U	6	5 U	14	260	5 U
West Area	E-14	2/6/2006	5.4	4.1	3 U	4.1	3 U	14	280	3 U
West Area	E-14	5/9/2006	4.7	4.1	3 U	--	3 U	12	220	3 U
West Area	E-14	8/8/2006	4.3	4.6	3 U	--	3 U	14	270	3 U
West Area	E-14	11/9/2006	8.4	6.7	0.2 U	--	3	13	290	0.2 U
West Area	E-14	2/6/2007	5.1	4.5	1 U	--	2	13	240 J	1 U
West Area	E-14	5/10/2007	6.7	5.3	2 U	--	2	14	280	2 U
West Area	E-14	8/8/2007	22	19	15 U	--	15 U	60	1200	15 U
West Area	E-14	11/7/2007	8.8	4.8	3 U	--	3 U	14	260	3 U
West Area	E-14	2/14/2008	4.8	3.4	1 U	--	1.4	12	200	1 U
West Area	E-14	5/12/2008	1	2.1	1 U	--	1 U	12	190	1 U
West Area	E-14	8/8/2008	4.9	3.9	3 U	--	3 U	14	250	3 U
West Area	E-15	1/20/1999	160	92	1.2	93.2	340	24	740	2 U
West Area	E-15	2/1/1999	160 J	93 J	1.3	94	280 J	31 J	690 J	2 U
West Area	E-15	3/2/1999	160	61	1 U	61	210	21	540	2 U
West Area	E-15	5/3/1999	180	130	23 U	130	390	30	990	23 U
West Area	E-15	8/2/1999	45	31	1 U	31	71	8.2	160	1 U
West Area	E-15	11/1/1999	39	37	1 U	37	32	4.7	96	1 U
West Area	E-15	2/4/2000	32	29	1 U	29	52	5.9	130	1 U
West Area	E-15	5/1/2000	52	34	1 U	34	71	6.3	160	1 U
West Area	E-15	8/1/2000	62	42	1 U	42	110	8.8	260	1 U
West Area	E-15	11/1/2000	78	56	5 U	56	140	10	290	5 U
West Area	E-15	2/1/2001	21	27	1 U	27	29	4.2	100 J	1 U
West Area	E-15	5/1/2001	26	30	1 U	30	31	4.2	100	1 U
West Area	E-15	8/6/2001	33	29	1 U	29	49	5	130	1 U
West Area	E-15	11/1/2001	15	20	1 U	20	17	2.6	63	1 U
West Area	E-15	2/2/2002	54	29	5 U	29	82	6	190	5 U
West Area	E-15	5/8/2002	52	38	1 U	38	92	7.4	180	1 U
West Area	E-15	8/1/2002	22	30	1.6	31.6	71	7.1	160	1 U
West Area	E-15	11/4/2002	47	31	1 U	31	84	7.8	170	1 U
West Area	E-15	2/4/2003	29	18	1 U	18	46	5.5	97	1 U
West Area	E-15	5/7/2003	31	20	1 U	20	49	4.7	100	1 U
West Area	E-15	8/6/2003	28	20	1 U	20	50	6.2	110	1 U
West Area	E-15	11/5/2003	19	19	1 U	19	21	3.2	80	1 U
West Area	E-15	2/3/2004	9.3	14	1 U	14	8.4	3.7	55	1 U
West Area	E-15	5/6/2004	29	18	1 U	18	45	4.7	100	1 U
West Area	E-15	8/3/2004	20	15	1 U	15	25	3.6	80	1 U
West Area	E-15	11/1/2004	31	14	1 U	14	30	3.6	72	1 U
West Area	E-15	2/3/2005	14	12	1 U	12	22	2.7	60	1 U
West Area	E-15	5/3/2005	27	15	1 U	15	47	4.5	77	1 U
West Area	E-15	8/2/2005	18	11	1 U	11	20	3.2	55	1 U
West Area	E-15	12/16/2005	23	11	1 U	11	26	3.3	61	1 U
West Area	E-15	2/6/2006	18	8.2	1 U	8.2	22	2.9	53	1 U
West Area	E-15	5/9/2006	14	7.1	1 U	--	14	2.4	40	1 U
West Area	E-15	8/8/2006	12	7.5	1 U	--	14	2.1	45	1 U
West Area	E-15	11/9/2006	16	8.4	0.2 U	--	16	3.4	43	0.2 U
West Area	E-15	2/6/2007	14	7.3	1 U	--	14	2.7	41	1 U
West Area	E-15	5/10/2007	19	8.2	1 U	--	17	2.8	47	1 U
West Area	E-15	8/8/2007	13	6	1 U	--	12	2.4	38	1 U
West Area	E-15	11/7/2007	19	7.4	1 U	--	16	3	41	1 U
West Area	E-15	2/14/2008	12	5.6	1 U	--	9.7	2.7	32	1 U
West Area	E-15	5/12/2008	9.9	4.7	1 U	--	8.1	3	30	1 U
West Area	E-15	8/8/2008	9.8	5.3	1 U	--	8.7	2.7	33	1 U
West Area	E-15	11/5/2008	12	6.1	0.6 U	--	11	3.7	34	0.6 U
West Area	E-16	1/20/1999	95	130	2.5	132.5	340	19	620	2 U
West Area	E-16	2/1/1999	120 J	100 J	1.3	101	290 J	22 J	430 J	2 U
West Area	E-16	3/2/1999	90	75	1.3	76.3	360	16	390	2 U
West Area	E-16	5/3/1999	32	98	1.4 J	99.4	170	12	320	3 U
West Area	E-16	8/2/1999	14	42	1 U	42	49	5.5	140	1 U
West Area	E-16	11/1/1999	26	45	1 U	45	150	7.8	160	1 U
West Area	E-16	2/4/2000	9	14	1 U	14	33	4.4	120	1 U
West Area	E-16	5/1/2000	11	34	1 U	34	38	5.1	97	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	E-16	8/1/2000	4.2	28	1 U	28	14	2.7	59	1 U
West Area	E-16	11/1/2000	2.9	28	1 U	28	8.2	2.3	41	1 U
West Area	E-16	2/1/2001	12	53	1 U	53	38	7.2	120	1 U
West Area	E-16	5/1/2001	13	46	1 U	46	40	6.8	120	1 U
West Area	E-16	8/6/2001	11	46	1 U	46	40	6.9	100	1 U
West Area	E-16	11/1/2001	11	39	1 U	39	36	6	110	1 U
West Area	E-16	2/2/2002	7	28	1 U	28	20	5.2	77	1 U
West Area	E-16	5/8/2002	5.7	23	1 U	23	15	3.4	57	1 U
West Area	E-16	8/1/2002	5.1	24	1 U	24	17	4.8	64	1 U
West Area	E-16	11/4/2002	3.3	35	1 U	35	5.8	4.9	66	1 U
West Area	E-16	2/4/2003	1.1	6.8	1 U	6.8	2	1.4	17	1 U
West Area	E-16	5/7/2003	1	6.5	1 U	6.5	1.6	1.1	17	1 U
West Area	E-16	8/6/2003	1.2	16	1 U	16	2.2	3.2	39	1 U
West Area	E-16	11/5/2003	2	22	1 U	22	3.4	3.7	51	1 U
West Area	E-16	2/3/2004	3.1	13	1 U	13	4.8	3.7	38	1 U
West Area	E-16	5/6/2004	1 U	16	1 U	16	1 U	2.9	38	1 U
West Area	E-16	8/3/2004	1.1	18	1 U	18	1 U	3.6	44	1 U
West Area	E-16	11/1/2004	4	11	1 U	11	7.6	3.3	39	1 U
West Area	E-16	2/3/2005	1.2	9.6	1 U	9.6	2	2.7	29	1 U
West Area	E-16	5/3/2005	1.8	11	1 U	11	4.2	3	28	1 U
West Area	E-16	8/2/2005	2	11	1 U	11	4.3	3.3	32	1 U
West Area	E-16	12/16/2005	1.2	6.4	1 U	6.4	1.7	1.7	21	1 U
West Area	E-16	2/6/2006	1 U	5.3	1 U	5.3	3	1.8	20	1 U
West Area	E-16	5/9/2006	2.4	4.4	1 U	--	5.4	1.6	18	1 U
West Area	E-16	8/8/2006	1.5	4.7	1 U	--	3.4	1.5	18	1 U
West Area	E-16	11/9/2006	0.8	5.9	0.6 U	--	1.1	2.6	24	0.6 U
West Area	E-16	2/6/2007	2.5	6.2	0.6 U	--	4.4	2.2	24	0.6 U
West Area	E-16	5/10/2007	2.4	4.5	0.6 U	--	3.6	1.8	20	0.6 U
West Area	E-16	8/8/2007	2.6	4.6	0.6 U	--	4.6	2	20	0.6 U
West Area	E-16	11/7/2007	1.8	5.9	1 U	--	2.4	3.5	22	1 U
West Area	E-16	2/12/2008	2.3	3.9	1 U	--	3.8	2.5	18	1 U
West Area	E-16	5/12/2008	1 U	1.5	1 U	--	1 U	1 U	6.2	1 U
West Area	E-16	8/8/2008	1.2	3.1	1 U	--	1.5	1.8	13	1 U
West Area	E-16	11/5/2008	3.4	3.9	0.6 U	--	5.6	2.6	21	0.6 U
West Area	BOP-60ds	5/25/1994	15	60	1.4	61	8.5	13	340 U	2
West Area	BOP-60ds	7/8/1994	2.5	6.6	1 U	6.6	1 U	2.4	98	2 U
West Area	BOP-60ds	8/19/1994	2.2	4.3	1 U	4.3	1 U	2.1	90	2 U
West Area	BOP-60ds	8/19/1994	1.8	3.4	0.5 U	3.4	0.5 U	2	80	0.5 U
West Area	BOP-60ds	8/22/1994	1.8	3.6	1 U	3.6	1 U	2	85	2 U
West Area	BOP-60ds	8/22/1994	1.9	3.9	1 U	3.9	1 U	2.1	87	2 U
West Area	BOP-60ds	8/22/1994	1.9	3.9	1 U	3.9	1 U	2.1	90	2 U
West Area	BOP-60ds	8/22/1994	2.1	4.7	1 U	4.7	1 U	2.4	99	2 U
West Area	BOP-60ds	8/23/1994	2.6	6	1 U	6	1 U	3.2	120	2 U
West Area	BOP-60ds	8/24/1994	3.1	7	1 U	7	1 U	3.6	130	2 U
West Area	BOP-60ds	8/25/1994	3	6.5	1 U	6.5	1 U	3.5	120	2 U
West Area	BOP-60ds	8/26/1994	3.2	7	1 U	7	1 U	3.8	140	2 U
West Area	BOP-60ds	8/26/1994	3.5	7.1	1 U	7.1	1 U	3.9	140	2 U
West Area	BOP-60ds	11/2/1994	1 U	1.6	1 U	1.6	1 U	1 U	36	2 U
West Area	BOP-60ds	2/16/1995	1.3	2.2	1 U	2.2	1 U	1.4	78	2 U
West Area	BOP-60ds	8/16/1995	1 U	1.4	1 U	1.4	1 U	1 U	41	2 U
West Area	BOP-60ds	8/16/1995	1 U	1.3	1 U	1.3	1 U	1 U	42	2 U
West Area	BOP-60ds	2/15/1996	1 U	1.6	1 U	1.6	1 U	1 U	43	2 U
West Area	BOP-60ds	8/15/1996	1 U	1 U	1 U	1 U	1 U	1 U	24	2 U
West Area	BOP-60ds	2/21/1997	1 U	1 U	1 U	1 U	1 U	1 U	31	2 U
West Area	BOP-60ds	6/19/1997	1 U	1 U	1 U	1 U	1 U	1 U	27	2 U
West Area	BOP-60ds	8/18/1997	0.4	0.8	0.2 U	0.8	0.2 U	0.4	21	0.2 U
West Area	BOP-60ds	2/13/1998	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	3.3	0.2 U
West Area	BOP-60ds	8/18/1998	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.3	0.2 U
West Area	BOP-60ds	2/16/1999	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.8	0.2 U
West Area	BOP-60ds	8/13/1999	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.7	0.2 U
West Area	BOP-60ds	2/7/2000	0.2 U	0.2 U	0.2 U	0.2 U	0.2	0.2 U	1.3	0.2 U
West Area	BOP-60ds	8/23/2000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.4	0.2 U
West Area	BOP-60ds	2/20/2001	0.2 U	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.8	0.2 U
West Area	BOP-60ds	8/20/2001	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.3 J	0.2 UJ	1 J	0.2 UJ
West Area	BOP-60ds	2/15/2002	0.5	0.2 U	0.2 U	0.2 U	1.3	0.2 U	2.9	0.2 U
West Area	BOP-60ds	8/12/2002	0.7	0.2 U	0.2 U	0.2 U	1.9	0.2 U	2.1	0.2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
West Area	BOP-60ds	2/19/2003	0.8	0.2 U	0.2 U	0.2 U	1.7	0.2 U	2.1	0.2 U
West Area	BOP-60ds	8/8/2003	3.3	0.6	0.2 U	0.6	6.9	0.3	14	0.2 U
West Area	BOP-60ds	2/19/2004	2.2	0.3	0.2 U	0.3	4.2	0.2	7.8	0.2 U
West Area	BOP-60ds	8/9/2004	1.7	0.2	0.2 U	0.2	2.9	0.2	4.5	0.2 U
West Area	BOP-60ds	2/11/2005	0.9	0.2 U	0.2 U	0.2 U	1.4	0.2 U	2	0.2 U
West Area	BOP-60ds	8/5/2005	0.8	0.2 U	0.2 U	0.2 U	1.4	0.2 U	1.5	0.2 U
West Area	BOP-60ds	2/6/2006	1.4	0.2 U	0.2 U	0.2 U	2	0.2 U	3	0.2 U
West Area	BOP-60ds	2/6/2006	20	1.5	0.2 U	1.5	27	0.9	38	0.2 U
West Area	BOP-60ds	5/10/2006	1.3	0.2 U	0.2 U	--	1.6	0.2 U	3.3	0.2 U
West Area	BOP-60ds	5/10/2006	78	8.4	0.2	--	81	1.4	180	0.2 U
West Area	BOP-60ds	8/11/2006	20	2	0.2 U	--	26	1.2	58	0.2 U
West Area	BOP-60ds	8/11/2006	2.2	0.3	0.2 U	--	3	0.2 U	7	0.2 U
West Area	BOP-60ds	8/11/2006	2.6	0.3	0.2 U	--	3.2	0.2 U	7.6	0.2 U
West Area	BOP-60ds	8/15/2006	0.8	0.2 U	0.2 U	--	1.1	0.2 U	2.9	0.2 U
West Area	BOP-60ds	12/13/2006	28	2.9	0.2 U	--	34	2	86	0.2 U
West Area	BOP-60ds	12/13/2006	11	1.5	0.2 U	--	14	0.8	44	0.2 U
West Area	BOP-60ds	12/13/2006	15	2	0.2 U	--	22	0.9	60	0.2 U
West Area	BOP-60ds	2/5/2007	23	3.2	0.2 U	--	27	1.6	66	0.2 U
West Area	BOP-60ds	2/5/2007	9.8	1.6	0.2 U	--	9.6	0.7	26	0.2 U
West Area	BOP-60ds	2/5/2007	18	2.6	0.2 U	--	20	1	50	0.2 U
West Area	BOP-60ds	2/5/2007	2.7	0.8	0.2 U	--	2.5	0.3	12	0.2 U
West Area	BOP-60ds	8/17/2007	11	1.4	1 U	--	10	1 U	32	1 U
West Area	BOP-60ds	8/17/2007	20	2.1	1 U	--	18	1	52	1 U
West Area	BOP-60ds	8/17/2007	15	1.7	1 U	--	14	1 U	40	1 U
West Area	BOP-60ds	8/17/2007	1.9	0.8	0.2 U	--	2	0.4	13	0.2 U
West Area	BOP-60ds	2/13/2008	49	4.6	0.2 U	--	52	1.5	78	0.2 U
West Area	BOP-60ds	2/13/2008	4	1.4	0.2 U	--	4	0.4	14	0.2 U
West Area	BOP-60ds	2/13/2008	3.3	1.3	0.2 U	--	3.2	0.4	14	0.2 U
West Area	BOP-60ds	4/11/2008	0.2 U	0.2 U	0.2 U	--	0.9	0.2 U	1.4	0.2 U
West Area	BOP-60ds	8/14/2008	110	10	0.2	--	100	2.6	210	0.2 U
West Area	BOP-60ds	8/14/2008	3.7	1.4	0.2 U	--	3.2	0.4	14	0.2 U
West Area	BOP-60ds	8/14/2008	3.9	1.2	0.2 U	--	3.3	0.3	14	0.2 U
West Area	BOP-60ds	8/15/2008	3.9	1.3	0.2 U	--	4	0.5	14	0.2 U
West Area	BOP-60ds	11/14/2008	2.2	0.3	0.2 U	--	3.2	0.2 U	5.7	0.2 U
Central Area	BOP-10i	3/2/1987	23	--	3700	3700	32	130	2600	2.4
Central Area	BOP-10i	12/9/1987	16	--	--	2100	29	89	2200	2
Central Area	BOP-10i	7/14/1988	14	--	--	2100	26	110	1600	3.9
Central Area	BOP-10i	7/14/1988	14	--	--	2100	27	110	1700	3.6
Central Area	BOP-10i	1/30/1989	3.1 M	--	--	1000	6.6 M	120	1300	7.7 M
Central Area	BOP-10i	5/17/1989	1.8	--	--	1400	3.7	150	1800	4.9
Central Area	BOP-10i	7/26/1989		--	--	1400	--	200	2100	--
Central Area	BOP-10i	11/7/1989	2.6	700	9.9	710	4.1	180	1600	4.2
Central Area	BOP-10i	2/15/1990	3.1 M	1100	16	1116	--	200	1600	--
Central Area	BOP-10i	2/15/1990	4.5	1100	17	1117	6.5	190	1700	5.4
Central Area	BOP-10i	6/8/1990	--	1100	--	1100		240	2200	--
Central Area	BOP-10i	8/7/1990	7.1	1300	20	1320	6.2	110	1800	3.3 M
Central Area	BOP-10i	11/6/1990	25 U	1100	16 M	1116	25 U	120	1500	75 U
Central Area	BOP-10i	2/7/1991	25 U	1200	19 J	1219	25 U	120	1500	75 U
Central Area	BOP-10i	5/15/1991	7.7 J	1000	17	1017	7 M	100	1100	20 U
Central Area	BOP-10i	8/9/1991	20 U	730	15 J	745	20 U	69	980	40 U
Central Area	BOP-10i	8/9/1991	11	750	16	766	8.6 M	71	1000	10 U
Central Area	BOP-10i	1/21/1992	10 U	470	5.3	475	5 U	49	700	15 U
Central Area	BOP-10i	1/21/1992	7	400	7.3	407	5.5	55	550	10 U
Central Area	BOP-10i	7/15/1992	20 U	430	20 U	430	20 U	43	640	40 U
Central Area	BOP-10i	2/17/1993	6.6 J	440 J	9.2 J	449.2	3.7 J	37 J	480 J	2 U
Central Area	BOP-10i	7/27/1993	3.7	340	7.1	347.1	2.8	33	440	2 U
Central Area	BOP-10i	3/2/1994	3.6 J	250 J	5.2 J	255.2	2.8 J	25 J	310 J	2 UJ
Central Area	BOP-10i	5/24/1994	3.2	240	5.7	246	2.5	23	330	2 U
Central Area	BOP-10i	8/10/1994	2.7	250	5	255	1.8	25	340	2 U
Central Area	BOP-10i	10/24/1994	3.8	240	3.7	243.7	2.6	16	440	2 U
Central Area	BOP-10i	8/18/1995	5 U	360	5.4	365.4	5 U	20	670	10 U
Central Area	BOP-10i	2/19/1996	5 U	410	6.2	416.2	5 U	16	840	10 U
Central Area	BOP-10i	8/5/1996	5 U	670	17	687	5 U	28	1300	10 U
Central Area	BOP-10i	2/18/1997	25 U	960	25 U	960	25 U	46 J	1900	50 U
Central Area	BOP-10i	2/18/1997	10 U	960	12	972	10 U	36 J	1800	20 U
Central Area	BOP-10i	8/21/1997	3 U	1900	37	1937	3 U	62	2900	6 U

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	BOP-10i	2/27/1998	23 U	2100	23 U	2100	23 U	52	2700	45 U
Central Area	BOP-10i	8/24/1998	1.8	1500	29	1529	1.1	49	1500	2 U
Central Area	BOP-10i	2/15/1999	1 U	1300	18	1318	1 U	38	1200	2 U
Central Area	BOP-10i	8/20/1999	5 U	620	7.8	627.8	5 U	17	530	5 U
Central Area	BOP-10i	2/17/2000	1 U	640	8.4	648.4	1 U	22	530	1 U
Central Area	BOP-10i	8/29/2000	1 U	200	1 U	200	1 U	20	180	1 U
Central Area	BOP-10i	2/22/2001	1 U	90	1.2	91.2	1 U	24	120 J	1 U
Central Area	BOP-10i	8/15/2001	1 U	59	1 U	59	1 U	18	87	1 U
Central Area	BOP-10i	2/28/2002	1 U	27	1 U	27	1 U	14	59	1 U
Central Area	BOP-10i	8/16/2002	1 U	18	1 U	18	1 U	15	51	1 U
Central Area	BOP-10i	2/13/2003	1 U	11	1 U	11	1 U	15	40	1 U
Central Area	BOP-10i	8/12/2003	1 U	12	1 U	12	1 U	15	40	1 U
Central Area	BOP-10i	2/24/2004	1 U	7.8	1 U	7.8	1 U	11	33	1 U
Central Area	BOP-10i	8/12/2004	1 U	9.4	1 U	9.4	1 U	11	34	1 U
Central Area	BOP-10i	2/9/2005	1 U	8.1	1 U	8.1	1 U	10	34	1 U
Central Area	BOP-10i	8/8/2005	1 U	7.1	1 U	7.1	1 U	9.3	29	1 U
Central Area	BOP-10i	2/8/2006	1 U	8.4	1 U	8.4	1 U	12	38	1 U
Central Area	BOP-10i	8/7/2006	1 U	6.8	1 U	--	1 U	12	33	1 U
Central Area	BOP-10i	2/9/2007	1 U	7.3	1 U	--	1 U	15	37	1 U
Central Area	BOP-10i	8/16/2007	1 U	6	1 U	--	1 U	19	41	1 U
Central Area	BOP-10i	2/7/2008	1 U	11	1 U	--	1 U	60	72	1 U
Central Area	BOP-10i	8/11/2008	1 U	10	1 U	--	1 U	73	72	1 U
Central Area	BOP-10i	11/7/2008	1 U	15	1 U	--	1 U	35	64	1 U
Central Area	BOP-10i	11/7/2008	0.50 U	8.9	0.50 U	--	0.50 U	91	91	0.50 U
Central Area	BOP-10i	11/7/2008	0.50 U	8.2	0.50 U	--	0.50 U	74	76	0.50 U
Central Area	BOP-10i	11/7/2008	0.50 U	11	0.50 U	--	0.50 U	65	80	0.50 U
Central Area	BOP-10i	11/7/2008	0.50 U	10	0.50 U	--	0.50 U	66	80	0.50 U
Central Area	BOP-10i	11/7/2008	0.50 U	11	0.50 U	--	0.50 U	57	78	0.50 U
Central Area	BOP-56i	8/23/1994	11	47	1 U	47	9.8	54	170	2 U
Central Area	BOP-56i	11/4/1994	12	62	1 U	62	15	56	200	2 U
Central Area	BOP-56i	2/7/1995	12	47	1 U	47	15	50	200	2 U
Central Area	BOP-56i	5/23/1995	13	53	1 U	53	16	53	200	2 U
Central Area	BOP-56i	8/16/1995	10	50	1 U	50	9.5	38	180	2 U
Central Area	BOP-56i	2/9/1996	8.4	37	1 U	37	8.7	25	130	2 U
Central Area	BOP-56i	8/19/1996	6.7	52	1 U	52	4.3	37	160	2 U
Central Area	BOP-56i	2/25/1997	7.3	47	1 U	47	4.9	28	180	2 U
Central Area	BOP-56i	8/21/1997	4.3	46	1 U	46	2	29	150	2 U
Central Area	BOP-56i	3/7/1998	4.7	50	1 U	50	2.5	50	210	2 U
Central Area	BOP-56i	8/25/1998	3.5	50	1 U	50	2.7	51	170	2 U
Central Area	BOP-56i	2/18/1999	1.7	16	1 U	16	1 U	19	79	2 U
Central Area	BOP-56i	8/21/1999	1.4	13	1 U	13	1 U	19	70	1 U
Central Area	BOP-56i	2/23/2000	1.4	13	1 U	13	1 U	23	65	1 U
Central Area	BOP-56i	8/31/2000	1 U	9.2	1 U	9.2	1 U	7.4	37	1 U
Central Area	BOP-56i	2/24/2001	1.2	13	1 U	13	1 U	19	63	1 U
Central Area	BOP-56i	8/21/2001	1 U	4	1 U	4	1 U	3.5	17	1 U
Central Area	BOP-56i	3/7/2002	1 U	2.8	1 U	2.8	1 U	2.8	11	1 U
Central Area	BOP-56i	8/16/2002	1 U	4.3	1 U	4.3	1 U	5.7	18	1 U
Central Area	BOP-56i	2/24/2003	1 U	7.8	1 U	7.8	1 U	14	40	1 U
Central Area	BOP-56i	8/14/2003	1 U	9.5	1 U	9.5	1 U	15	46	1 U
Central Area	BOP-56i	2/27/2004	1 U	8.8	1 U	8.8	1 U	10	43	1 U
Central Area	BOP-56i	8/19/2004	1 U	8.1	1 U	8.1	1 U	6.4	35	1 U
Central Area	BOP-56i	2/16/2005	1 U	4.8	1 U	4.8	1 U	3.9	18	1 U
Central Area	BOP-56i	8/10/2005	1 U	8.5	1 U	8.5	1 U	9.8	42	1 U
Central Area	BOP-56i	2/9/2006	1 U	7.4	1 U	7.4	1 U	14	51	1 U
Central Area	BOP-56i	8/16/2006	1 U	6.4	1 U	--	1 U	7	34	1 U
Central Area	BOP-56i	2/9/2007	1 U	7.9	1 U	--	1 U	11	49	1 U
Central Area	BOP-56i	8/14/2007	1 U	5.9	1 U	--	1 U	8.5	42	1 U
Central Area	BOP-56i	2/7/2008	1 U	7.1	1 U	--	1 U	10	48	1 U
Central Area	BOP-56i	8/11/2008	1 U	5.6	1 U	--	1 U	9.8	40	1 U
Central Area	BOP-59i	8/26/1994	2 U	110	2 U	110	2 U	2 U	220	4 U
Central Area	BOP-59i	11/4/1994	2.2	170	3.6	173.6	3	11	400	2 U
Central Area	BOP-59i	2/24/1995	2.8	510	15	525	2.9	26	1200	2.2
Central Area	BOP-59i	5/23/1995	10 U	880	14	894	10 U	29	1800	20 U
Central Area	BOP-59i	8/8/1995	10 U	590	10 U	590	10 U	25	1200	20 U
Central Area	BOP-59i	2/13/1996	10 U	460	10 U	460	10 U	15	810	20 U

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	BOP-59i	8/13/1996	10 U	1100	15	1115	10 U	29	1700	20 U
Central Area	BOP-59i	2/18/1997	10 U	1200	13	1213	10 U	23	1400	20 U
Central Area	BOP-59i	8/25/1997	15 U	1800	16	1816	15 U	28	1800	30 U
Central Area	BOP-59i	3/9/1998	1.3	1700	18	1718	1 U	30	1600	2 U
Central Area	BOP-59i	8/26/1998	1 U	74	1 U	74	1 U	1.2	72	2 U
Central Area	BOP-59i	2/17/1999	1 U	170	1.8	171.8	1 U	5.4	170	2 U
Central Area	BOP-59i	2/17/1999	1 U	170	1.9	171.9	1 U	5.3	200	2 U
Central Area	BOP-59i	8/24/1999	1 U	110	1.1	111.1	1 U	4.2	130	1 U
Central Area	BOP-59i	8/24/1999	1 U	110	1.1	111.1	1 U	4	120	1 U
Central Area	BOP-59i	2/17/2000	1 U	56	1 U	56	1 U	3.2	80	1 U
Central Area	BOP-59i	2/17/2000	1 U	58	1 U	58	1 U	3.3	83	1 U
Central Area	BOP-59i	8/30/2000	1 U	80	1.2	81.2	1 U	2.6	91	1 U
Central Area	BOP-59i	8/30/2000	1 U	75	1.1	76.1	1 U	2.4	83	1 U
Central Area	BOP-59i	2/21/2001	1 U	120	1.8	121.8	1 U	3.1	88 J	2.8
Central Area	BOP-59i	2/21/2001	1 UJ	110 J	1.7 J	111.7	1 UJ	3.1 J	83 J	3.3 J
Central Area	BOP-59i	8/21/2001	1 U	75	1 U	75	1 U	2	54	1.3
Central Area	BOP-59i	8/21/2001	1 U	82	1 U	82	1 U	2.1	59	1.5
Central Area	BOP-59i	2/24/2002	1 U	51	1 U	51	1 U	1.9	47	1 U
Central Area	BOP-59i	2/24/2002	1 U	52	1 U	52	1 U	1.9	48	1 U
Central Area	BOP-59i	8/16/2002	1 U	26	1 U	26	1 U	1.4	29	1 U
Central Area	BOP-59i	8/16/2002	1 U	27	1 U	27	1 U	1.6	34	1 U
Central Area	BOP-59i	2/17/2003	1 U	31	1 U	31	1 U	5.9	38	1 U
Central Area	BOP-59i	2/17/2003	1 U	32	1 U	32	1 U	6	38	1 U
Central Area	BOP-59i	8/15/2003	1 U	13	1 U	13	1 U	14	30	1 U
Central Area	BOP-59i	8/15/2003	1 U	13	1 U	13	1 U	14	30	1 U
Central Area	BOP-59i	2/24/2004	1 U	9.6	1 U	9.6	1 U	9.3	30	1 U
Central Area	BOP-59i	2/24/2004	1 U	11	1 U	11	1 U	10	32	1 U
Central Area	BOP-59i	8/12/2004	1 U	11	1 U	11	1 U	8.7	29	1 U
Central Area	BOP-59i	8/12/2004	1 U	9.5	1 U	9.5	1 U	7.7	28	1 U
Central Area	BOP-59i	2/11/2005	1 U	8.1	1 U	8.1	1 U	14	30	1 U
Central Area	BOP-59i	2/11/2005	1 U	8.6	1 U	8.6	1 U	14	30	1 U
Central Area	BOP-59i	8/9/2005	1 U	10	1 U	10	1 U	24	36	1 U
Central Area	BOP-59i	8/9/2005	1 U	11	1 U	11	1 U	25	36	1 U
Central Area	BOP-59i	2/8/2006	1 U	10	1 U	10	1 U	10	29	1 U
Central Area	BOP-59i	2/8/2006	1 U	10	1 U	10	1 U	9.8	27	1 U
Central Area	BOP-59i	8/7/2006	1 U	12	1 U	--	1 U	15	35	1 U
Central Area	BOP-59i	8/7/2006	1 U	12	1 U	--	1 U	13	35	1 U
Central Area	BOP-59i	2/9/2007	1 U	13	1 U	--	1 U	11	31	1 U
Central Area	BOP-59i	2/9/2007	1 U	13	1 U	--	1 U	11	31	1 U
Central Area	BOP-59i	8/8/2007	0.3	16	0.2	--	0.2 U	1.8	18	0.2 U
Central Area	BOP-59i	8/8/2007	0.3	16	0.3	--	0.2 U	2.2	18	0.2 U
Central Area	BOP-59i	2/7/2008	1 U	18	1 U	--	1 U	1.6	18	1 U
Central Area	BOP-59i	2/7/2008	1 U	17	1 U	--	1 U	1.6	18	1 U
Central Area	BOP-59i	8/11/2008	1 U	24	1 U	--	1 U	1.1	18	1 U
Central Area	BOP-59i	8/11/2008	1 U	24	1 U	--	1 U	1.3	18	1 U
Central Area	E-6	3/28/1989	12 J	3400	69	3469	21 J	150	3900	7.7 J
Central Area	E-6	4/6/1989	--	3700	64	3764	16 J	150	3700	--
Central Area	E-6	4/12/1989	--	3700	--	3700	25 U	180	3900	--
Central Area	E-6	4/18/1989	--	3100	--	3100	25 U	150	3800	--
Central Area	E-6	4/25/1989	180	3900	--	3900	25 U	150	4200	--
Central Area	E-6	5/2/1989	--	4200	--	4200	25 U	200	4300	--
Central Area	E-6	5/9/1989	--	3100	--	3100	25 U	170	3900	--
Central Area	E-6	5/16/1989	--	4200	--	4200	25 U	210	4500	--
Central Area	E-6	5/23/1989	--	3100	--	3100	25 U	190	3900	--
Central Area	E-6	5/30/1989	--	4000	--	4000	25 U	180	3900	--
Central Area	E-6	6/7/1989	--	3000	--	3000	25 U	170	3800	--
Central Area	E-6	6/13/1989	--	3500	56	3556	11 M	200	4100	--
Central Area	E-6	6/20/1989	--	3900	64	3964	25 U	180	4200	--
Central Area	E-6	6/27/1989	--	3000	61	3061	25 U	180	4300	--
Central Area	E-6	7/5/1989	--	3500	73	3573	8.9 M	170	4600	--
Central Area	E-6	7/11/1989	--	3700	64	3764	25 U	180	4200	--
Central Area	E-6	7/18/1989	--	3800	77	3877	25 U	170	4300	--
Central Area	E-6	7/25/1989	--	4100	76	4176	25 U	180	5000	--
Central Area	E-6	8/1/1989	--	3700 J	68	3768	63 U	220	5100	--
Central Area	E-6	8/8/1989	7.6 J	4400	76	4476	13 M	180	3700	--
Central Area	E-6	8/15/1989	7.1 J	5300	85	5385	12 M	230	5200	--

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	E-6	8/22/1989	--	4800	69	4869	50 U	200	4300	--
Central Area	E-6	8/29/1989	--	4600	71	4671	33 U	200	4400	--
Central Area	E-6	9/5/1989	--	5400	83	5483	14 M	210	5300	--
Central Area	E-6	9/12/1989	9.6	7100	87	7187	13	200	5700	6.8
Central Area	E-6	11/15/1989	9.1 J	3500	51	3551	14 J	150	3900	--
Central Area	E-6	11/21/1989	12 J	3500	68	3568	20 J	170	4500	--
Central Area	E-6	11/28/1989	9.5 J	3800	78	3878	22 J	170	5300	--
Central Area	E-6	12/5/1989	12 J	4400	85	4485	23 M	200	6700	--
Central Area	E-6	12/12/1989	--	4600	87	4687	20 M	190	6400	--
Central Area	E-6	12/19/1989	12 J	6000		6000	22 J	230	6800	--
Central Area	E-6	1/4/1990	--	5600	82	5682	25 J	210	6900	--
Central Area	E-6	1/17/1990	17 J	4900	95	4995	59	230	7100	--
Central Area	E-6	1/31/1990	10 J	4100	78	4178	25 M	200	5500	--
Central Area	E-6	2/14/1990	11 M	4500	78	4578	24 J	190	5800	--
Central Area	E-6	2/28/1990	11 M	3900	64	3964	21 M	200	5800	--
Central Area	E-6	3/14/1990	11 M	4200	95	4295	33 U	290	7400	--
Central Area	E-6	3/28/1990	--	4600	90	4690	33 U	240	7400	--
Central Area	E-6	4/11/1990	--	4200	91	4291	25 U	210	8100	--
Central Area	E-6	4/25/1990	--	3700	--	3700	33 U	170	6800	--
Central Area	E-6	5/8/1990	--	4500	93	4593	33 U	210	6900	--
Central Area	E-6	5/22/1990	97	4200	--	4200	33 U	220	7700	--
Central Area	E-6	6/6/1990	100	4800	--	4800	33 U	220	8400	--
Central Area	E-6	6/19/1990	--	4500	91	4591	33 U	210	8200	--
Central Area	E-6	7/3/1990	--	4700	70	4770	33 U	210	7000	--
Central Area	E-6	7/17/1990	--	5000	100	5100	33 U	200	7700	--
Central Area	E-6	7/31/1990	--	4700	100	4800	50 U	190	7100	--
Central Area	E-6	8/14/1990	16	4700	88	4788	15	160	6600	5.8
Central Area	E-6	8/28/1990	--	3800	67	3867	50 U	130	5700	--
Central Area	E-6	9/11/1990	--	3400	56	3456	50 U	130	5000	--
Central Area	E-6	9/27/1990	15 M	4000	81	4081	19 M	180	5800	--
Central Area	E-6	10/9/1990	--	3800	61	3861	50 U	140	5600	--
Central Area	E-6	10/29/1990	--	4200	80	4280	50 U	170	6800	--
Central Area	E-6	11/14/1990	--	3100	79	3179	50 U	160	5500	--
Central Area	E-6	11/28/1990	--	3500	63	3563	50 U	140	5100	--
Central Area	E-6	12/11/1990	--	2900	43 J	2943	50 U	110	4400	--
Central Area	E-6	1/2/1991	50 U	3000	55	3055	50 U	130	4700	150 U
Central Area	E-6	1/15/1991	50 U	3100	57	3157	50 U	120	4500	150 U
Central Area	E-6	2/5/1991	50 U	3500	61	3561	50 U	120	4700	150 U
Central Area	E-6	3/5/1991	50 U	2000	50	2050	50 U	130	4000	150 U
Central Area	E-6	4/2/1991	50 U	2400	34 J	2434	50 U	85	3300	100 U
Central Area	E-6	5/7/1991	50 U	2600	48 J	2648	100 U	110	3800	100 U
Central Area	E-6	6/3/1991	52	2800	50 U	2800	50 U	100	4000	100 U
Central Area	E-6	7/1/1991	50 U	3000	62	3062	50 U	120	4500	100 U
Central Area	E-6	8/5/1991	50 U	2500	48 J	2548	50 U	100	3700	100 U
Central Area	E-6	9/3/1991	50 U	2600	46	2646	25 U	110	4100	75 U
Central Area	E-6	10/2/1991	50 U	2400	43 J	2443	50 U	110	3300	100 U
Central Area	E-6	11/4/1991	25 U	1700	28	1728	25 U	74	2500	50 U
Central Area	E-6	12/4/1991	25 U	1200	21 J	1221	25 U	59	1800	50 U
Central Area	E-6	1/6/1992	25 U	1500	26	1526	25 U	76	2200	50 U
Central Area	E-6	2/4/1992	25 U	1600	27	1627	25 U	70	2200	50 U
Central Area	E-6	3/3/1992	25 U	1200	18 J	1218	25 U	51	1800	50 U
Central Area	E-6	4/6/1992	25 U	1400	25	1425	25 U	80	2100	50 U
Central Area	E-6	5/4/1992	25 U	1100	17 J	1117	25 U	50	1700	50 U
Central Area	E-6	6/2/1992	25 U	1100	19 J	1119	25 U	56	1700	50 U
Central Area	E-6	7/6/1992	25 U	1200	13 J	1213	25 U	51	1700	50 U
Central Area	E-6	8/10/1992	25 U	1100	21 M	1121	25 U	62	1900	50 U
Central Area	E-6	9/1/1992	50 U	1200	50 U	1200	50 U	62	2000	100 U
Central Area	E-6	10/1/1992	50 U	870	50 U	870	50 U	46 J	1500	100 U
Central Area	E-6	11/2/1992	50 U	950	50 U	950	50 U	38 J	1400	100 U
Central Area	E-6	12/1/1992	6.4 M	650	8.4 M	658	5.3 M	32	990	20 U
Central Area	E-6	1/1/1993	10 U	680	10 U	680	8 M	36	1000	20 U
Central Area	E-6	2/1/1993	10 U	920	11	931	10 U	46	1500	20 U
Central Area	E-6	3/3/1993	20 U	790	20 U	790	20 U	38	1310	40 U
Central Area	E-6	3/29/1993	20 U	500	20 U	500	20 U	20 M	750	40 U
Central Area	E-6	4/28/1993	18 U	370	18 U	370	18 U	20	740	36 U
Central Area	E-6	5/25/1993	20 U	420	20 U	420	20 U	22	750	40 U
Central Area	E-6	6/23/1993	10 U	390	10 U	390	10 U	20	600	20 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	E-6	7/30/1993	10 U	430	10 U	430	10 U	25	740	20 U
Central Area	E-6	8/25/1993	10 U	430	12	442	10 U	25	740	20 U
Central Area	E-6	9/29/1993	10 U	350	10 U	350	10 U	22	630	20 U
Central Area	E-6	10/27/1993	5 U	340	5 U	340	5 U	20	580	10 U
Central Area	E-6	11/22/1993	5 U	340	5.5	345.5	5 U	20	600	10 U
Central Area	E-6	12/27/1993	5 U	320	5 U	320	6.2	20	600	10 U
Central Area	E-6	1/26/1994	2 U	110	2 U	110	2 U	6.1	190	4 U
Central Area	E-6	2/23/1994	4.3	320	3.9	324	3.9	18	470	4 U
Central Area	E-6	4/4/1994	5 U	280	5 U	280	5 U	15	500	10 U
Central Area	E-6	4/26/1994	5 U	260	5 U	260	5 U	13	440	10 U
Central Area	E-6	6/29/1994	5 U	280	5 U	280	5 U	17	480	10 U
Central Area	E-6	10/26/1994	2.8	250	4.2	254.2	2.4	16	470	2 U
Central Area	E-6	3/3/1995	3	190	3.2	193.2	2.6 J	12	390 J	2 U
Central Area	E-6	6/1/1995	2.9	200	3.4	203.4	2.9	13	440	2 U
Central Area	E-6	8/29/1995	5 U	300	5 U	300	5 U	16	680	10 U
Central Area	E-6	11/9/1995	6.1	320	9.2	329.2	5 U	16	740	10 U
Central Area	E-6	3/4/1996	5 U	340	5 U	340	5 U	18	750	10 U
Central Area	E-6	5/31/1996	5 U	420	5.8	425.8	5 U	17	930	10 U
Central Area	E-6	8/26/1996	5 U	530	7.4	537.4	5 U	19	1000	10 U
Central Area	E-6	11/20/1996	5 U	530	7.9	537.9	5 U	18	1100	10 U
Central Area	E-6	3/6/1997	5 U	830	9.3	839.3	5 U	24	980	10 U
Central Area	E-6	5/27/1997	10 U	810	15	825	10 U	22	1300	20 U
Central Area	E-6	9/2/1997	9 U	1200	25	1225	9 U	29	1500	18 U
Central Area	E-6	11/3/1997	2.4	1000	20	1020	1.7	36	1400	2 U
Central Area	E-6	2/24/1998	10 U	1100	12	1112	10 U	19	1200	20 U
Central Area	E-6	5/5/1998	2.2	1100	18	1118	1.3 J	28	1300	2 U
Central Area	E-6	8/3/1998	1.9	800	12	812	1	20	980	2 U
Central Area	E-6	11/2/1998	1.8	890	12	902	1 U	27	1100	2 U
Central Area	E-6	2/1/1999	1.7	980	11	991	1 U	23	1100	2 U
Central Area	E-6	5/3/1999	1.3	1100	8	1108	1 U	17	1100	1 U
Central Area	E-6	8/2/1999	3 U	680	20	700	3 U	12	660	3 U
Central Area	E-6	11/1/1999	5 U	450	4 J	454	5 U	8.3	430	5 U
Central Area	E-6	2/4/2000	1.1	420	5.1	425	1 U	8.3	420	1 U
Central Area	E-6	5/1/2000	1.1	400	5.9	405.9	1 U	8.2	320	1 U
Central Area	E-6	8/2/2000	1	250	5.4	255.4	1 U	8.6	250	1 U
Central Area	E-6	11/1/2000	1 U	300	4	304	1 U	15	250	1 U
Central Area	E-6	2/1/2001	3 U	330	5.4	335.4	3 U	13	310 J	3 U
Central Area	E-6	5/1/2001	1.2	380	4.9	384.9	1 U	14	270	1 U
Central Area	E-6	8/6/2001	5 U	380	5.6	386	5 U	14	280	5 U
Central Area	E-6	11/1/2001	3 U	300	9.6	309.6	3 U	12	220	3 U
Central Area	E-6	2/2/2002	3 U	240	4.8	244.8	3 U	14	190	3 U
Central Area	E-6	5/8/2002	1 U	160	1.7	161.7	1 U	12	130	1 U
Central Area	E-6	8/1/2002	3 U	140	3 U	140	3 U	13	110	3 U
Central Area	E-6	11/4/2002	1 U	99	1.5	100.5	1 U	16	100	1 U
Central Area	E-6	12/4/2002	1 U	94	1.1	95.1	1 U	14	95	1 U
Shutdown of Extraction Pumping										
Central Area	E-6	2/4/2003	1 U	44	1 U	44	1 U	16	69	1 U
Central Area	E-6	5/7/2003	1 U	28	1 U	28	1 U	14	54	1 U
Central Area	E-6	8/6/2003	1 U	20	1 U	20	1 U	16	52	1 U
Central Area	E-6	11/5/2003	1 U	24	1 U	24	1 U	12	59	1 U
Central Area	E-6	2/3/2004	1 U	20	1 U	20	1 U	12	45	1 U
Central Area	E-6	5/6/2004	1 U	16	1 U	16	1 U	9.5	39	1 U
Central Area	E-6	8/3/2004	1 U	14	1 U	14	1 U	12	46	1 U
Central Area	E-6	11/1/2004	1 U	15	1 U	15	1 U	12	46	1 U
Central Area	E-6	2/3/2005	1 U	10	1 U	10	1 U	8.8	33	1 U
Central Area	E-6	5/3/2005	1 U	8.3	1 U	8.3	1 U	9	29	1 U
Central Area	E-6	8/2/2005	1 U	7.9	1 U	7.9	1 U	9.2	28	1 U
Central Area	E-6	12/16/2005	1 U	12	1 U	12	1 U	62	71	1 U
Central Area	E-6	2/6/2006	1 U	4.9	1 U	4.9	1 U	7.6	22	1 U
Central Area	E-6	5/9/2006	1 U	5.6	1 U	--	1 U	10	24	1 U
Central Area	E-6	8/8/2006	1 U	7.9	1 U	--	1 U	18	38	1 U
Central Area	E-6	11/9/2006	0.2	11	0.3	--	0.2 U	26	44	0.2 U
Central Area	E-6	2/6/2007	0.2	10	0.2	--	0.2 U	34	41	0.2 U
Central Area	E-6	5/10/2007	1 U	12	1 U	--	1 U	54	62	1 U
Central Area	E-6	8/8/2007	1 U	9.8	1 U	--	1 U	59	60	1 U
Central Area	E-6	11/8/2007	1 U	8.2	1 U	--	1 U	57	44	1 U
Central Area	E-6	2/11/2008	1 U	5.9	1 U	--	1 U	30	31	1 U

APPENDIX C
TGA SEMIANNUAL REPORT
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	E-6	5/12/2008	1 U	3.9	1 U	--	1 U	32	19	1 U
Central Area	E-6	8/11/2008	1 U	3.8	1 U	--	1 U	26	17	1 U
Central Area	E-6	11/6/2008	0.2 U	15	0.3	--	0.2 U	40	41	0.2 U
Central Area	E-7	3/28/1989	6	590	11	601	9.4	49	590	6.4 M
Central Area	E-7	4/6/1989	4.8 J	1100	24	1124	9.3	86	1100	8.7
Central Area	E-7	4/12/1989	--	1900	--	1900	--	160	2100	--
Central Area	E-7	4/18/1989	--	2000	--	2000	--	150	2500	--
Central Area	E-7	4/25/1989	--	3000	--	3000	--	170	3300	--
Central Area	E-7	5/2/1989	--	2900	--	2900	--	160	3400	--
Central Area	E-7	5/9/1989	--	2900	--	2900	--	190	3700	--
Central Area	E-7	5/16/1989	--	3600	--	3600	--	220	4200	--
Central Area	E-7	5/23/1989	--	3000	--	3000	--	240	3900	--
Central Area	E-7	5/30/1989	--	3700	--	3700	--	220	3900	--
Central Area	E-7	6/7/1989	--	3100	--	3100	--	220	4000	--
Central Area	E-7	6/13/1989	7.2 M	3000	--	3000	12 M	210	3700	--
Central Area	E-7	6/20/1989	--	3200	51	3251	--	190	3700	--
Central Area	E-7	6/27/1989	--	2000	38	2038	8.6 M	160	2800	--
Central Area	E-7	7/5/1989	--	2400	45	2445	11 M	160	3100	--
Central Area	E-7	7/11/1989	--	2600	47	2647	12 J	170	3000	--
Central Area	E-7	7/18/1989	--	2500	39	2539	12 M	160	2600	--
Central Area	E-7	7/25/1989	--	2300	38	2338	10 M	150	2700	--
Central Area	E-7	8/1/1989	--	2300	37	2337	9.3	180	2700	--
Central Area	E-7	8/8/1989	11 J	2500	40	2540	16 J	140	2000	--
Central Area	E-7	8/15/1989	8 J	2800	40	2840	15 J	180	2400	--
Central Area	E-7	8/22/1989	9.3 J	3000	39	3039	15 J	160	2300	--
Central Area	E-7	8/29/1989	10 J	2900	40	2940	20	190	2500	--
Central Area	E-7	9/5/1989	11 J	2900	40	2940	18 J	160	2500	--
Central Area	E-7	9/12/1989	11	2000	43	2043	16	160	3400	8.4
Central Area	E-7	11/15/1989	--	2200	28	2228	9.3 J	100	2100	--
Central Area	E-7	11/21/1989	8 J	2700	50	2750	16 J	150	2900	--
Central Area	E-7	11/28/1989	7.6	1400	24	1424	13 J	99	1700	--
Central Area	E-7	12/5/1989	7 J	2000	31 J	2031	13 J	130	2100	--
Central Area	E-7	12/12/1989	6.6 J	1800	27	1827	13 J	120	1900	--
Central Area	E-7	12/19/1989	--	2000	31	2031	11 J	120	2200	--
Central Area	E-7	1/4/1990	--	3000	37	3037	13 M	150	2700	--
Central Area	E-7	1/17/1990	7.6 J	1800	27	1827	15 J	130	2000	--
Central Area	E-7	1/31/1990	--	1400	21	1421	--	99	1500	--
Central Area	E-7	2/14/1990	--	1300	18 J	1318	13 J	92	1400	--
Central Area	E-7	2/28/1990	--	1100	14 J	1114	12 M	140	1400	--
Central Area	E-7	3/14/1990	--	1100	17 J	1117	--	120	1600	--
Central Area	E-7	3/28/1990	--	1500	24	1524	--	95	2000	--
Central Area	E-7	4/11/1990	--	970	15 J	985	--	100	1500	--
Central Area	E-7	4/25/1990	--	1200	21 J	1221	--	170	2100	--
Central Area	E-7	5/8/1990	--	1200	17 J	1217	--	140	1700	--
Central Area	E-7	5/22/1990	--	1600	26	1626	--	130	2400	--
Central Area	E-7	6/6/1990	--	1400	--	1400	--	160	2200	--
Central Area	E-7	6/19/1990	--	1000	--	1000	--	100	1600	--
Central Area	E-7	7/3/1990	--	1100	--	1100	--	100	1400	--
Central Area	E-7	7/17/1990	--	930	11 J	941	--	87	1300	--
Central Area	E-7	7/31/1990	--	1800	32	1832	--	140	2600	
Central Area	E-7	8/14/1990	9.7	1900	29	1929	9.4	110	2500	5.8
Central Area	E-7	8/28/1990	8.1	960	17	977	8	86	1500	4.1 M
Central Area	E-7	9/10/1990	--	1600	22	1622	--	110	2100	--
Central Area	E-7	9/27/1990	--	3800	69	3869	--	150	5800	--
Central Area	E-7	10/9/1990	--	1000	11 J	1011	--	99	1500	--
Central Area	E-7	10/29/1990	--	1100	18 J	1118	--	100	1700	--
Central Area	E-7	11/14/1990	--	1000	21	1021	--	110	1600	--
Central Area	E-7	11/28/1990	--	1600	24	1624	--	120	2100	--
Central Area	E-7	12/11/1990	--	1100	13 M	1113	--	95	1500	--
Central Area	E-7	1/2/1991	20 U	1500	26	1526	20 U	110	2000	60 U
Central Area	E-7	1/15/1991	9.8 J	620	11	631	11	71	820	30 U
Central Area	E-7	2/5/1991	11	1300	23	1323	10	89	1600	30 U
Central Area	E-7	3/5/1991	5.7 M	600	14	614	9.3 M	74	1100	30 U
Central Area	E-7	4/2/1991	7.7 M	820	15	835	9.7 J	84	1100	20 U
Central Area	E-7	5/7/1991	6.8 M	650	12	662	10 U	75	900	20 U
Central Area	E-7	6/3/1991	12	720	13	733	8.4 J	67	950	20 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	E-7	7/1/1991	10 U	1500	30	1530	7.4 M	110	2000	20 U
Central Area	E-7	8/5/1991	7.6 J	710	14	724	6.2 J	60	910	20 U
Central Area	E-7	9/3/1991	20 U	710	12	722	6.1 M	69	1100	30 U
Central Area	E-7	10/2/1991	10 U	650	11	661	6.3 J	64	790	20 U
Central Area	E-7	11/4/1991	5.5	650	11	661	7 M	62	870	10 U
Central Area	E-7	12/4/1991	5.5	570	11	581	5.8	60	800	10 U
Central Area	E-7	1/6/1992	7	970	20	990	6.3	92	1300	9.4 J
Central Area	E-7	2/4/1992	4.6 J	410	6.4	416.4	7	51	550	10 U
Central Area	E-7	3/3/1992	6.1	530	9.3	539.3	4.7 M	49	710	4.1 M
Central Area	E-7	4/6/1992	4.8 J	700	15	715	7.5	86	810	10 U
Central Area	E-7	5/4/1992	4.5 J	520	9.1	529.1	3.7 J	60	680	10 U
Central Area	E-7	6/2/1992	5	640	12	652	4.1 J	57	800	10 U
Central Area	E-7	7/6/1992	3.5 M	700	12	712	3.5 M	54	950	10 U
Central Area	E-7	8/10/1992	10 U	1000	17	1017	10 U	88	1400	20 U
Central Area	E-7	9/1/1992	50 U	820	50 U	820	50 U	84	1200	100 U
Central Area	E-7	10/1/1992	10 U	610	11	621	10 U	62	950	20 U
Central Area	E-7	11/2/1992	20 U	1400	27	1427	20 U	68	1900	40 U
Central Area	E-7	12/1/1992	50 U	2200	40	2240	50 U	190	2900	100 U
Central Area	E-7	1/1/1993	4.8 J	570	11	581	3 M	50	680	10 U
Central Area	E-7	2/1/1993	5.2	1100	18	1118	5.1	61	1300	10 U
Central Area	E-7	3/3/1993	6.5	950	16	966	4.8 J	50	1300	10 U
Central Area	E-7	3/29/1993	10 U	490	7.3 J	497.3	10 U	29	610	20 U
Central Area	E-7	4/28/1993	10 U	770	13	783	10 U	43	970	20 U
Central Area	E-7	5/25/1993	10 U	680	14	694	10 U	52	870	20 U
Central Area	E-7	6/23/1993	10 U	250	10 U	250	10 U	22	310	20 U
Central Area	E-7	7/30/1993	10 U	380	6.3 J	386.3	10 U	31	520	20 U
Central Area	E-7	8/25/1993	10 U	850	17	867	10 U	46	960	20 U
Central Area	E-7	9/29/1993	10 U	420	10 U	420	10 U	27	500	20 U
Central Area	E-7	10/27/1993	5 U	960	21	981	5 U	60	920	10 U
Central Area	E-7	11/22/1993	10 U	840	15	855	10 U	64	880	20 U
Central Area	E-7	12/27/1993	5 U	150	5 U	150	5 U	12	220	10 U
Central Area	E-7	1/26/1994	10 U	670	10 U	670	10 U	52	920	20 U
Central Area	E-7	2/23/1994	10 U	290	10 U	290	10 U	22	410	20 U
Central Area	E-7	4/4/1994	10 U	720	12	732	10 U	51	1200	20 U
Central Area	E-7	4/26/1994	5 U	680	12	692	5 U	46	1200	10 U
Central Area	E-7	6/29/1994	10 U	580	10 U	580	10 U	43	940	20 U
Central Area	E-7	10/26/1994	1 U	18	1 U	18	1 U	4.7	39	2 U
Central Area	E-7	12/21/1994	1.3	410	9.1	419	1.9	32	650	2 U
Central Area	E-7	3/3/1995	1 UJ	350 J	1 UJ	350	1 UJ	30 J	640 J	2 UJ
Central Area	E-7	6/1/1995	1.2	480	7.9	487.9	1.1	37	700	2 U
Central Area	E-7	8/29/1995	10 U	560	9.7 J	569.7	10 U	41	760	20 U
Central Area	E-7	11/9/1995	10 U	440	13	453	10 U	27	540	20 U
Central Area	E-7	3/4/1996	10 U	280	10 U	280	10 U	28	380	20 U
Central Area	E-7	5/31/1996	10 U	370	10 U	370	10 U	28	380	20 U
Central Area	E-7	8/26/1996	1 U	160	2.4	162.4	1 U	25	180	2 U
Central Area	E-7	11/20/1996	2 U	240	3.8	243.8	2 U	25	240	4 U
Central Area	E-7	3/6/1997	1 U	180	2.4	182.4	1 U	24	160	2 U
Central Area	E-7	5/27/1997	1 U	110	1.7	111.7	1 U	20	100	2 U
Central Area	E-7	9/2/1997	1 U	120	1.8	121.8	1 U	30	120	2 U
Central Area	E-7	11/3/1997	1 U	66	1 U	66	1 U	25	83	2 U
Central Area	E-7	2/24/1998	1 U	61	1 U	61	1 U	21	70	2 U
Central Area	E-7	5/5/1998	1 U	71	1.4	72.4	1 U	22	77	2 U
Central Area	E-7	8/3/1998	1 U	67	1.3	68.3	1 U	18	81	2 U
Central Area	E-7	11/2/1998	1 U	55	1 U	55	1 U	24	100	2 U
Central Area	E-7	2/1/1999	1 U	190	2.2	192	1 U	33	220	2 U
Central Area	E-7	5/3/1999	2.6	150	1.3	151.3	1 U	24	240	1 U
Central Area	E-7	8/2/1999	1 U	460	4.7	464.7	1 U	65	440	1 U
Central Area	E-7	11/1/1999	1 U	140	1.2	141.2	1 U	20	150	1 U
Central Area	E-7	2/4/2000	1 U	40	1 U	40	1 U	11	47	1 U
Central Area	E-7	5/1/2000	1 U	47	1 U	47	1 U	32	85	1 U
Central Area	E-7	8/2/2000	1.6	52	1 U	52	1 U	25	100	1 U
Central Area	E-7	11/1/2000	1 U	11	1 U	11	1 U	32	48	1 U
Central Area	E-7	2/1/2001	1 U	13	1 U	13	1 U	34	61	1 U
Central Area	E-7	5/1/2001	1 U	20	1 U	20	1 U	27	52	1 U
Central Area	E-7	8/6/2001	1 U	17	1 U	17	1 U	42	82	1 U
Central Area	E-7	11/1/2001	1 U	12	1 U	12	1 U	49	88	1 U
Central Area	E-7	2/2/2002	2	17	1 U	17	1 U	26	100	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	E-7	5/8/2002	1 U	11	1 U	11	1 U	38	72	1 U
Central Area	E-7	8/1/2002	1.4	14	1 U	14	1 U	25	78	1 U
Central Area	E-7	11/4/2002	1 U	8.1	1 U	8.1	1 U	41	53	1 U
Central Area	E-7	12/4/2002	1.4	16	1 U	16	1 U	20	77	1 U
Shutdown of Extraction Pumping										
Central Area	E-7	2/4/2003	1 U	5.8	1 U	5.8	1 U	28	34	1 U
Central Area	E-7	5/7/2003	1 U	4.9	1 U	4.9	1 U	12	25	1 U
Central Area	E-7	8/6/2003	1 U	3.2	1 U	3.2	1 U	8.4	20	1 U
Central Area	E-7	11/5/2003	1 U	5.7	1 U	5.7	1 U	8	34	1 U
Central Area	E-7	2/3/2004	1 U	3.1	1 U	3.1	1 U	9.5	21	1 U
Central Area	E-7	5/6/2004	1 U	3.1	1 U	3.1	1 U	8.6	22	1 U
Central Area	E-7	8/3/2004	1 U	8.7	1 U	8.7	1 U	7.7	43	1 U
Central Area	E-7	11/1/2004	1 U	5.3	1 U	5.3	1 U	6.2	22	1 U
Central Area	E-7	2/3/2005	1.1	13	1 U	13	1 U	8.5	67	1 U
Central Area	E-7	5/3/2005	1 U	6.2	1 U	6.2	1 U	16	32	1 U
Central Area	E-7	8/2/2005	1 U	7.3	1 U	7.3	1 U	34	49	1 U
Central Area	E-7	12/16/2005	1 U	16	1 U	16	1 U	92	88	1 U
Central Area	E-7	2/6/2006	1 U	22	1 U	22	1 U	180	160	1 U
Central Area	E-7	5/9/2006	1 U	13	1 U	--	1 U	100	83	1 U
Central Area	E-7	8/8/2006	1 U	12	1 U	--	1 U	97	80	1 U
Central Area	E-7	11/9/2006	0.2 U	16	0.4	--	0.2 U	120	79	0.2 U
Central Area	E-7	2/6/2007	0.2 U	15	0.3	--	0.2 U	100	62	0.2 U
Central Area	E-7	5/10/2007	1 U	10	1 U	--	1 U	77	53	1 U
Central Area	E-7	8/16/2007	1 U	22	1 U	--	1 U	200	140	1 U
Central Area	E-7	11/8/2007	1 U	14	1 U	--	1 U	180	100	1 U
Central Area	E-7	2/11/2008	1 U	22	1 U	--	1 U	250	140	1 U
Central Area	E-7	5/12/2008	1 U	11	1 U	--	1 U	51	28	1 U
Central Area	E-7	8/11/2008	1 U	11	1 U	--	1 U	62	18	1 U
Central Area	E-7	11/4/2008	3 U	26	3 U	--	3 U	300	150	3 U
Central Area	DP1	10/28/1998	1.2	850	12	862	1 U	20	1000	2 U
Central Area	DP1	2/4/2000	1 U	94	2.9	97	1 U	4.1	120	1 U
Central Area	DP1	5/1/2000	1 U	190	4	194	1 U	4.5	160	1 U
Central Area	DP1	8/1/2000	1 U	220	7.5	227.5	1 U	4.4	200	1 U
Central Area	DP1	11/1/2000	5 U	350	4.8 J	355	5 U	5 J	220	5 U
Central Area	DP1	2/1/2001	1 J	450	6.4	456	1 U	7.5	380 J	2
Central Area	DP1	5/1/2001	5 U	460	5	465	5 U	8	380	5 U
Central Area	DP1	8/6/2001	5 U	290	5 U	290	5 U	5.7	230	5 U
Central Area	DP1	11/1/2001	3 U	240	7.7	247.7	3 U	4.4	200	3 U
Central Area	DP1	2/2/2002	5 U	180	8.7	188.7	5 U	5 U	160	5 U
Central Area	DP1	5/8/2002	3 U	210	8.9	218.9	3 U	4.5	170	3 U
Central Area	DP1	8/1/2002	1 U	160	2	162	1 U	3.8	130	1 U
Central Area	DP1	11/4/2002	1 U	120	1.9	121.9	1 U	3.4	100	1 U
Central Area	DP1	2/4/2003	1 U	120	1.4	121.4	1 U	3.7	93	1 U
Central Area	DP1	5/7/2003	1 U	110	1.3	111.3	1 U	11	87	1 U
Central Area	DP1	8/6/2003	1 U	96	1.6	97.6	1 U	23	81	1 U
Central Area	DP1	11/5/2003	1 U	100	1.2	101.2	1 U	18	75	1 U
Central Area	DP1	2/3/2004	1 U	71	1.3	72.3	1 U	18	60	1 U
Central Area	DP1	5/6/2004	1 U	64	1	65	1 U	12	54	1 U
Central Area	DP1	8/3/2004	1 U	66	1 U	66	1 U	12	58	1 U
Central Area	DP1	11/1/2004	1 U	67	1.1	68.1	1 U	12	57	1 U
Central Area	DP1	2/3/2005	1 U	61	1 U	61	1 U	12	53	1 U
Central Area	DP1	5/3/2005	1 U	78	1.2	79.2	1 U	13	55	1 U
Central Area	DP1	8/2/2005	1 U	82	1 U	82	1 U	14	57	1 U
Central Area	DP1	12/16/2005	1 U	76	1 U	76	1 U	10	52	1 U
Central Area	DP1	2/6/2006	1 U	82	1	83	1 U	7.4	54	1 U
Central Area	DP1	5/9/2006	1 U	88	1.1	--	1 U	5.9	51	1 U
Central Area	DP1	8/8/2006	1 U	70	1 U	--	1 U	6.1	48	1 U
Central Area	DP1	11/9/2006	0.5	70	1.1	--	0.2 U	6.3	44	0.8
Central Area	DP1	2/6/2007	0.3	84	3.7	--	0.2 U	5.8	49	0.9
Central Area	DP1	5/10/2007	1 U	120	1.4	--	1 U	4.3	61	1 U
Central Area	DP1	8/8/2007	0.2 U	1.4	0.2 U	--	0.2 U	0.3	6.4	0.2 U
Central Area	DP1	11/7/2007	0.2 U	1.9	0.2 U	--	0.2 U	0.3	8	0.2 U
Central Area	DP1	2/11/2008	1 U	86	2.6	--	1 U	1.9	43	3.7
Central Area	DP1	5/12/2008	1 U	110	1.5	--	1 U	2.2	46	1.2
Central Area	DP1	8/11/2008	1 U	110	3.2	--	1 U	2.1	47	1 U
Central Area	DP1	11/5/2008	1 U	130	1.5	--	1 U	2.2	49	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Central Area	BOP-65ds	8/29/1994	0.2 U	1.2	0.2 U	1.2	0.2 U	0.2 U	2.7	0.2 U
Central Area	BOP-65ds	11/1/1994	1 U	1.3 M	1 U	1.3	1 U	1 U	3	2 U
Central Area	BOP-65ds	2/14/1995	0.2 U	0.95	0.2 U	0.95	0.2 U	0.2 U	2.4	0.2 U
Central Area	BOP-65ds	5/26/1995	1 U	1 U	1 U	1	1 U	1 U	2.2	2 U
Central Area	BOP-65ds	8/14/1995	1 U	1 U	1 U	1	1 U	1 U	2.2	2 U
Central Area	BOP-65ds	2/16/1996	1 U	1 U	1 U	1	1 U	1 U	2.6	2 U
Central Area	BOP-65ds	8/16/1996	1 U	1 U	1 U	1	1 U	1 U	2.5	2 U
Central Area	BOP-65ds	2/25/1997	1 U	1 U	1 U	1	1 U	1 U	2.2	2 U
Central Area	BOP-65ds	8/21/1997	0.2 U	1	0.2 U	1	0.2 U	0.2 U	2.2	0.2 U
Central Area	BOP-65ds	3/7/1998	1 U	3	1 U	3	1 U	1 U	6.2	2 U
Central Area	BOP-65ds	8/26/1998	1 U	1 U	1 U	1	1 U	1 U	2.8	2 U
Central Area	BOP-65ds	2/18/1999	1 U	1.2	1 U	1.2	1 U	1 U	4	2 U
Central Area	BOP-65ds	8/24/1999	1 U	1 U	1 U	1	1 U	1 U	2.1	1 U
Central Area	BOP-65ds	2/23/2000	1 U	1 U	1 U	1	1 U	1 U	1.1	1 U
Central Area	BOP-65ds	9/1/2000	1 U	1 U	1 U	1	1 U	1 U	1.3	1 U
Central Area	BOP-65ds	2/24/2001	1 U	1 U	1 U	1	1 U	1 U	3.9	1 U
Central Area	BOP-65ds	8/21/2001	1 U	1 U	1 U	1	1 U	1 U	5	1 U
Central Area	BOP-65ds	3/10/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Central Area	BOP-65ds	8/19/2002	0.2 U	1	0.2 U	1	0.2 U	0.2 U	4.2	0.2 U
Central Area	BOP-65ds	2/24/2003	1 U	1 U	1 U	1	1 U	1 U	1.8	1 U
Central Area	BOP-65ds	2/20/2004	0.2 U	1.5	0.2 U	1.5	0.2 U	0.3	8.1	0.2 U
Central Area	BOP-65ds	2/16/2005	0.2 U	1.6	0.2 U	1.6	0.2 U	0.3	7	0.2 U
Central Area	BOP-65ds	6/7/2005	0.2 U	1.1	0.2 U	1.1	0.2 U	0.2	5.3	0.2 U
Central Area	BOP-65ds	8/10/2005	0.2 U	1.3	0.2 U	1.3	0.2 U	0.2	5.5	0.2 U
Central Area	BOP-65ds	11/3/2005	0.2 U	1.9	0.2 U	1.9	0.2 U	0.4	8.6	0.2 U
Central Area	BOP-65ds	2/11/2006	0.2 U	1.1	0.2 U	1.1	0.2 U	0.3	6	0.2 U
Central Area	BOP-65ds	2/11/2006	0.2 U	1.1	0.2 U	1.1	0.2 U	0.3	6.1	0.2 U
Central Area	BOP-65ds	5/9/2006	0.2 U	1.3	0.2 U	--	0.2 U	0.2	6.4	0.2 U
Central Area	BOP-65ds	8/16/2006	0.2 U	1.2	0.2 U	--	0.2 U	0.2	5.6	0.2 U
Central Area	BOP-65ds	8/16/2006	0.2 U	1.2	0.2 U	--	0.2 U	0.2	5.8	0.2 U
Central Area	BOP-65ds	2/9/2007	0.2 U	2.2	0.2 U	--	0.2 U	0.3	9	0.2 U
Central Area	BOP-65ds	2/7/2008	0.2 U	1.6	0.2 U	--	0.2 U	0.3	7.6	0.2 U
Central Area	BOP-65ds	11/14/2008	0.2 U	1.1	0.2 U	--	0.2 U	0.2	4.6	0.2 U
East Yard	BOP-19i	5/28/1987	15	--	--	53	1960	0.7	9	--
East Yard	BOP-19i	12/15/1987	0.7 J	--	--	0.8	940	0.4	4.6	--
East Yard	BOP-19i	12/15/1987	1.4	--	--	--	960	0.4 J	4.9	--
East Yard	BOP-19i	7/13/1988	9	--	--	18	1800	--	9.3	--
East Yard	BOP-19i	1/25/1989	0.4 J	--	--	0.9	160	--	1.3	--
East Yard	BOP-19i	1/25/1989	0.3 J	--	--	0.8	160	--	1.4	--
East Yard	BOP-19i	5/18/1989	3.2	--	--	4.5	790	--	9.9	--
East Yard	BOP-19i	8/10/1989	6.3	--	--	8.8	1200	1.7	16	--
East Yard	BOP-19i	8/10/1989	5.8	--	--	--	1300	1.6	16	--
East Yard	BOP-19i	11/14/1989	3.8 M	7.8	--	7.8	1300	--	37	--
East Yard	BOP-19i	2/22/1990	--		--	--	230	--	24	--
East Yard	BOP-19i	2/22/1990	1.2	1.1	--	1.1	200	--	22	--
East Yard	BOP-19i	6/9/1990	3.7 J		--	--	280	--	24	--
East Yard	BOP-19i	8/8/1990	7.6	1.5	--	1.5	290	--	22	--
East Yard	BOP-19i	11/6/1990	5.7	5 U	5 U	5	240	5 U	18	15 U
East Yard	BOP-19i	2/13/1991	6.8	6.4	1 U	6.4	1500	1 U	17	3 U
East Yard	BOP-19i	5/14/1991	9.4	4.4 J	5 U	4.4	690	5 U	19	10 U
East Yard	BOP-19i	8/13/1991	16	2.3 J	5 U	2.3	240	5 U	30	10 U
East Yard	BOP-19i	1/22/1992	18	0.8 J	1 U	0.8	110	0.3 J	13	2 U
East Yard	BOP-19i	7/16/1992	8	1.2	1 U	1.2	140	1 U	22	2 U
East Yard	BOP-19i	2/16/1993	4	1 U	1 U	1	200	1 U	13	2 U
East Yard	BOP-19i	2/16/1993	3	1 U	1 U	1	180	1 U	11	2 U
East Yard	BOP-19i	7/24/1993	6.4	1.4	1 U	1.4	200	1 U	19	2 U
East Yard	BOP-19i	11/29/1993	4.4	1 U	1 U	1	46	1 U	12	2 U
East Yard	BOP-19i	2/18/1994	2.3	1 U	1 U	1	36	1 U	8.2	2 U
East Yard	BOP-19i	8/10/1994	2.9	1.4	0.2 U	1.4	520	0.53	9.8	0.2 U
East Yard	BOP-19i	10/19/1994	2.8	1 U	1 U	1	390	1 U	8.3	2 U
East Yard	BOP-19i	2/22/1995	3.3	1.3	0.2 U	1.3	480	0.54	7.9	0.2 U
East Yard	BOP-19i	5/25/1995	3	1.4	1 U	1.4	530	1 U	7.6	2 U
East Yard	BOP-19i	8/8/1995	1.9	1 U	1 U	1	170	1 U	8.6	2 U
East Yard	BOP-19i	11/9/1995	1.9	1 U	1 U	1	100	1 U	4.9	2 U
East Yard	BOP-19i	2/8/1996	5 U	5 U	5 U	5	600	5 U	7.4	10 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Yard	BOP-19i	5/29/1996	5 U	5 U	5 U	5	280	5 U	5 U	10 U
East Yard	BOP-19i	8/15/1996	10 U	10 U	10 U	10	110	10 U	10 U	20 U
East Yard	BOP-19i	11/18/1996	1.3	1 U	1 U	1	170	1 U	6.6	2 U
East Yard	BOP-19i	11/18/1996	1.4	1 U	1 U	1	180	1 U	6.7	2 U
East Yard	BOP-19i	2/17/1997	2.4	1 U	1 U	1	340	1 U	6.8	2 U
East Yard	BOP-19i	5/23/1997	5 U	5 U	5 U	5	210	5 U	5 U	10 U
East Yard	BOP-19i	5/23/1997	1.3	1 U	1 U	1	280	1 U	5.2	2 U
East Yard	BOP-19i	8/25/1997	3 U	3 U	3 U	3	250	3 U	6.8	6 U
East Yard	BOP-19i	3/9/1998	2	1.2	1 U	1.2	170	1 U	6.3	2 U
East Yard	BOP-19i	8/26/1998	17	1 U	1 U	1	41	1 U	2	2 U
East Yard	BOP-19i	2/19/1999	1 U	1 U	1 U	1	140	1 U	3.9	2 U
East Yard	BOP-19i	8/25/1999	1 U	1 U	1 U	1	100	1 U	2.8	1 U
East Yard	BOP-19i	2/18/2000	1 U	1 U	1 U	1	96	1 U	2.1	1 U
East Yard	BOP-19i	9/1/2000	1 U	1 U	1 U	1	41	1 U	2.9	1 U
East Yard	BOP-19i	2/22/2001	1 U	1 U	1 U	1	32	1 U	1.9 J	1 U
East Yard	BOP-19i	8/16/2001	1 U	1 U	1 U	1	25	1 U	1.4	1 U
East Yard	BOP-19i	2/28/2002	1 U	1 U	1 U	1	54	1 U	1.2	1 U
East Yard	BOP-19i	8/19/2002	1 U	1 U	1 U	1	19	1 U	1.2	1 U
East Yard	BOP-19i	2/24/2003	1 U	1 U	1 U	1	100	1 U	1.4	1 U
East Yard	BOP-19i	8/18/2003	1 U	1 U	1 U	1	65	1 U	1.9	1 U
East Yard	BOP-19i	3/2/2004	1 U	1 U	1 U	1	44	1 U	1.4	1 U
East Yard	BOP-19i	8/19/2004	1 U	1 U	1 U	1	20	1 U	1	1 U
East Yard	BOP-19i	2/17/2005	1 U	1 U	1 U	1	17	1 U	1 U	1 U
East Yard	BOP-19i	8/10/2005	1 U	1 U	1 U	1	19	1 U	1.1	1 U
East Yard	BOP-19i	2/9/2006	1 U	1 U	1 U	1	26	1 U	1 U	1 U
East Yard	BOP-19i	8/10/2006	1 U	1 U	1 U	--	10	1 U	1 U	1 U
East Yard	BOP-19i	2/9/2007	1 U	1 U	1 U	--	16	1 U	1 U	1 U
East Yard	BOP-19i	8/15/2007	0.2 U	0.2 U	0.2 U	--	6	0.4	0.8	0.2 U
East Yard	BOP-19i	2/19/2008	0.2 U	0.2 U	0.2 U	--	14	0.4	0.7	0.2 U
East Yard	BOP-19i	8/12/2008	1 U	1 U	1 U	--	3.9	1 U	1 U	1 U
East Yard	BOP-48i	3/3/1994	9.3	1 U	1 U	1	7.7	1 U	16	2 U
East Yard	BOP-48i	5/31/1994	15 J	1.6 J	1 U	1.6	11 J	1 U	38 J	2 U
East Yard	BOP-48i	7/25/1994	5.6 J	1.1 J	0.2 UJ	1.44	6.4 J	0.2 UJ	29 J	0.2 UJ
East Yard	BOP-48i	10/28/1994	9.6	1.7	1 U	1.7	8	1 U	34	2 U
East Yard	BOP-48i	2/16/1995	1.7	0.45	0.2 U	0.45	4.2	0.2 U	10	0.2 U
East Yard	BOP-48i	8/8/1995	6.4	1 U	1 U	1	4.1	1 U	21	2 U
East Yard	BOP-48i	2/7/1996	2.6	1 U	1 U	1	1.8	1 U	9.1	2 U
East Yard	BOP-48i	8/13/1996	2.7	1 U	1 U	1	1.8	1 U	9.9	2 U
East Yard	BOP-48i	2/17/1997	1.8	1 U	1 U	1	1.3	1 U	5.9	2 U
East Yard	BOP-48i	8/21/1997	1.3	1 U	1 U	1	1.2	1 U	12	2 U
East Yard	BOP-48i	3/2/1998	1.6	1 U	1 U	1	1 U	1 U	5.8	2 U
East Yard	BOP-48i	8/26/1998	2.2	1 U	1 U	1	1 U	1 U	12	2 U
East Yard	BOP-48i	2/18/1999	1 U	1 U	1 U	1	1 U	1 U	4.4	2 U
East Yard	BOP-48i	8/24/1999	1.8	1 U	1 U	1	1 U	1 U	9.4	1 U
East Yard	BOP-48i	2/23/2000	1.8	1 U	1 U	1	1 U	1 U	9.1	1 U
East Yard	BOP-48i	8/31/2000	1.6	1 U	1 U	1	1 U	1 U	10	1 U
East Yard	BOP-48i	2/23/2001	1.8	1 U	1 U	1	1 U	1 U	6.6	1 U
East Yard	BOP-48i	8/16/2001	1.5	1 U	1 U	1	1 U	1 U	8.2	1 U
East Yard	BOP-48i	2/28/2002	1.2	1 U	1 U	1	1 U	1 U	4.9	1 U
East Yard	BOP-48i	8/16/2002	1.4	1 U	1 U	1	1 U	1 U	5.3	1 U
East Yard	BOP-48i	2/21/2003	1 U	1 U	1 U	1	1 U	1 U	2.5	1 U
East Yard	BOP-48i	8/15/2003	1.7	1 U	1 U	1	1 U	1 U	8.1	1 U
East Yard	BOP-48i	3/2/2004	1.2	1 U	1 U	1	1 U	1 U	3.6	1 U
East Yard	BOP-48i	8/19/2004	1.1	1 U	1 U	1	1 U	1 U	6.6	1 U
East Yard	BOP-48i	2/16/2005	1 U	1 U	1 U	1	1 U	1 U	5.6	1 U
East Yard	BOP-48i	8/6/2005	1 U	1 U	1 U	1	1 U	1 U	5.2	1 U
East Yard	BOP-48i	2/9/2006	1 U	1 U	1 U	1	1 U	1 U	3	1 U
East Yard	BOP-48i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	2.7	1 U
East Yard	BOP-48i	2/9/2007	1 U	1 U	1 U	--	1 U	1 U	1.7	1 U
East Yard	BOP-48i	8/8/2007	0.3	0.2 U	0.2 U	--	0.2 U	0.2 U	2.2	0.2 U
East Yard	BOP-48i	2/21/2008	0.4	0.2 U	0.2 U	--	0.2 U	0.2 U	2.1	0.2 U
East Yard	BOP-48i	8/12/2008	1 U	1 U	1 U	--	1 U	1 U	1.3	1 U
East Yard	BOP-36i	2/18/1991	1 U	1 U	1 U	1	1 U	1 U	0.9 J	3 U
East Yard	BOP-36i	3/7/1991	1 U	1 U	1 U	1	1 U	1 U	0.7 M	3 U
East Yard	BOP-36i	3/11/1991	1 U	1 U	1 U	1	1 U	1 U	0.8 J	3 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Yard	BOP-36i	8/19/1991	1 U	1 U	1 U	1	1.3 M	1 U	3.6	2 U
East Yard	BOP-36i	11/7/1991	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	1/30/1992	2 U	1 U	1 U	1	1 U	1 U	0.7 J	3 U
East Yard	BOP-36i	7/20/1992	1 U	1 U	1 U	1	1 U	1 U	1.2	2 U
East Yard	BOP-36i	2/18/1993	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	7/22/1993	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	3/3/1994	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	9/1/1995	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	2/8/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	8/19/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	2/28/1997	1 UJ	1 UJ	1 UJ	1	1 UJ	1 UJ	1 UJ	2 UJ
East Yard	BOP-36i	3/10/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	8/27/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	2/18/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Yard	BOP-36i	8/25/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	2/23/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/31/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	2/26/2001	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	3/7/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/16/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/15/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	2/27/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/20/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	2/17/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/10/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	2/8/2006	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Yard	BOP-36i	2/9/2007	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Yard	BOP-36i	8/14/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
East Yard	BOP-36i	2/21/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
East Yard	BOP-36i	8/12/2008	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Yard	BOP-61ds	8/29/1994	0.2 U	4.8	0.2 U	4.8	0.45	0.64	16	0.2 U
East Yard	BOP-61ds	8/29/1994	0.2 U	4.6	0.2 U	4.6	0.47	0.63	19	0.2 U
East Yard	BOP-61ds	10/28/1994	1 U	6	1 U	6	1 U	1 U	18	2 U
East Yard	BOP-61ds	2/15/1995	0.2 U	6.6	0.2 U	6.6	0.59	1	23	0.2 U
East Yard	BOP-61ds	2/15/1995	0.2 U	6.8	0.2 U	6.8	0.59	1.1	23	0.2 U
East Yard	BOP-61ds	5/24/1995	1 U	7.4	1 U	7.4	1 U	1 U	28	2 U
East Yard	BOP-61ds	8/14/1995	1 U	5.8	1 U	5.8	1 U	1 U	24	2 U
East Yard	BOP-61ds	8/14/1995	1 U	5.8	1 U	5.8	1 U	1 U	25	2 U
East Yard	BOP-61ds	2/12/1996	1 U	7.2	1 U	7.2	1 U	1.1	28	2 U
East Yard	BOP-61ds	8/14/1996	1 U	5.5	1 U	5.5	1 U	1 U	20	2 U
East Yard	BOP-61ds	2/21/1997	1 U	5.9	1 U	5.9	1 U	1	24	2 U
East Yard	BOP-61ds	8/14/1997	0.2 U	7.4	0.2 U	7.4	0.6	0.9	22	0.2 U
East Yard	BOP-61ds	2/13/1998	0.2 U	7.2	0.2 U	7.2	0.5	0.8	23	0.2 U
East Yard	BOP-61ds	8/7/1998	0.2 U	2.3	0.2 U	2.3	0.8	0.6	15	0.2 U
East Yard	BOP-61ds	2/12/1999	0.3	0.6	0.2 U	0.6	0.6	0.3	5.8	0.2 U
East Yard	BOP-61ds	8/13/1999	0.4	1.2	0.2 U	1.2	0.9	0.6	12	0.2 U
East Yard	BOP-61ds	2/11/2000	0.2 U	3	0.2 U	3	0.3	0.7	16	0.2 U
East Yard	BOP-61ds	8/16/2006	0.2 U	0.4	0.2 U	--	0.2 U	0.3	5.9	0.2 U
East Yard	BOP-61ds	8/16/2006	0.2 U	0.4	0.2 U	--	0.2 U	0.3	5.5	0.2 U
East Yard	BOP-61ds	8/15/2008	0.2 U	0.3	0.2 U	--	0.2 U	0.3	5.2	0.2 U
East Yard	E-9	3/28/1989	25	12	--	12	210	1.1	56	--
East Yard	E-9	4/6/1989	28	13	--	13	250	1 U	49	--
East Yard	E-9	4/12/1989	26	12	--	12	190	--	64	--
East Yard	E-9	4/18/1989	28	13	--	13	180	--	75	--
East Yard	E-9	4/25/1989	29	16	--	16	170	--	71	--
East Yard	E-9	5/2/1989	28	13	--	13	170	--	68	--
East Yard	E-9	5/9/1989	25	11	--	11	140	--	63	--
East Yard	E-9	5/16/1989	31	14	--	14	170	--	70	--
East Yard	E-9	5/23/1989	26	11	--	11	140	--	64	--
East Yard	E-9	5/30/1989	28	13	--	13	150	--	65	--
East Yard	E-9	6/7/1989	27	9.8	--	9.8	140	--	62	--
East Yard	E-9	6/13/1989	32	14	--	14	150	3.9	73	--
East Yard	E-9	6/20/1989	28	11	--	11	130	2.9	60	--
East Yard	E-9	6/27/1989	22	7.4	--	7.4	110	2.4	52	--

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Yard	E-9	7/5/1989	19	6.5	--	6.5	110	1.6	43	--
East Yard	E-9	7/11/1989	19	7	--	7	110	1.2	39	--
East Yard	E-9	7/18/1989	20	5.9	--	5.9	95	1.1	37	--
East Yard	E-9	7/25/1989	27	7.4	--	7.4	130	1.7	51	--
East Yard	E-9	8/1/1989	20	5.4	--	5.4	96	0.9	36	--
East Yard	E-9	8/8/1989	17	5.7	--	5.7	81	0.8	31	--
East Yard	E-9	8/15/1989	18	8.8	--	8.8	97	0.9	31	--
East Yard	E-9	8/22/1989	14	5.9	--	5.9	73	0.7	27	--
East Yard	E-9	8/29/1989	12	5.5	--	5.5	69	3.2	25	--
East Yard	E-9	9/5/1989	13	4.3	--	4.3	47	0.7 M	34	--
East Yard	E-9	12/19/1989	9.3	3.8	--	3.8	110	0.4 M	33	--
East Yard	E-9	1/4/1990	18	5.3	--	5.3	73	1.1	50	--
East Yard	E-9	1/17/1990	20	6	--	6	67	1.8	62	--
East Yard	E-9	1/31/1990	20	6.3	--	6.3	60	1.8	61	--
East Yard	E-9	2/14/1990	21	8.4	--	8.4	62	3.6	68	--
East Yard	E-9	2/28/1990	18	8.2	--	8.2	73	3.4	77	--
East Yard	E-9	3/14/1990	15	2.8	--	2.8	35	1.1	49	--
East Yard	E-9	3/28/1990	21	4.4	--	4.4	68	--	49	--
East Yard	E-9	4/11/1990	26	4.3	--	4.3	63	1.2	66	--
East Yard	E-9	4/25/1990	26	6.2	--	6.2	79	2.7	78	--
East Yard	E-9	5/8/1990	33	6.9	--	6.9	75	2.6	76	--
East Yard	E-9	5/22/1990	30	5.9	--	5.9	82	1.9	68	--
East Yard	E-9	6/6/1990	31	5.2	--	5.2	67	2.5	76	--
East Yard	E-9	6/19/1990	23	4.8	--	4.8	58	1.9	64	--
East Yard	E-9	7/3/1990	26	4.9	--	4.9	62	1.3	59	--
East Yard	E-9	7/17/1990	25	4.2	--	4.2	61	1.2	47	--
East Yard	E-9	7/31/1990	28	3.6	--	3.6	64	0.9 M	46	--
East Yard	E-9	8/14/1990	33	--	--	--	64	1.9 M	70	--
East Yard	E-9	8/28/1990	32	5.3	--	5.3	63	1.7	65	--
East Yard	E-9	9/11/1990	27	4.3	--	4.3	52	1.4	56	--
East Yard	E-9	9/27/1990	22	3.8	--	3.8	55	0.7 M	37	--
East Yard	E-9	10/9/1990	29	3.7	--	3.7	56	0.7 M	51	--
East Yard	E-9	10/29/1990	24	3.8	--	3.8	56	0.7 J	37	--
East Yard	E-9	11/14/1990	24	3	--	3	63	0.5 M	40	--
East Yard	E-9	11/28/1990	21	4.5	--	4.5	79	--	30	--
East Yard	E-9	12/11/1990	18	3.1	--	3.1	77	--	25	--
East Yard	E-9	1/2/1991	24	3.8	1 U	3.8	66	0.7 M	39	3 U
East Yard	E-9	1/15/1991	24	3.6	1 U	3.6	65	0.6 J	36	3 U
East Yard	E-9	2/5/1991	24	4	1 U	4	97	0.5 M	31	3 U
East Yard	E-9	3/5/1991	27	3.6	1 U	3.6	62	2	55	3 U
East Yard	E-9	4/2/1991	28	6.2	1 U	6.2	57	2.6	71	3 U
East Yard	E-9	5/7/1991	24	3.2	1 U	3.2	88	0.9 J	39	2 U
East Yard	E-9	6/3/1991	25	4	1 U	4	64	2	55	2 U
East Yard	E-9	7/1/1991	25	3	1 U	3	55	1.7	47	2 U
East Yard	E-9	8/5/1991	28	3.8	1 U	3.8	50	2.3	57	2 U
East Yard	E-9	9/3/1991	24	3.8	1 U	3.8	48	1.9	50	3 U
East Yard	E-9	10/2/1991	14	2.5	1 U	2.5	47	0.7 J	32	2 U
East Yard	E-9	11/4/1991	14	3	1 U	3	45	0.8 M	39	2 U
East Yard	E-9	12/4/1991	20	2.8	1 U	2.8	43	1.2	59	3 U
East Yard	E-9	1/6/1992	17	2.8	1 U	2.8	50	0.9 J	37	2 U
East Yard	E-9	2/4/1992	24	3.4	1 U	3.4	38	1.4	50	2 U
East Yard	E-9	3/3/1992	19	4	1 U	4	32	2	55	2 U
East Yard	E-9	4/6/1992	21	3.4	1 U	3.4	41	1.6	50	2 U
East Yard	E-9	5/4/1992	14	2.4	1 U	2.4	53	1 U	24	2 U
East Yard	E-9	6/2/1992	17	3.4	1 U	3.4	34	1.7	48	2 U
East Yard	E-9	7/6/1992	17	2.1	1 U	2.1	32	0.9 M	38	2 U
East Yard	E-9	8/10/1992	18	2.3	1 U	2.3	36	1 U	39	2 U
East Yard	E-9	9/1/1992	16	2.2	1 U	2.2	34	1 U	36	2 U
East Yard	E-9	10/1/1992	13	2.1	1 U	2.1	33	1 U	32	2 U
East Yard	E-9	11/2/1992	14	1.9	1 U	1.9	35	1 U	23	2 U
East Yard	E-9	12/1/1992	16	1.9	1 U	1.9	34	1 U	29	2 U
East Yard	E-9	1/1/1993	16	2	1 U	2	37	0.8 J	36	2 U
East Yard	E-9	2/1/1993	14	1.9	1 U	1.9	40	0.8 J	40	2 U
East Yard	E-9	3/3/1993	18	2.5	1 U	2.5	43	0.9 J	52	2 U
East Yard	E-9	3/29/1993	14	1.8	1 U	1.8	30	0.7 M	42	2 U
East Yard	E-9	4/28/1993	15	2.2	1 U	2.2	28	1	43	2 U
East Yard	E-9	5/25/1993	16	2.3	1 U	2.3	28	1.2	42	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Yard	E-9	6/23/1993	7.4	1.6	1 U	1.6	21	1 U	23	2 U
East Yard	E-9	7/30/1993	11	1.3	1 U	1.3	24	0.8 J	31	2 U
East Yard	E-9	8/25/1993	10	1.4	1 U	1.4	25	1 U	29	2 U
East Yard	E-9	9/29/1993	13	1.8	1 U	1.8	24	0.8 J	33	2 U
East Yard	E-9	10/27/1993	11	1.3	1 U	1.3	19	1 U	28	2 U
East Yard	E-9	11/22/1993	9.1	1.2	1 U	1.2	15	1 U	26	2 U
East Yard	E-9	12/27/1993	10	1.4	1 U	1.4	15	1 U	30	2 U
East Yard	E-9	1/26/1994	5.9	1 U	1 U	1	9.3	1 U	22	2 U
East Yard	E-9	2/23/1994	10	1.8	1 U	1.8	14	1 U	34	2 U
East Yard	E-9	4/4/1994	9.4	1.7	1 U	1.7	14	1 U	36	2 U
East Yard	E-9	4/26/1994	8.9	1.6	1 U	1.6	14 J	1 U	32	2 U
East Yard	E-9	10/26/1994	2.1	1.2	1 U	1.2	29	1 U	6.6	2 U
East Yard	E-9	12/21/1994	7.8	1.3	1 U	1.3	22	1 U	22	2 U
East Yard	E-9	3/3/1995	6.9	1	1 U	1	20 J	1 U	22	2 U
East Yard	E-9	6/1/1995	7.1	1.3	1 U	1.3	31	1 U	22	2 U
East Yard	E-9	8/29/1995	8.4	1.1	1 U	1.1	12	1 U	25	2 U
East Yard	E-9	11/9/1995	8.4	1.2	1 U	1.2	6	1 U	23	2 U
East Yard	E-9	3/4/1996	6.4	1	1 U	1	24	1 U	20	2 U
East Yard	E-9	5/31/1996	5.4	1 U	1 U	1	9.4	1 U	21	2 U
East Yard	E-9	8/26/1996	6.6	1 U	1 U	1	6	1 U	21	2 U
East Yard	E-9	11/20/1996	6.7	1 U	1 U	1	3.7	1 U	24	2 U
East Yard	E-9	3/6/1997	5.3	1.2	1 U	1.2	15	1 U	19	2 U
East Yard	E-9	5/27/1997	3.9	1	1 U	1	12	1 U	17	2 U
East Yard	E-9	9/2/1997	1.5	2.8	1 U	2.8	2.4	1 U	9.2	2 U
East Yard	E-9	5/5/1998	3.8	1 U	1 U	1	2.6 J	1 U	18	2 U
East Yard	E-9	8/3/1998	1 U	1 U	1 U	1	9.7	1 U	3.1	2 U
East Yard	E-9	11/2/1998	2.1	1 U	1 U	1	3.5	1 U	13	2 U
East Yard	E-9	2/1/1999	3.9	1 U	1 U	1	2	1 U	19	2 U
East Yard	E-9	5/3/1999	11	1 U	1 U	1	7.2	1 U	5.3	1 U
East Yard	E-9	8/2/1999	1 U	1 U	1 U	1	5	1 U	5.5	1 U
East Yard	E-9	11/1/1999	1.6	1 U	1 U	1	1.1	1 U	9.5	1 U
East Yard	E-9	2/4/2000	2.8	1 U	1 U	1	1.6	1 U	15	1 U
East Yard	E-9	5/1/2000	2.6	1 U	1 U	1	1.6	1 U	14	1 U
East Yard	E-9	8/2/2000	2.6	1 U	1 U	1	1.4	1 U	13	1 U
East Yard	E-9	11/1/2000	1.5	1 U	1 U	1	1 U	1 U	9.6	1 U
East Yard	E-9	2/1/2001	2.1	1 U	1 U	1	1 U	1 U	11	1 U
East Yard	E-9	5/1/2001	2.1	1 U	1 U	1	1 U	1 U	11	1 U
East Yard	E-9	8/6/2001	1.2	1 U	1 U	1	1 U	1 U	7.7	1 U
East Yard	E-9	11/1/2001	1	1 U	1 U	1	1 U	1 U	6.2	1 U
East Yard	E-9	2/24/2002	2.2	1 U	1 U	1	1.3	1 U	10	1 U
East Yard	E-9	5/8/2002	1.6	1 U	1 U	1	1 U	1 U	10	1 U
East Yard	E-9	8/1/2002	1 U	1 U	1 U	1	1 U	1 U	6.7	1 U
East Yard	E-9	11/4/2002	1.2	1 U	1 U	1	1	1 U	6.9	1 U
East Yard	E-9	12/4/2002	1 U	1 U	1 U	1	1.3	1 U	3.9	1 U
Shutdown of Extraction Pumping										
East Yard	E-9	2/6/2003	1 U	1 U	1 U	1	1.1	1 U	1.8	1 U
East Yard	E-9	5/7/2003	1 U	1.1	1 U	1.1	1 U	1 U	2.7	8
East Yard	E-9	8/13/2003	1 U	2.3	1 U	2.3	1 U	1 U	2.2	10
East Yard	E-9	11/5/2003	1 U	1 U	1 U	1	1 U	1 U	2.5	5.8 J
East Yard	E-9	2/3/2004	1 U	1 U	1 U	1	1 U	1 U	2	3.8
East Yard	E-9	5/6/2004	1 U	1 U	1 U	1	1 U	1 U	2.6	5.9
East Yard	E-9	8/3/2004	1 U	1 U	1 U	1	1 U	1 U	1.2	3
East Yard	E-9	11/1/2004	1 U	1.1	1 U	1.1	1 U	1 U	2.6	9.3
East Yard	E-9	2/3/2005	1 U	1 U	1 U	1	1 U	1 U	1.6	7.9
East Yard	E-9	5/3/2005	1 U	1 U	1 U	1	1 U	1 U	1.8	3.1
East Yard	E-9	8/2/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	15
East Yard	E-9	12/16/2005	1 U	1.4	1 U	1.4	1 U	1 U	7.7	1 U
East Yard	E-9	2/6/2006	1 U	1 U	1 U	1	2.1	1 U	2.6	1 U
East Yard	E-9	5/9/2006	1 U	2.8	1 U	--	1 U	1.6	20	1 U
East Yard	E-9	8/8/2006	2.2	9.1	1 U	--	10	2.1	47	1 U
East Yard	E-9	11/9/2006	0.2 U	0.3	0.2 U	--	0.2 U	0.6	3.4	0.5
East Yard	E-9	2/6/2007	0.2 U	0.3	0.2 U	--	0.2 U	0.4	2.8	0.3
East Yard	E-9	5/10/2007	6.8	10	0.2	--	9.2	3.4	45	0.2
East Yard	E-9	8/22/2007	0.6 U	1	0.6 U	--	1.4	0.9	5.4	2.7
East Yard	E-9	11/8/2007	0.2 U	0.3	0.2 U	--	0.2 U	0.4	2.1	1
East Yard	E-9	2/12/2008	1 U	1 U	1 U	--	1 U	1 U	4.4	1.9
East Yard	E-9	5/12/2008	1 U	1 U	1 U	--	1 U	1 U	1.1	1 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Yard	E-9	8/11/2008	1 U	1 U	1 U	--	1 U	1 U	3.7	2.1
East Yard	E-9	11/5/2008	0.2 U	0.2 U	0.2 U	--	0.7	0.2 U	1.3	0.2 U
East Yard	BOP-61ds	8/29/1994	0.2 U	4.8	0.2 U	4.8	0.45	0.64	16	0.2 U
East Yard	BOP-61ds	8/29/1994	0.2 U	4.6	0.2 U	4.6	0.47	0.63	19	0.2 U
East Yard	BOP-61ds	10/28/1994	1 U	6	1 U	6	1 U	1 U	18	2 U
East Yard	BOP-61ds	2/15/1995	0.2 U	6.6	0.2 U	6.6	0.59	1	23	0.2 U
East Yard	BOP-61ds	2/15/1995	0.2 U	6.8	0.2 U	6.8	0.59	1.1	23	0.2 U
East Yard	BOP-61ds	5/24/1995	1 U	7.4	1 U	7.4	1 U	1 U	28	2 U
East Yard	BOP-61ds	8/14/1995	1 U	5.8	1 U	5.8	1 U	1 U	24	2 U
East Yard	BOP-61ds	8/14/1995	1 U	5.8	1 U	5.8	1 U	1 U	25	2 U
East Yard	BOP-61ds	2/12/1996	1 U	7.2	1 U	7.2	1 U	1.1	28	
East Yard	BOP-61ds	8/14/1996	1 U	5.5	1 U	5.5	1 U	1 U	20	2 U
East Yard	BOP-61ds	2/21/1997	1 U	5.9	1 U	5.9	1 U	1	24	2 U
East Yard	BOP-61ds	8/14/1997	0.2 U	7.4	0.2 U	7.4	0.6	0.9	22	0.2 U
East Yard	BOP-61ds	2/13/1998	0.2 U	7.2	0.2 U	7.2	0.5	0.8	23	0.2 U
East Yard	BOP-61ds	8/7/1998	0.2 U	2.3	0.2 U	2.3	0.8	0.6	15	0.2 U
East Yard	BOP-61ds	2/12/1999	0.3	0.6	0.2 U	0.6	0.6	0.3	5.8	0.2 U
East Yard	BOP-61ds	8/13/1999	0.4	1.2	0.2 U	1.2	0.9	0.6	12	0.2 U
East Yard	BOP-61ds	2/11/2000	0.2 U	3	0.2 U	3	0.3	0.7	16	0.2 U
East Yard	BOP-61ds	8/16/2006	0.2 U	0.4	0.2 U	--	0.2 U	0.3	5.9	0.2 U
East Yard	BOP-61ds	8/16/2006	0.2 U	0.4	0.2 U	--	0.2 U	0.3	5.5	0.2 U
East Yard	BOP-61ds	8/15/2008	0.2 U	0.3	0.2 U	--	0.2 U	0.3	5.2	0.2 U
East Area	BOP-12i	3/3/1987	--	--	--	9.4	--	2.8	19	--
East Area	BOP-12i	12/8/1987	--	--	--	4.7	--	2.1	13	--
East Area	BOP-12i	7/6/1988	--	--	--	2.8	--	1.8	7.2	--
East Area	BOP-12i	1/26/1989	--	--	--	2.6	--	1.6	7.7	--
East Area	BOP-12i	5/18/1989	--	--	--	2.1	--	1.1	6.2	--
East Area	BOP-12i	8/1/1989	--	--	--	2	--	0.9	4.8	--
East Area	BOP-12i	11/7/1989	--	1.5	--	1.5	--	0.9	4.7	--
East Area	BOP-12i	2/5/1990	--	1.4	--	1.4	--	0.6 J	4.4	--
East Area	BOP-12i	6/8/1990	--	1 J	--	1	--	--	3.7	--
East Area	BOP-12i	8/8/1990	--	0.9 J	--	0.9	--	--	3.3	--
East Area	BOP-12i	11/6/1990	1 U	0.9 J	1 U	0.9	1 U	0.6 M	3.2	3 U
East Area	BOP-12i	2/11/1991	1 U	0.9 J	1 U	0.9	1 U	1 U	2.8	3 U
East Area	BOP-12i	5/14/1991	1 U	0.7 M	1 U	0.7	1 U	1 U	2.4	2 U
East Area	BOP-12i	8/12/1991	1 U	0.8 J	1 U	0.8	1 U	0.7 M	2.8	2 U
East Area	BOP-12i	1/21/1992	1 U	0.6 M	1 U	0.6	1 U	0.5 M	2.8	2 U
East Area	BOP-12i	7/15/1992	1 U	1 U	1 U	1	1 U	1 U	1.7	2 U
East Area	BOP-12i	2/10/1993	1 U	1 U	1 U	1	1 U	1 U	1.5	2 U
East Area	BOP-12i	7/27/1993	1 U	1 U	1 U	1	1 U	1 U	1.5	2 U
East Area	BOP-12i	3/1/1994	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	8/23/1994	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.27 J	0.96 J	0.2 U
East Area	BOP-12i	2/22/1995	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.23	0.83	0.2 U
East Area	BOP-12i	8/1/1995	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	2/6/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	8/14/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	2/13/1997	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	8/20/1997	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	2/26/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	8/25/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	2/15/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-12i	8/20/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/16/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	8/29/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/21/2001	1 U	1 U	1 U	1	1 U	1 U	1 UJ	1 U
East Area	BOP-12i	8/16/2001	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/25/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	8/14/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/17/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	8/12/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/20/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	8/12/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/10/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	8/4/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/9/2006	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Area	BOP-12i	8/15/2006	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Area	BOP-12i	2/8/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2	0.2 U
East Area	BOP-12i	8/17/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
East Area	BOP-12i	2/21/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2	0.2 U
East Area	BOP-12i	8/14/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2	0.2 U
East Area	BOP-58i	8/23/1994	5.6	0.6	0.2 U	0.6	2.4	0.53	0.49	0.2 U
East Area	BOP-58i	11/4/1994	4.2	1 U	1 U	1	1.8	1 U	1 U	2 U
East Area	BOP-58i	2/20/1995	2.2	0.28	0.2 U	0.28	1.2	0.48	0.42	0.2 U
East Area	BOP-58i	5/23/1995	3	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-58i	8/16/1995	3.6	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-58i	2/9/1996	3	1 U	1 U	1	1 U	1 U	1.6	2 U
East Area	BOP-58i	8/14/1996	2	1 U	1 U	1	1 U	1.1	4.2	2 U
East Area	BOP-58i	2/20/1997	3	1 U	1 U	1	1 U	1 U	1.5	2 U
East Area	BOP-58i	8/26/1997	2.7	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-58i	3/7/1998	1.6	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-58i	8/26/1998	2.2	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-58i	2/17/1999	1.2	1 U	1 U	1	1 U	1 U	1 U	2 U
East Area	BOP-58i	8/24/1999	1.1	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/18/2000	1.9	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/31/2000	2.3	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/23/2001	2.1	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/21/2001	1.8	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/28/2002	1.3	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/16/2002	1.4	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/17/2003	1.2	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/15/2003	1.2	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	3/2/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/19/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/14/2005	1.2	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/10/2005	1.2	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/25/2006	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/16/2006	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Area	BOP-58i	2/9/2007	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Area	BOP-58i	8/8/2007	0.8	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
East Area	BOP-58i	2/21/2008	0.7	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
East Area	BOP-58i	8/11/2008	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
East Area	E-8	3/28/1989	25	150	1	151	47	57	140	--
East Area	E-8	4/6/1989	24	150	1 UJ	150	44	75	140	--
East Area	E-8	4/12/1989	26	160	--	160	50	58	140	--
East Area	E-8	4/18/1989	26	130	--	130	45	78	140	--
East Area	E-8	4/25/1989	26	130	--	130	43	67	130	--
East Area	E-8	5/2/1989	32	120	--	120	50	72	130	--
East Area	E-8	5/9/1989	26	99	--	99	43	57	120	--
East Area	E-8	5/16/1989	36	120	--	120	60	44	130	--
East Area	E-8	5/23/1989	30	88	--	88	50	61	110	--
East Area	E-8	5/30/1989	37	100	--	100	60	53	100	--
East Area	E-8	6/7/1989	35	89	--	89	61	56	110	--
East Area	E-8	6/13/1989	40	100	0.6 J	106	58	57	115	--
East Area	E-8	6/20/1989	36	93	0.5 M	94	56	49	100	--
East Area	E-8	6/27/1989	32	67	0.5 J	68	48	49	100	--
East Area	E-8	7/5/1989	33	73	0.5 J	74	57	45	93	--
East Area	E-8	7/11/1989	35	80	0.4 J	80	60	45	91	--
East Area	E-8	7/18/1989	41	77	0.6 M	78	61	47	99	--
East Area	E-8	7/25/1989	37	80	0.3 J	80	62	44	94	--
East Area	E-8	8/1/1989	40	73	0.5 J	74	59	42	91	--
East Area	E-8	8/8/1989	38	98	0.7 J	99	66	42	79	--
East Area	E-8	8/15/1989	46	110	0.8 J	111	71	56	98	--
East Area	E-8	8/22/1989	39	98	0.7 J	99	65	39	77	--
East Area	E-8	8/29/1989	31	79	0.5 J	80	51	32	70	--
East Area	E-8	9/5/1989	48	110	0.8 J	111	74	45	100	--
East Area	E-8	9/12/1989	44	130	0.6 J	131	69	59	96	--
East Area	E-8	11/15/1989	24	76	0.4 J	76	34	25	100	--
East Area	E-8	11/21/1989	33	73	0.5 J	74	53	28	94	--
East Area	E-8	11/28/1989	34	64	0.5 J	65	50	27	81	--
East Area	E-8	12/5/1989	35	71	0.5 J	72	55	30	85	--

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Area	E-8	12/12/1989	31	69	0.5 J	70	51	25	84	--
East Area	E-8	12/19/1989	36	75	0.5 J	76	57	28	86	--
East Area	E-8	1/4/1990	29	75	0.4 J	75	50	26	82	--
East Area	E-8	1/17/1990	41	73	0.5 J	74	64	30	94	--
East Area	E-8	1/31/1990	29	57	0.3 J	57	47	26	85	--
East Area	E-8	2/14/1990	33	55	0.3 J	55	50	28	60	--
East Area	E-8	2/28/1990	26	51	--	51	56	24	67	--
East Area	E-8	3/14/1990	49	45	--	45	50	24	71	--
East Area	E-8	3/28/1990	38	46	--	46	42	22	66	--
East Area	E-8	4/11/1990	41	45	--	45	44	21	70	--
East Area	E-8	4/25/1990	39	41	--	41	43	20	62	--
East Area	E-8	5/8/1990	46	46	--	46	45	21	68	--
East Area	E-8	5/22/1990	45	44	--	44	45	22	77	--
East Area	E-8	6/6/1990	48	39	--	39	46	19	62	--
East Area	E-8	6/19/1990	34	35	--	35	34	17	70	--
East Area	E-8	7/3/1990	36	43	--	43	38	17	61	--
East Area	E-8	7/17/1990	42	36	--	36	37	15	54	--
East Area	E-8	7/31/1990	48	36	--	36	40	16	58	--
East Area	E-8	8/14/1990	41	38	--	38	38	17	62	--
East Area	E-8	8/28/1990	43	34	--	34	35	13	54	--
East Area	E-8	9/11/1990	46	36	--	36	37	14	57	--
East Area	E-8	9/27/1990	39	34	--	34	34	13	55	--
East Area	E-8	10/9/1990	50	34	--	34	39	14	47	--
East Area	E-8	10/29/1990	43	30	--	30	35	13	55	--
East Area	E-8	11/14/1990	45	27	--	27	38	14	56	--
East Area	E-8	11/28/1990	40	33	--	33	38	13	62	--
East Area	E-8	12/11/1990	43	30	--	30	36	14	58	--
East Area	E-8	1/2/1991	40	27	1 U	27	31	14	73	3 U
East Area	E-8	1/15/1991	39	26	1 U	26	28	12	51	3 U
East Area	E-8	2/5/1991	41	29	1 U	29	30	12	60	3 U
East Area	E-8	3/5/1991	34	16	1 U	16	27	10	39	3 U
East Area	E-8	4/2/1991	38	24	1 U	24	27	13	43	3 U
East Area	E-8	5/7/1991	34	20	1 U	20	24	12	48	2 U
East Area	E-8	6/3/1991	34	20	1 U	20	23	12	45	2 U
East Area	E-8	7/1/1991	31	16	1 U	16	21	11	39	2 U
East Area	E-8	8/5/1991	32	17	1 U	17	23	12	42	2 U
East Area	E-8	9/3/1991	19	17	1 U	17	20	11	37	3 U
East Area	E-8	10/2/1991	16	16	1 U	16	18	10	42	2 U
East Area	E-8	11/4/1991	16	17	1 U	17	19	12	52	2 U
East Area	E-8	12/4/1991	19	19	1 U	19	14	14	140	3 U
East Area	E-8	1/6/1992	23	15	1 U	15	16	12	54	2 U
East Area	E-8	2/4/1992	19	12	1 U	12	15	10	40	2 U
East Area	E-8	3/3/1992	16	11	1 U	11	12	8.8	36	2 U
East Area	E-8	4/6/1992	18	15	1 U	15	14	12	40	2 U
East Area	E-8	5/4/1992	15	14	1 U	14	11	9.8	40	2 U
East Area	E-8	6/2/1992	16	13	1 U	13	11	11	35	2 U
East Area	E-8	7/6/1992	14	13	1 U	13	12	11	54	2 U
East Area	E-8	8/10/1992	17	16	1 U	16	12	12	52	2 U
East Area	E-8	9/1/1992	13	13	1 U	13	10	11	47	2 U
East Area	E-8	10/1/1992	14	12	1 U	12	11	11	38	2 U
East Area	E-8	11/2/1992	15	12	1 U	12	9.8	8.6	28	2 U
East Area	E-8	12/1/1992	15	11	1 U	11	10	9.4	30	2 U
East Area	E-8	1/1/1993	13	11	1 U	11	8.2	9.1	37	2 U
East Area	E-8	2/1/1993	11	10	1 U	10	7.9	8.7	35	2 U
East Area	E-8	3/3/1993	12	12	1 U	12	8.4	10	52	2 U
East Area	E-8	3/29/1993	10	9	1 U	9	6.2	7.1	34	2 U
East Area	E-8	4/28/1993	8.3	9.1	1 U	9.1	5.4	7.8	31	2 U
East Area	E-8	5/25/1993	10	10	1 U	10	5.8	8.1	39	2 U
East Area	E-8	6/23/1993	7.2	9.9	1 U	9.9	5.1	9.4	45	2 U
East Area	E-8	7/30/1993	7	8.3	1 U	8.3	4.2	8.5	33	2 U
East Area	E-8	8/25/1993	8.1	9.8	1 U	9.8	4.9	9.5	44	2 U
East Area	E-8	9/29/1993	7.2	9	1 U	9	4.5	8.4	47	2 U
East Area	E-8	10/27/1993	7.2	9.1	1 U	9.1	4.7	8.4	42	2 U
East Area	E-8	11/22/1993	6.8	8.5	1 U	8.5	4	8.2	38	2 U
East Area	E-8	12/27/1993	7	9.7	1 U	9.7	4.6	9.4	39	2 U
East Area	E-8	1/26/1994	4.7	6.7	1 U	6.7	2.8	7.2	27	2 U
East Area	E-8	2/23/1994	6.3	8.9	1 U	8.9	3.3	9.1	39	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
East Area	E-8	4/4/1994	5	8	1 U	8	3.1	8.9	41	2 U
East Area	E-8	4/26/1994	4.1	6.2	1 U	6.2	2.5 J	6.6	20	2 U
East Area	E-8	6/29/1994	5.7	8.4	1 U	8.4	3.1	8.2	45	2 U
East Area	E-8	10/26/1994	2.1	6.6	1 U	6.6	1.6	6.7	20	2 U
East Area	E-8	12/21/1994	3.5	7.3	1 U	7.3	2.2	8.5	29	2 U
East Area	E-8	3/3/1995	3.4 J	6.5 J	1 UJ	6.5	2.2 J	7.8 J	31 J	2 UJ
East Area	E-8	6/1/1995	3	7.2	1 U	7.2	1.8	9.2	47	2 U
East Area	E-8	8/29/1995	4.2	9.1	1 U	9.1	2.2	10	67	2 U
East Area	E-8	11/9/1995	4	6.9	1 U	6.9	1.2	6.8	36	2 U
East Area	E-8	3/4/1996	2	6	1 U	6	1 U	11	39	2 U
East Area	E-8	5/31/1996	2.6	7.9	1 U	7.9	1 U	12	54	2 U
East Area	E-8	8/26/1996	1.1	7.3	1 U	7.3	1 U	13	30	2 U
East Area	E-8	11/20/1996	1.8	7.4	1 U	7.4	1 U	14	43	2 U
East Area	E-8	3/6/1997	1.1	6.9	1 U	6.9	1 U	13	33	2 U
East Area	E-8	5/27/1997	3.7	12	1 U	12	1 U	15	100	2 U
East Area	E-8	9/2/1997	2.5	12	1 U	12	1 U	19	82	2 U
East Area	E-8	11/3/1997	2.1	11	1 U	11	1 U	18	71	2 U
East Area	E-8	2/24/1998	1.2	6.2	1 U	6.2	1 U	12	34	2 U
East Area	E-8	5/5/1998	1.6	5.9	1 U	5.9	1 U	12	36	2 U
East Area	E-8	8/3/1998	2.2	6.5	1 U	6.5	1 U	11	41	2 U
East Area	E-8	11/23/1998	1.7	5.9	1 U	5.9	1 U	4.6	15	2 U
East Area	E-8	2/1/1999	1.6	11	1 U	11	1 U	10	110	2 U
East Area	E-8	5/3/1999	3.6	11	1 U	11	1 U	9.6	120	1 U
East Area	E-8	8/2/1999	2.4	6.9	1 U	6.9	1 U	8.5	66	1 U
East Area	E-8	11/1/1999	1.9	4.7	1 U	4.7	1 U	6	41	1 U
East Area	E-8	2/4/2000	3.3	9.4	1 U	9.4	1 U	5.6	83	1 U
East Area	E-8	5/1/2000	3.2	6.5	1 U	6.5	1 U	6.4	69	1 U
East Area	E-8	8/2/2000	4.5	9.4	1 U	9.4	1 U	7.2	120	1 U
East Area	E-8	11/1/2000	1 U	1.2	1 U	1.2	1 U	2.5	9.1	1 U
East Area	E-8	2/1/2001	1.9	4.3	1 U	4.3	1 U	4.4	30	1 U
East Area	E-8	5/1/2001	5.4	12	1 U	12	1 U	8	120	1 U
East Area	E-8	8/6/2001	1.3	2.9	1 U	2.9	1 U	3.1	19	1 U
East Area	E-8	11/1/2001	1.4	2	1 U	2	1 U	3.5	23	1 U
East Area	E-8	2/2/2002	5.3	9.4	1 U	9.4	1 U	6.8	110	1 U
East Area	E-8	5/8/2002	1.4	2.2	1 U	2.2	1 U	3.8	14	1 U
East Area	E-8	8/1/2002	4.6	11	1 U	11	1 U	7.3	110	1 U
East Area	E-8	11/4/2002	1 U	4.3	1 U	4.3	1 U	4.7	33	1 U
East Area	E-8	12/4/2002	2	6.1	1 U	6.1	1 U	4.6	53	1 U
Shutdown of Extraction Pumping										
East Area	E-8	2/4/2003	1 U	1.3	1 U	1.3	1 U	2.2	6.6	1 U
East Area	E-8	5/7/2003	1 U	1.5	1 U	1.5	1 U	2.2	8	1 U
East Area	E-8	8/6/2003	1 U	1.8	1 U	1.8	1 U	2.1	10	1 U
East Area	E-8	11/5/2003	1 U	1.3	1 U	1.3	1 U	1.6	6.6	1 U
East Area	E-8	2/3/2004	1 U	1.1	1 U	1.1	1 U	2.5	5.4	1 U
East Area	E-8	5/6/2004	1 U	1.4	1 U	1.4	1 U	2.2	8.2	1 U
East Area	E-8	8/3/2004	1 U	1.6	1 U	1.6	1 U	1.5	8.8	1 U
East Area	E-8	11/1/2004	1 U	1.9	1 U	1.9	1 U	2.1	12	1 U
East Area	E-8	2/3/2005	1 U	2.1	1 U	2.1	1 U	2.1	12	1 U
East Area	E-8	5/3/2005	1 U	1.5	1 U	1.5	1 U	2.6	7.7	1 U
East Area	E-8	8/2/2005	1 U	1.9	1 U	1.9	1 U	3.3	9.1	1 U
East Area	E-8	12/16/2005	1 U	2.4	1 U	2.4	1 U	3.3	12	1 U
East Area	E-8	2/6/2006	1 U	2.4	1 U	2.4	1 U	3.9	15	1 U
East Area	E-8	5/9/2006	1 U	2.4	1 U	--	1 U	4.1	12	1 U
East Area	E-8	8/8/2006	1 U	1.6	1 U	--	1 U	1.8	8.2	1 U
East Area	E-8	11/9/2006	0.2 U	0.2	0.2 U	--	0.2 U	1.2	1.5	0.2 U
East Area	E-8	2/6/2007	0.2	1.5	0.2 U	--	0.2 U	4.5	9.4	0.2 U
East Area	E-8	5/10/2007	0.2	1.7	0.2 U	--	0.2 U	4.6	10	0.2 U
East Area	E-8	8/8/2007	0.5	1.8	0.2 U	--	0.2 U	4.9	11	0.2 U
East Area	E-8	11/8/2007	0.7	2.3	0.2 U	--	0.2 U	5.4	13	0.2 U
East Area	E-8	2/11/2008	1 U	1.6	1 U	--	1 U	5	8.8	1 U
East Area	E-8	5/12/2008	1 U	1.4	1 U	--	1 U	5	8.5	1 U
East Area	E-8	8/11/2008	1 U	1.4	1 U	--	1 U	3.7	6.2	1 U
East Area	E-8	11/5/2008	0.7	2.5	0.2 U	--	0.2 U	5.6	12	0.2 U
Southwest Area	BOP-09i	3/4/1987	6.2	--	280	280	30	22	830	--
Southwest Area	BOP-09i	5/20/1987	4.3	--	286	286	29	23	996	--
Southwest Area	BOP-09i	5/27/1987	3.4 J	--	170	170	20	15	575	--

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Southwest Area	BOP-09i	5/29/1987	0.8 M	--	76	76	7.5	3.5	299	--
Southwest Area	BOP-09i	6/1/1987	23 U	--	100	100	14	10	471	--
Southwest Area	BOP-09i	6/3/1987	23 U	--	110	110	18	11	510	--
Southwest Area	BOP-09i	6/10/1987	45 U	--	94	94	15 M	9.4 J	600	--
Southwest Area	BOP-09i	6/17/1987	2.7 J	--	110	110	15	12	470	--
Southwest Area	BOP-09i	6/24/1987	45 U	--	100	100	12 M	10 J	490	--
Southwest Area	BOP-09i	7/2/1987	23 U	--	110	110	12	12	490	--
Southwest Area	BOP-09i	7/6/1987	2.4 M	--	140	140	18	13	620	--
Southwest Area	BOP-09i	7/10/1987	2.8 M	--	140	140	17	14	610	--
Southwest Area	BOP-09i	10/15/1987	3 M	--	--	81	13	10	350	--
Southwest Area	BOP-09i	12/9/1987	4.4	--	--	130	110	13	510	--
Southwest Area	BOP-09i	7/7/1988	5.3	--	--	360	130	29	1300	--
Southwest Area	BOP-09i	1/30/1989	15	--	--	860	220	60	1600	--
Southwest Area	BOP-09i	5/17/1989	11	--	--	330	150	26	800	--
Southwest Area	BOP-09i	7/26/1989	6	--	--	170	89	16	500	--
Southwest Area	BOP-09i	11/15/1989	13	160	1.7 J	162	210	15	460	--
Southwest Area	BOP-09i	2/15/1990	13	300	3.6 J	304	230	32	710	--
Southwest Area	BOP-09i	6/8/1990	--	130	--	130	270		610	--
Southwest Area	BOP-09i	8/7/1990	31	150	2.4	152	280	15	500	--
Southwest Area	BOP-09i	11/6/1990	32	150	10 U	150	290	15	540	30 U
Southwest Area	BOP-09i	2/7/1991	37	170	2.5 J	173	310	15	540	15 U
Southwest Area	BOP-09i	5/15/1991	29	100	5 U	100	220	10	300	10 U
Southwest Area	BOP-09i	8/8/1991	37	100	2	102	270	11	370	2 U
Southwest Area	BOP-09i	1/21/1992	65	110	2.2	112	160	12	270	2 U
Southwest Area	BOP-09i	7/15/1992	22	100	10 U	100	190	7.9 J	350	20 U
Southwest Area	BOP-09i	7/15/1992	32	110	1.6	112	190	9.9	300	2 U
Southwest Area	BOP-09i	2/17/1993	31 J	110 J	2 J	112	160 J	9.1 J	270	2 U
Southwest Area	BOP-09i	7/27/1993	19	82	2	84	120	8.1	250	2 U
Southwest Area	BOP-09i	3/2/1994	24 J	94 J	1.6 J	95.6	150 J	8.7 J	270 J	2 UJ
Southwest Area	BOP-09i	5/24/1994	24	78	1.2	79	130	7.3	220	2 U
Southwest Area	BOP-09i	8/23/1994	18	60	1 U	60	92	6.6	200	2 U
Southwest Area	BOP-09i	2/23/1995	20	44	1 U	44	100	5.1	170	2 U
Southwest Area	BOP-09i	9/1/1995	16	49	1 U	49	81	5.5	190	2 U
Southwest Area	BOP-09i	2/21/1996	12	48	1 U	48	53	4.7	160	2 U
Southwest Area	BOP-09i	8/16/1996	9.2	32	1 U	32	41	3.6	120	2 U
Southwest Area	BOP-09i	2/18/1997	6.8	31	1 U	31	27	2.8	89	2 U
Southwest Area	BOP-09i	8/21/1997	6.7	26	1 U	26	25	2.7	82	2 U
Southwest Area	BOP-09i	2/26/1998	4	35	1 U	35	13	2	77	2 U
Southwest Area	BOP-09i	8/25/1998	3.6	30	1 U	30	9.6	1.7	68	2 U
Southwest Area	BOP-09i	2/17/1999	2.5	26	1 U	26	5.6	1.6	61	2 U
Southwest Area	BOP-09i	8/21/1999	2.4	21	1 U	21	5.2	1.4	46	1 U
Southwest Area	BOP-09i	2/18/2000	1.8	22	1 U	22	4.3	1.6	44	1 U
Southwest Area	BOP-09i	8/30/2000	1.2	6.9	1 U	6.9	2.5	1 U	24	1 U
Southwest Area	BOP-09i	2/21/2001	1.4	8.5	1 U	8.5	2.9	1 U	26 J	1 U
Southwest Area	BOP-09i	8/16/2001	1.4	7.3	1 U	7.3	2.2	1 U	22	1 U
Southwest Area	BOP-09i	2/24/2002	1.3	6	1 U	6	1.9	1 U	20	1 U
Southwest Area	BOP-09i	8/16/2002	1 U	3.2	1 U	3.2	1 U	1 U	12	1 U
Southwest Area	BOP-09i	2/13/2003	1 U	3.9	1 U	3.9	1.2	1 U	14	1 U
Southwest Area	BOP-09i	8/13/2003	1 U	3.3	1 U	3.3	1 U	1 U	13	1 U
Southwest Area	BOP-09i	2/24/2004	1 U	3.4	1 U	3.4	1 U	1 U	13	1 U
Southwest Area	BOP-09i	8/12/2004	1 U	3.1	1 U	3.1	1 U	1 U	12	1 U
Southwest Area	BOP-09i	2/9/2005	1 U	2.9	1 U	2.9	1 U	1 U	12	1 U
Southwest Area	BOP-09i	8/9/2005	1 U	2.2	1 U	2.2	1 U	1 U	8.1	1 U
Southwest Area	BOP-09i	2/8/2006	1 U	1.7	1 U	1.7	1 U	1 U	8.3	1 U
Southwest Area	BOP-09i	8/10/2006	1 U	1.1	1 U	--	1 U	1 U	4.4	1 U
Southwest Area	BOP-09i	2/8/2007	0.4	1.4	0.2 U	--	0.3	0.4	7.3	0.2 U
Southwest Area	BOP-09i	8/8/2007	0.4	1.1	0.2 U	--	0.3	0.3	5.7	0.2 U
Southwest Area	BOP-09i	2/19/2008	0.4	1.1	0.2 U	--	0.3	0.3	5.2	0.2 U
Southwest Area	BOP-09i	8/11/2008	1 U	1 U	1 U	--	1 U	1 U	3.4	1 U
Southwest Area	BOP-62ds	5/25/1994	1 U	1 U	1 U	1	1 U	1 U	2.2 U	2 U
Southwest Area	BOP-62ds	8/30/1994	0.2 U	0.59	0.2 U	0.59	0.2 U	0.2 U	2.2	0.2 U
Southwest Area	BOP-62ds	11/1/1994	1 U	1 U	1 U	1	1 U	1 U	2.4	2 U
Southwest Area	BOP-62ds	2/16/1995	0.2 U	0.44	0.2 U	0.44	0.2 U	0.2 U	1.8	0.2 U
Southwest Area	BOP-62ds	8/14/1995	1 U	1 U	1 U	1	1 U	1 U	2.6	2 U
Southwest Area	BOP-62ds	2/12/1996	1 U	1 U	1 U	1	1 U	1 U	2.1	2 U
Southwest Area	BOP-62ds	8/12/1996	1 U	1 U	1 U	1	1 U	1 U	2.5	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Southwest Area	BOP-62ds	2/25/1997	1 U	1 U	1 U	1	1 U	1 U	2.4	2 U
Southwest Area	BOP-62ds	8/13/1997	1 U	1	1 U	1	1 U	1 U	3	2 U
Southwest Area	BOP-62ds	2/24/1998	1 U	1.2	1 U	1.2	1 U	1 U	4.2	2 U
Southwest Area	BOP-62ds	8/19/1998	1 U	1	1 U	1	1 U	1 U	4.1	2 U
Southwest Area	BOP-62ds	2/15/1999	1 U	1 U	1 U	1	1 U	1 U	2.8	2 U
Southwest Area	BOP-62ds	8/20/1999	1 U	1 U	1 U	1	1 U	1 U	2.8	1 U
Southwest Area	BOP-62ds	2/15/2000	1 U	1 U	1 U	1	1 U	1 U	3.2	1 U
Southwest Area	BOP-62ds	8/28/2000	1 U	1 U	1 U	1	1 U	1 U	2.6	1 U
Southwest Area	BOP-62ds	2/21/2001	1 U	1 U	1 U	1	1 U	1 U	3.4 J	1 U
Southwest Area	BOP-62ds	8/21/2001	1 U	1 U	1 U	1	1 U	1 U	2.1	1 U
Southwest Area	BOP-62ds	2/24/2002	1 U	1 U	1 U	1	1 U	1 U	2.4	1 U
Southwest Area	BOP-62ds	8/14/2002	0.2 U	0.6	0.2 U	0.6	0.2 U	0.2 U	2.4	0.2 U
Southwest Area	BOP-62ds	2/13/2003	1 U	1 U	1 U	1	1 U	1 U	2.1	1 U
Southwest Area	BOP-62ds	8/12/2003	0.2 U	0.5	0.2 U	0.5	0.2 U	0.2 U	1.4	0.2 U
Southwest Area	BOP-62ds	2/20/2004	0.2 U	0.4	0.2 U	0.4	0.2 U	0.2 U	1.2	0.2 U
Southwest Area	BOP-62ds	8/10/2004	0.2 U	0.3	0.2 U	0.3	0.2 U	0.2 U	1	0.2 U
Southwest Area	BOP-62ds	2/8/2005	0.2 U	0.3	0.2 U	0.3	0.2 U	0.2 U	1	0.2 U
Southwest Area	BOP-62ds	8/5/2005	0.2 U	0.2	0.2 U	0.2	0.2 U	0.2 U	0.7	0.2 U
Southwest Area	BOP-62ds	2/6/2006	0.2 U	0.3	0.2 U	0.2	0.2 U	0.2 U	0.6	0.2 U
Southwest Area	BOP-62ds	5/10/2006	0.2 U	0.2	0.2 U	--	0.2 U	0.2 U	0.6	0.2 U
Southwest Area	BOP-62ds	8/14/2006	0.2 U	0.2	0.2 U	--	0.2 U	0.2 U	0.5	0.2 U
Southwest Area	BOP-62ds	8/17/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.4	0.2 U
Southwest Area	BOP-62ds	8/15/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.6	0.2 U
Downgradient Area	BOP-07i	3/25/1987	38	--	78	78	890	31	860	--
Downgradient Area	BOP-07i	5/19/1987	11 J	--	113	113	1200	26	896	--
Downgradient Area	BOP-07i	5/20/1987	13 J	--	153	153	1910	24 J	931	--
Downgradient Area	BOP-07i	5/21/1987	4 J	--	68	68	859	15 J	780	--
Downgradient Area	BOP-07i	5/21/1987	8 J	--	98	98	1210	17 J	852	--
Downgradient Area	BOP-07i	5/22/1987	6 J	--	101	101	1260	15 J	837	--
Downgradient Area	BOP-07i	10/20/1987	47	--	--	160	1800	38	890	--
Downgradient Area	BOP-07i	12/3/1987	55	--	210	210	2100	40	960	--
Downgradient Area	BOP-07i	7/19/1988	86	--	--	130	2200	38	600	--
Downgradient Area	BOP-07i	2/1/1989	95	--	--	140	1500	37	680	--
Downgradient Area	BOP-07i	5/19/1989	69	--	--	100	560	44	1200	--
Downgradient Area	BOP-07i	8/8/1989	78	--	--	140	510	54	840	--
Downgradient Area	BOP-07i	11/13/1989	73	130	--	130	610	39	1000	--
Downgradient Area	BOP-07i	2/6/1990	81	100	2.4	102	880	41	1000	--
Downgradient Area	BOP-07i	6/7/1990	130	--	--	160	750	42	1500	--
Downgradient Area	BOP-07i	11/5/1990	120	110	2.5	112.5	540	44	1200	3 U
Downgradient Area	BOP-07i	2/5/1991	130	130	25 U	130	530	48	1400	75 U
Downgradient Area	BOP-07i	2/6/1991	130	130	25 U	130	530	44	1400	75 U
Downgradient Area	BOP-07i	5/14/1991	100	100	2.2	102	360	42	980	2 U
Downgradient Area	BOP-07i	5/15/1991	89	95	5 U	95	350	40	960	10 U
Downgradient Area	BOP-07ig	8/7/1991	110	87	2.1	89	380	39	1200	2 U
Downgradient Area	BOP-07iw	8/8/1991	110	90	2.2	92	370	41	1200	2 U
Downgradient Area	BOP-07ig	11/8/1991	74	82	10 U	82	290	38	1100	20 U
Downgradient Area	BOP-07iw	11/8/1991	68	87	10 U	87	300	42	1100	20 U
Downgradient Area	BOP-07ig	1/21/1992	130	91	10 U	91	280	45	1300	20 U
Downgradient Area	BOP-07iw	1/21/1992	130	91	10 U	91	300	46	1300	20 U
Downgradient Area	BOP-07ig	5/27/1992	70	85	10 U	85	260	41	1300	20 U
Downgradient Area	BOP-07iw	5/27/1992	79	89	10 U	89	270	43	1400	20 U
Downgradient Area	BOP-07ig	7/14/1992	79	83	10 U	83	260	40	1400	20 U
Downgradient Area	BOP-07iw	7/14/1992	75	82	10 U	82	260	40	1400	20 U
Downgradient Area	BOP-07ig	10/20/1992	79	73	20 U	73	210	42	1300	40 U
Downgradient Area	BOP-07iw	10/20/1992	84	80	20 U	80	220	46	1400	40 U
Downgradient Area	BOP-07i	2/11/1993	68	72	1.6	73.6	190	40	1300	2 U
Downgradient Area	BOP-07i	2/11/1993	71	70	20 U	70	180	35	1200	40 U
Downgradient Area	BOP-07i	5/10/1993	63	61	1.4	62	150	30	1000	2 U
Downgradient Area	BOP-07ig	7/24/1993	52	53	1.1	54.1	130	30	980	2 U
Downgradient Area	BOP-07iw	7/24/1993	55	55	1.2	56.2	130	33	1000	2 U
Downgradient Area	BOP-07i	11/29/1993	44	48	1.3	49.3	120	30	890	2 U
Downgradient Area	BOP-07i	2/14/1994	52	51	1.1	52	100	29	730	2 U
Downgradient Area	BOP-07i	5/31/1994	49	47	1 U	47	100	31	760	2 U
Downgradient Area	BOP-07i	7/30/1994	33 J	35 J	10 U	35	60 J	20 J	720 J	20 U
Downgradient Area	BOP-07i	7/30/1994	46 J	44 J	0.86 J	44.86	83 J	28 J	920 J	0.2 UJ
Downgradient Area	BOP-07i	10/24/1994	1 U	1 U	1 U	1	1 U	1 U	14	2 U

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	BOP-07i	2/20/1995	41	44	1	45	61	28	440	2 U
Downgradient Area	BOP-07i	2/20/1995	40	44	1	45	60	27	500	2 U
Downgradient Area	BOP-07i	5/30/1995	32	31	5 U	31	55	20	740	10 U
Downgradient Area	BOP-07i	8/22/1995	39	37	5 U	37	64	23	760	10 U
Downgradient Area	BOP-07i	11/10/1995	35	34	1.4	35.4	56	19	680	2 U
Downgradient Area	BOP-07i	11/10/1995	36	34	1.3	35.3	58	20	670	2 U
Downgradient Area	BOP-07i	2/21/1996	29	30	5 U	30	46	17	670	10 U
Downgradient Area	BOP-07i	5/29/1996	24 J	25	5 U	25	37 J	17	610	10 U
Downgradient Area	BOP-07i	5/29/1996	33 J	30	1 U	30	49 J	21	580	2 U
Downgradient Area	BOP-07i	8/7/1996	25	24	5 U	24	35 J	16 J	580	10 U
Downgradient Area	BOP-07i	8/7/1996	34	29	1 U	29	45 J	20 J	670	2 U
Downgradient Area	BOP-07i	11/18/1996	35	33	5 U	33	41	17	710	10 U
Downgradient Area	BOP-07i	2/20/1997	25	27	5 U	27	33	16	610	10 U
Downgradient Area	BOP-07i	5/27/1997	25	26	5 U	26	29	13	510	10 U
Downgradient Area	BOP-07i	8/12/1997	30	29	1 U	29	35	18	610	2 U
Downgradient Area	BOP-07i	2/25/1998	30	29	1 U	29	36	19	620	2 U
Downgradient Area	BOP-07i	8/24/1998	38	33	1 U	33	35	21	840	2 U
Downgradient Area	BOP-07i	2/15/1999	30	26	1 U	26	27	16	660	2 U
Downgradient Area	BOP-07i	8/19/1999	21	23	1 U	23	19	13	450	1 U
Downgradient Area	BOP-07i	2/8/2000	22	22	1 U	22	18	12	440	1 U
Downgradient Area	BOP-07i	8/27/2000	14	18	1 U	18	16	11	320	1 U
Downgradient Area	BOP-07i	2/16/2001	19 J	18 J	1 UJ	18	16 J	11 J	400 J	1 UJ
Downgradient Area	BOP-07i	8/13/2001	16	16	5 U	16	12	8	330	5 U
Downgradient Area	BOP-07i	2/27/2002	11	12	3 U	12	10	6.9	280	3 U
Downgradient Area	BOP-07i	8/9/2002	10	8	3 U	8	7.5	5.3	210	3 U
Downgradient Area	BOP-07i	2/11/2003	10	9.4	1 U	9.4	8.1	6.6	180	1 U
Downgradient Area	BOP-07i	8/7/2003	9.6	9.2	1 U	9.2	7.7	6.9	210	1 U
Downgradient Area	BOP-07i	2/17/2004	12	9.8	1 U	9.8	5.8	6.4	210	1 U
Downgradient Area	BOP-07i	8/6/2004	12	10	2 U	10	6.3	5.8 U	230	2 U
Downgradient Area	BOP-07i	2/7/2005	8	8.6	5 U	8.6	5 U	5.6	210	5 U
Downgradient Area	BOP-07i	8/4/2005	8.4	7.9	1 U	7.9	4.6	5.1	160	1 U
Downgradient Area	BOP-07i	2/10/2006	8.4	6.6	1 U	6.6	4.7	4.7	160	1 U
Downgradient Area	BOP-07i	8/15/2006	5.7	5.8	1 U	--	2.9	3.1	140	1 U
Downgradient Area	BOP-07i	2/8/2007	5.9	5.6	1 U	--	3.1	3.5	110	1 U
Downgradient Area	BOP-07i	8/7/2007	6	5.2	1 U	--	2.7	3.2	120	1 U
Downgradient Area	BOP-07i	2/20/2008	6.8	5.2	1 U	--	2.5	3.2	100	1 U
Downgradient Area	BOP-07i	8/12/2008	5	3.7	1 U	--	1.8	2.4	82	1 U
Downgradient Area	BOP-07i	11/11/2008	4.8	3	0.2 U	--	1.8	2.3	68	0.2 U
Downgradient Area	BOP-7i	11/11/2008	4.9	2.9	0.50 U	--	1.9	2.2	67	0.50 U
Downgradient Area	BOP-7i	11/11/2008	3.1	1.8	0.50 U	--	1.3	1.6	42	0.50 U
Downgradient Area	BOP-7i	11/11/2008	3.2	1.9	0.50 U	--	1.3	1.7	44	0.50 U
Downgradient Area	BOP-7i	11/11/2008	4.3	2.4	0.50 U	--	1.6	2.0	60	0.50 U
Downgradient Area	D-02i	2/19/1991	1 U	1 U	1 U	1	1 U	1 U	1 U	3 U
Downgradient Area	D-02i	8/20/1991	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	1/15/1992	2 U	1 U	1 U	1	1 U	1 U	1 U	3 U
Downgradient Area	D-02i	7/21/1992	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	2/8/1993	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	7/17/1993	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	2/22/1994	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	8/2/1994	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-02i	2/8/1995	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-02i	8/2/1995	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	2/19/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	8/6/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	2/12/1997	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	8/18/1997	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	2/25/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/20/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	2/16/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-02i	8/20/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	2/17/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/28/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	2/26/2001	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/21/2001	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	2/25/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/19/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	D-02i	2/21/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/18/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	2/26/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/13/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	2/15/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/8/2005	1 U	1 U	1 U	1	1 U	1 U	1.8	1 U
Downgradient Area	D-02i	2/3/2006	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	8/10/2006	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Downgradient Area	D-02i	2/7/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-02i	8/10/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-02i	2/21/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-02i	8/7/2008	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Downgradient Area	D-07i	6/27/1988	2.7	--	--	11	49	2.5	64	--
Downgradient Area	D-07i	7/19/1988	2.6	--	--	11	58	2.9	76	--
Downgradient Area	D-07i	11/29/1988	2.8	--	--	11	58	2.6	96	--
Downgradient Area	D-07i	7/27/1989	0.9 J	--	--	4.7	16	1	30	--
Downgradient Area	D-07i	2/26/1990	3.6	--	--	4.5	20	0.8 J	36	--
Downgradient Area	D-07i	8/15/1990	2.8	4.7	--	4.7	15	1.1 M	45	--
Downgradient Area	D-07i	8/15/1990	2.6	5.3	--	5.3	14	1.1 M	48	--
Downgradient Area	D-07i	2/18/1991	3.7	5.7	1 U	5.7	18	1.4	48	3 U
Downgradient Area	D-07i	5/16/1991	3.8	6.6 M	1 U	6.6	17	1.6	46	2 U
Downgradient Area	D-07i	5/16/1991	3.8	6.4	1 U	6.4	17	1.6	45	2 U
Downgradient Area	D-07i	7/10/1991	5.1	7.2	1 U	7.2	18	2.1	64	2 U
Downgradient Area	D-07i	8/20/1991	5.5	7.3	1 U	7.3	19	1.9	66	2 U
Downgradient Area	D-07i	1/15/1992	4.1	10	1 U	10	23	1.6	84	3 U
Downgradient Area	D-07i	1/15/1992	4	8.6	1 U	8.6	21	1.5	76	3 U
Downgradient Area	D-07i	7/21/1992	3.8	6.3	1 U	6.3	17	1.8	60	2 U
Downgradient Area	D-07i	2/9/1993	4.2	7.3	1 U	7.3	18	2.1	71	2 U
Downgradient Area	D-07i	7/19/1993	5.1	7.6	1 U	7.6	18	1.9	77	2 U
Downgradient Area	D-07i	7/19/1993	3	5.8	1 U	5.8	12	1.8	57	2 U
Downgradient Area	D-07i	2/22/1994	4.4	7.4	1 U	7.4	15	1.9	70	2 U
Downgradient Area	D-07i	2/22/1994	4.1	7.1	1 U	7.1	14	2	68	2 U
Downgradient Area	D-07i	8/3/1994	2.5	5.5	0.2 U	5.5	9.4	1.5	49	0.2 U
Downgradient Area	D-07i	2/7/1995	3.5	4.2	0.2 U	4.2	8.4	1.6	49	0.2 U
Downgradient Area	D-07i	8/10/1995	2.1	4.2	1 U	4.2	7.4	1	42	2 U
Downgradient Area	D-07i	2/13/1996	2.3	3.4	1 U	3.4	5.1	1.1	40	2 U
Downgradient Area	D-07i	8/12/1996	1.4	2.2	1 U	2.2	2.6	1 U	28	2 U
Downgradient Area	D-07i	2/11/1997	1 U	1.7	1 U	1.7	1.7	1 U	24	2 U
Downgradient Area	D-07i	8/22/1997	1 U	1.6	1 U	1.6	1.6	1 U	25	2 U
Downgradient Area	D-07i	2/25/1998	1	1.8	1 U	1.8	1.6	1.5	26	1 U
Downgradient Area	D-07i	8/20/1998	1 U	1 U	1 U	1	1	1 U	21	2 U
Downgradient Area	D-07i	2/17/1999	1 U	1 U	1 U	1	1 U	1 U	12	2 U
Downgradient Area	D-07i	8/23/1999	1 U	1 U	1 U	1	1 U	1 U	8.4	1 U
Downgradient Area	D-07i	2/9/2000	1 U	1 U	1 U	1	1 U	1 U	7	1 U
Downgradient Area	D-07i	8/21/2000	1 U	1 U	1 U	1	1 U	1 U	3.7	1 U
Downgradient Area	D-07i	2/14/2001	0.2 U	0.2 U	0.2 U	0.2	0.2	0.2 U	4.4	0.2 U
Downgradient Area	D-07i	8/21/2001	1 U	1 U	1 U	1	1 U	1 U	3	1 U
Downgradient Area	D-07i	2/26/2002	1 U	1 U	1 U	1	1 U	1 U	3.1	1 U
Downgradient Area	D-07i	8/19/2002	1 U	1 U	1 U	1	1 U	1 U	2.4	1 U
Downgradient Area	D-07i	2/14/2003	1 U	1 U	1 U	1	1 U	1 U	2.4	1 U
Downgradient Area	D-07i	8/18/2003	1 U	1 U	1 U	1	1 U	1 U	2.2	1 U
Downgradient Area	D-07i	2/26/2004	1 U	1 U	1 U	1	1 U	1 U	2.2	1 U
Downgradient Area	D-07i	8/13/2004	1 U	1 U	1 U	1	1 U	1 U	2.2	1 U
Downgradient Area	D-07i	2/14/2005	1 U	1 U	1 U	1	1 U	1 U	1.9	1 U
Downgradient Area	D-07i	8/10/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-07i	2/8/2006	1 U	1 U	1 U	1	1 U	1 U	1.4	1 U
Downgradient Area	D-07i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	1.4	1 U
Downgradient Area	D-07i	2/2/2007	1 U	1 U	1 U	--	1 U	1 U	1.3	1 U
Downgradient Area	D-07i	2/7/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	1.5	0.2 U
Downgradient Area	D-07i	8/10/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	1.2	0.2 U
Downgradient Area	D-07i	2/20/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	1.5	0.2 U
Downgradient Area	D-07i	8/7/2008	1 U	1 U	1 U	--	1 U	1 U	1	1 U
Downgradient Area	D-08i	7/25/1988	50	--	--	70	950	23	440	--
Downgradient Area	D-08i	11/28/1988	43	--	--	63	900	18	570	--
Downgradient Area	D-08i	7/27/1989	13	--	--	14	96	5.1	110	--

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	D-08i	2/26/1990	13	--	--	8.5	36	3.7	120	--
Downgradient Area	D-08i	8/15/1990	16	9.4	--	9.4	41	3.8	120	--
Downgradient Area	D-08i	2/18/1991	11	5.3	1 U	5.3	20	2.2	71	3 U
Downgradient Area	D-08i	2/18/1991	11	4.7	1 U	4.7	22	2.4	77	3 U
Downgradient Area	D-08i	8/20/1991	15	9	1 U	9	30	3.7	120	2 U
Downgradient Area	D-08i	11/25/1991	9	9.2	1 U	9.2	31	3.7	110	2 U
Downgradient Area	D-08i	1/15/1992	13	9.3	1 U	9.3	35	3.2	150	3 U
Downgradient Area	D-08i	7/21/1992	11	7.8	1 U	7.8	29	3.3	120	2 U
Downgradient Area	D-08i	7/21/1992	10	7.6	1 U	7.6	30	3.4	120	2 U
Downgradient Area	D-08i	2/9/1993	11	7	1 U	7	27	3.4	110	2 U
Downgradient Area	D-08i	7/19/1993	13	7.1	1 U	7.1	23	3.1	100	2 U
Downgradient Area	D-08i	2/22/1994	14	9.6	1 U	9.6	30	4.5	130	2 U
Downgradient Area	D-08i	8/3/1994	9.4	7.4	1 U	7.4	20	3.4	110	2 U
Downgradient Area	D-08i	2/7/1995	4.5	1.3	1 U	1.3	3.7	1	33	2 U
Downgradient Area	D-08i	8/10/1995	14	12	1 U	12	42	4.5	140	2 U
Downgradient Area	D-08i	2/13/1996	9.4	8.6	1 U	8.6	25	3.5	120	2 U
Downgradient Area	D-08i	8/12/1996	11	10	1 U	10	24	5.1	160	2 U
Downgradient Area	D-08i	2/11/1997	8.3	8	1 U	8	14	3.8	120	2 U
Downgradient Area	D-08i	8/22/1997	8.7	8.9	1 U	8.9	14	4.7	140	2 U
Downgradient Area	D-08i	2/25/1998	6.4	5.8	1 U	5.8	9.9	3.2	110	2 U
Downgradient Area	D-08i	8/20/1998	6.6	5.8	1 U	5.8	8.4	4.2	120	2 U
Downgradient Area	D-08i	2/17/1999	5.9	4.3	1 U	4.3	6.1	2.6	110	2 U
Downgradient Area	D-08i	8/23/1999	4.8	3.6	1 U	3.6	5.3	2.3	75	1 U
Downgradient Area	D-08i	2/9/2000	4	3.3	1 U	3.3	4	1.9	70	1 U
Downgradient Area	D-08i	8/21/2000	2.6	1.6	1 U	1.6	2.5	1.2	43	1 U
Downgradient Area	D-08i	2/14/2001	2.2	1.3	0.2 U	1.3	2	1.2	39	0.2 U
Downgradient Area	D-08i	8/21/2001	1.6	1	1 U	1	1.7	1 U	27	1 U
Downgradient Area	D-08i	2/26/2002	1.6	1.3	1 U	1.3	1.5	1 U	28	1 U
Downgradient Area	D-08i	8/19/2002	1.4	1 U	1 U	1	1 U	1 U	22	1 U
Downgradient Area	D-08i	2/14/2003	1.7	1.2	1 U	1.2	1.6	1 U	28	1 U
Downgradient Area	D-08i	8/18/2003	1.6	1.1	1 U	1.1	1 U	1 U	26	1 U
Downgradient Area	D-08i	2/26/2004	1.4	1 U	1 U	1	1 U	1 U	24	1 U
Downgradient Area	D-08i	8/13/2004	2.2	1.4	1 U	1.4	1.3	1 U	27	1 U
Downgradient Area	D-08i	2/14/2005	1.2	1 U	1 U	1	1	1 U	23	1 U
Downgradient Area	D-08i	8/10/2005	1.5	1.2	1 U	1.2	1	1 U	26	1 U
Downgradient Area	D-08i	2/8/2006	1.4	1	1 U	1	1.1	1 U	25	1 U
Downgradient Area	D-08i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	21	1 U
Downgradient Area	D-08i	2/7/2007	1.4	0.9	0.2 U	--	0.7	0.8	20	0.2 U
Downgradient Area	D-08i	8/10/2007	1.3	0.8	0.6 U	--	0.7	0.6 U	19	0.6 U
Downgradient Area	D-08i	2/20/2008	1.8	1	0.6 U	--	0.9	0.9	24	0.6 U
Downgradient Area	D-08i	8/7/2008	1.1	1 U	1 U	--	1 U	1 U	17	1 U
Downgradient Area	D-11i	4/27/1989	1.1 M	--	--	4.3	2.9	--	15	--
Downgradient Area	D-11i	4/27/1989	1 M	--	--	4.1	2.9	--	15	--
Downgradient Area	D-11i	7/31/1989	--	--	--	1.6	0.8 M	--	5.5	--
Downgradient Area	D-11i	3/1/1990	--	--	--	--	--	--	1.9	--
Downgradient Area	D-11i	3/1/1990	--	--	--	--	--	--	1.9	--
Downgradient Area	D-11i	8/16/1990	--	0.9 J	--	0.9	0.7 J	--	5.7	--
Downgradient Area	D-11i	2/18/1991	1 U	1 U	1 U	1	1 U	1 U	1.4	3 U
Downgradient Area	D-11i	8/21/1991	1.6 U	0.9 J	1 U	0.9	0.7 M	1 U	4.2	2 U
Downgradient Area	D-11i	11/25/1991	1 U	0.8 J	1 U	0.8	0.6 M	1 U	3.8	2 U
Downgradient Area	D-11i	1/16/1992	2 U	1 U	1 U	1	0.6 J	1 U	4.9	3 U
Downgradient Area	D-11i	7/22/1992	1 U	0.9 J	1 U	0.9	0.6 M	1 U	5.1	2 U
Downgradient Area	D-11i	2/9/1993	1 U	1.6	1 U	1.6	1 U	1 U	8.3	2 U
Downgradient Area	D-11i	2/9/1993	1 U	1.6	1 U	1.6	1 U	1 U	8.7	2 U
Downgradient Area	D-11i	7/19/1993	1 U	1.2	1 U	1.2	0.8 J	1 U	5.5	2 U
Downgradient Area	D-11i	2/22/1994	1 U	1	1 U	1	1 U	1 U	5.4	2 U
Downgradient Area	D-11i	8/24/1994	0.26	0.74	0.2 U	0.74	0.41	0.24	3.5	0.2 U
Downgradient Area	D-11i	2/23/1995	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	0.3	0.2 U
Downgradient Area	D-11i	8/17/1995	1 U	1 U	1 U	1	1 U	1 U	1.1	2 U
Downgradient Area	D-11i	2/15/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-11i	8/8/1996	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-11i	2/14/1997	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-11i	8/7/1997	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-11i	2/27/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-11i	8/24/1998	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U
Downgradient Area	D-11i	2/15/1999	1 U	1 U	1 U	1	1 U	1 U	1 U	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	D-11i	8/19/1999	1 U	1.1	1 U	1.1	1 U	1 U	5.1	1 U
Downgradient Area	D-11i	2/16/2000	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-11i	8/28/2000	1 U	1 U	1 U	1	1 U	1 U	3.1	1 U
Downgradient Area	D-11i	2/14/2001	0.4	0.8	0.2 U	0.8	0.3	0.2 U	5.2	0.2 U
Downgradient Area	D-11i	8/21/2001	1 U	1 U	1 U	1	1 U	1 U	4.6	1 U
Downgradient Area	D-11i	2/26/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-11i	8/14/2002	1 U	1 U	1 U	1	1 U	1 U	3.9	1 U
Downgradient Area	D-11i	2/14/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-11i	8/12/2003	1 U	1 U	1 U	1	1 U	1 U	4.3	1 U
Downgradient Area	D-11i	2/26/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-11i	8/11/2004	1 U	1 U	1 U	1	1 U	1 U	3.3	1 U
Downgradient Area	D-11i	2/10/2005	1 U	1 U	1 U	1	1 U	1 U	3.2	1 U
Downgradient Area	D-11i	8/8/2005	1 U	1 U	1 U	1	1 U	1 U	2.9	1 U
Downgradient Area	D-11i	2/7/2006	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-11i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	1.9	1 U
Downgradient Area	D-11i	2/7/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-11i	8/10/2007	0.2	0.5	0.2 U	--	0.2 U	0.2 U	2.5	0.2 U
Downgradient Area	D-11i	2/20/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-11i	8/7/2008	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Downgradient Area	D-12i	3/1/1990	15	4.7	--	4.7	24	4.5	110	--
Downgradient Area	D-12i	8/16/1990	35	5.1	--	5.1	25	5.1	170	--
Downgradient Area	D-12i	2/18/1991	30	4.1	1 U	4.1	22	4	150	3 U
Downgradient Area	D-12i	8/21/1991	33	4.5	1 U	4.5	21	4	150	2 U
Downgradient Area	D-12i	11/25/1991	19	5.4	1 U	5.4	21	4.2	160	2 U
Downgradient Area	D-12i	1/16/1992	22	4.6	1 U	4.6	25	4.2	200	3 U
Downgradient Area	D-12i	7/22/1992	24	4.5	1 U	4.5	21	4.2	160	2 U
Downgradient Area	D-12i	7/22/1992	22	3.9	1 U	3.9	19	3.5	140	2 U
Downgradient Area	D-12i	2/9/1993	22	4.5	1 U	4.5	18	3.9	140	2 U
Downgradient Area	D-12i	7/19/1993	22	3.4	1 U	3.4	14	3.1	120	2 U
Downgradient Area	D-12i	2/28/1994	17	3.8	1 U	3.8	14	3	110	2 U
Downgradient Area	D-12i	8/24/1994	15	3.8	1 U	3.8	11	3	95	2 U
Downgradient Area	D-12i	8/24/1994	15	3.6	1 U	3.6	11	2.9	96	2 U
Downgradient Area	D-12i	2/23/1995	11	1.7	1 U	1.7	6.4 J	1.8 J	64	2 U
Downgradient Area	D-12i	2/23/1995	9.5	1.6	1 U	1.6	5.2 J	1.3 J	55	2 U
Downgradient Area	D-12i	8/17/1995	14	6.8	1 U	6.8	17	3	96	2 U
Downgradient Area	D-12i	2/15/1996	7	3.3	1 U	3.3	8.1	1.3	45	2 U
Downgradient Area	D-12i	8/8/1996	6.5	4.2	1 U	4.2	7.3	1.7	47	2 U
Downgradient Area	D-12i	2/13/1997	3.9	2.5	1 U	2.5	3.5	1.1	29	2 U
Downgradient Area	D-12i	2/13/1997	3.3	2.2	1 U	2.2	3.2	1 U	27	2 U
Downgradient Area	D-12i	8/25/1997	4	4.2	1 U	4.2	4	1.5	38	2 U
Downgradient Area	D-12i	2/27/1998	2.3	1.7	1 U	1.7	1.8	1 U	20	2 U
Downgradient Area	D-12i	8/24/1998	1.9	1.2	1 U	1.2	1.4	1 U	17	2 U
Downgradient Area	D-12i	2/15/1999	1.4	1 U	1 U	1	1 U	1 U	12	2 U
Downgradient Area	D-12i	8/19/1999	1.1	1 U	1 U	1	1.1	1 U	12	1 U
Downgradient Area	D-12i	2/15/2000	1.7	1 U	1 U	1	1.6	1 U	16	1 U
Downgradient Area	D-12i	8/28/2000	2.6	1 U	1 U	1	1.7	1 U	16	1 U
Downgradient Area	D-12i	2/14/2001	2.2	0.9	0.2 U	0.9	2.1	0.8	25	0.2 U
Downgradient Area	D-12i	8/21/2001	1.7	1 U	1 U	1	1.3	1 U	15	1 U
Downgradient Area	D-12i	2/24/2002	1 U	1 U	1 U	1	1.1	1 U	15	1 U
Downgradient Area	D-12i	8/14/2002	1.2	1 U	1 U	1	1 U	1 U	10	1 U
Downgradient Area	D-12i	2/14/2003	1 U	1 U	1 U	1	1 U	1 U	9.5	1 U
Downgradient Area	D-12i	8/12/2003	1 U	1 U	1 U	1	1 U	1 U	8.6	1 U
Downgradient Area	D-12i	2/26/2004	1 U	1 U	1 U	1	1 U	1 U	9.2	1 U
Downgradient Area	D-12i	8/11/2004	1 U	1 U	1 U	1	1 U	1 U	7.7	1 U
Downgradient Area	D-12i	2/10/2005	1 U	1 U	1 U	1	1 U	1 U	6.6	1 U
Downgradient Area	D-12i	8/9/2005	1 U	1 U	1 U	1	1 U	1 U	5.7	1 U
Downgradient Area	D-12i	2/7/2006	1 U	1 U	1 U	1	1 U	1 U	4.6	1 U
Downgradient Area	D-12i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	4.7	1 U
Downgradient Area	D-12i	2/7/2007	0.5	0.2 U	0.2 U	--	0.2 U	0.2	5.4	0.2 U
Downgradient Area	D-12i	8/10/2007	0.4	0.2 U	0.2 U	--	0.2 U	0.2 U	4.6	0.2 U
Downgradient Area	D-12i	2/20/2008	0.6	0.2 U	0.2 U	--	0.2 U	0.2 U	4.1	0.2 U
Downgradient Area	D-12i	8/7/2008	1 U	1 U	1 U	--	1 U	1 U	3.2	1 U
Downgradient Area	D-13i	11/5/1991	1 U	1 U	1 U	1	1 U	1 U	1.1	2 U
Downgradient Area	D-13i	1/16/1992	2 U	1 U	1 U	1	1 U	1 U	1.9	3 U
Downgradient Area	D-13i	7/22/1992	1 U	1 U	1 U	1	1 U	1 U	2.6	2 U

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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	D-13i	10/26/1992	1 U	1 U	1 U	1	1 U	1 U	3.8	2 U
Downgradient Area	D-13i	2/8/1993	1 U	1 U	1 U	1	1 U	1 U	4.2	2 U
Downgradient Area	D-13i	2/8/1993	1 U	1 U	1 U	1	1 U	1 U	4.1	2 U
Downgradient Area	D-13i	7/20/1993	1 U	1 U	1 U	1	1 U	1 U	4	2 U
Downgradient Area	D-13i	7/20/1993	1 U	1 U	1 U	1	1 U	1 U	4	2 U
Downgradient Area	D-13i	2/16/1994	1 U	1 U	1 U	1	1 U	1 U	4	2 U
Downgradient Area	D-13i	8/11/1994	0.28	0.21	0.2 U	0.21	0.6	0.2 U	5.1	0.2 U
Downgradient Area	D-13i	3/1/1995	0.27	0.2 U	0.2 U	0.2	0.51	0.2 U	4.3	0.2 U
Downgradient Area	D-13i	8/15/1995	1 U	1 U	1 U	1	1 U	1 U	3.4	2 U
Downgradient Area	D-13i	2/16/1996	1 U	1 U	1 U	1	1 U	1 U	3.6	2 U
Downgradient Area	D-13i	8/2/1996	1 U	1 U	1 U	1	1 U	1 U	3	2 U
Downgradient Area	D-13i	2/24/1997	1 U	1 U	1 U	1	1 U	1 U	2.7	2 U
Downgradient Area	D-13i	8/18/1997	1 U	1 U	1 U	1	1 U	1 U	2.1	2 U
Downgradient Area	D-13i	3/9/1998	1 U	1 U	1 U	1	1 U	1 U	1.8	2 U
Downgradient Area	D-13i	8/26/1998	1 U	1 U	1 U	1	1 U	1 U	1.7	2 U
Downgradient Area	D-13i	2/18/1999	1 U	1 U	1 U	1	1 U	1 U	1.3	2 U
Downgradient Area	D-13i	8/20/1999	1 U	1 U	1 U	1	1 U	1 U	1.1	1 U
Downgradient Area	D-13i	2/18/2000	1 U	1 U	1 U	1	1 U	1 U	1.1	1 U
Downgradient Area	D-13i	8/29/2000	1 U	1 U	1 U	1	1 U	1 U	1	1 U
Downgradient Area	D-13i	2/15/2001	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	1.3	0.2 U
Downgradient Area	D-13i	8/21/2001	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	2/25/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	8/19/2002	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	2/14/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	8/18/2003	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	2/26/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	8/13/2004	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	2/11/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	8/9/2005	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	2/3/2006	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	8/7/2006	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Downgradient Area	D-13i	2/8/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-13i	8/10/2007	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-13i	2/19/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	D-13i	8/8/2008	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Downgradient Area	E-2	3/28/1989	57	130	2.4	132	980	18	440	--
Downgradient Area	E-2	4/6/1989	60	120	2.2 UM	120	1200	28	520	--
Downgradient Area	E-2	4/12/1989	--	110	--	110	1100	--	440	--
Downgradient Area	E-2	4/18/1989	--	100	--	100	1000	--	540	--
Downgradient Area	E-2	4/25/1989	--	92	--	92	820	--	460	--
Downgradient Area	E-2	5/2/1989	--	90	--	90	850	--	470	--
Downgradient Area	E-2	5/9/1989	--	72	--	72	700	--	430	--
Downgradient Area	E-2	5/16/1989	--	90	--	90	830	--	500	--
Downgradient Area	E-2	5/23/1989	--	70	--	70	670	--	440	--
Downgradient Area	E-2	5/30/1989	--	79	--	79	760	--	440	--
Downgradient Area	E-2	6/7/1989	--	71	--	71	760	--	510	--
Downgradient Area	E-2	6/13/1989	42	77	--	77	650	22	490	--
Downgradient Area	E-2	6/20/1989	42	76	--	76	680	18	460	--
Downgradient Area	E-2	6/27/1989	32	53	--	53	500	18	450	--
Downgradient Area	E-2	7/5/1989	31	58	--	58	560	18	460	--
Downgradient Area	E-2	7/11/1989	35	66	--	66	580	17	440	--
Downgradient Area	E-2	7/18/1989	40	68	--	68	600	20	460	--
Downgradient Area	E-2	7/25/1989	34	64	--	64	550	18	470	--
Downgradient Area	E-2	8/1/1989	34	59	--	59	530	22	490	--
Downgradient Area	E-2	8/8/1989	36	89	--	89	560	18	400	--
Downgradient Area	E-2	8/15/1989	45	100	1.9 J	102	640	26	550	--
Downgradient Area	E-2	8/22/1989	32	81	--	81	470	22	440	--
Downgradient Area	E-2	8/29/1989	37	87	--	87	530	24	490	--
Downgradient Area	E-2	9/5/1989	38	99	--	99	540	23	550	--
Downgradient Area	E-2	9/12/1989	29	82	1.2	83	550	16	570	--
Downgradient Area	E-2	9/26/1989	32	79	--	79	510	20	510	--
Downgradient Area	E-2	10/3/1989	35	79	3.4 J	82	470	20	460	--
Downgradient Area	E-2	10/10/1989	30	66	--	66	430	19	440	--
Downgradient Area	E-2	10/17/1989	39	82	--	82	460	20	490	--
Downgradient Area	E-2	10/24/1989	40	90	--	90	520	26	580	--
Downgradient Area	E-2	11/15/1989	25	70	--	70	300	16	430	--

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-2	11/21/1989	25	55	--	55	320	17	480	--
Downgradient Area	E-2	11/28/1989	29	60	--	60	330	17	490	--
Downgradient Area	E-2	12/5/1989	27	56	--	56	330	18	520	--
Downgradient Area	E-2	12/12/1989	25	61	--	61	320	20	510	--
Downgradient Area	E-2	12/19/1989	31	81	--	81	460	25	680	--
Downgradient Area	E-2	1/4/1990	34	88	--	88	420	21	610	--
Downgradient Area	E-2	1/17/1990	37	95	--	95	440	24	680	--
Downgradient Area	E-2	1/31/1990	68	130	1.7 J	132	970	38	1000	--
Downgradient Area	E-2	2/14/1990	39	71	--	71	470	19	580	--
Downgradient Area	E-2	2/28/1990	28	59	--	59	520	28	640	--
Downgradient Area	E-2	3/14/1990	55	62	--	62	560	27	760	--
Downgradient Area	E-2	3/28/1990	54	64	--	64	570	22	770	--
Downgradient Area	E-2	4/11/1990	46	55	--	55	470	28	800	--
Downgradient Area	E-2	4/25/1990	52	51	--	51	460	23	730	--
Downgradient Area	E-2	5/8/1990	62	62	--	62	510	31	730	--
Downgradient Area	E-2	5/22/1990	59	54	--	54	480	24	700	--
Downgradient Area	E-2	6/6/1990	59	48	--	48	470	23	700	--
Downgradient Area	E-2	6/19/1990	46	46	--	46	420	21	670	--
Downgradient Area	E-2	7/3/1990	38	49	--	49	370	19	570	--
Downgradient Area	E-2	7/17/1990	50	46	--	46	400	19	550	--
Downgradient Area	E-2	7/31/1990	62	45	--	45	430	13	580	--
Downgradient Area	E-2	8/14/1990	57	52	0.8	53	460	21	650	--
Downgradient Area	E-2	8/28/1990	55	46	--	46	400	20	540	--
Downgradient Area	E-2	9/11/1990	52	48	--	48	400	19	540	--
Downgradient Area	E-2	9/27/1990	54	49	--	49	360	18	530	--
Downgradient Area	E-2	10/9/1990	57	47	--	47	410	19	550	--
Downgradient Area	E-2	10/29/1990	58	42	--	42	380	18	530	--
Downgradient Area	E-2	11/14/1990	58	36	--	36	400	18	550	--
Downgradient Area	E-2	11/28/1990	58	48	--	48	440	22	550	--
Downgradient Area	E-2	12/11/1990	64	57	--	57	390	18	560	--
Downgradient Area	E-2	1/2/1991	59	41	5 U	41	390	18	510	15 U
Downgradient Area	E-2	1/15/1991	62	44	5 U	44	420	19	540	15 U
Downgradient Area	E-2	2/5/1991	66	47	5 U	47	450	18	560	15 U
Downgradient Area	E-2	3/5/1991	69	31	5 U	31	430	19	550	15 U
Downgradient Area	E-2	4/2/1991	34	32	5 U	32	180	10	320	10 U
Downgradient Area	E-2	5/7/1991	24	22	5 U	22	110	7.7	220	10 U
Downgradient Area	E-2	6/3/1991	23	22	5 U	22	99	7	210	10 U
Downgradient Area	E-2	7/1/1991	24	20	2 U	22	110	7.5	230	4 U
Downgradient Area	E-2	8/5/1991	19	17	2 U	17	73	5.6	160	4 U
Downgradient Area	E-2	9/3/1991	20	23	2 U	23	85	6.7	220	6 U
Downgradient Area	E-2	10/2/1991	10	16	2 U	16	56	5.6	130	4 U
Downgradient Area	E-2	11/4/1991	12	18	1 U	18	61	5.8	160	2 U
Downgradient Area	E-2	12/4/1991	12	14	1 U	14	53	4.7	150	3 U
Downgradient Area	E-2	1/6/1992	10	14	1 U	14	45	5.5	130	2 U
Downgradient Area	E-2	2/4/1992	16	15	2 U	15	44	4.6	130	4 U
Downgradient Area	E-2	3/3/1992	11	12	2 U	12	35	3.7	110	4 U
Downgradient Area	E-2	4/6/1992	15	16	2 U	16	47	6	140	4 U
Downgradient Area	E-2	5/4/1992	11	13	2 U	13	36	4.3	120	4 U
Downgradient Area	E-2	6/2/1992	11	13	2 U	13	36	3.9	110	4 U
Downgradient Area	E-2	7/6/1992	12	11	2 U	11	37	4.2	120	4 U
Downgradient Area	E-2	8/10/1992	5.6	5.9	1 U	5.9	17	2.1	60	2 U
Downgradient Area	E-2	9/1/1992	12	13	1 U	13	40	5.1	140	2 U
Downgradient Area	E-2	10/1/1992	11	13	1 U	13	38	4.9	140	2 U
Downgradient Area	E-2	11/2/1992	9.2	11	1 U	11	36	4.1	130	2 U
Downgradient Area	E-2	12/1/1992	11	11	1 U	11	34	4.1	110	2 U
Downgradient Area	E-2	1/1/1993	9.9	9.7	1 U	9.7	29	3.7 J	97	2 U
Downgradient Area	E-2	2/1/1993	11	11	1 U	11	31	3.8	120	2 U
Downgradient Area	E-2	3/3/1993	11	12	1 U	12	31	4.2	120	2 U
Downgradient Area	E-2	3/29/1993	8.7	9.3	1 U	9.3	25	2.6	100	2 U
Downgradient Area	E-2	4/28/1993	9.5	9.5	1 U	9.5	26	3	110	2 U
Downgradient Area	E-2	5/25/1993	11	11	1 U	11	26	3.1	110	2 U
Downgradient Area	E-2	6/23/1993	8.8	9.5	1 U	9.5	24	3	94	2 U
Downgradient Area	E-2	7/30/1993	8.7	8.7	1 U	8.7	23	2.9	93	2 U
Downgradient Area	E-2	8/25/1993	9.2	9	1 U	9	23	1 U	96	2 U
Downgradient Area	E-2	9/29/1993	8.7	8.4	1 U	8.4	22	2.6	95	2 U
Downgradient Area	E-2	10/27/1993	9.2	8.6	1 U	8.6	21	2.8	95	2 U
Downgradient Area	E-2	11/22/1993	8.8	8.6	1 U	8.6	20	3.1	96	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-2	12/27/1993	8.6	8.6	1 U	8.6	20	2.9	90	2 U
Downgradient Area	E-2	1/26/1994	8.9	7.8	1 U	7.8	19	3	92	2 U
Downgradient Area	E-2	2/23/1994	9	8.6	1 U	8.6	19	3	86	2 U
Downgradient Area	E-2	4/4/1994	7.8	7.3	1 U	7.3	18	2.7	80	2 U
Downgradient Area	E-2	4/26/1994	7.4	7.1	1 U	7.1	17 J	2.2	72	2 U
Downgradient Area	E-2	6/29/1994	9.3	7.8	1 U	7.8	20	3.2	85	2 U
Downgradient Area	E-2	10/26/1994	5.8	6.9	1 U	6.9	22	2.9	83	2 U
Downgradient Area	E-2	12/21/1994	9.4	9.9	1 U	9.9	22	3.8	110	2 U
Downgradient Area	E-2	3/3/1995	8.5	7.5	1 U	7.5	19 J	3.7	110 J	2 U
Downgradient Area	E-2	6/1/1995	8.8	7.7	1 U	7.7	18	3.7	110	2 U
Downgradient Area	E-2	8/29/1995	9.1	7.6	1 U	7.6	17	3.2	93	2 U
Downgradient Area	E-2	11/9/1995	6 J	5.6 J	1 UJ	5.6	13 J	2.1 J	69 J	2 UJ
Downgradient Area	E-2	3/4/1996	7.5	7	1 U	7	18	4	130	2 U
Downgradient Area	E-2	5/31/1996	8.8	7.7	1 U	7.7	21	4.6	150	2 U
Downgradient Area	E-2	8/26/1996	6.4	5.9	1 U	5.9	13	2.4	85	2 U
Downgradient Area	E-2	11/20/1996	6.5	5.8	1 U	5.8	11	2.2	77	2 U
Downgradient Area	E-2	3/6/1997	8.6	8.6	1 U	8.6	16	4	130	2 U
Downgradient Area	E-2	5/27/1997	5.7	6.1	1 U	6.1	11	2.8	94	2 U
Downgradient Area	E-2	9/2/1997	6.4	6.2	1 U	6.2	9.6	2.6	83	2 U
Downgradient Area	E-2	11/3/1997	7.1	6.4	1 U	6.4	9.6	2.7	84	2 U
Downgradient Area	E-2	2/24/1998	5.1	4.9	1 U	4.9	7.6	1.8	62	2 U
Downgradient Area	E-2	5/5/1998	6.4	5.9	1 U	5.9	8.2 J	2.3	68	2 U
Downgradient Area	E-2	8/3/1998	4.7	4.3	1 U	4.3	5.7	1.9	57	2 U
Downgradient Area	E-2	11/2/1998	7.5	6.1	1 U	6.1	8.7	2.8	95	2 U
Downgradient Area	E-2	2/1/1999	3	1.9	1 U	1.9	2.6	1	35	2 U
Downgradient Area	E-2	5/3/1999	3.4	2.3	1 U	2.3	3.3	1.2	45	1 U
Downgradient Area	E-2	8/2/1999	2.6	2.1	1 U	2.1	2.6	1.2	42	1 U
Downgradient Area	E-2	11/1/1999	3	1.8	1 U	1.8	2.2	1 J	33	1 U
Downgradient Area	E-2	2/4/2000	3.7	2.2	1 U	2.2	3	1 U	45	1 U
Downgradient Area	E-2	5/1/2000	2	1.3	1 U	1.3	1.7	1 U	22	1 U
Downgradient Area	E-2	8/2/2000	1.7	1.1	1 U	1.1	1.2	1 U	16	1 U
Downgradient Area	E-2	11/1/2000	1	1 U	1 U	1	1 U	1 U	12	1 U
Downgradient Area	E-2	2/1/2001	1.1	1 J	1 U	1	1 J	1 U	13	1 U
Downgradient Area	E-2	5/1/2001	1 U	1 U	1 U	1	1 U	1 U	9.6	1 U
Downgradient Area	E-2	8/6/2001	1	1 U	1 U	1	1 U	1 U	13	1 U
Downgradient Area	E-2	11/1/2001	1.2	1 U	1 U	1	1	1 U	14	1 U
Downgradient Area	E-2	2/2/2002	1 U	1 U	1 U	1	1 U	1 U	13	1 U
Downgradient Area	E-2	5/8/2002	1.5	1 U	1 U	1	1 U	1 U	16	1 U
Downgradient Area	E-2	8/1/2002	1 U	1 U	1 U	1	1 U	1 U	12	1 U
Downgradient Area	E-2	11/4/2002	1.4	1 U	1 U	1	1 U	1 U	13	1 U
Downgradient Area	E-2	2/4/2003	1.1	1 U	1 U	1	1 U	1 U	11	1 U
Downgradient Area	E-2	5/7/2003	1.3	1 U	1 U	1	1 U	1 U	14	1 U
Downgradient Area	E-2	8/6/2003	1 U	1 U	1 U	1	1 U	1 U	11	1 U
Downgradient Area	E-2	11/5/2003	1.1	1 U	1 U	1	1 U	1 U	10	1 U
Downgradient Area	E-2	2/3/2004	1.4	1 U	1 U	1	1 U	1 U	14	1 U
Downgradient Area	E-2	5/6/2004	1.3	1 U	1 U	1	1 U	1 U	14	1 U
Downgradient Area	E-2	8/3/2004	1.5	1 U	1 U	1	1 U	1 U	16	1 U
Downgradient Area	E-2	11/1/2004	1.5	1 U	1 U	1	1 U	1 U	14	1 U
Downgradient Area	E-2	2/3/2005	1.1	1 U	1 U	1	1 U	1 U	12	1 U
Downgradient Area	E-2	5/3/2005	1.2	1	1 U	1	1 U	1 U	13	1 U
Downgradient Area	E-2	8/2/2005	1.3	1 U	1 U	1	1 U	1 U	13	1 U
Downgradient Area	E-2	12/16/2005	1 U	1 U	1 U	1	1 U	1 U	8.3	1 U
Downgradient Area	E-2	2/7/2006	1.1	1 U	1 U	1	1 U	1 U	12	1 U
Downgradient Area	E-2	5/9/2006	1.1	1 U	1 U	--	1 U	1 U	10	1 U
Downgradient Area	E-2	8/8/2006	1 U	1 U	1 U	--	1 U	1 U	12	1 U
Downgradient Area	E-2	11/9/2006	1.2	0.6	0.2 U	--	0.6	0.4	12	0.2 U
Downgradient Area	E-2	2/7/2007	1.4	0.7	0.2 U	--	0.7	0.4	13	0.2 U
Downgradient Area	E-2	5/11/2007	1.4	0.6	0.2 U	--	0.7	0.4	13	0.2 U
Downgradient Area	E-2	8/13/2007	1.4	0.6	0.2 U	--	0.7	0.4	12	0.2 U
Downgradient Area	E-2	11/7/2007	1.8	0.7	0.2 U	--	0.7	0.4	15	0.2 U
Downgradient Area	E-2	2/14/2008	1 U	1 U	1 U	--	1 U	1 U	7.4	1 U
Downgradient Area	E-2	5/12/2008	1.3	1 U	1 U	--	1 U	1.3	19	1 U
Downgradient Area	E-2	8/12/2008	1	1 U	1 U	--	1 U	1 U	8.2	1 U
Downgradient Area	E-2	11/5/2008	1.2	0.2	0.2 U	--	0.9	0.2 U	2.2	0.2 U
Downgradient Area	E-3	3/28/1989	33	100	--	100	430	21	680	--
Downgradient Area	E-3	4/6/1989	50	120	--	120	590	44	890	--

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-3	4/12/1989	45	120	--	120	570	27	850	--
Downgradient Area	E-3	4/18/1989	38	86	--	86	430	36	820	--
Downgradient Area	E-3	4/25/1989	41	100	--	100	420	31	790	--
Downgradient Area	E-3	5/2/1989	40	93	--	93	410	37	770	--
Downgradient Area	E-3	5/9/1989	39	81	--	81	400	25	750	--
Downgradient Area	E-3	5/16/1989	55	110	--	110	570	31	900	--
Downgradient Area	E-3	5/23/1989	52	85	--	85	520	31	800	--
Downgradient Area	E-3	5/30/1989	43	89	--	89	450	29	700	--
Downgradient Area	E-3	6/7/1989	75	120	--	120	890	48	1100	--
Downgradient Area	E-3	6/13/1989	54	95	1.4 M	96	460	37	860	--
Downgradient Area	E-3	6/20/1989	50	91	--	91	430	31	780	--
Downgradient Area	E-3	6/27/1989	41	66	0.7 M	67	370	30	750	--
Downgradient Area	E-3	7/5/1989	51	82	--	82	480	37	830	--
Downgradient Area	E-3	7/11/1989	52	85	--	85	460	33	780	--
Downgradient Area	E-3	7/18/1989	55	85	--	85	490	38	870	--
Downgradient Area	E-3	7/25/1989	59	90	--	90	500	37	960	--
Downgradient Area	E-3	8/1/1989	55	76	--	76	450	40	880	--
Downgradient Area	E-3	8/8/1989	60	110	1.7 J	112	490	34	720	--
Downgradient Area	E-3	8/15/1989	54	110	2.1 J	112	420	39	790	--
Downgradient Area	E-3	8/22/1989	53	110	1.8 J	112	470	42	800	--
Downgradient Area	E-3	8/29/1989	65	130	2.2 J	132	580	47	940	--
Downgradient Area	E-3	9/5/1989	67	130	2.2 J	132	570	46	1000	--
Downgradient Area	E-3	9/12/1989	50	110	1.7	112	550	29	1100	--
Downgradient Area	E-3	9/26/1989	63	110	1.9 J	112	470	39	920	--
Downgradient Area	E-3	10/3/1989	68	120	4.4 J	124	550	40	870	--
Downgradient Area	E-3	10/10/1989	51	94	1.9 J	96	470	35	780	--
Downgradient Area	E-3	10/17/1989	70	130	1.9 M	132	540	38	950	--
Downgradient Area	E-3	10/24/1989	84	140	2.8 J	143	690	53	1000	--
Downgradient Area	E-3	11/15/1989	34	74	--	74	210	23	600	--
Downgradient Area	E-3	11/21/1989	45	76	--	76	400	30	800	--
Downgradient Area	E-3	11/28/1989	57	82	2 J	84	420	34	870	--
Downgradient Area	E-3	12/5/1989	51	81	1.5 J	83	440	35	920	--
Downgradient Area	E-3	12/12/1989	52	88	1.5 J	90	420	36	880	--
Downgradient Area	E-3	12/19/1989	37	84	--	84	290	26	720	--
Downgradient Area	E-3	1/4/1990	42	100	--	100	390	28	820	--
Downgradient Area	E-3	1/17/1990	56	120	--	120	480	32	920	--
Downgradient Area	E-3	1/31/1990	54	85	--	85	440	29	710	--
Downgradient Area	E-3	2/14/1990	54	91	--	91	450	24	740	--
Downgradient Area	E-3	2/28/1990	41	78	--	78	450	36	830	--
Downgradient Area	E-3	3/14/1990	81	76	--	76	480	49	1000	--
Downgradient Area	E-3	3/28/1990	83	85	--	85	480	36	990	--
Downgradient Area	E-3	4/11/1990	85	82	--	82	470	36	1100	--
Downgradient Area	E-3	4/25/1990	59	66	--	66	350	28	850	--
Downgradient Area	E-3	5/8/1990	88	79	--	79	420	43	940	--
Downgradient Area	E-3	5/22/1990	93	73	--	73	420	33	950	--
Downgradient Area	E-3	6/6/1990	90	68	--	68	400	32	910	--
Downgradient Area	E-3	6/19/1990	59	59	--	59	300	27	810	--
Downgradient Area	E-3	7/3/1990	66	67	--	67	310	29	800	--
Downgradient Area	E-3	7/17/1990	70	61	--	61	290	23	740	--
Downgradient Area	E-3	7/31/1990	80	59	--	59	320	17	750	--
Downgradient Area	E-3	8/14/1990	100	72	1.3	73	360	28	830	--
Downgradient Area	E-3	8/28/1990	84	64	--	64	310	30	760	--
Downgradient Area	E-3	9/11/1990	77	53	--	53	260	22	640	--
Downgradient Area	E-3	9/27/1990	78	66	--	66	280	25	730	--
Downgradient Area	E-3	10/9/1990	100	66	--	66	350	27	840	--
Downgradient Area	E-3	10/29/1990	98	60	--	60	300	26	750	--
Downgradient Area	E-3	11/14/1990	34	21	--	21	96	11	330	--
Downgradient Area	E-3	11/28/1990	72	42	--	42	180	20	530	--
Downgradient Area	E-3	12/11/1990	82	69	--	69	260	23	730	--
Downgradient Area	E-3	1/2/1991	86	54	5 U	54	260	26	700	15 U
Downgradient Area	E-3	1/15/1991	68	53	5 U	53	230	21	610	15 U
Downgradient Area	E-3	2/5/1991	69	53	5 U	53	230	19	580	15 U
Downgradient Area	E-3	3/5/1991	63	32	5 U	32	200	18	510	15 U
Downgradient Area	E-3	4/2/1991	75	53	5 U	53	230	21	650	10 U
Downgradient Area	E-3	5/7/1991	66	41	5 U	41	190	19	540	10 U
Downgradient Area	E-3	6/3/1991	62	40	5 U	40	170	16	520	10 U
Downgradient Area	E-3	7/1/1991	95	44	5 U	44	250	23	660	10 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-3	8/5/1991	75	38	5 U	38	170	18	520	10 U
Downgradient Area	E-3	9/3/1991	53	39	5 U	39	140	20	560	15 U
Downgradient Area	E-3	10/2/1991	37	34	5 U	34	120	17	390	10 U
Downgradient Area	E-3	11/4/1991	39	36	2 U	36	130	17	500	4 U
Downgradient Area	E-3	12/4/1991	41	31	5 U	31	110	16	420	10 U
Downgradient Area	E-3	1/6/1992	43	33	5 U	33	120	18	460	10 U
Downgradient Area	E-3	2/4/1992	46	27	2 U	27	87	13	380	4 U
Downgradient Area	E-3	3/3/1992	40	23	2 U	23	82	12	370	4 U
Downgradient Area	E-3	4/6/1992	59	34	2 U	34	110	18	400	4 U
Downgradient Area	E-3	5/4/1992	40	27	2 U	27	83	14	360	4 U
Downgradient Area	E-3	6/2/1992	32	25	2 U	25	73	11	310	4 U
Downgradient Area	E-3	7/6/1992	37	23	2 U	23	72	11	340	4 U
Downgradient Area	E-3	8/10/1992	44	22	5 U	22	71	11	370	10 U
Downgradient Area	E-3	9/1/1992	49	30	10 U	30	110	16	530	20 U
Downgradient Area	E-3	10/1/1992	48	30	10 U	30	110	17	540	20 U
Downgradient Area	E-3	11/2/1992	45	27	10 U	27	100	15	510	20 U
Downgradient Area	E-3	12/1/1992	37	20	10 U	20	76	11	350	20 U
Downgradient Area	E-3	1/1/1993	32	19	1 U	19	53	11	250	2 U
Downgradient Area	E-3	2/1/1993	33	21	5 U	21	62	11	360	10 U
Downgradient Area	E-3	3/3/1993	43	23	5 U	23	74	14	410	10 U
Downgradient Area	E-3	3/29/1993	26	15	5 U	15	43	6.9	280	10 U
Downgradient Area	E-3	4/28/1993	29	14	5 U	14	46	7.7	310	10 U
Downgradient Area	E-3	5/25/1993	37	17	5 U	17	47	8.6	310	10 U
Downgradient Area	E-3	6/23/1993	24	14	5 U	14	34	6.5	220	10 U
Downgradient Area	E-3	7/30/1993	30	16	5 U	16	43	9	320	10 U
Downgradient Area	E-3	8/25/1993	43	20	5 U	20	59	12	410	10 U
Downgradient Area	E-3	9/29/1993	30	15	5 U	15	37	7.3	260	10 U
Downgradient Area	E-3	10/27/1993	38	17	5 U	17	48	9.5	360	10 U
Downgradient Area	E-3	11/22/1993	27	14	5 U	14	36	7.3	280	10 U
Downgradient Area	E-3	12/27/1993	21	12	5 U	12	30	5.6	230	10 U
Downgradient Area	E-3	1/26/1994	19	11	1 U	11	28	6.3	150	2 U
Downgradient Area	E-3	2/23/1994	22	12	2 U	12	25	5.9	190	4 U
Downgradient Area	E-3	4/4/1994	21	10	2 U	10	26	6.1	210	4 U
Downgradient Area	E-3	4/26/1994	18	8.9	2 U	8.9	22 J	4.2	170	4 U
Downgradient Area	E-3	6/29/1994	20	10	1 U	10	25	6.5	190	2 U
Downgradient Area	E-3	10/26/1994	20	8.8	1 U	8.8	24	5.9	180	2 U
Downgradient Area	E-3	12/21/1994	11	4.6	1 U	4.6	11	3.1	83	2 U
Downgradient Area	E-3	3/3/1995	9	3.2	1 U	3.2	7.7 J	2	57 J	2 U
Downgradient Area	E-3	6/1/1995	7.9	2.6	1 U	2.6	6.7	2	54	2 U
Downgradient Area	E-3	8/29/1995	24	9.1	1 U	9.1	21	6	250	2 U
Downgradient Area	E-3	11/9/1995	29 J	12	10 U	12	25	10 U	270 J	20 U
Downgradient Area	E-3	3/4/1996	20	8.6	5 U	8.6	20	6.5	220	10 U
Downgradient Area	E-3	5/31/1996	23	11	5 U	11	26	8.2	280	10 U
Downgradient Area	E-3	8/26/1996	21	10 U	10 U	10	22	10 U	240	20 U
Downgradient Area	E-3	11/20/1996	31	11	5 U	11	29	7.4	300	10 U
Downgradient Area	E-3	3/6/1997	32	15	5 U	15	26	8.2	330	10 U
Downgradient Area	E-3	5/27/1997	18	9	5 U	9	18	6.3	220	10 U
Downgradient Area	E-3	9/2/1997	22	8.9	1 U	8.9	18	6.9	250	2 U
Downgradient Area	E-3	11/3/1997	30	11	1 U	11	23	8.1	290	2 U
Downgradient Area	E-3	2/24/1998	14	7.3	3 U	7.3	14	5	180	6 U
Downgradient Area	E-3	5/5/1998	29	11	1 U	11	20 J	7.9	320	2 U
Downgradient Area	E-3	8/3/1998	27	8.8	1 U	8.8	15	7	220	2 U
Downgradient Area	E-3	11/2/1998	26	8.3	1 U	8.3	15	7.8	270	2 U
Downgradient Area	E-3	2/1/1999	28	7.5	1 U	7.5	13	7.1	320	2 U
Downgradient Area	E-3	5/3/1999	31	8.8	1 U	8.8	16	8	290	1 U
Downgradient Area	E-3	8/2/1999	23	8.5	1 U	8.5	12	6.4	260	1 U
Downgradient Area	E-3	11/1/1999	25	8.3	1 U	8.3	12	6.2	200	1 U
Downgradient Area	E-3	2/4/2000	40	12	1 U	12	20	10	250	1 U
Downgradient Area	E-3	5/1/2000	23	5.9	1 U	5.9	11	5.6	200	1 U
Downgradient Area	E-3	8/2/2000	24	6.5	1 U	6.5	11	5.2	200	1 U
Downgradient Area	E-3	11/1/2000	35	14	1 U	14	22	10	220	1 U
Downgradient Area	E-3	2/1/2001	31	10	1 U	10	14	6.9	230	1 U
Downgradient Area	E-3	5/1/2001	19	8.3	1 U	8.3	8	2.7	140	1 U
Downgradient Area	E-3	8/6/2001	27	9.2	5 U	9.2	11	5.8	210	5 U
Downgradient Area	E-3	11/1/2001	27	8.1	1 U	8.1	12	5.5	210	1 U
Downgradient Area	E-3	2/2/2002	20	6.2	3 U	6.2	8.8	4.1	160	3 U
Downgradient Area	E-3	5/8/2002	18	7.3	1 U	7.3	7.4	4	140	1 U

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-3	8/1/2002	17	7.2	3 U	7.2	6.6	3.6	150	3 U
Downgradient Area	E-3	11/4/2002	26	9.3	1 U	9.3	10	5.9	200	1 U
Downgradient Area	E-3	2/4/2003	12	5.6	1 U	5.6	5.5	3	93	1 U
Downgradient Area	E-3	5/7/2003	12	5.8	1 U	5.8	4.9	2.8	79	1 U
Downgradient Area	E-3	8/6/2003	18	7.8	1 U	7.8	7.5	5.2	160	1 U
Downgradient Area	E-3	11/5/2003	28	9.1	1 U	9.1	10	5.3	190	1 U
Downgradient Area	E-3	2/3/2004	14	5.8	1 U	5.8	3.9	3.6	120	1 U
Downgradient Area	E-3	5/6/2004	20	7.4	1 U	7.4	5.3	3.7	130	1 U
Downgradient Area	E-3	8/3/2004	18	7.7	1 U	7.7	5.8	4.1	140	1 U
Downgradient Area	E-3	11/1/2004	22	8.3	1 U	8.3	5.7	4.4	160	1 U
Downgradient Area	E-3	2/3/2005	14	5.9	1 U	5.9	4.4	3.7	130	1 U
Downgradient Area	E-3	5/3/2005	12	5.6	1 U	5.6	4.6	3.2	98	1 U
Downgradient Area	E-3	8/2/2005	14	5.3	1 U	5.3	3.4	3.6	100	1 U
Downgradient Area	E-3	12/16/2005	10	5.1	1 U	5.1	3.5	2.6	78	1 U
Downgradient Area	E-3	2/7/2006	9.5	4.2	1 U	4.2	3.2	2.4	78	1 U
Downgradient Area	E-3	5/9/2006	7.5	4.2	1 U	--	2.3	2.3	65	1 U
Downgradient Area	E-3	8/8/2006	7.5	4.9	1 U	--	2.8	1.5	76	1 U
Downgradient Area	E-3	11/9/2006	12	5.3	1 U	--	3.2	3	110	1 U
Downgradient Area	E-3	2/7/2007	6.9	4.2	1 U	--	2.6	2.6	67	1 U
Downgradient Area	E-3	5/10/2007	11	5.4	1 U	--	3.3	2.6	93	1 U
Downgradient Area	E-3	8/13/2007	10	4.4	1 U	--	2.6	2.5	86	1 U
Downgradient Area	E-3	2/14/2008	10	4.1	1 U	--	2.2	2.5	73	1 U
Downgradient Area	E-3	5/12/2008	10	4.7	1 U	--	2.4	2.7	72	1 U
Downgradient Area	E-3	8/12/2008	6.5	3.6	1 U	--	1.8	2.2	63	1 U
Downgradient Area	E-3	11/7/2008	4.7	3	1 U	--	1.2	2.6	43	1 U
Downgradient Area	E-3	11/7/2008	8.3	3.9	1 U	--	2	1 U	60	1 U
Downgradient Area	E-3	11/7/2008	8.5	4.1	1 U	--	2.2	1 U	61	1 U
Downgradient Area	E-3	11/7/2008	9	4.4	1 U	--	2.2	1 U	71	1 U
Downgradient Area	E-3	11/7/2008	9.5	4.6	1 U	--	2.5	1 U	78	1 U
Downgradient Area	E-3	11/7/2008	4.6	2.8	0.50 U	--	1.4	1.2	49	0.50 U
Downgradient Area	E-3	11/7/2008	9.3	4.7	0.50 U	--	2.5	2.0	79	0.50 U
Downgradient Area	E-3	11/7/2008	8.0	3.7	0.50 U	--	2.3	1.5	66	0.50 U
Downgradient Area	E-3	11/7/2008	8.0	3.5	0.50 U	--	2.3	1.5	65	0.50 U
Downgradient Area	E-3	11/7/2008	8.3	3.9	0.50 U	--	2.5	2.2	69	0.50 U
Downgradient Area	E-4	3/28/1989	210	29		29	270	26	590	
Downgradient Area	E-4	4/6/1989	200	33	--	33	250	26	440	--
Downgradient Area	E-4	4/12/1989	160	34	--	34	230	--	540	--
Downgradient Area	E-4	4/18/1989	200	38	--	38	240	27	640	--
Downgradient Area	E-4	4/25/1989	180	38	--	38	220	25	580	--
Downgradient Area	E-4	5/2/1989	200	40	--	40	250	35	610	--
Downgradient Area	E-4	5/9/1989	170	31	--	31	210	25	540	--
Downgradient Area	E-4	5/16/1989	210	39	--	39	270	30	600	--
Downgradient Area	E-4	5/23/1989	170	30	--	30	230	30	530	--
Downgradient Area	E-4	5/30/1989	170	35	--	35	240	27	500	--
Downgradient Area	E-4	6/7/1989	170	29	--	29	240	28	530	--
Downgradient Area	E-4	6/13/1989	190	32	--	32	220	28	530	--
Downgradient Area	E-4	6/20/1989	200	34	--	34	250	26	520	--
Downgradient Area	E-4	6/27/1989	150	25	--	25	190	23	490	--
Downgradient Area	E-4	7/5/1989	170	26	--	26	230	26	510	--
Downgradient Area	E-4	7/11/1989	180	29	--	29	230	23	470	--
Downgradient Area	E-4	7/18/1989	210	29	--	29	240	28	520	--
Downgradient Area	E-4	7/25/1989	200	26	--	26	230	25	510	--
Downgradient Area	E-4	8/1/1989	200	25	--	25	220	32	530	--
Downgradient Area	E-4	8/8/1989	210	44	--	44	260	24	460	--
Downgradient Area	E-4	8/15/1989	170	39	--	39	220	34	490	--
Downgradient Area	E-4	8/22/1989	300	28	--	28	260	32	450	--
Downgradient Area	E-4	8/29/1989	240	49	--	49	290	34	600	--
Downgradient Area	E-4	9/5/1989	250	51	--	51	300	37	690	--
Downgradient Area	E-4	9/12/1989	250	64	--	64	280	37	650	--
Downgradient Area	E-4	9/26/1989	240	48	--	48	300	37	690	--
Downgradient Area	E-4	10/3/1989	250	42	--	42	270	31	610	--
Downgradient Area	E-4	10/10/1989	220	40	--	40	250	31	590	--
Downgradient Area	E-4	10/17/1989	260	49	--	49	270	32	650	--
Downgradient Area	E-4	10/24/1989	44	8.4	--	8.4	53	6.3	130	--
Downgradient Area	E-4	11/15/1989	190	36	--	36	200	25	540	--
Downgradient Area	E-4	11/21/1989	220	38	--	38	280	27	630	--

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-4	11/28/1989	230	34	--	34	250	28	620	--
Downgradient Area	E-4	12/5/1989	230	32	--	32	270	30	650	--
Downgradient Area	E-4	12/12/1989	210	34	--	34	250	29	620	--
Downgradient Area	E-4	12/19/1989	160	36	--	36	230	26	580	--
Downgradient Area	E-4	1/4/1990	180	36	--	36	230	25	560	--
Downgradient Area	E-4	1/17/1990	240	37	--	37	290	29	650	--
Downgradient Area	E-4	1/31/1990	210	30	--	30	250	61	520	--
Downgradient Area	E-4	2/14/1990	200	28	--	28	210	17	440	--
Downgradient Area	E-4	2/28/1990	160	23	--	23	210	26	500	--
Downgradient Area	E-4	3/14/1990	320	21	--	21	200	28	570	--
Downgradient Area	E-4	3/28/1990	260	22	--	22	180	19	530	--
Downgradient Area	E-4	4/11/1990	260	20	--	20	170	24	540	--
Downgradient Area	E-4	4/25/1990	220	16	--	16	140	19	460	--
Downgradient Area	E-4	5/8/1990	280	19	--	19	160	20	460	--
Downgradient Area	E-4	5/22/1990	270	19	--	19	160	21	510	--
Downgradient Area	E-4	6/6/1990	250	15	--	15	130	22	470	--
Downgradient Area	E-4	6/19/1990	220	14	--	14	130	18	440	--
Downgradient Area	E-4	7/3/1990	260	14	--	14	120	17	400	--
Downgradient Area	E-4	7/17/1990	250	15	--	15	130	16	410	--
Downgradient Area	E-4	7/31/1990	270	13	--	13	120	16	410	--
Downgradient Area	E-4	8/14/1990	200	15	--	15	100	13	380	--
Downgradient Area	E-4	8/28/1990	210	16	--	16	130	26	400	--
Downgradient Area	E-4	9/11/1990	190	12		12	85	13	320	
Downgradient Area	E-4	9/27/1990	240	14		14	100	17	400	
Downgradient Area	E-4	10/9/1990	260	13		13	120	16	420	
Downgradient Area	E-4	10/29/1990	250	13		13	110	16	370	
Downgradient Area	E-4	11/14/1990	230	11		11	110	14	370	
Downgradient Area	E-4	11/28/1990	250	15		15	120	16	400	
Downgradient Area	E-4	12/11/1990	210	17		17	100	14	370	
Downgradient Area	E-4	1/2/1991	40	2.2	1 U	2.2	18	2.8	63	3 U
Downgradient Area	E-4	1/15/1991	210	12	5 U	12	92	15	330	15 U
Downgradient Area	E-4	2/5/1991	200	13	5 U	13	84	12	310	15 U
Downgradient Area	E-4	3/5/1991	160	9.3	5 U	9.3	75	11	260	15 U
Downgradient Area	E-4	4/2/1991	260	12	5 U	12	96	14	340	10 U
Downgradient Area	E-4	5/7/1991	180	8	5 U	8	68	11	270	10 U
Downgradient Area	E-4	6/3/1991	210	9.1	5 U	9.1	76	12	290	10 U
Downgradient Area	E-4	7/1/1991	230	7.5	5 U	7.5	84	13	300	10 U
Downgradient Area	E-4	8/5/1991	190	7.6	5 U	7.6	66	11	270	10 U
Downgradient Area	E-4	9/3/1991	119	7.6	5 U	7.6	55	11	230	15 U
Downgradient Area	E-4	10/2/1991	120	7.1	5 U	7.1	61	13	240	10 U
Downgradient Area	E-4	11/4/1991	140	10	2 U	10	78	14	330	4 U
Downgradient Area	E-4	12/4/1991	120	6.9	2 U	6.9	55	11	240	4 U
Downgradient Area	E-4	1/6/1992	110	6.4	2 U	6.4	50	11	220	4 U
Downgradient Area	E-4	2/4/1992	130	6.6	2 U	6.6	54	11	250	4 U
Downgradient Area	E-4	3/3/1992	97	4.9	2 U	4.9	38	7.4	180	4 U
Downgradient Area	E-4	4/6/1992	150	6.9	2 U	6.9	52	12	230	4 U
Downgradient Area	E-4	5/4/1992	92	5.2	2 U	5.2	42	9.3	210	4 U
Downgradient Area	E-4	6/2/1992	92	4.6	2 U	4.6	37	7.6	170	4 U
Downgradient Area	E-4	7/6/1992	110	5.3	2 U	5.3	44	9.4	220	4 U
Downgradient Area	E-4	8/10/1992	140	5.4	5 U	5.4	48	10	240	10 U
Downgradient Area	E-4	9/1/1992	140	6.1	5 U	6.1	55	11	280	10 U
Downgradient Area	E-4	10/1/1992	150	6.5	5 U	6.5	60	14	350	10 U
Downgradient Area	E-4	11/2/1992	140	5.4	5 U	5.4	52	11	280	10 U
Downgradient Area	E-4	12/1/1992	130	5.1	2 U	5.1	45	11	240	4 U
Downgradient Area	E-4	1/1/1993	110	4.4	2 U	4.4	42	9.5	200	4 U
Downgradient Area	E-4	2/1/1993	130	5.4	2 U	5.4	45	9.7	260	4 U
Downgradient Area	E-4	3/3/1993	130	5.6	2 U	5.6	48	11	270	4 U
Downgradient Area	E-4	3/29/1993	98	3.5 J	5 U	3.5	32	6.5 M	190	10 U
Downgradient Area	E-4	4/28/1993	110	3.2 J	5 U	3.2	38	7.6	230	10 U
Downgradient Area	E-4	5/25/1993	140	4.2 J	5 U	4.2	37	8.2	230	10 U
Downgradient Area	E-4	6/23/1993	93	3.8 J	5 U	3.8	31	6.8	180	10 U
Downgradient Area	E-4	7/30/1993	79	5 U	5 U	5	26	5.7	160	10 U
Downgradient Area	E-4	8/25/1993	100	4.1 J	5 U	4.1	30	7.4	200	10 U
Downgradient Area	E-4	9/29/1993	97	3.1 J	5 U	3.1	31	6.7	200	10 U
Downgradient Area	E-4	10/27/1993	110	4.3	1 U	4.3	33	8.2	210	2 U
Downgradient Area	E-4	11/22/1993	99	4.3	1 U	4.3	32	8.5	190	2 U
Downgradient Area	E-4	12/27/1993	81	3.7	2 U	3.7	31	7.4	210	4 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-4	1/26/1994	100	4.1	2 U	4.1	31	7.8	210	4 U
Downgradient Area	E-4	2/23/1994	88	4.3	2 U	4.3	26	7.1	190	4 U
Downgradient Area	E-4	4/4/1994	73	3.1	1 U	3.1	22	6.3	160	2 U
Downgradient Area	E-4	4/26/1994	66	3	1 U	3	23 J	5.3	150	2 U
Downgradient Area	E-4	6/29/1994	86	3.3	1 U	3.3	26	7.2	170	2 U
Downgradient Area	E-4	10/26/1994	130	5	1 U	5	35	12	270	2 U
Downgradient Area	E-4	12/21/1994	82	3.9	1 U	3.9	27	7.9	170	2 U
Downgradient Area	E-4	3/3/1995	74	3.1	1 U	3.1	24 J	6.6	180 J	2 U
Downgradient Area	E-4	6/1/1995	68	5 U	5 U	5	19	6.2	160	10 U
Downgradient Area	E-4	8/29/1995	96	3.4	1 U	3.4	28	7.4	200	2 U
Downgradient Area	E-4	11/9/1995	82	3.5	1 U	3.5	23	6.3	180	2 U
Downgradient Area	E-4	3/4/1996	64	2.5	1 U	2.5	16	5.5	130	2 U
Downgradient Area	E-4	5/31/1996	78	3.6	1 U	3.6	21	7.5	200	2 U
Downgradient Area	E-4	8/26/1996	59	5 U	5 U	5	17	5.7	160	10 U
Downgradient Area	E-4	11/20/1996	73	3.9	1 U	3.9	17	6.8	180	2 U
Downgradient Area	E-4	3/6/1997	67	3.3	1 U	3.3	16	5.8	160	2 U
Downgradient Area	E-4	5/27/1997	73	3.4	1 U	3.4	18	7	200	2 U
Downgradient Area	E-4	9/2/1997	57	3.2	1 U	3.2	14	6	160	2 U
Downgradient Area	E-4	11/3/1997	75	3.5	1 U	3.5	17	6.8	160	2 U
Downgradient Area	E-4	2/24/1998	56	2.9	1 U	2.9	13	5	160	2 U
Downgradient Area	E-4	5/5/1998	70	2.8	1 U	2.8	15 J	6.6	160	2 U
Downgradient Area	E-4	8/3/1998	56	2.6	1 U	2.6	11	5.2	150	2 U
Downgradient Area	E-4	11/2/1998	99	3.2	1 U	3.2	17	7.1	180	2 U
Downgradient Area	E-4	2/1/1999	78 J	3.1	1 U	3.1	13 J	7.3 J	120 J	2 U
Downgradient Area	E-4	5/3/1999	76	2.1	1 U	2.1	12	6	180	1 U
Downgradient Area	E-4	8/2/1999	45	1.9	1 U	1.9	7.8	4.8	150	1 U
Downgradient Area	E-4	11/1/1999	48	1.8	1 U	1.8	7.8	4.8	120	1 U
Downgradient Area	E-4	2/4/2000	60	3.2	1 U	3.2	14	7.9	200	1 U
Downgradient Area	E-4	5/1/2000	54	1.8	1 U	1.8	8.5	4.4	120	1 U
Downgradient Area	E-4	8/2/2000	59	2.1	1 U	2.1	9.4	5.1	150	1 U
Downgradient Area	E-4	11/1/2000	64	3.3	1 U	3.3	12	7.3	140	1 U
Downgradient Area	E-4	2/1/2001	71	3.7	1 U	3.7	14	7.8	200	1 U
Downgradient Area	E-4	5/1/2001	43	3	1 U	3	7.2	3.4	130	1 U
Downgradient Area	E-4	8/6/2001	76	5 U	5 U	5	11	7.4	200	5 U
Downgradient Area	E-4	11/1/2001	81	3.6	1 U	3.6	13	7.1	220	1 U
Downgradient Area	E-4	2/2/2002	42	3 U	3 U	3	8.5	4.7	150	3 U
Downgradient Area	E-4	5/8/2002	45	1.8	1 U	1.8	5.8	4.4	130	1 U
Downgradient Area	E-4	8/1/2002	62	3.4	3 U	3.4	9.2	6.7	200	3 U
Downgradient Area	E-4	11/4/2002	63	5	1 U	5	10	8.4	240	1 U
Downgradient Area	E-4	2/4/2003	56	2.6	1 U	2.6	8.1	5.7	150	1 U
Downgradient Area	E-4	5/7/2003	30	1.4	1 U	1.4	4.3	3.4	86	1 U
Downgradient Area	E-4	8/6/2003	50	2.8	1 U	2.8	7.8	6.5	170	1 U
Downgradient Area	E-4	11/5/2003	78	3.6	3 U	3.6	11	7.2	250	3 U
Downgradient Area	E-4	2/3/2004	57	2.8	1 U	2.8	5.2	6.1	160	1 U
Downgradient Area	E-4	5/6/2004	61	2.5	1 U	2.5	5.5	5	160	1 U
Downgradient Area	E-4	8/3/2004	59	2.7	1 U	2.7	6.5	6.2	180	1 U
Downgradient Area	E-4	11/1/2004	86	2.9	1 U	2.9	6.7	6.7	180	1 U
Downgradient Area	E-4	2/3/2005	43	2.3	1 U	2.3	4.7	4.8	150	1 U
Downgradient Area	E-4	5/3/2005	42	2.3	1 U	2.3	5	4.7	140	1 U
Downgradient Area	E-4	8/2/2005	44	2.1	1 U	2.1	3.9	4.6	120	1 U
Downgradient Area	E-4	12/16/2005	47	2.5	1 U	2.5	4.9	5.1	140	1 U
Downgradient Area	E-4	2/7/2006	30	1.6	1 U	1.6	3.6	3.4	110	1 U
Downgradient Area	E-4	5/9/2006	28	1.4	1 U	--	2.6	3.4	97	1 U
Downgradient Area	E-4	8/8/2006	22	2.2	1 U	--	3.6	1.5	160	1 U
Downgradient Area	E-4	11/9/2006	50	3.5	0.2 U	--	6.5	8.7	200	0.2 U
Downgradient Area	E-4	2/7/2007	19	2.3	0.2 U	--	3.4	4.5	100	0.2 U
Downgradient Area	E-4	5/10/2007	36	2	1 U	--	3.3	4.2	120	1 U
Downgradient Area	E-4	8/13/2007	41	2.6	1 U	--	3.9	4.7	170	1 U
Downgradient Area	E-4	11/7/2007	47	2.4	1 U	--	3.4	5.1	140	1 U
Downgradient Area	E-4	2/14/2008	29	1.5	1 U	--	2.2	3.4	92	1 U
Downgradient Area	E-4	5/12/2008	34	1.6	1 U	--	2.6	4.2	120	1 U
Downgradient Area	E-4	8/12/2008	35	2.3	1 U	--	2.9	4.9	170	1 U
Downgradient Area	E-4	11/5/2008	54	3 U	3 U	--	4	9.1	260	3 U
Downgradient Area	E-12	12/21/1994	5.2	5.2	1 U	5.2	14	1.7	53	2 U
Downgradient Area	E-12	4/11/1995	5.6	3.5	1 U	3.5	12	1.6	47	2 U
Downgradient Area	E-12	4/19/1995	6.4	4.8	1 U	4.8	15	2.2	71	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-12	4/27/1995	6.7	5.3	1 U	5.3	15	2.9	82	2 U
Downgradient Area	E-12	6/29/1995	6.8	5.9	1 U	5.9	14	2.6	74	2 U
Downgradient Area	E-12	7/27/1995	4.6	4	1 U	4	9.7	2	58	2 U
Downgradient Area	E-12	8/29/1995	4.7	4.4	1 U	4.4	9.8	2	59	2 U
Downgradient Area	E-12	11/9/1995	5.3	4.7	1 U	4.7	8.1	1.6	52	2 U
Downgradient Area	E-12	3/4/1996	3.3	2.8	1 U	2.8	5.9	1.5	43	2 U
Downgradient Area	E-12	5/31/1996	2.8	2.8	1 U	2.8	5.3	1.3	42	2 U
Downgradient Area	E-12	8/26/1996	2.6	2.5	1 U	2.5	5	1.1	35	2 U
Downgradient Area	E-12	11/20/1996	2.8	2.8	1 U	2.8	5	1.4	40	2 U
Downgradient Area	E-12	3/6/1997	2.6	2.9	1 U	2.9	3.6	1.2	36	2 U
Downgradient Area	E-12	5/27/1997	1.6	1.8	1 U	1.8	2.8	1 U	26	2 U
Downgradient Area	E-12	9/2/1997	2	2.2	1 U	2.2	3.3	1.3	34	2 U
Downgradient Area	E-12	11/3/1997	2	2.4	1 U	2.4	3	1 U	37	2 U
Downgradient Area	E-12	2/24/1998	1.3	1.7	1 U	1.7	2.4	1 U	23	2 U
Downgradient Area	E-12	5/5/1998	1 U	1.5	1 U	1.5	1.9 J	1 U	22	2 U
Downgradient Area	E-12	8/3/1998	1.5	1.4	1 U	1.4	1.9	1 U	21	2 U
Downgradient Area	E-12	11/2/1998	1.7	1.9	1 U	1.9	1 U	1 U	25	2 U
Downgradient Area	E-12	2/1/1999	1.3	1.1	1 U	1.1	1 U	1 U	21	2 U
Downgradient Area	E-12	5/3/1999	1 U	1 U	1 U	1	1 U	1 U	17	1 U
Downgradient Area	E-12	8/2/1999	1 U	1 U	1 U	1	1 U	1 U	14	1 U
Downgradient Area	E-12	11/1/1999	1 U	1 U	1 U	1	1 U	1 U	11	1 U
Downgradient Area	E-12	2/4/2000	1 U	1 U	1 U	1	1 U	1 U	12	1 U
Downgradient Area	E-12	5/1/2000	1 U	1 U	1 U	1	1 U	1 U	10	1 U
Downgradient Area	E-12	8/2/2000	1 U	1 U	1 U	1	1 U	1 U	9.3	1 U
Downgradient Area	E-12	11/1/2000	1 U	1 U	1 U	1	1 U	1 U	9.5	1 U
Downgradient Area	E-12	2/1/2001	1 U	1 U	1 U	1	1 U	1 U	10	1 U
Downgradient Area	E-12	5/1/2001	1 U	1 U	1 U	1	1 U	1 U	9.7	1 U
Downgradient Area	E-12	8/6/2001	1 U	1 U	1 U	1	1 U	1 U	9	1 U
Downgradient Area	E-12	11/1/2001	1 U	1 U	1 U	1	1 U	1 U	8.6	1 U
Downgradient Area	E-12	2/2/2002	1 U	1 U	1 U	1	1 U	1 U	7.5	1 U
Downgradient Area	E-12	5/8/2002	1 U	1 U	1 U	1	1 U	1 U	8.2	1 U
Downgradient Area	E-12	8/1/2002	1 U	1 U	1 U	1	1 U	1 U	8.4	1 U
Downgradient Area	E-12	11/4/2002	1 U	1 U	1 U	1	1 U	1 U	8.3	1 U
Downgradient Area	E-12	2/4/2003	1 U	1 U	1 U	1	1 U	1 U	8.1	1 U
Downgradient Area	E-12	5/7/2003	1 U	1 U	1 U	1	1 U	1 U	7.4	1 U
Downgradient Area	E-12	8/6/2003	1 U	1 U	1 U	1	1 U	1 U	7.8	1 U
Downgradient Area	E-12	11/5/2003	1 U	1 U	1 U	1	1 U	1 U	8.5	1 U
Downgradient Area	E-12	2/3/2004	1 U	1 U	1 U	1	1 U	1 U	6.7	1 U
Downgradient Area	E-12	5/6/2004	1 U	1 U	1 U	1	1 U	1 U	6.4	1 U
Downgradient Area	E-12	8/3/2004	1 U	1 U	1 U	1	1 U	1 U	6.6	1 U
Downgradient Area	E-12	11/1/2004	1 U	1 U	1 U	1	1 U	1 U	5.9	1 U
Downgradient Area	E-12	2/3/2005	1 U	1 U	1 U	1	1 U	1 U	4.9	1 U
Downgradient Area	E-12	5/3/2005	1 U	1 U	1 U	1	1 U	1 U	5	1 U
Downgradient Area	E-12	8/2/2005	1 U	1 U	1 U	1	1 U	1 U	4.7	1 U
Downgradient Area	E-12	12/16/2005	1 U	1 U	1 U	1	1 U	1 U	5	1 U
Downgradient Area	E-12	2/7/2006	1 U	1 U	1 U	1	1 U	1 U	5.4	1 U
Downgradient Area	E-12	5/9/2006	1 U	1 U	1 U	--	1 U	1 U	4.7	1 U
Downgradient Area	E-12	8/8/2006	1 U	1 U	1 U	--	1 U	1 U	5	1 U
Downgradient Area	E-12	11/9/2006	0.4	0.2	0.2 U	--	0.2	0.2	6	0.2 U
Downgradient Area	E-12	2/7/2007	0.4	0.3	0.2 U	--	0.2	0.2	6.2	0.2 U
Downgradient Area	E-12	5/11/2007	0.4	0.2	0.2 U	--	0.4	0.2 U	5	0.2 U
Downgradient Area	E-12	8/13/2007	0.4	0.2 U	0.2 U	--	0.2	0.2 U	4.8	0.2 U
Downgradient Area	E-12	11/7/2007	0.4	0.2	0.2 U	--	0.2	0.2 U	5	0.2 U
Downgradient Area	E-12	2/12/2008	1 U	1 U	1 U	--	1 U	1 U	4.4	1 U
Downgradient Area	E-12	5/12/2008	1 U	1 U	1 U	--	1 U	1 U	5	1 U
Downgradient Area	E-12	8/12/2008	1 U	1 U	1 U	--	1 U	1 U	4.8	1 U
Downgradient Area	E-12	11/7/2008	0.4	0.2	0.2 U	--	0.2	0.2 U	4	0.2 U
Downgradient Area	E-12	11/7/2008	0.5	0.3	0.2 U	--	0.2	0.2 U	5.1	0.2 U
Downgradient Area	E-12	11/7/2008	0.6	0.3	0.2 U	--	0.2	0.2 U	5.1	0.2 U
Downgradient Area	E-12	11/7/2008	0.6	0.4	0.2 U	--	0.3	0.2 U	5.8	0.2 U
Downgradient Area	E-12	11/7/2008	0.8	0.5	0.2 U	--	0.3	0.2 U	7.8	0.2 U
Downgradient Area	E-12	11/7/2008	0.54	0.50 U	0.50 U	--	0.50 U	0.50 U	5.8	0.50 U
Downgradient Area	E-12	11/7/2008	0.60	0.50 U	0.50 U	--	0.50 U	0.50 U	6.8	0.50 U
Downgradient Area	E-12	11/7/2008	0.55	0.50 U	0.50 U	--	0.50 U	0.50 U	5.8	0.50 U
Downgradient Area	E-12	11/7/2008	0.77	0.50 U	0.50 U	--	0.50 U	0.50 U	9.7	0.50 U
Downgradient Area	E-13	12/22/1994	1.9	1 U	1 U	1	2	1 U	11	2 U

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	E-13	12/22/1994	1 U	1 U	1 U	1	2	1 U	12	2 U
Downgradient Area	E-13	4/11/1995	1.9	1 U	1 U	1	1.7	1 U	12	2 U
Downgradient Area	E-13	4/19/1995	4.9	1.2	1 U	1.2	4.3	1 U	24	2 U
Downgradient Area	E-13	4/27/1995	6.5	3.3	1 U	3.3	12	2	53	2 U
Downgradient Area	E-13	6/29/1995	7.1	4.8	1 U	4.8	13	2	57	2 U
Downgradient Area	E-13	7/27/1995	6.3	4.4	1 U	4.4	11	1.9	50	2 U
Downgradient Area	E-13	8/29/1995	7.7	5.3	1 U	5.3	15	2.1	63	2 U
Downgradient Area	E-13	11/9/1995	6.5	5	1 U	5	10	1.8	55	2 U
Downgradient Area	E-13	3/4/1996	4.2	2.1	1 U	2.1	4.9	1.1	32	2 U
Downgradient Area	E-13	5/31/1996	3.3	2.6	1 U	2.6	4.4	1.1	34	2 U
Downgradient Area	E-13	8/26/1996	3.8	3.3	1 U	3.3	4.9	1.2	36	2 U
Downgradient Area	E-13	11/20/1996	4	3.3	1 U	3.3	4.2	1.3	38	2 U
Downgradient Area	E-13	3/6/1997	3.5	2.9	1 U	2.9	2.8	1 U	31	2 U
Downgradient Area	E-13	5/27/1997	2.7	2.6	1 U	2.6	2.7	1.1	30	2 U
Downgradient Area	E-13	9/2/1997	2.3	2.7	1 U	2.7	2.2	1 U	29	2 U
Downgradient Area	E-13	11/3/1997	3	3.2	1 U	3.2	2.7	1.3	35	2 U
Downgradient Area	E-13	2/24/1998	1.7	1	1 U	1	1.5	1 U	18	2 U
Downgradient Area	E-13	5/5/1998	1.9	1.2	1 U	1.2	1.6 J	1 U	21	2 U
Downgradient Area	E-13	8/3/1998	1.8	1.1	1 U	1.1	1.4	1 U	16	2 U
Downgradient Area	E-13	11/2/1998	2.3	1 U	1 U	1	1 U	1 U	22	2 U
Downgradient Area	E-13	1/20/1999	2.2	1	1 U	1	1.4	1 U	19	2 U
Downgradient Area	E-13	2/1/1999	2.6	1	1 U	1	1 U	1 U	21	2 U
Downgradient Area	E-13	3/2/1999	1.5	1 U	1 U	1	1 U	1 U	15	2 U
Downgradient Area	E-13	5/3/1999	2.2	1 U	1 U	1	1 U	1 U	19	1 U
Downgradient Area	E-13	8/2/1999	2	1 U	1 U	1	1.3	1 U	22	1 U
Downgradient Area	E-13	11/1/1999	1.9	1 U	1 U	1	1.2	1 U	18	1 U
Downgradient Area	E-13	2/4/2000	2.3	1 J	1 U	1	1.5	1 U	20	1 U
Downgradient Area	E-13	5/1/2000	1.8	1 U	1 U	1	1.4	1 U	16	1 U
Downgradient Area	E-13	8/2/2000	2	1 U	1 U	1	1.4	1 U	16	1 U
Downgradient Area	E-13	11/1/2000	1	1 U	1 U	1	1 U	1 U	9.1	1 U
Downgradient Area	E-13	2/1/2001	1.6	1 U	1 U	1	1.2	1 U	15	1 U
Downgradient Area	E-13	5/1/2001	1.7	1 U	1 U	1	1 U	1 U	14	1 U
Downgradient Area	E-13	8/6/2001	1 U	1 U	1 U	1	1 U	1 U	8.6	1 U
Downgradient Area	E-13	11/1/2001	1.7	1 U	1 U	1	1 U	1 U	13	1 U
Downgradient Area	E-13	2/2/2002	1.4	1 U	1 U	1	1 U	1 U	9.6	1 U
Downgradient Area	E-13	5/8/2002	1.4	1 U	1 U	1	1 U	1 U	11	1 U
Downgradient Area	E-13	8/1/2002	1.2	1 U	1 U	1	1 U	1 U	9.2	1 U
Downgradient Area	E-13	11/4/2002	1.4	0.4	0.2 U	0.4	0.5	0.3	10	0.2 U
Downgradient Area	E-13	2/4/2003	1.2	1 U	1 U	1	1 U	1 U	5.9	1 U
Downgradient Area	E-13	5/7/2003	1 U	1 U	1 U	1	1 U	1 U	6.9	1 U
Downgradient Area	E-13	8/6/2003	1.2	1 U	1 U	1	1 U	1 U	8.4	1 U
Downgradient Area	E-13	11/5/2003	1.5	1 U	1 U	1	1 U	1 U	7.6	1 U
Downgradient Area	E-13	2/3/2004	1 U	1 U	1 U	1	1 U	1 U	5.6	1 U
Downgradient Area	E-13	5/6/2004	1 U	1 U	1 U	1	1 U	1 U	6.5	1 U
Downgradient Area	E-13	8/3/2004	1.1	1 U	1 U	1	1 U	1 U	6.7	1 U
Downgradient Area	E-13	11/1/2004	1	1 U	1 U	1	1 U	1 U	6.5	1 U
Downgradient Area	E-13	2/3/2005	1 U	1 U	1 U	1	1 U	1 U	5.2	1 U
Downgradient Area	E-13	5/3/2005	1 U	1 U	1 U	1	1 U	1 U	4.3	1 U
Downgradient Area	E-13	8/2/2005	1 U	1 U	1 U	1	1 U	1 U	4.7	1 U
Downgradient Area	E-13	12/16/2005	1 U	1 U	1 U	1	1 U	1 U	4.8	1 U
Downgradient Area	E-13	2/7/2006	1 U	1 U	1 U	1	1 U	1 U	4.2	1 U
Downgradient Area	E-13	5/9/2006	1 U	1 U	1 U	--	1 U	1 U	6	1 U
Downgradient Area	E-13	8/8/2006	1 U	1 U	1 U	--	1 U	1 U	6.3	1 U
Downgradient Area	E-13	11/9/2006	1.4	0.2 U	0.2 U	--	0.3	0.3	6.9	0.2 U
Downgradient Area	E-13	2/7/2007	0.8	0.2	0.2 U	--	0.2 U	0.2	5.5	0.2 U
Downgradient Area	E-13	5/11/2007	0.7	0.2 U	0.2 U	--	0.2 U	0.2 U	4.3	0.2 U
Downgradient Area	E-13	8/10/2007	1	0.2 U	0.2 U	--	0.2 U	0.2 U	5.1	0.2 U
Downgradient Area	E-13	11/7/2007	1	0.2 U	0.2 U	--	0.2 U	0.2 U	4.1	0.2 U
Downgradient Area	E-13	2/12/2008	1 U	1 U	1 U	--	1 U	1 U	2.9	1 U
Downgradient Area	E-13	5/12/2008	1.1	1 U	1 U	--	1 U	1 U	5.6	1 U
Downgradient Area	E-13	8/7/2008	1 U	1 U	1 U	--	1 U	1 U	5.1	1 U
Downgradient Area	E-13	11/5/2008	1.5	0.3	0.2 U	--	0.3	0.3	7.6	0.2 U
Downgradient Area	BOP-22ds	4/17/1989	1.3	--	--	5.6	5.8	2	54	--
Downgradient Area	BOP-22ds	8/11/1989	1.3	--	--	5.1	4.2	2	32	--
Downgradient Area	BOP-22ds	2/8/1990	0.8 J	4.4	--	4.4	3.3	0.9 J	32	--
Downgradient Area	BOP-22ds	8/10/1990			--	3	1.8	--	18	--

APPENDIX C
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Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	BOP-22ds	2/13/1991	1 U	0.6 J	1 U	0.6	1 U	1 U	5.9	3 U
Downgradient Area	BOP-22ds	5/15/1991	1 U	1 U	1 U	1	1 U	1 U	3.6	2 U
Downgradient Area	BOP-22ds	8/14/1991	1 U	1 U	1 U	1	1 U	1 U	3	2 U
Downgradient Area	BOP-22ds	1/28/1992	2 U	1 U	1 U	1	1 U	1 U	1.6	3 U
Downgradient Area	BOP-22ds	7/10/1992	1 U	1 U	1 U	1	1 U	1 U	1.1	2 U
Downgradient Area	BOP-22ds	10/28/1992	1 U	1 U	1 U	1	1 U	1 U	1.4	2 U
Downgradient Area	BOP-22ds	2/11/1993	1 U	1 U	1 U	1	1 U	1 U	1.8	2 U
Downgradient Area	BOP-22ds	7/23/1993	1 U	1 U	1 U	1	1 U	1 U	1.2	2 U
Downgradient Area	BOP-22ds	2/14/1994	1 U	1 U	1 U	1	1 U	1 U	1.2	2 U
Downgradient Area	BOP-22ds	8/17/1994	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	1.5	0.2 U
Downgradient Area	BOP-22ds	2/20/1995	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	1.4	0.2 U
Downgradient Area	BOP-22ds	8/28/1995	1 U	1 U	1 U	1	1 U	1 U	1.6	2 U
Downgradient Area	BOP-22ds	2/15/1996	1 U	1 U	1 U	1	1 U	1 U	2.6	2 U
Downgradient Area	BOP-22ds	8/7/1996	1 U	1 U	1 U	1	1 U	1 U	2.3	2 U
Downgradient Area	BOP-22ds	10/18/1996	1 U	1 U	1 U	1	1 U	1 U	2.3	2 U
Downgradient Area	BOP-22ds	10/25/1996	1 U	1 U	1 U	1	1 U	1 U	2.2	2 U
Downgradient Area	BOP-22ds	2/18/1997	1 U	1 U	1 U	1	1 U	1 U	2.2	2 U
Downgradient Area	BOP-22ds	8/27/1997	1 U	1 U	1 U	1	1 U	1 U	3.9	2 U
Downgradient Area	BOP-22ds	3/3/1998	0.2	0.2 U	0.2 U	0.2	0.2 U	0.2 U	6.7	0.2 U
Downgradient Area	BOP-22ds	3/3/1998	0.2	0.4	--	0.4	--	0.3	7.9	--
Downgradient Area	BOP-22ds	5/12/1998	0.2	0.2 U	0.2 U	0.2	0.2 U	0.2 U	6.8	0.2 U
Downgradient Area	BOP-22ds	8/13/1998	0.3	0.2 U	0.2 U	0.2	0.2 U	0.2 U	8.2	0.2 U
Downgradient Area	BOP-22ds	2/15/1999	1 U	1 U	1 U	1	1 U	1 U	8.1	2 U
Downgradient Area	BOP-22ds	9/3/1999	0.4	0.2	0.2 U	0.2	0.2 U	0.2 U	13	0.2 U
Downgradient Area	BOP-22ds	12/3/1999	0.6	0.3	0.2 U	0.3	0.2 U	0.2 J	18	0.2 U
Downgradient Area	BOP-22ds	1/11/2000	0.6	0.3	0.2 U	0.3	0.2 U	0.2 U	18	0.2 U
Downgradient Area	BOP-22ds	8/15/2000	0.9	0.6	0.2 U	0.6	0.2 U	0.2	32	0.2 U
Downgradient Area	BOP-22ds	10/12/2000	0.6	0.4	0.2 U	0.4	0.2 U	0.2	22	0.2 U
Downgradient Area	BOP-22ds	12/11/2000	0.5	0.5	0.2 U	0.5	0.2 U	0.2	20	0.2 U
Downgradient Area	BOP-22ds	2/16/2001	1 UJ	1 UJ	1 UJ	1	1 UJ	1 UJ	26 J	1 UJ
Downgradient Area	BOP-22ds	5/9/2001	0.6	0.6	0.2 U	0.6	0.2 U	0.3	26	0.2 U
Downgradient Area	BOP-22ds	8/13/2001	0.6	0.5	0.2 U	0.5	0.2 U	0.2	23	0.2 U
Downgradient Area	BOP-22ds	11/6/2001	0.6	0.6	0.2 U	0.6	0.2 U	0.3	26	0.2 U
Downgradient Area	BOP-22ds	2/27/2002	1 U	1 U	1 U	1	1 U	1 U	26	1 U
Downgradient Area	BOP-22ds	5/12/2002	0.7	0.9	0.2 U	0.9	0.2 U	0.4	28	0.2 U
Downgradient Area	BOP-22ds	8/9/2002	1 U	1 U	1 U	1	1 U	1 U	29	1 U
Downgradient Area	BOP-22ds	11/11/2002	1	1	0.6 U	1	0.6 U	0.6 U	35	0.6 U
Downgradient Area	BOP-22ds	12/11/2002	0.9	1.2	0.2 U	1.2	0.2 U	0.4	40	0.2 U
Downgradient Area	BOP-22ds	1/2/2003	0.9	1.2	0.2 U	1.2	0.2 U	0.4	38	0.2 U
Downgradient Area	BOP-22ds	2/4/2003	0.8	1	0.2 U	1	0.2 U	0.4	33	0.2 U
Downgradient Area	BOP-22ds	3/4/2003	1.1	1.2	0.2 U	1.2	0.2 U	0.4	39	0.2 U
Downgradient Area	BOP-22ds	4/1/2003	0.9	1.1	0.2 U	1.1	0.2 U	0.4	43	0.2 U
Downgradient Area	BOP-22ds	5/7/2003	1	1.3	0.2 U	1.3	0.2 U	0.5	43	0.2 U
Downgradient Area	BOP-22ds	6/3/2003	1	1.2	0.2 U	1.2	0.2 U	0.4	39	0.2 U
Downgradient Area	BOP-22ds	7/2/2003	1	1.3	0.2 UJ	1.3	0.2 UJ	0.4 J	34	0.2 UJ
Downgradient Area	BOP-22ds	8/7/2003	0.2	0.4	0.2 U	0.4	0.2 U	0.2 U	10	0.2 U
Downgradient Area	BOP-22ds	9/3/2003	0.2 U	0.2 U	0.2 U	0.2	0.2 U	0.2 U	1.2	0.2 U
Downgradient Area	BOP-22ds	10/1/2003	0.8	0.9	0.2 U	0.9	0.2 U	0.4	37	0.2 U
Downgradient Area	BOP-22ds	11/7/2003	2.2	2.3	0.2 U	2.3	0.2 U	0.6	62	0.2 U
Downgradient Area	BOP-22ds	12/8/2003	1.6	1.6	0.2 U	1.6	0.2 U	0.6	56	0.2 U
Downgradient Area	BOP-22ds	1/15/2004	1.4	1.8	0.2 U	1.8	0.2 U	0.8	60	0.2 U
Downgradient Area	BOP-22ds	2/17/2004	1.4	2	0.2 U	2	0.2 U	0.2 U	60	0.2 U
Downgradient Area	BOP-22ds	3/2/2004	1.4	2.1	0.2 U	2.1	0.2 U	0.7	61	0.2 U
Downgradient Area	BOP-22ds	4/5/2004	1.5	2.2	0.2 U	2.2	0.2 U	0.8	74	0.2 U
Downgradient Area	BOP-22ds	5/3/2004	1.7	2.4	0.2 U	2.4	0.2 U	0.8	62	0.2 U
Downgradient Area	BOP-22ds	6/7/2004	1.7	2.5	0.2 U	2.5	0.2 U	0.8	64	0.2 U
Downgradient Area	BOP-22ds	7/1/2004	1.5	2.1	0.2 U	2.1	0.2 U	0.7	61	0.2 U
Downgradient Area	BOP-22ds	8/3/2004	2.3	2.9	0.2 U	2.9	0.2 U	1	75	0.2 U
Downgradient Area	BOP-22ds	9/9/2004	2	2.8	0.2 U	2.8	0.2 U	0.8	70	0.2 U
Downgradient Area	BOP-22ds	10/4/2004	3.2	2.7	0.2 U	2.7	0.2 U	0.8	80	0.2 U
Downgradient Area	BOP-22ds	11/2/2004	2.2	2.5	0.2 U	2.5	0.2 U	0.9	75	0.2 U
Downgradient Area	BOP-22ds	12/6/2004	2	2.8	0.2 U	2.8	0.2 U	0.8	68	0.2 U
Downgradient Area	BOP-22ds	1/10/2005	1.9	2.7	0.2 U	2.7	0.2 U	0.8	68	0.2 U
Downgradient Area	BOP-22ds	2/7/2005	1.9	3.2	1 U	3.2	1 U	1	83	1 U
Downgradient Area	BOP-22ds	3/8/2005	1.4	2.3	0.2 U	2.3	0.2 U	0.6	54	0.2 U
Downgradient Area	BOP-22ds	4/4/2005	1.6	2.6	0.2 U	2.6	0.2 U	0.9	65	0.2 U
Downgradient Area	BOP-22ds	5/9/2005	1.7	2.8	0.2 U	2.8	0.2 U	0.8	70	0.2 U

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	BOP-22ds	6/2/2005	2	3	0.2 U	3	0.2 U	0.8	71	0.2 U
Downgradient Area	BOP-22ds	7/12/2005	2	3	0.2 U	3	0.2 U	0.9	71	0.2 U
Downgradient Area	BOP-22ds	8/4/2005	2	3.5	0.2 U	3.5	0.2 U	1	77	0.2 U
Downgradient Area	BOP-22ds	9/16/2005	2	3.8	0.2 U	3.8	0.2 U	1.1	78	0.2 U
Downgradient Area	BOP-22ds	10/4/2005	2	4	0.2 U	4	0.2 U	1.1	80	0.2 U
Downgradient Area	BOP-22ds	11/3/2005	2.3	4.3	0.2 U	4.3	0.2 U	1	89	0.2 U
Downgradient Area	BOP-22ds	12/9/2005	3	3.7	0.2 U	3.7	0.2 U	0.9	83	0.2 U
Downgradient Area	BOP-22ds	1/6/2006	2.5	4.4	0.2 U	4.4	0.2 U	1.1	85	0.2 U
Downgradient Area	BOP-22ds	2/6/2006	1	4.1	0.2 U	4.1	0.2 U	0.2 U	79	0.2 U
Downgradient Area	BOP-22ds	2/6/2006	2.5	27	0.2 U	27	0.2 U	1	15	0.2 U
Downgradient Area	BOP-22ds	3/2/2006	2.8	4.4	0.2 U	4.4	0.2 U	1.1	85	0.2 U
Downgradient Area	BOP-22ds	4/5/2006	2.2	3.9	0.2 U	--	0.2 U	1	79	0.2 U
Downgradient Area	BOP-22ds	5/10/2006	2	3.7	0.2 U	--	0.2 U	0.9	76	0.2 U
Downgradient Area	BOP-22ds	5/10/2006	3	5.7	0.2 U	--	0.2 U	1.4	130	0.2 U
Downgradient Area	BOP-22ds	5/10/2006	2	3.8	0.2 U	--	0.2 U	0.9	76	0.2 U
Downgradient Area	BOP-22ds	5/31/2006	2.5	4.2	0.2 U	--	0.2 U	1.1	87	0.2 U
Downgradient Area	BOP-22ds	7/6/2006	2.4	4.9	0.2 U	--	0.2 U	1.1	90	0.2 U
Downgradient Area	BOP-22ds	8/11/2006	0.7	1.3	0.4 U	--	0.4 U	0.4 U	20	0.4 U
Downgradient Area	BOP-22ds	8/11/2006	1.3	3.1	0.6 U	--	0.6 U	0.6 U	27	0.6 U
Downgradient Area	BOP-22ds	8/11/2006	1.4	3.9	1 U	--	1 U	1 U	34	1 U
Downgradient Area	BOP-22ds	8/11/2006	1 U	5.4	1 U	--	1 U	1 U	40	1 U
Downgradient Area	BOP-22ds	8/11/2006	2 U	20	2 U	--	2 U	2 U	75	2 U
Downgradient Area	BOP-22ds	8/11/2006	2 U	34	2 U	--	2 U	2 U	82	2 U
Downgradient Area	BOP-22ds	9/28/2006	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.4	0.2 U
Downgradient Area	BOP-22ds	10/27/2006	0.2 U	0.3	0.2 U	--	0.2 U	0.2 U	2.1	0.2 U
Downgradient Area	BOP-22ds	11/22/2006	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.6	0.2 U
Downgradient Area	BOP-22ds	12/13/2006	0.3	0.4	0.2 U	--	0.2 U	1.4	3.3	0.2 U
Downgradient Area	BOP-22ds	12/13/2006	0.4	1.2	0.2 U	--	0.2 U	1.9	6.6	0.2 U
Downgradient Area	BOP-22ds	12/13/2006	0.6	3.6	0.2 U	--	0.2 U	0.2 U	11	0.2 U
Downgradient Area	BOP-22ds	12/13/2006	2.2	4.5	0.2 U	--	0.2 U	0.2 U	14	0.2 U
Downgradient Area	BOP-22ds	12/13/2006	3.1	7.6	0.2 U	--	0.2 U	0.2 U	92	0.2 U
Downgradient Area	BOP-22ds	12/13/2006	0.2 U	26	0.2 U	--	0.2 U	0.2 U	130	0.2 U
Downgradient Area	BOP-22ds	1/18/2007	1.4	4.7	0.3	--	0.2 U	1.2	93	0.2 U
Downgradient Area	BOP-22ds	2/5/2007	0.3	0.5	0.2 U	--	0.2 U	0.7	10	0.2 U
Downgradient Area	BOP-22ds	2/5/2007	0.3	1.4	0.2 U	--	0.2 U	1.4	11	0.2 U
Downgradient Area	BOP-22ds	2/5/2007	1.2	2.8	0.2 U	--	0.2 U	0.2 U	17	0.2 U
Downgradient Area	BOP-22ds	2/5/2007	1.4	5	0.2 U	--	0.2 U	0.2 U	23	0.2 U
Downgradient Area	BOP-22ds	2/5/2007	1.9	22	0.2 U	--	0.2 U	0.2 U	58	0.2 U
Downgradient Area	BOP-22ds	2/5/2007	2.6	24	0.2 U	--	0.2 U	0.2 U	79	0.2 U
Downgradient Area	BOP-22ds	3/6/2007	2.5	5.3	0.2 U	--	0.2 U	1.4	100	0.2 U
Downgradient Area	BOP-22ds	4/13/2007	2.1	4.6	1 U	--	1 U	1 U	80	1 U
Downgradient Area	BOP-22ds	5/15/2007	0.3	0.3	0.2 U	--	0.2 U	0.2 U	8.3	0.2 U
Downgradient Area	BOP-22ds	5/15/2007	1.4	3.1	0.6 U	--	0.6 U	0.6 U	27	0.6 U
Downgradient Area	BOP-22ds	5/15/2007	1.4	11	0.6 U	--	0.6 U	0.6 U	27	0.6 U
Downgradient Area	BOP-22ds	5/15/2007	1.6	12	0.6 U	--	0.6 U	0.6 U	28	0.6 U
Downgradient Area	BOP-22ds	5/15/2007	1.7	15	1 U	--	1 U	1 U	44	1 U
Downgradient Area	BOP-22ds	5/15/2007	2	20	1 U	--	1 U	1 U	60	1 U
Downgradient Area	BOP-22ds	6/12/2007	2.4	3.9	0.2 U	--	0.2 U	1	86	0.2 U
Downgradient Area	BOP-22ds	7/11/2007	2	3.6	0.2 U	--	0.2 U	1	72	0.2 U
Downgradient Area	BOP-22ds	8/7/2007	1.7	3	1 U	--	1 U	1 U	63	1 U
Downgradient Area	BOP-22ds	9/11/2007	1.9	26	0.4	--	0.2 U	0.8	46	0.2 U
Downgradient Area	BOP-22ds	10/17/2007	2.2	3.4	0.2 U	--	0.2 U	1.1	62	0.2 U
Downgradient Area	BOP-22ds	11/7/2007	2	2.9	1 U	--	1 U	1	61	1 U
Downgradient Area	BOP-22ds	12/21/2007	0.6	1.5	0.2 U	--	0.2 U	0.2	18	0.2 U
Downgradient Area	BOP-22ds	12/21/2007	1.5	3.5	0.2 U	--	0.2 U	0.9	38	0.2 U
Downgradient Area	BOP-22ds	12/21/2007	1.8	4.4	0.2 U	--	0.2 U	0.2 U	58	0.2 U
Downgradient Area	BOP-22ds	12/21/2007	2	5.9	0.2 U	--	0.2 U	0.2 U	60	0.2 U
Downgradient Area	BOP-22ds	12/21/2007	2.3	8.5	0.2 U	--	0.2 U	0.2 U	79	0.2 U
Downgradient Area	BOP-22ds	12/28/2007	2.5	14	1 U	--	1 U	1.2	80	1 U
Downgradient Area	BOP-22ds	1/18/2008	2.3	3.9	0.2 U	--	0.2 U	1.2	72	0.2 U
Downgradient Area	BOP-22ds	2/21/2008	2.3	4.2	0.2 U	--	0.2 U	1.4	96	0.2 U
Downgradient Area	BOP-22ds	2/21/2008	2.6	4.6	0.2 U	--	0.2 U	1.4	100	0.2 U
Downgradient Area	BOP-22ds	3/21/2008	1.8	3.3	0.2 U	--	0.2 U	1.1	74	0.2 U
Downgradient Area	BOP-22ds	4/11/2008	2.2	4.1	0.2 U	--	0.2 U	1.2	77	0.2 U
Downgradient Area	BOP-22ds	6/2/2008	3.1	5	2 U	--	2 U	2 U	110	2 U
Downgradient Area	BOP-22ds	6/23/2008	2.4	4.4	0.2 U	--	0.2 U	1.3	86	0.2 U
Downgradient Area	BOP-22ds	7/8/2008	2.5	3.6	0.2 U	--	0.2 U	1.2	84	0.2 U

APPENDIX C
TGA SEMIANNUAL REPORT
BOEING OF PORTLAND

Area	Sample Location	Date	1,1-DCE	cis-1,2DCE	trans-1,2-DCE	total-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl Chloride
Downgradient Area	BOP-22ds	8/8/2008	2.1	4.3	0.2 U	--	0.2 U	1.2	82	0.2 U
Downgradient Area	BOP-22ds	9/8/2008	2.9	3.9	2 U	--	2 U	2 U	63	2 U
Downgradient Area	BOP-22ds	10/16/2008	2	4	0.2 U	--	0.2 U	1.1	80	0.2 U
Downgradient Area	BOP-22ds	10/27/2008	2.6	4.6	0.2 U	--	0.2 U	1.3	79	0.2 U
Downgradient Area	BOP-22ds	11/14/2008	2.2	6.8	0.50 U	--	0.50 U	1.2	75	0.50 U
Downgradient Area	BOP-22ds	11/14/2008	3.0	7.6	0.50 U	--	0.50 U	2.6	120	0.50 U
Downgradient Area	BOP-22ds	11/14/2008	2.9	7.5	0.50 U	--	0.50 U	2.5	100	0.50 U
Downgradient Area	BOP-22ds	11/14/2008	4.8	9.1	0.50 U	--	0.50 U	3.8	170	0.50 U
Downgradient Area	BOP-22ds	11/14/2008	2.5	6.7	0.50 U	--	0.50 U	1.6	73	0.50 U
Downgradient Area	BOP-22ds	11/14/2008	2.6	5.5	0.50 U	--	0.50 U	0.90	82	0.50 U
Downgradient Area	BOP-22ds	11/14/2008	1.6	3.7	0.2 U	--	0.2 U	0.8	56	0.2 U
Downgradient Area	BOP-22ds	12/3/2008	0.2 U	0.3	0.2 U	--	0.2 U	0.2 U	5.4	0.2 U
Downgradient Area	BOP-22ds	12/11/2008	0.2	0.5	0.2 U	--	0.2 U	0.2 U	6.6	0.2 U
Downgradient Area	BOP-22Rds	10/27/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U
Downgradient Area	BOP-22Rds	11/14/2008	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	0.50 U
Downgradient Area	BOP-22Rds	11/14/2008	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	0.50 U
Downgradient Area	BOP-22Rds	11/14/2008	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	0.50 U
Downgradient Area	BOP-22Rds	11/14/2008	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	0.50 U
Downgradient Area	BOP-22Rds	11/14/2008	0.50 U	0.50 U	0.50 U	--	0.50 U	0.50 U	0.50 U	0.50 U
Downgradient Area	BOP-22Rds	11/14/2008	1	2.7	0.2 U	--	0.3	0.4	30	0.2 U
Downgradient Area	BOP-22Rds	12/3/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2	0.2 U
Downgradient Area	BOP-22Rds	12/11/2008	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U

Note:
Wells E-5 through E-9 were temporarily shut down on August 15, 2002. They were permenantly shutdown following the October 28, 2002 for shutdown testing
The testing resulted in permanent shutdown.