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CROWS LANDING
SSIC NO. 5090.3.A

TRANSMITTAL

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To: Paul Karmazinski **Date:** July 15, 2004

From: David Kelly

Subject: Summary of iSOC Demonstration Project Monitoring Activities, Administration Area Plume, NASA Crows Landing Flight Facility
Quarterly Report – Through March 2004

A demonstration project was initiated at Underground Storage Tanks (UST) Site 117 within the Administration Area Plume in July 2003 to evaluate the effectiveness of *in situ* Submerged Oxygen Curtain (iSOC) technology at injecting oxygen into groundwater to enhance the biodegradation of petroleum hydrocarbons in the saturated zone. The work was initiated in accordance with the *Draft Project Plans, Enhanced In Situ Bioremediation of Petroleum Hydrocarbons, Underground Storage Tank Site 117, NASA Crows Landing Flight Facility* (Shaw 2003). In January 2004, Field Support Services, Inc., (FSSI) took over the operations and maintenance of the iSOC demonstration project under Contract Number N68711-03-R-5122. Operations and maintenance activities were conducted in accordance the *Project Plans, Groundwater Extraction at Underground Storage Tank Cluster 1 and Enhanced In Situ Bioremediation of Petroleum Hydrocarbons Underground Storage Tank Site 117, Administration Area Plume, NASA Crows Landing Flight Facility* (FSSI 2004). This transmittal presents a summary of the results through the end of the first quarter of operations and maintenance activities under the FSSI contract. The transmittal includes monitoring data from the start of the demonstration project (September 2003) through March 2004.

Activities conducted as part of the demonstration project include:

- installing oxygen injection wells and temporary monitoring points
- conducting baseline sampling from injection wells and monitoring points
- initiating oxygen injection into oxygen injection wells
- periodically collecting samples from temporary monitoring points to monitor dissolved oxygen and petroleum hydrocarbon concentrations
- maintaining oxygen injection equipment.

Information about the demonstration project well installation activities conducted in July and August 2003 is included in the *Quarterly Basewide Groundwater Report, Verification Sampling and Analysis – Fall 2003, Thirteenth Quarter, NASA Crows Landing Flight Facility* (Shaw 2003). Figure 1 shows the layout of the demonstration project wells at UST Site 117.

Baseline sampling and analysis was conducted from 2 through 9 September 2003. Samples were collected from each of the oxygen injection wells and temporary monitoring wells. During sample collection, field parameters including dissolved oxygen, oxidation reduction potential (ORP), pH, conductivity, and temperature were measured using handheld instruments and recorded. The sample collection logs for the baseline sampling event are included in Attachment 1. The groundwater samples were analyzed at an off-site laboratory for dissolved iron and manganese, nitrates, nitrites, sulfate, sulfide, chloride, and alkalinity to evaluate current conditions associated with naturally occurring biodegradation. To evaluate baseline concentrations of target compounds the samples were also analyzed for total petroleum hydrocarbons in the gasoline (TPH-g) and diesel (TPH-d) ranges, volatile organic compounds (VOCs), and total organic carbon (TOC). Samples were also collected from 4 wells (117-TM-03, 117-TM-05, 117-TM-08, and 117-TM-09) to evaluate microbial populations and available nutrients. These samples were analyzed for hetrotrophic bacteria, specific hydrocarbon degrading bacteria, orthophosphates, and total Kjeldahl nitrogen. Specific methods for analysis and a description of the analytical testing and quality control requirements are included in the Sampling and Analysis Plan (Shaw 2004). The baseline sample analysis results are included in Attachment 2 and are summarized in Table 1.

On 22 September 2003, the iSOC system was installed and oxygen injection was initiated into the three oxygen injection wells (117-OX-01, 117-OX-02, and 117-OX-03). The initial oxygen flowrates to each well were set at 15 cubic centimeters per minute (cc/min) based on the depth of the iSOC units in the wells. The corresponding initial oxygen pressure to each unit was approximately 20 pounds per square inch gauge (psig). The oxygen flowrate and pressure were adjusted over the next month to evaluate how the changes affected the oxygen concentrations in the injection wells. The optimum operating conditions were determined to be a flowrate of approximately 10 to 11 cc/min at a pressure of 20 to 21 psig. Figure 2 presents a chart of the operating parameter measurements through March 2004. The monitoring forms are included in Attachment 3. Also included in Figure 2 is a chart of the oxygen tank pressures. The chart indicates that a single oxygen tank can provide oxygen to the system for a period of approximately 40 days.

Dissolved oxygen concentrations were measured in the injection wells and monitoring points daily for the first week, weekly for the first month, and monthly after the first month. The monitoring forms are included in Attachment 3. The dissolved oxygen concentration measurements are shown in Figure 3. The dissolved oxygen concentrations in the injections

wells and monitoring wells varied considerable during the first month of operations as changes were made to oxygen injection flowrates. After the first month of operation, the oxygen concentrations in injection wells 117-OX-02 and 117-OX-03 increased to greater than 300 parts per million (ppm) and greater than 400 ppm, respectively. Data collected during the installation and development of these oxygen injection wells indicated that they are installed in soil that is relatively less permeable than well 117-OX-01, with well 117-OX-03 installed in the least permeable soil. After 4 months of operation, the dissolved oxygen concentrations in all injection wells decreased to between approximately 50 and 100 ppm.

After 1 month of operation, monitoring well 117-TM-07 had elevated dissolved oxygen concentrations (as high as 7.25 ppm) relative to upgradient monitoring points. Data collected during the installation and development of the monitoring wells indicates that this well is installed in relatively high permeable soil compared to the other monitoring wells, with wells on the north side of the test area installed in the lowest permeable soil. By February 2003, several of the other monitoring wells (117-TM-01, 117-TM-03, 117-TM-05, and 117-TM-06) had slightly elevated dissolved oxygen concentrations relative to upgradient wells.

Samples were collected from the monitoring wells weekly for the first month of system operation and monthly after the first month. During sample collection, field parameters including dissolved oxygen, ORP, pH, conductivity, and temperature were measured using handheld instruments and recorded. The sample collection logs for the baseline sampling event are included in Attachment 4. The groundwater samples were analyzed for alkalinity and VOCs. Samples were also collected in March 2004 (after 6 months of system operation) from 4 wells (117-TM-03, 117-TM-05, 117-TM-08, and 117-TM-09) to evaluate changes in microbial populations and available nutrients since the baseline testing. These samples were analyzed for hetrotrophic bacteria, specific hydrocarbon degrading bacteria, orthophosphates, and total Kjeldahl nitrogen. Specific methods for analysis and a description of the analytical testing and quality control requirements are included in the Sampling and Analysis Plan (Shaw, 2004). The analytical results are included in Attachment 5. The analytical results for each well are summarized in Tables 2 through 12. Changes in concentrations of benzene, 1,2-dichloroethane, carbon tetrachloride, and chloroform for each well over time are charted in Figures 4 through 14.

Changes in concentrations of the compounds in wells downgradient of the oxygen injection wells do not indicate any significant decrease in contaminants concentrations and are relatively consistent with changes in concentrations in wells upgradient of the oxygen inject wells. VOC concentrations in well 117-TM-07, where oxygen concentrations have been elevated since one

month after the start of the demonstration project, have been low since the baseline sampling and the start of the oxygen injection, and cannot be used to effectively evaluate the biodegradation treatment. Additional time may be required for the bacteria to adjust to increased oxygen concentrations in the saturated zone before significant changes in petroleum hydrocarbon concentrations will be measured. In addition, bacteria may be using other, more readily available, naturally occurring hydrocarbons in the saturated zone as carbon and energy sources and may not start to degrade the petroleum hydrocarbons until the naturally occurring organics are depleted.

In several of the temporary monitoring points (117-TM-09, 117-TM-05, and 117-TM-08), upgradient and downgradient of the oxygen injection wells, the concentration of total hetertrophs and specific hydrocarbon degraders decreased in March 2004 from the concentrations measured during the baseline sampling. Only the concentration of total heterotrophs in well 117-TM-03 increased. This data may indicate that a change in site conditions is killing off bacteria in the saturated zone, but it is unlikely that the injection of oxygen into groundwater would affect the bacteria population upgradient of the injecting wells. Although the bacteria enumeration tests provides a good indication if bacteria are present in the saturated zone, it is not necessarily an accurate method of determining the exact concentrations of bacteria. The results do indicate that bacteria are still present in the saturated zone and nutrients are still available to support biodegradation.

Additional system operation and monitoring will be conducted to measure changes in dissolved oxygen and contaminant concentrations to evaluate the effectives of the treatment technology. The iSOC oxygen system will be monitored, at a minimum, monthly to ensure a continuous flow of oxygen into the groundwater. Groundwater samples and dissolved oxygen measurements will be collected monthly to evaluate changes in groundwater chemistry and contaminant concentrations.

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PROJECT: NASA Crows Landing Flight Facility
Quarterly Report- Summary of iSOC Demonstration
Project Monitoring Activities, Administration Area Plume

TRANSMITTAL NO. 003

TO: Southwest Division, Naval Facilities Engineering Command
BRAC Operations Office, 06CC.LMH
1220 Pacific Highway
San Diego, California 92132-5190

REF: Draft Report

Attn: Lynn Marie Hornecker

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop drawings	☐ Approval	☐ Approved as Submitted
☐ Letter	☐ Your use	☐ Approved as noted
☐ Prints	☐ As requested	☐ Returned after loan
☐ Change order	**XX Review and comment**	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	☐ Sent via	☐ Returned
☐ Specifications	☐**XX Attached**	☐ Returned for corrections
☐**XX Other**	☐ Separate cover via: overnight delivery	☐ Due Date:

I. ITEM NO.	COPIES	DATE	DESCRIPTION
1	1	07/21/04	Summary Transmittal sent to Paul Karmazinski from Dave Kelly (Shaw Environmental). Includes Attachment 1, 2, 3, 4, and 5

Remarks: Please contact me with any questions. Phone number 202-439-2901.

Signed:

CC:

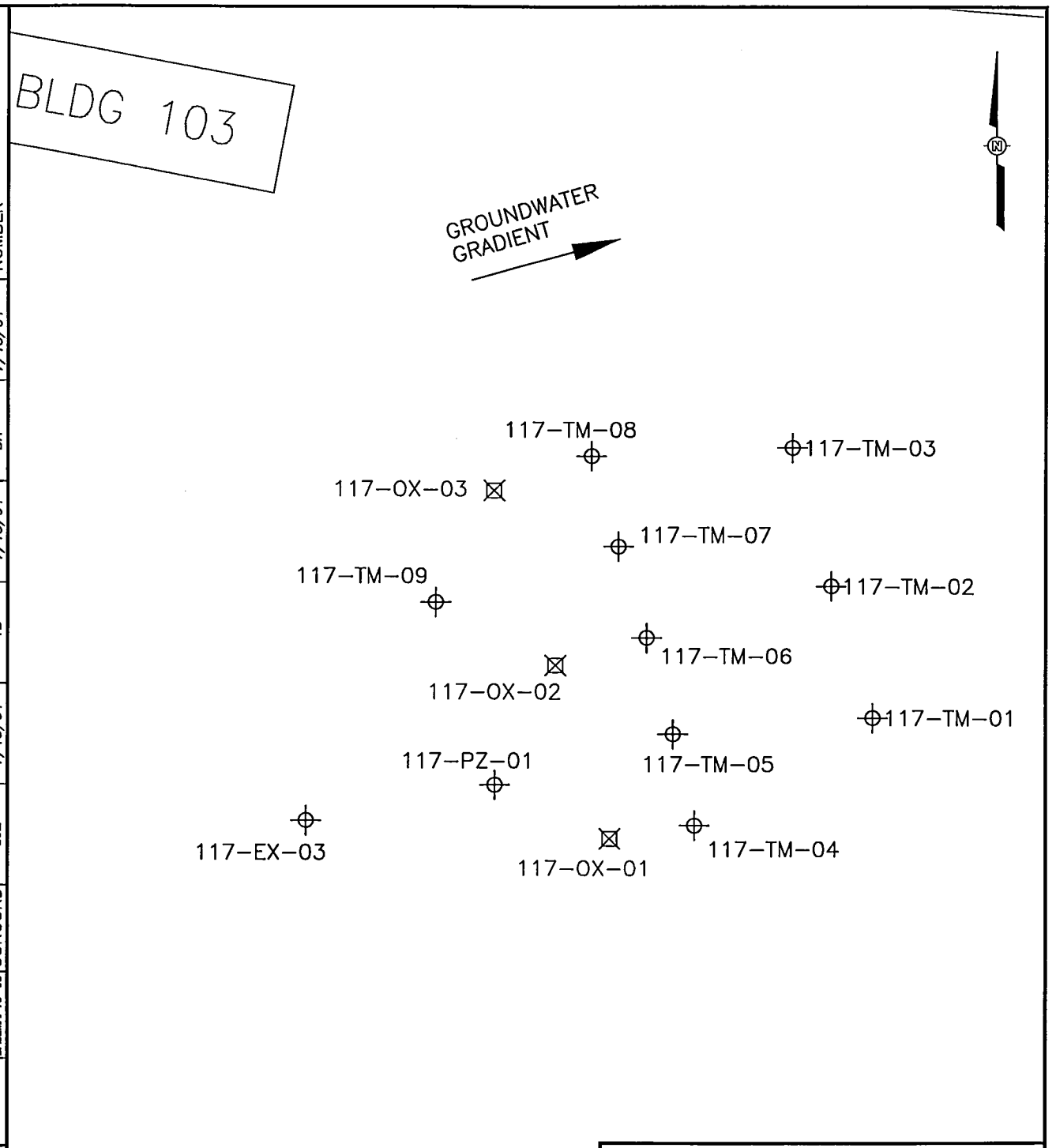


IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	BASEMAP10-03	CONCORD	SJZ	7/15/04	TB	7/15/04	BH	7/15/04	101454-A12

LEGEND

⊠ OXYGEN INJECTION WELLS

⊕ MONITORING POINTS

SCALE

0 15 30 FEET

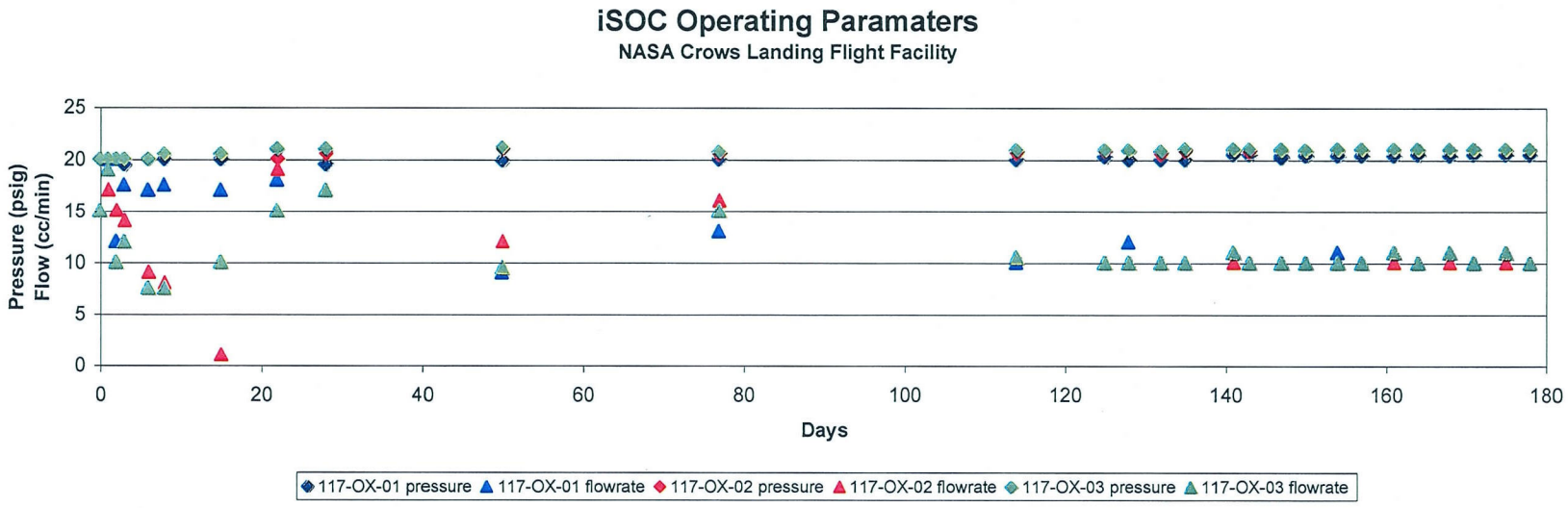
Shaw Environmental, Inc.

NASA
CROWS LANDING FLIGHT FACILITY
CROWS LANDING, CALIFORNIA

FIGURE 1

iSOC DEMONSTRATION PROJECT WELL LOCATIONS

Figure 2
System Measurements



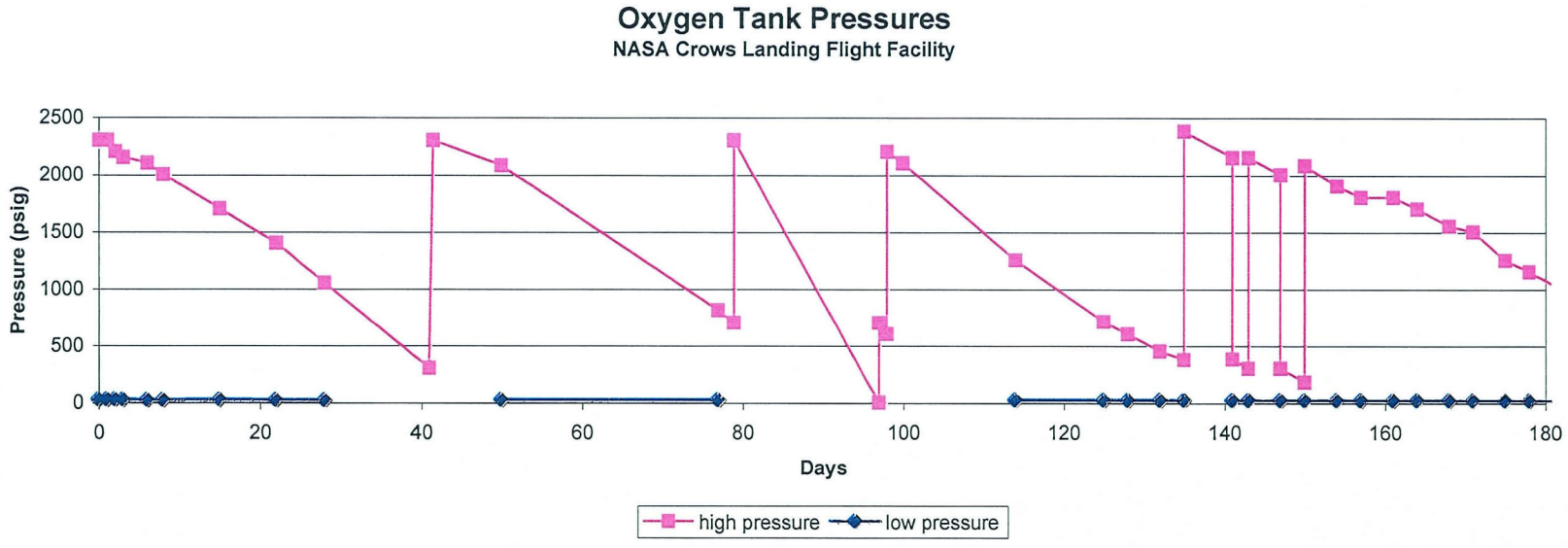


Figure 3

Change in Dissolved Oxygen Concentration Over Time

iSOC Demonatration Project

NASA Crows Landing Flight Facility

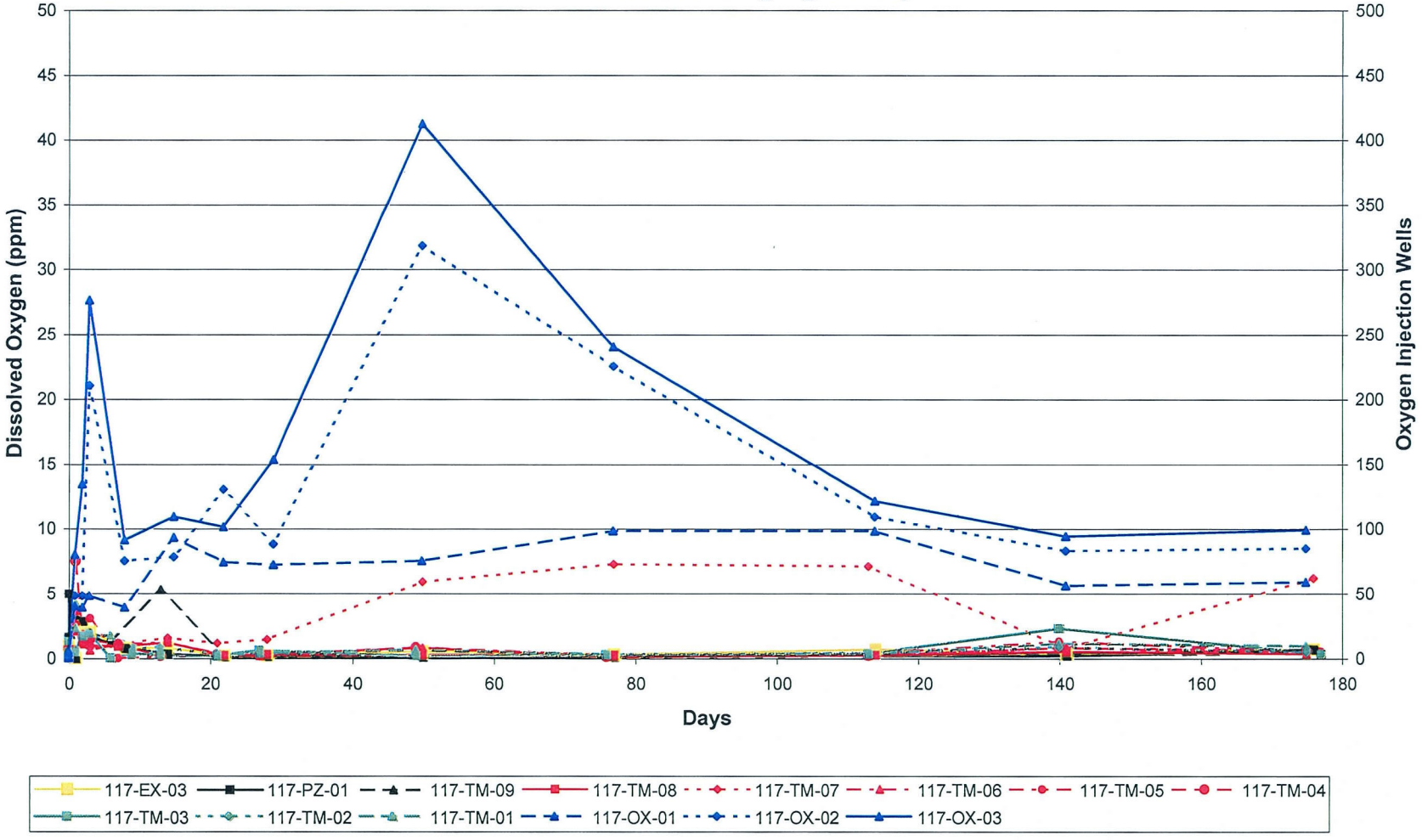


Figure 4
Change in Concetration Over Time
117-EX-03

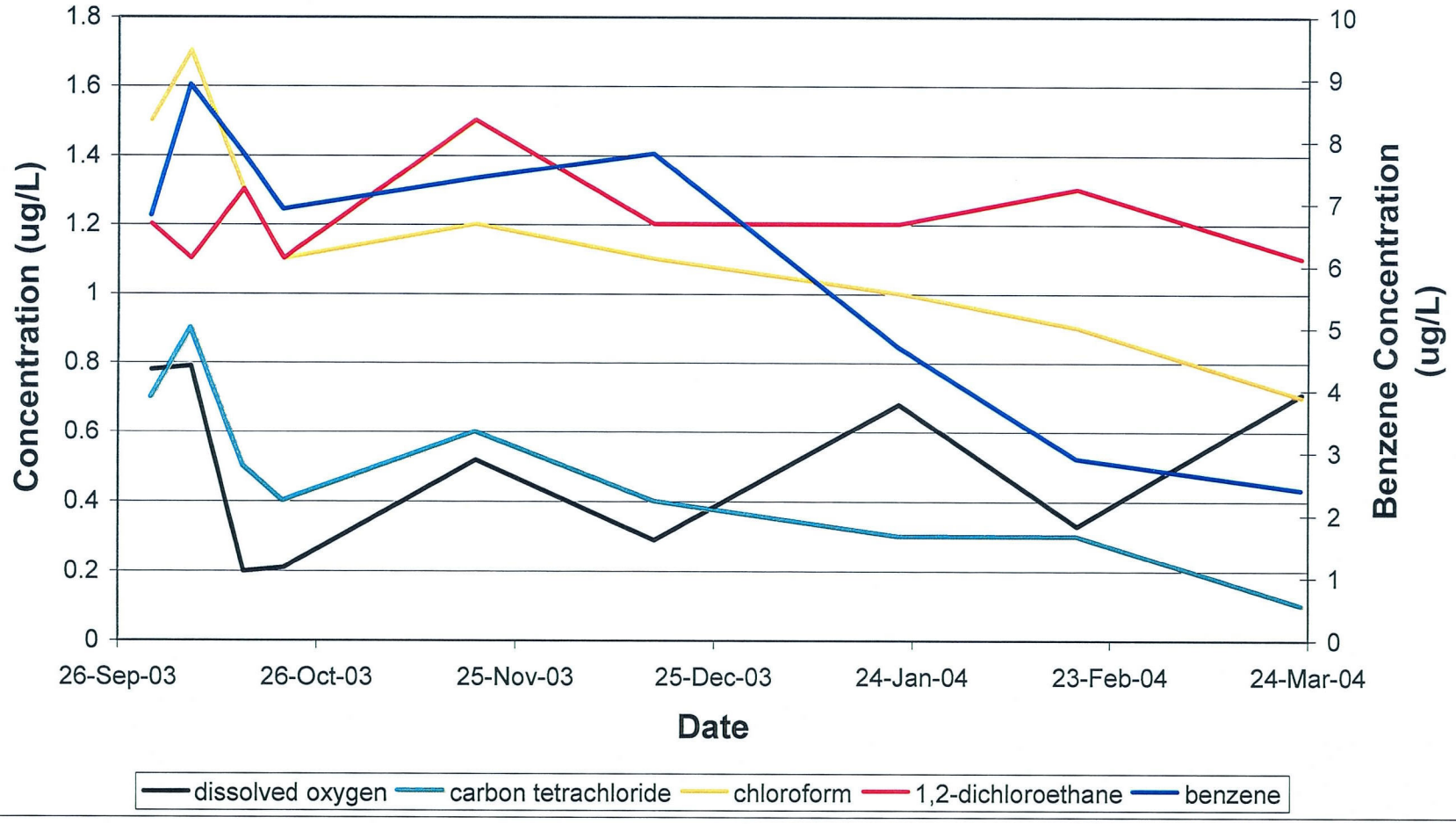


Figure 5
Change in Concentration Over Time
117-PZ-01

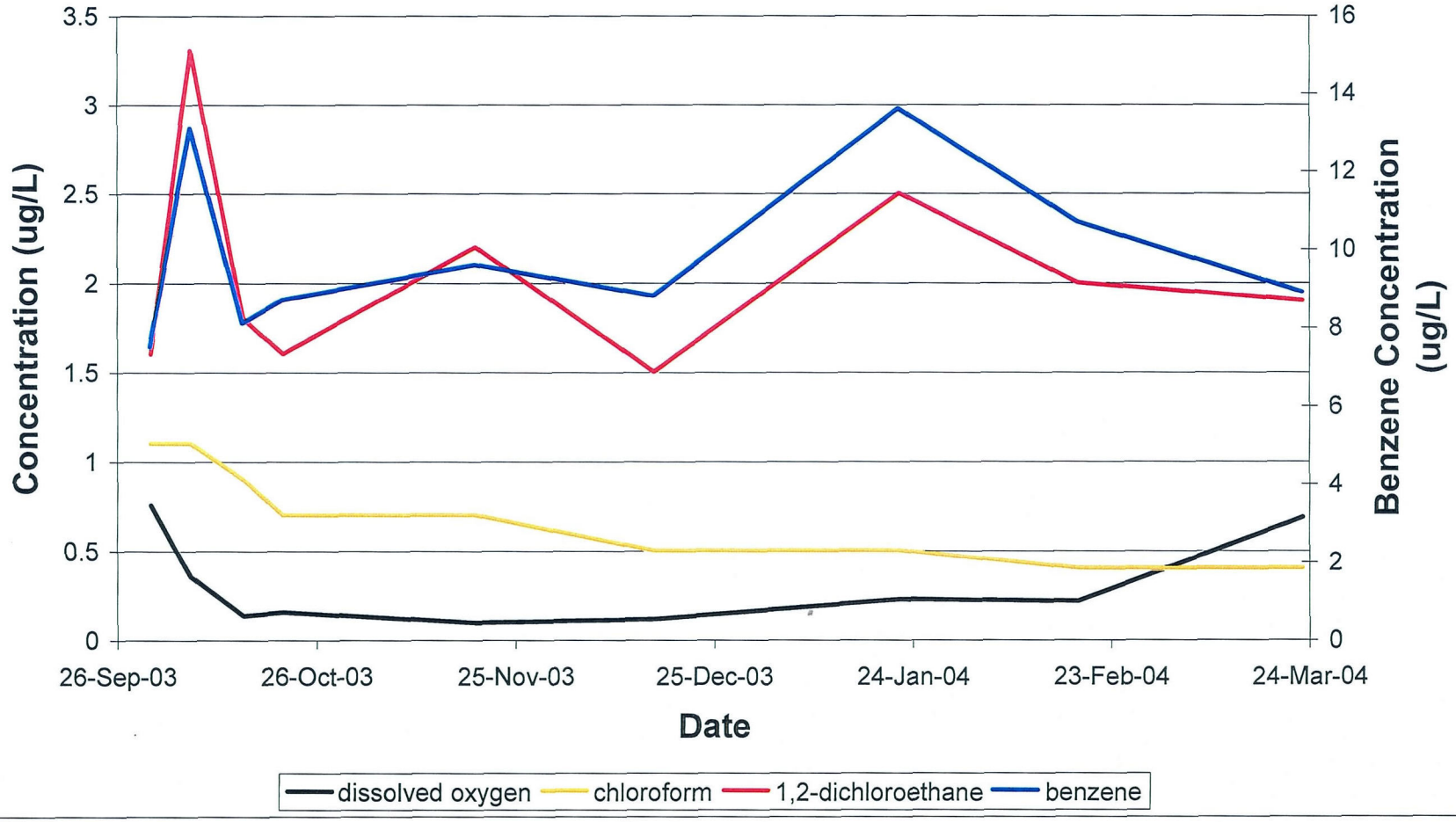


Figure 6
Change in Concentration Over Time
117-TM-09

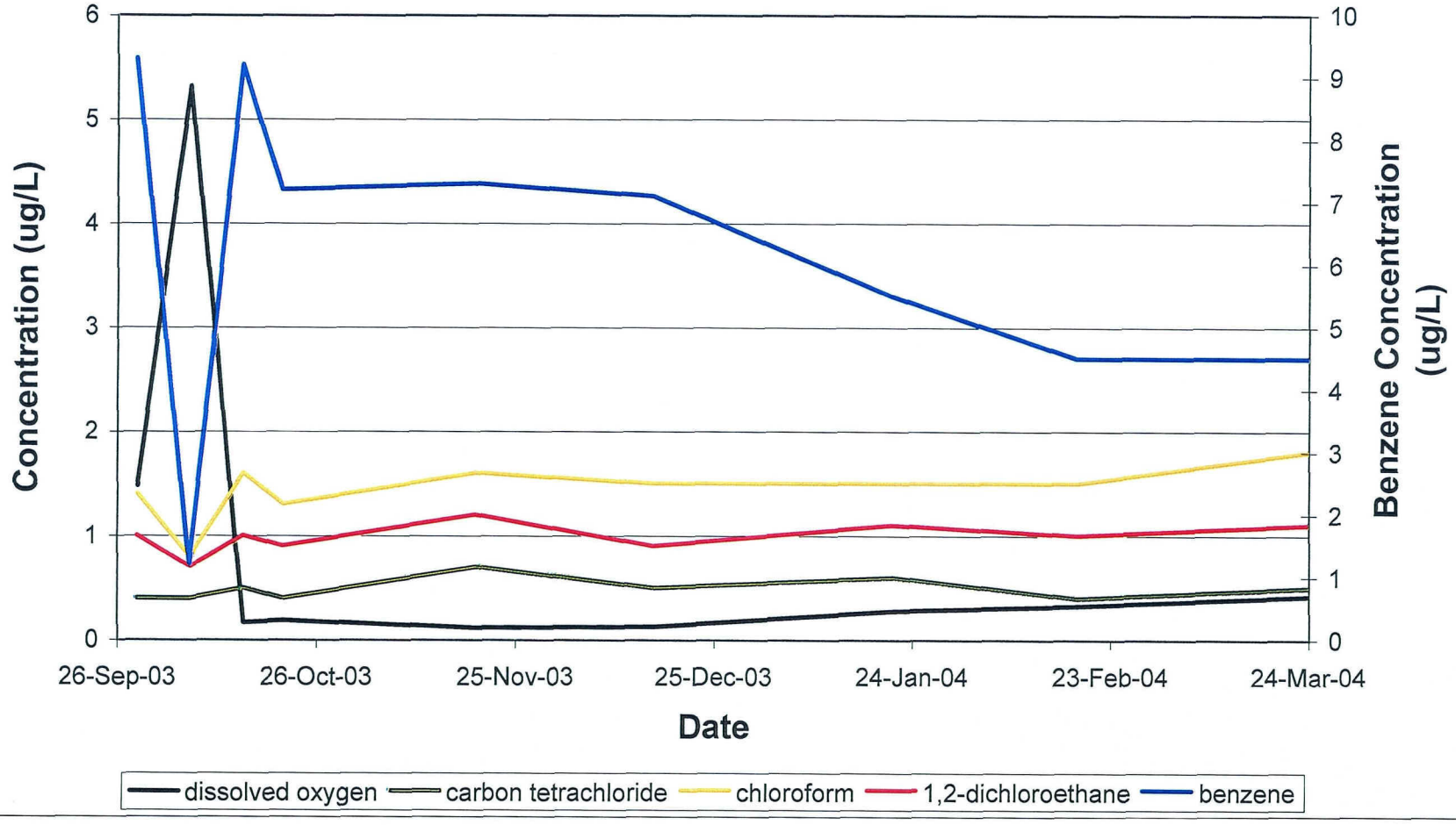


Figure 7
Change in Concentration Over Time
117-TM-01

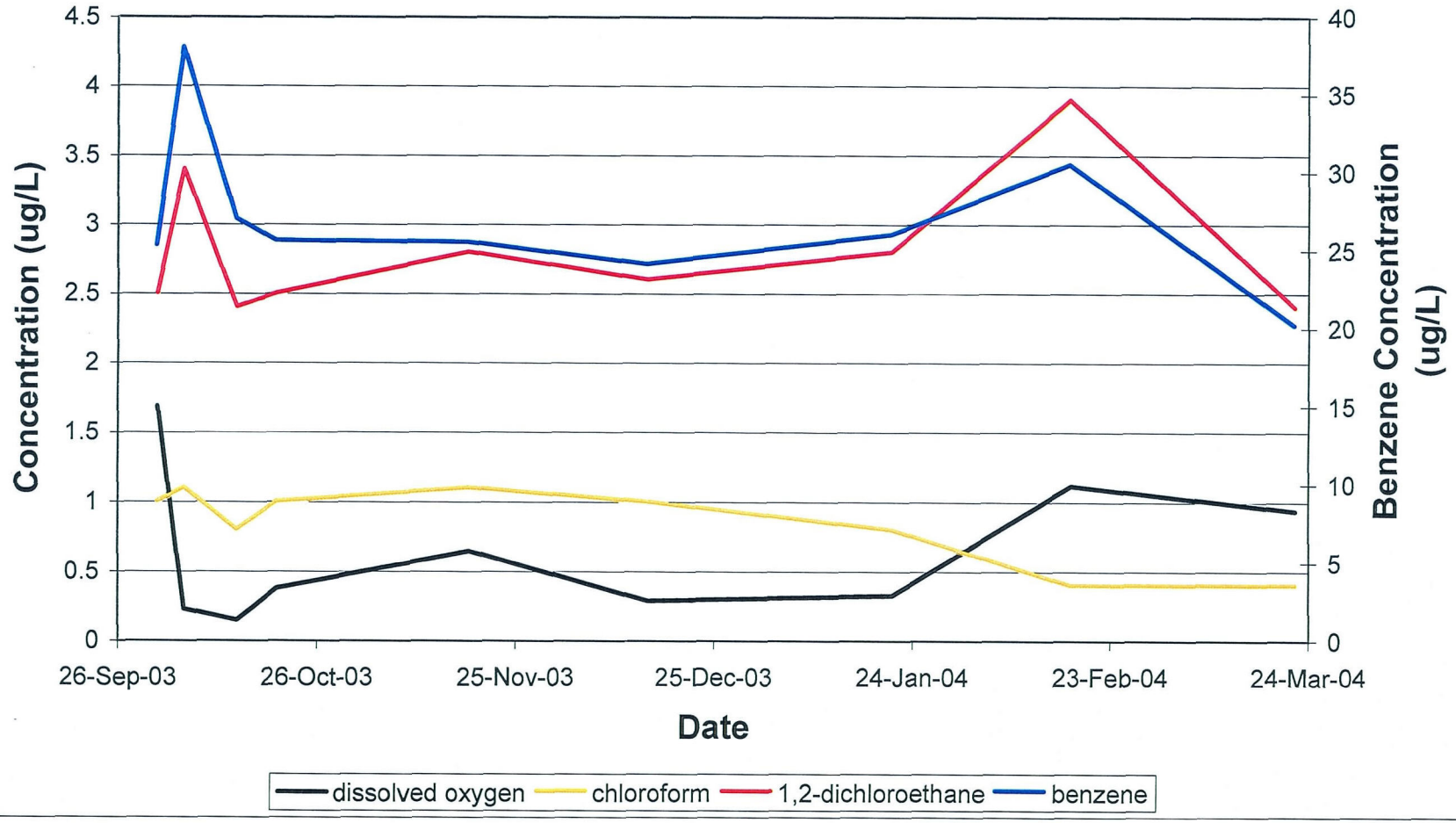


Figure 8
Change in Concentration Over Time
117-TM-02

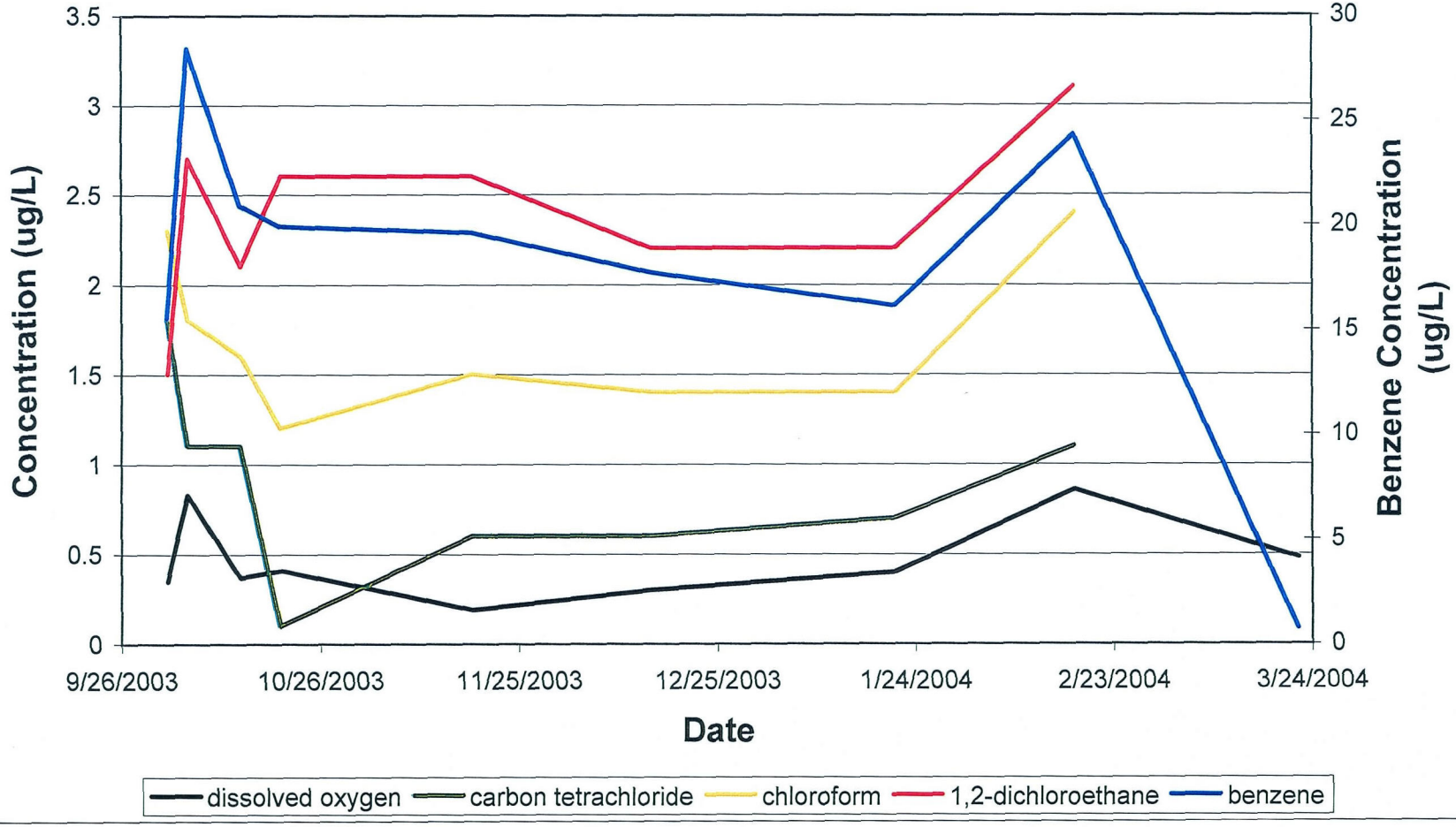


Figure 9
Change in Concentration Over Time
117-TM-03

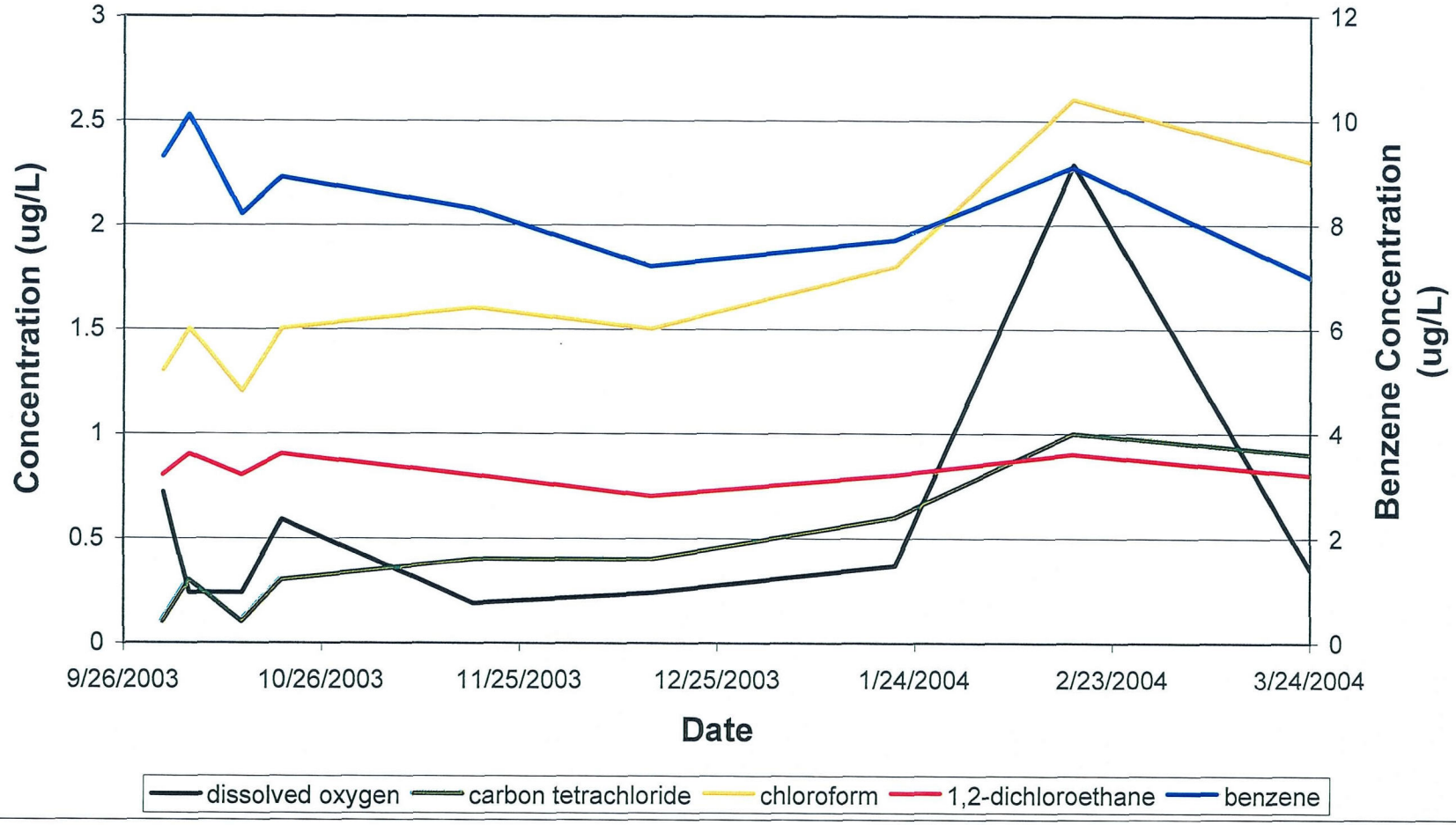


Figure 10
Change in Concentration Over Time
117-TM-04

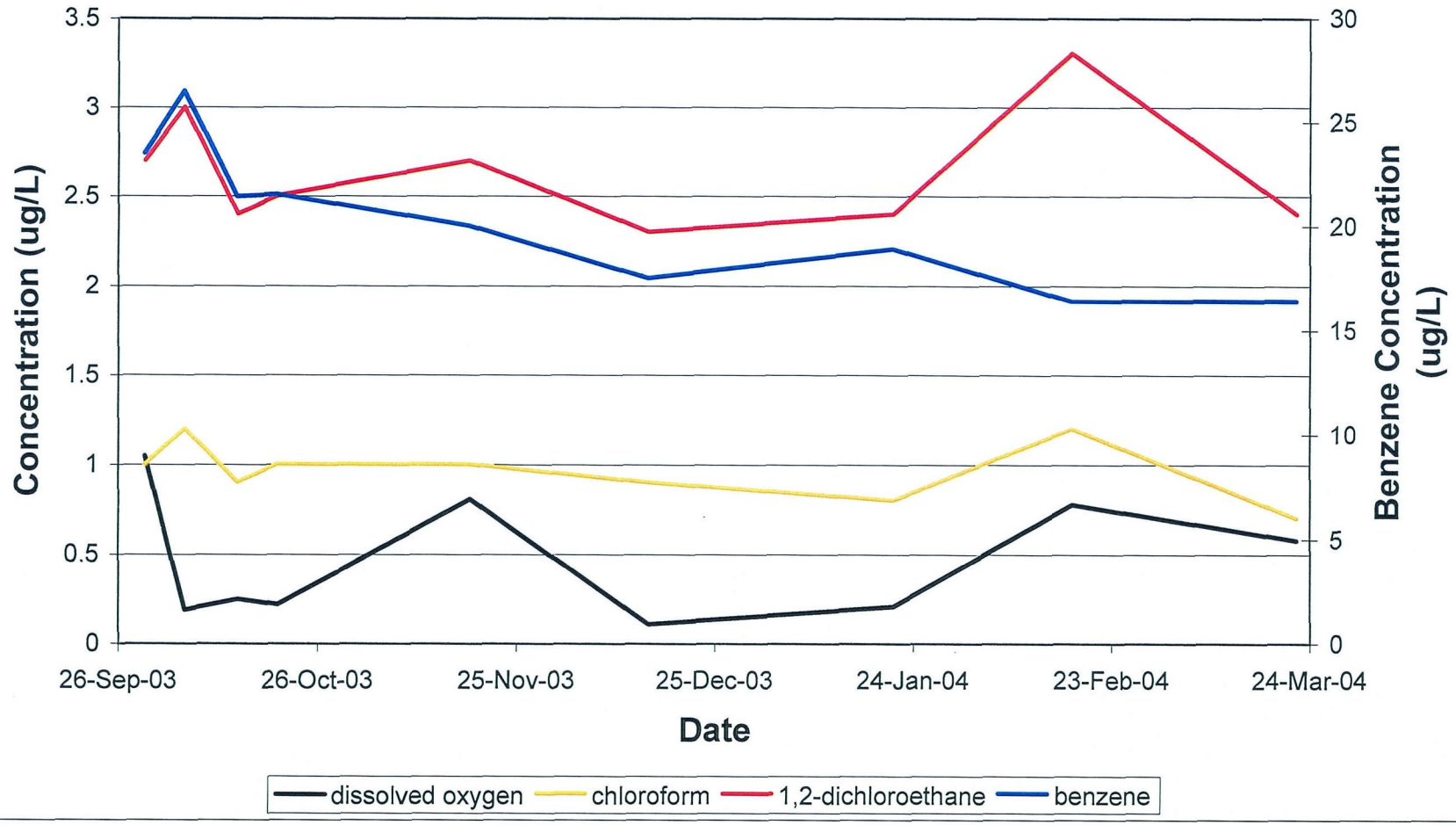


Figure 11
Change in Concentration Over Time
117-TM-05

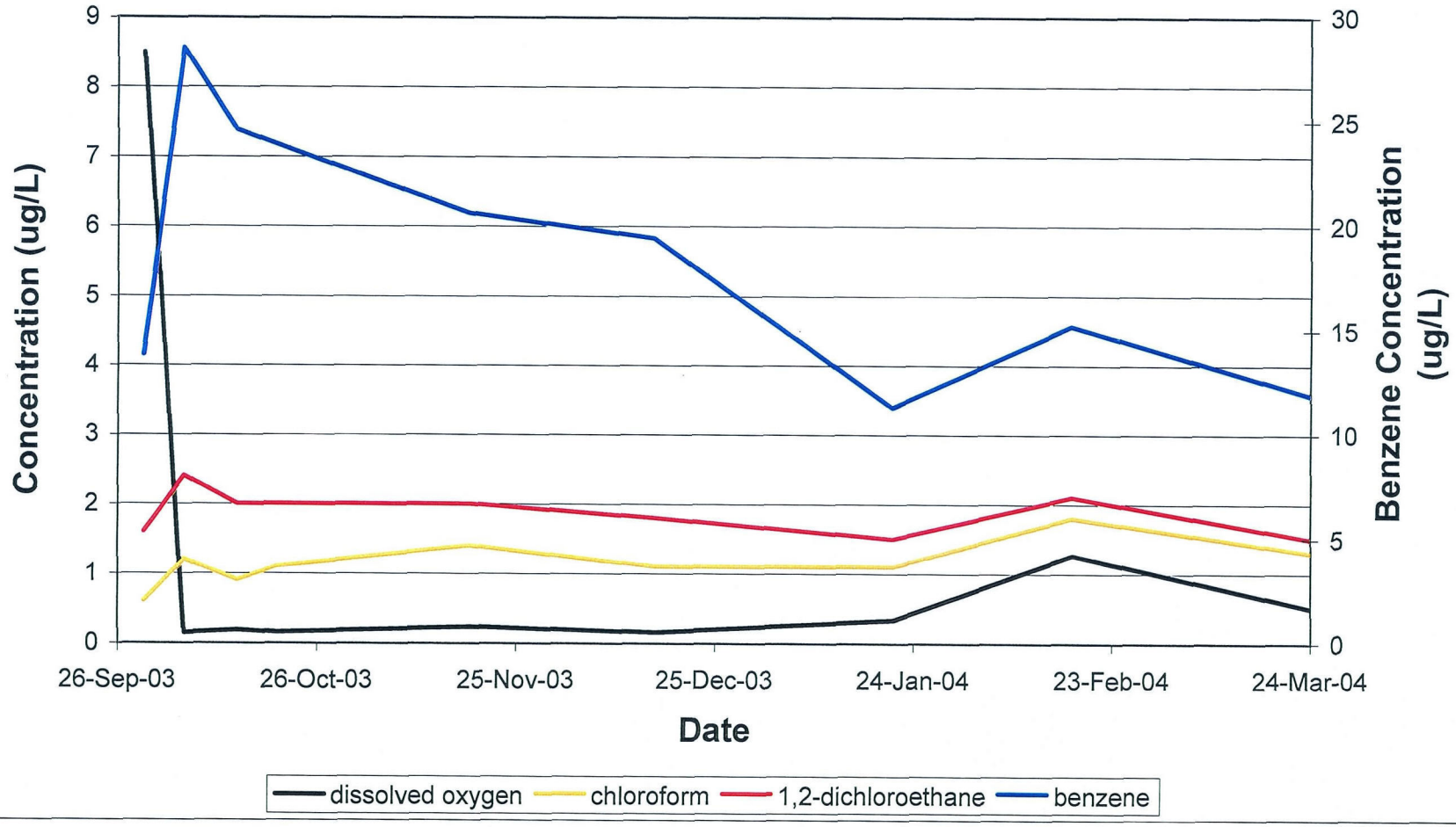


Figure 12
Change in Concentration Over Time
117-TM-06

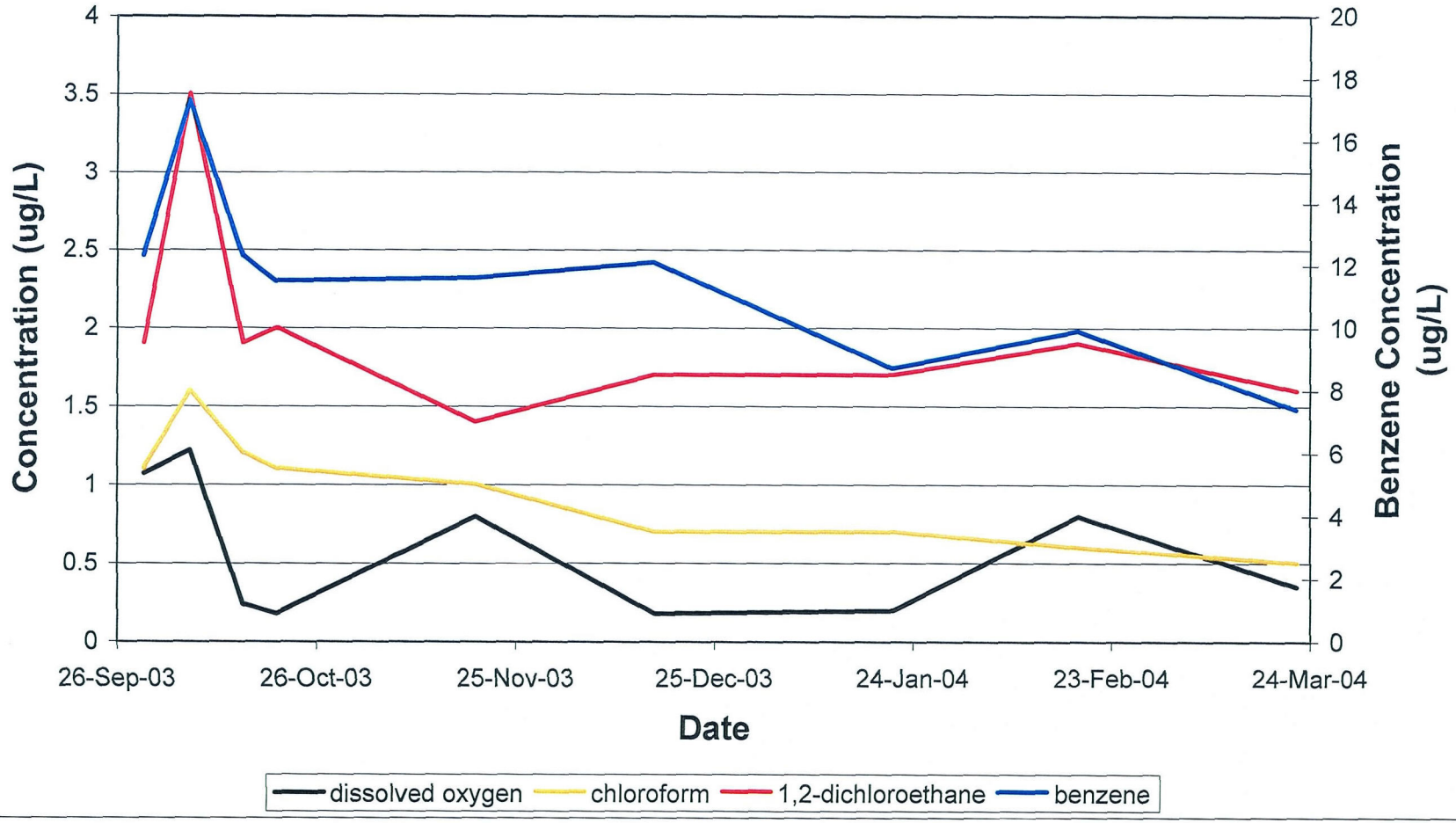


Figure 13
Change in Concentration Over Time
117-TM-07

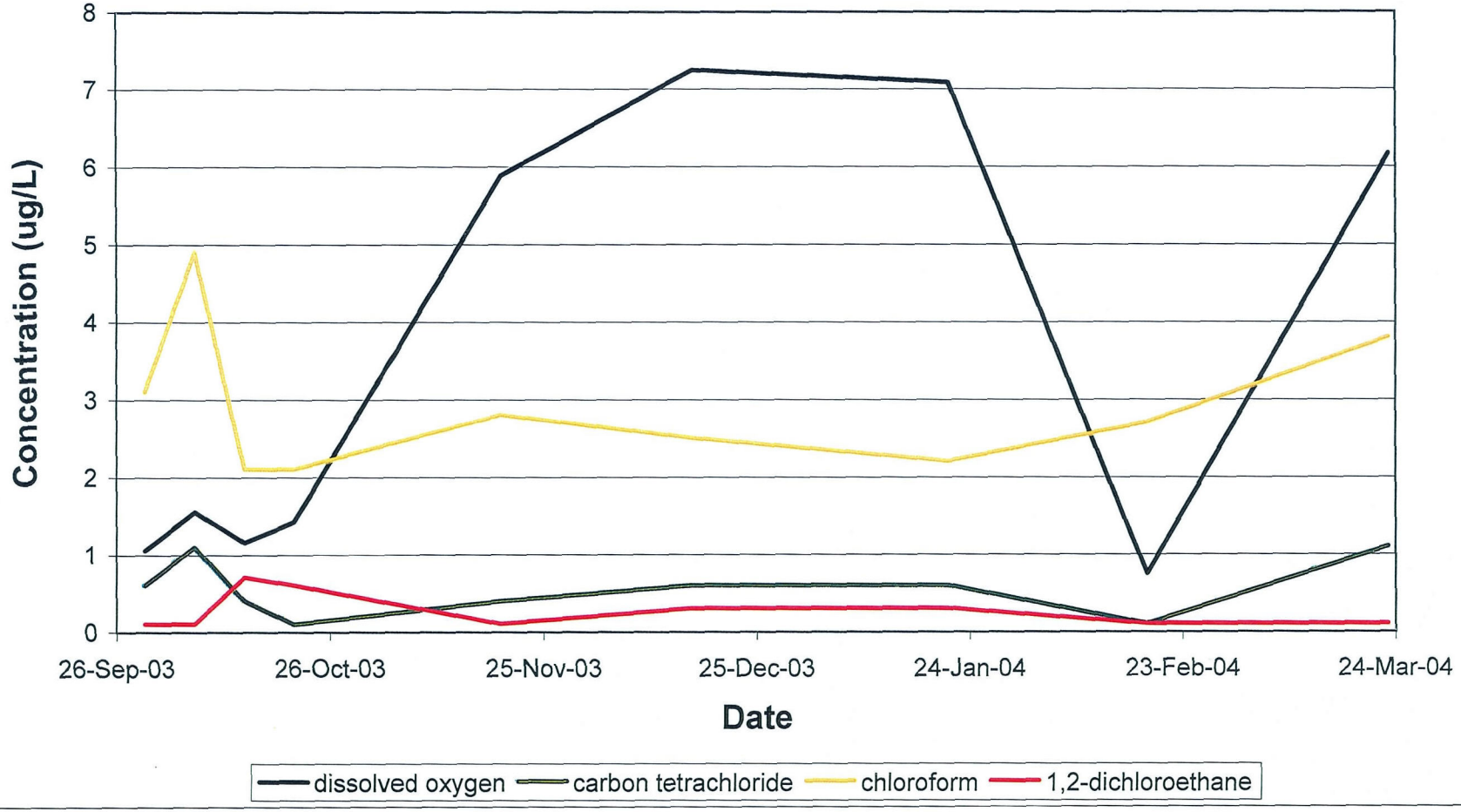
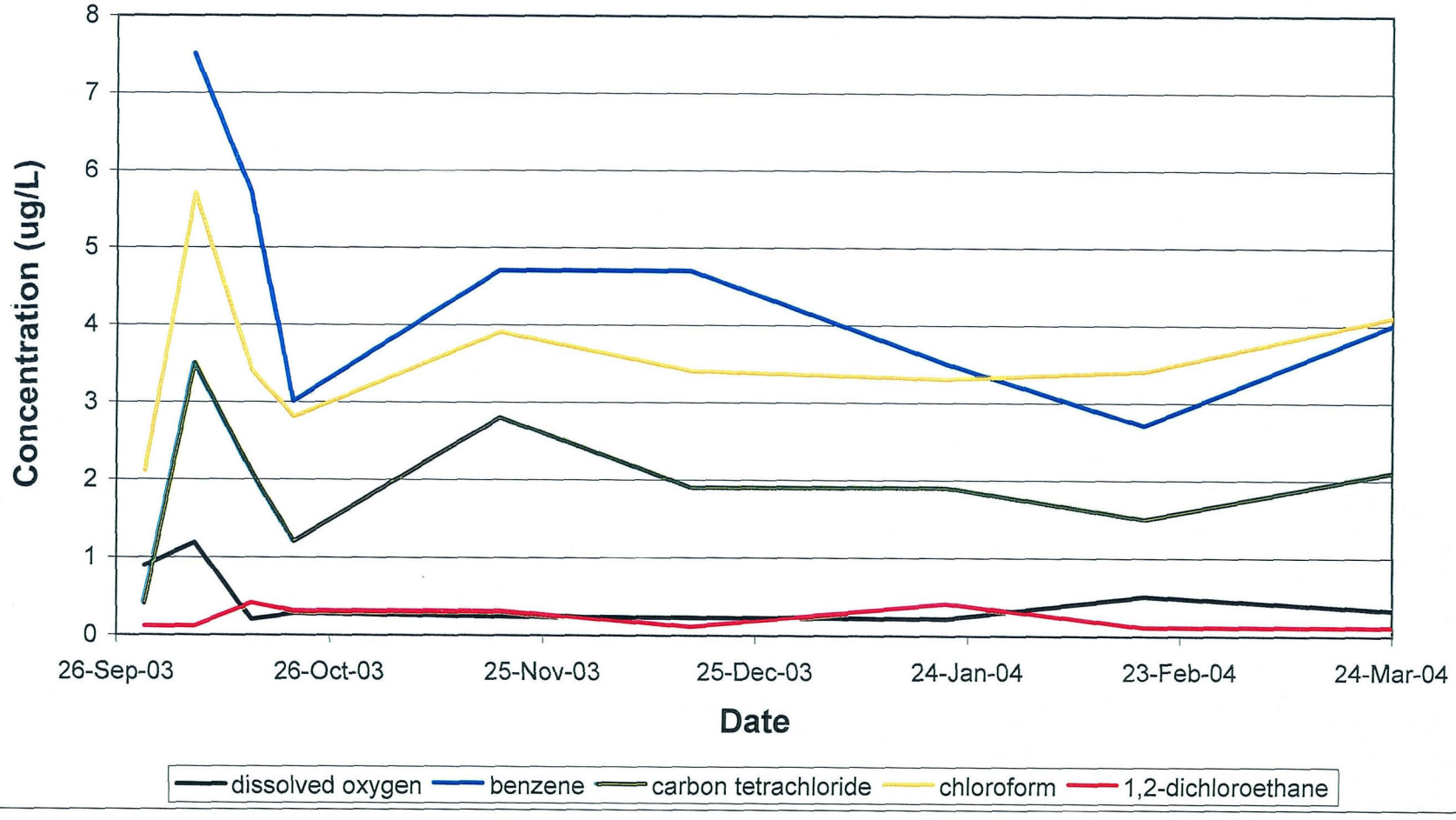


Figure 14
Change in Concentration Over Time
117-TM-08



Attachment 1
Baseline Sample Collection Logs

Table 1 - Baseline Sampling and Analysis Summary of Results, September 2003

Well	117-OX-01	117-OX-02	117-OX-03	117-EX-03	117-PZ-01	117-TM-01	117-TM-02
Screen Interval	83 - 103	83 - 103	83 - 103	79.5 - 114-5	79.3 - 114.3	98 - 103	98 - 103
Location	Oxygen Injection	Oxygen Injection	Oxygen Injection	upgradient - 2nd row	upgradient - 1st row	downgradient - 2nd row	downgradient - 2nd row
Date	2-Sep-03	2-Sep-03	9-Sep-03	2-Sep-03	2-Sep-03	3-Sep-03	3-Sep-03
pH	7.43	7.48	7.35	7.26	7.15	7.3	7.29
conductivity	1.08 ms	1.138 ms	1.062 ms	1.07 ms	1.144 ms	1.239 ms	1.215 ms
ORP	-4.3 mV	-31.5 mV	8.9 mV	-3 mV	24.2 mV	-7.3 mV	-187.1 mV
DO	5.82 mg/L	1.89 mg/L	0.63 mg/L	0.94 mg/L	1.63 mg/L	0.31 mg/L	0.22 mg/L
turbidity	388 NTU	20 NTU	75.9 NTU	9.2 NTU	131 NTU	30.8 NTU	593 NTU
total kjeldahl nitrogen							
orthophosphates							
total heterotrophs							
hydrocarbon degraders							
alkalinity	224 mg/L	250 mg/L	235 mg/L	246 mg/L	246 mg/L	237 mg/L	241 mg/L
sulfide	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L
TOC (average)	3.1 mg/L	3.8 mg/L	5.7 mg/L	3.8 mg/L	3.5 mg/L	6.2 mg/L	5.9 mg/L
chloride	80.9 mg/L	97.4 mg/L	83.8 mg/L	81.6 mg/L	91 mg/L	99.7 mg/L	95.8 mg/L
nitrate	8.1 mg/L	6.4 mg/L	7.4 mg/L	5.1 mg/L	3.7 mg/L	7.5 mg/L	7 mg/L
nitrite	<0.5 mg/L	<0.63 mg/L	<0.63 mg/L	0.98 mg/L	2.4 mg/L	<0.63 mg/L	<0.63 mg/L
sulfate	189 mg/L	179 mg/L	173 mg/L	183 mg/L	202 mg/L	253 mg/L	237 mg/L
iron	16300 ug/L	647 ug/L	50.5 ug/L	274 ug/L	9100 ug/L	75.7 ug/L	63.9 ug/L
manganese	349 ug/L	35.5 ug/L	17.2 ug/L	11.1 ug/L	223 ug/L	130 ug/L	153 ug/L
TPH-g	0.04J mg/L	0.1 mg/L	0.14 mg/L	0.1 mg/L	0.11 mg/L	0.29 mg/L	0.26 mg/L
TPH-jf	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L
TPH-d	<0.096[a] mg/L	<0.096[a] mg/L	<0.1[a] mg/L	<0.096[a] mg/L	<0.096[a] mg/L	<0.096[a] mg/L	<0.096[a] mg/L
TPH-mo	<0.13 mg/L	<0.13 mg/L	<0.14 mg/L	<0.13 mg/L	<0.13 mg/L	<0.13 mg/L	<0.13 mg/L
benzene	3.6 ug/L	9.7 ug/L	26.9 ug/L	14.3 ug/L	18.3 ug/L	40.7 ug/L	35.9 ug/L
carbon tetrachloride	5.3 ug/L	2.4 ug/L	1.8 ug/L	1.4 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
chloroform	4.5 ug/L	4.8 ug/L	4.1 ug/L	3.4 ug/L	2.6 ug/L	1.3 ug/L	2.1 ug/L
1,2-dichloroethane	<0.5 ug/L	5.9 ug/L	3.5 ug/L	2.3 ug/L	4 ug/L	3.8 ug/L	4 ug/L
acetone	17 ug/L	24 ug/L	<10 ug/L	18 ug/L	44 ug/L	20 ug/L	17 ug/L
2-butanone (MEK)	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	5J ug/L	<10 ug/L	<10 ug/L
s-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.5 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl benzene	<0.5 ug/L	1.1 ug/L	<0.5 ug/L	1.8 ug/L	1.6 ug/L	1.7 ug/L	2.3 ug/L
carbon disulfide	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	0.5J ug/L
cis-1,2-dichloroethene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
isopropylbenzene	2.5 ug/L	2 ug/L	0.6 ug/L	41.1 ug/L	188 ug/L	11.1 ug/L	31.3 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	3.3 ug/L	6.7 ug/L	<0.5 ug/L	<0.5 ug/L
toluene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.6 ug/L	<0.5 ug/L
t-butyl alcohol	39 ug/L	90 ug/L	<20 ug/L	83 ug/L	140 ug/L	79 ug/L	82 ug/L

Table 1 - Baseline Sampling and Analysis Summary of Results, September 2003

Well	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09
Screen Interval	98 - 103	98 - 103	98 - 103	98 - 103	94.5 - 99.5	98 - 103	98-103
Location	downgradient - 2nd row	downgradient - 1st row	downgradient - 1st row	downgradient - 1st row	downgradient - 1st row	downgradient - 1st row	upgradient - 1st row
Date	3-Sep-03	8-Sep-03	4-Sep-03	9-Sep-03	8-Sep-03	4-Sep-03	4-Sep-03
pH	7.42	7.28	7.33	7.31	7.44	7.31	7.29
conductivity	1.138 ms	1.194 ms	1.136 ms	1.125 ms	1.098 ms	1.013 ms	1.099 ms
ORP	-68.3 mV	-55.1 mV	18.2 mV	108.5 mV	-214.7 mV	-73.6 mV	-35.2 mV
DO	0.46 mg/L	0.75 mg/L	0.25 mg/L	0.47 mg/L	0.39 mg/L	0.21 mg/L	0.33 mg/L
turbidity	12.9 NTU	253 NTU	5.38 NTU	153 NTU	1.09 NTU	10.97 NTU	97.4 NTU
total kjeldahl nitrogen	1 mg/L		0.37 mg/L			0.33 mg/L	<0.18 mg/L
orthophosphates	<0.05 mg/L		<0.05 mg/L			0.027J mg/L	0.017J mg/L
total heterotrophs	600 cfu/ml		5000 cfu/ml			7000 cfu/ml	10000 cfu/ml
hydrocarbon degraders	100 cfu/ml		200 cfu/ml			700 cfu/ml	90 cfu/ml
alkalinity	229 mg/L	225 mg/L	242 mg/L	245 mg/L	221 mg/L	232 mg/L	223 mg/L
sulfide	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L	<0.2 mg/L
TOC (average)	2.1 mg/L	7.6 mg/L	5.5 mg/L	7.2 mg/L	1.3 mg/L	1.1 mg/L	3.4 mg/L
chloride	94 mg/L	91.6 mg/L	95.8 mg/L	91.6 mg/L	84.2 mg/L	73.3 mg/L	90.1 mg/L
nitrate	8.5 mg/L	4.9 mg/L	7.3 mg/L	6.1 mg/L	7 mg/L	5.3 mg/L	5.9 mg/L
nitrite	<0.63 mg/L	<0.63 mg/L	<0.63 mg/L	<0.63 mg/L	<0.63 mg/L	<0.63 mg/L	<0.63 mg/L
sulfate	195 mg/L	229 mg/L	189 mg/L	197 mg/L	179 mg/L	158 mg/L	188 mg/L
iron	100 ug/L	22.9J ug/L	72.6 ug/L	54.5 ug/L	68.4 ug/L	73.4 ug/L	54.8 ug/L
manganese	101 ug/L	400 ug/L	61.6 ug/L	60.7 ug/L	103 ug/L	68.8 ug/L	104 ug/L
TPH-g	0.05 mg/L	0.2 mg/L	0.24 mg/L	0.39 mg/L	0.02J mg/L	0.04J mg/L	0.14 mg/L
TPH-jf	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L
TPH-d	<0.096[a] mg/L	<0.5[a] mg/L	<0.096[a] mg/L	<0.1[a] mg/L	<0.096[a] mg/L	<0.096[a] mg/L	<0.096[a] mg/L
TPH-mo	0.15 mg/L	<0.7 mg/L	<0.13 mg/L	<0.14 mg/L	<0.13 mg/L	<0.13 mg/L	<0.13 mg/L
benzene	16.4 ug/L	41.2 ug/L	49.5 ug/L	19.3 ug/L	<0.5 ug/L	10.5 ug/L	23.2 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.6 ug/L	2.6 ug/L	<0.5 ug/L
chloroform	2.3 ug/L	1.5 ug/L	1.4 ug/L	1.9 ug/L	4.2 ug/L	5 ug/L	2.1 ug/L
1,2-dichloroethane	1.2 ug/L	3.9 ug/L	3.4 ug/L	2.9 ug/L	<0.5 ug/L	0.6 ug/L	2.7 ug/L
acetone	14 ug/L	<10 ug/L	14 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	17 ug/L
2-butanone (MEK)	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
s-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl benzene	0.6 ug/L	1.4 ug/L	1.4 ug/L	0.8 ug/L	<0.5 ug/L	<0.5 ug/L	1 ug/L
carbon disulfide	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
cis-1,2-dichloroethene	<0.5 ug/L	0.9 ug/L	<0.5 ug/L	<0.5 ug/L	0.6 ug/L	<0.5 ug/L	<0.5 ug/L
isopropylbenzene	6.7 ug/L	8.7 ug/L	14.7 ug/L	30.8 ug/L	4.2 ug/L	5.5 ug/L	19.5 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
toluene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl alcohol	29 ug/L	92 ug/L	64 ug/L	71 ug/L	<20 ug/L	<20 ug/L	69 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
cfu/ml denotes colony forming units per millilite
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 2 - WI 117-03, Summary of Monitoring Results, September 2003 to Mar 2004

Well					117-EX-03					
Screen Interval					79.5 - 114-5					
Location					upgradient - second row					
Date	Baseline 2-Sep-03	1-Oct-03	7-Oct-03	15-Oct-03	21-Oct-03	19-Nov-03	16-Dec-03	22-Jan-04	18-Feb-04	23-Mar-04
pH	7.26	7.5	7.21	7.17	7.17	6.98	7.27	7.17	7.19	7.31
conductivity	1.07 ms	1.07 ms	1.109 ms	1.114 ms	1.137 ms	1.117 ms	1.083 ms	1.102 ms	1.105 ms	1.119 ms
ORP	-3 mV	-40.8 mV	-42.1 mV	-52.8 mV	-24.7 mV	-69 mV	-236.2 mV	-109.3 mV	-145.6 mV	-208.4 mV
DO	0.94 mg/L	0.78 mg/L	0.79 mg/L	0.2 mg/L	0.21 mg/L	0.52 mg/L	0.29 mg/L	0.68 mg/L	0.33 mg/L	0.71 mg/L
turbidity	9.2 NTU	12.1 NTU	12.1 NTU	2.2 NTU	5.1 NTU	1.6 NTU	0.63 NTU	8.6 NTU	3.36 NTU	1 NTU
alkalinity	246 mg/L	249 mg/L	251 mg/L	246 mg/L	244 mg/L	245 mg/L	250 mg/L	250 mg/L	246 mg/L	248 mg/L
sulfide	<0.2 mg/L									
TOC (average)	3.8 mg/L									
chloride	81.6 mg/L									
nitrate	5.1 mg/L									
nitrite	0.98 mg/L									
sulfate	183 mg/L									
iron	274 ug/L									
manganese	11.1 ug/L									
TPH-g	0.1 mg/L									0.05J mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.096 mg/L
TPH-mo	<0.13 mg/L									<0.096 mg/L
benzene	14.3 ug/L	6.8 ug/L	8.9 ug/L	7.8 ug/L	6.9 ug/L	7.4 ug/L	7.8 ug/L	4.7 ug/L	2.9 ug/L	2.4 ug/L
carbon tetrachloride	1.4 ug/L	0.7 ug/L	0.9 ug/L	0.5 ug/L	0.4J ug/L	0.6 ug/L	0.4J ug/L	0.3J ug/L	0.3J ug/L	<0.5 ug/L
chloroform	3.4 ug/L	1.5 ug/L	1.7 ug/L	1.3 ug/L	1.1 ug/L	1.2 ug/L	1.1 ug/L	1 ug/L	0.9 ug/L	0.7 ug/L
1,2-dichloroethane	2.3 ug/L	1.2 ug/L	1.1 ug/L	1.3 ug/L	1.1 ug/L	1.5 ug/L	1.2 ug/L	1.2 ug/L	1.3 ug/L	1.1 ug/L
acetone	18 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	3J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	3J ug/L	<10 ug/L
n-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
sec-butylbenzene	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	0.4J ug/L	<0.5 ug/L	0.5 ug/L	0.6 ug/L	<0.5 ug/L	0.3J ug/L	0.3J ug/L
tert-butylbenzene	1.8 ug/L	1 ug/L	0.7 ug/L	0.9 ug/L	0.6 ug/L	1.1 ug/L	0.8 ug/L	<0.5 ug/L	0.4J ug/L	0.4J ug/L
isopropylbenzene	41.1 ug/L	16.7 ug/L	13.7 ug/L	23.2 ug/L	13.2 ug/L	25.4 ug/L	16.2 ug/L	1.1 ug/L	2.2 ug/L	1.6 ug/L
n-propylbenzene	3.3 ug/L	1.4 ug/L	1.5 ug/L	2.2 ug/L	1.2 ug/L	2.2 ug/L	1.1 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl alcohol	83 ug/L	35 ug/L	<20 ug/L	<20 ug/L	71 ug/L	29 ug/L	53 ug/L	52 ug/L	63 ug/L	48 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 3 - Well 117-PZ-01, Summary of Monitoring Results, September 2003 to March 2004

Well					117-PZ-01					
Screen Interval					79.3 - 114.3					
Location					upgradient - first row					
Date	Baseline 2-Sep-03	1-Oct-03	7-Oct-03	15-Oct-03	21-Oct-03	19-Nov-03	16-Dec-03	22-Jan-04	18-Feb-04	23-Mar-04
pH	7.15	7.37	7.15	7.22	7.14	6.96	7.25	6.83	7.18	7.32
conductivity	1.144 ms	1.116 ms	1.165 ms	1.164 ms	1.144 ms	1.174 ms	1.12 ms	1.153 ms	1.154 ms	1.162 ms
ORP	24.2 mV	-189 mV	-148 mV	-98.8 mV	-72.6 mV	-181 mV	-250.2 mV	117.2 mV	-134.6 mV	-243 mV
DO	1.63 mg/L	0.76 mg/L	0.36 mg/L	0.14 mg/L	0.16 mg/L	0.1 mg/L	0.12 mg/L	0.23 mg/L	0.22 mg/L	0.69 mg/L
turbidity	131 NTU	22.2 NTU	10.98 NTU	80 NTU	2.8 NTU	3.7 NTU	2.75 NTU	1.58 NTU	3.3 NTU	1.7 NTU
alkalinity	246 mg/L	251 mg/L	253 mg/L	257 mg/L	246 mg/L	251 mg/L	253 mg/L	255 mg/L	246 mg/L	254 mg/L
sulfide	<0.2 mg/L									
TOC (average)	3.5 mg/L									
chloride	91 mg/L									
nitrate	3.7 mg/L									
nitrite	2.4 mg/L									
sulfate	202 mg/L									
iron	9100 ug/L									
manganese	223 ug/L									
TPH-g	0.11 mg/L									0.08 mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.096 mg/L
TPH-mo	<0.13 mg/L									<0.096 mg/L
benzene	18.3 ug/L	7.5 ug/L	13.1 ug/L	8.1 ug/L	8.7 ug/L	9.6 ug/L	8.8 ug/L	13.6 ug/L	10.7 ug/L	8.9 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
chloroform	2.6 ug/L	1.1 ug/L	1.1 ug/L	0.9 ug/L	0.7 ug/L	0.7 ug/L	0.5J ug/L	0.5J ug/L	0.4J ug/L	0.4J ug/L
1,2-dichloroethane	4 ug/L	1.6 ug/L	3.3 ug/L	1.8 ug/L	1.6 ug/L	2.2 ug/L	1.5 ug/L	2.5 ug/L	2 ug/L	1.9 ug/L
acetone	44 ug/L	8J ug/L	<10 ug/L	<10 ug/L	5J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
2-butanone (MEK)	5J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<0.5 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
n-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
sec-butylbenzene	0.5 ug/L	0.8 ug/L	1.2 ug/L	1 ug/L	0.8 ug/L	1 ug/L	0.4J ug/L	0.4J ug/L	0.5 ug/L	0.4J ug/L
tert-butylbenzene	1.6 ug/L	0.9 ug/L	1.4 ug/L	0.8 ug/L	0.6 ug/L	1.2 ug/L	0.5 ug/L	0.5J ug/L	0.6 ug/L	0.4J ug/L
isopropylbenzene	188 ug/L	16.7 ug/L	60.3 ug/L	126 ug/L	32.7 ug/L	70 ug/L	13.9 ug/L	3.7 ug/L	0.9 ug/L	1.1 ug/L
n-propylbenzene	6.7 ug/L	<0.5 ug/L	1.7 ug/L	2 ug/L	0.4J ug/L	2.4 ug/L	0.4J ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl alcohol	140 ug/L	76 ug/L	<20 ug/L	<20 ug/L	77 ug/L	150 ug/L	80 ug/L	85 ug/L	84 ug/L	64 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 4 - Well 117-TM-09, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-09									
Screen Interval	98-103									
Location	upgradient - first row									
Date	Baseline 4-Sep-03	29-Sep-03	7-Oct-03	15-Oct-03	21-Oct-03	19-Nov-03	16-Dec-03	21-Jan-04	18-Feb-04	24-Mar-04
pH	7.29	7.46	7.7	7.36	7.32	7.12	7.27	7.04	7.25	7.39
conductivity	1.099 ms	1.054 ms	1.118 ms	1.079 ms	1.063 ms	1.078 ms	1.016 ms	1.096 ms	1.078 ms	1.101 ms
ORP	-35.2 mV	-23.9 mV	-16.1 mV	52 mV	-40.9 mV	-33.6 mV	103 mV	85.4 mV	7.3 mV	44.9 mV
DO	0.33 mg/L	1.48 mg/L	5.32 mg/L	0.17 mg/L	0.19 mg/L	0.12 mg/L	0.13 mg/L	0.28 mg/L	0.33 mg/L	0.42 mg/L
turbidity	97.4 NTU	28.9 NTU	16.2 NTU	9.59 NTU	50 NTU	23 NTU	49.9 NTU	600 NTU	129 NTU	120 NTU
total kjeldahl nitrogen	<0.18 mg/L									0.32 mg/L
orthophosphates	0.017J mg/L									0.021J mg/L
total heterotrophs	10000 cfu/ml									2000 cfu/ml
hydrocarbon degraders	90 cfu/ml									70 cfu/ml
alkalinity	223 mg/L	249 mg/L	256 mg/L	242 mg/L	252 mg/L	245 mg/L	250 mg/L	251 mg/L	250 mg/L	250 mg/L
sulfide	<0.2 mg/L									
TOC (average)	3.4 mg/L									
chloride	90.1 mg/L									
nitrate	5.9 mg/L									
nitrite	<0.63 mg/L									
sulfate	188 mg/L									
iron	54.8 ug/L									
manganese	104 ug/L									
TPH-g	0.14 mg/L									0.06 mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.1 mg/L
TPH-mo	<0.13 mg/L									<0.1 mg/L
benzene	23.2 ug/L	9.3 ug/L	1.2 ug/L	9.2 ug/L	7.2 ug/L	7.3 ug/L	7.1 ug/L	5.5 ug/L	4.5 ug/L	4.5 ug/L
carbon tetrachloride	<0.5 ug/L	0.4J ug/L	0.4J ug/L	0.5 ug/L	0.4J ug/L	0.7 ug/L	0.5 ug/L	0.6 ug/L	0.4J ug/L	0.5J ug/L
chloroform	2.1 ug/L	1.4 ug/L	0.8 ug/L	1.6 ug/L	1.3 ug/L	1.6 ug/L	1.5 ug/L	1.5 ug/L	1.5 ug/L	1.8 ug/L
1,2-dichloroethane	2.7 ug/L	1 ug/L	0.7 ug/L	1 ug/L	0.9 ug/L	1.2 ug/L	0.9 ug/L	1.1 ug/L	1 ug/L	1.1 ug/L
acetone	17 ug/L	12 ug/L	7J ug/L	<10 ug/L	3J ug/L	8J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
sec-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	<0.5 ug/L
tert-butylbenzene	1 ug/L	0.9 ug/L	<0.5 ug/L	0.7 ug/L	0.5 ug/L	0.9 ug/L	0.7 ug/L	0.6 ug/L	0.6 ug/L	<0.5 ug/L
isopropylbenzene	19.5 ug/L	3.6 ug/L	2.2 ug/L	1.7 ug/L	1.1 ug/L	1 ug/L	2.9 ug/L	6 ug/L	3.6 ug/L	1.9 ug/L
naphthlene	<0.5 ug/L	2.4 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
1,2,4-trimethylbenzene	<0.5 ug/L	0.8 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
xylene	<1 ug/L	0.3J ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L
t-butyl alcohol	69 ug/L	39 ug/L	66 ug/L	<20 ug/L	31 ug/L	21 ug/L	48 ug/L	54 ug/L	51 ug/L	57 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
cfu/ml denotes colony forming units per milliliter
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 5 - Well 117-TM-01, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-01									
Screen Interval	98 - 103									
Location	downgradient - second row									
Date	Baseline 3-Sep-03	2-Oct-03	6-Oct-03	14-Oct-03	20-Oct-03	18-Nov-03	15-Dec-03	21-Jan-04	17-Feb-04	22-Mar-04
pH	7.3	7.38	7.25	7.26	7.32	7.41	7.23	7.29	7.21	7.38
conductivity	1.239 ms	1.156 ms	1.246 ms	1.247 ms	1.265 ms	1.23 ms	1.198 ms	1.239 ms	1.222 ms	1.228 ms
ORP	-7.3 mV	-12 mV	54.9 mV	-66 mV	87.9 mV	124 mV	-150.4 mV	194.2 mV	59.8 mV	11.3 mV
DO	0.31 mg/L	1.69 mg/L	0.23 mg/L	0.15 mg/L	0.38 mg/L	0.65 mg/L	0.29 mg/L	0.33 mg/L	1.12 mg/L	0.94 mg/L
turbidity	30.8 NTU	50.1 NTU	10.98 NTU	31 NTU	66.4 NTU	85 NTU	21.5 NTU	17.8 NTU	999 NTU	8.9 NTU
alkalinity	237 mg/L	235 mg/L	235 mg/L	232 mg/L	235 mg/L	232 mg/L	232 mg/L	238 mg/L	246 mg/L	246 mg/L
sulfide	<0.2 mg/L									
TOC (average)	6.2 mg/L									
chloride	99.7 mg/L									
nitrate	7.5 mg/L									
nitrite	<0.63 mg/L									
sulfate	253 mg/L									
iron	75.7 ug/L									
manganese	130 ug/L									
TPH-g	0.29 mg/L									0.17 mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.096 mg/L
TPH-mo	<0.13 mg/L									<0.096 mg/L
benzene	40.7 ug/L	25.3 ug/L	38 ug/L	27 ug/L	25.6 ug/L	25.5 ug/L	24.1 ug/L	26 ug/L	30.5 ug/L	20.2 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
chloroform	1.3 ug/L	1 ug/L	1.1 ug/L	0.8 ug/L	1 ug/L	1.1 ug/L	1 ug/L	0.8 ug/L	0.4J ug/L	0.4J ug/L
1,2-dichloroethane	3.8 ug/L	2.5 ug/L	3.4 ug/L	2.4 ug/L	2.5 ug/L	2.8 ug/L	2.6 ug/L	2.8 ug/L	3.9 ug/L	2.4 ug/L
acetone	20 ug/L	39 ug/L	18 ug/L	<10 ug/L	<10 ug/L	13 ug/L	<10 ug/L	<10 ug/L	9J ug/L	5J ug/L
2-butanone	<10 ug/L	3J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
sec-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L
tert-butylbenzene	1.7 ug/L	1.4 ug/L	1.7 ug/L	1.4 ug/L	1.3 ug/L	1.7 ug/L	1.7 ug/L	1.8 ug/L	1 ug/L	0.6 ug/L
isopropylbenzene	11.1 ug/L	8.3 ug/L	7.7 ug/L	3 ug/L	3.5 ug/L	3.5 ug/L	2.6 ug/L	1.7 ug/L	52.8 ug/L	4.3 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.8 ug/L	<0.5 ug/L
toluene	0.6 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
1,2,4-trimethylbenzene	<0.5 ug/L	0.7 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
xylene	<1 ug/L	0.3J ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L
t-butyl alcohol	79 ug/L	120 ug/L	100 ug/L	71 ug/L	<20 ug/L	<20 ug/L	90 ug/L	100 ug/L	160 ug/L	88 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 6 - Well 117-TM-02, Summary of Monitoring Results, September 2003 to March 2004

Well					117-TM-02					
Screen Interval					98 - 103					
Location					downgradient - second row					
Date	Baseline 3-Sep-03	2-Oct-03*	6-Oct-03	14-Oct-03	20-Oct-03	18-Nov-03	15-Dec-03	21-Jan-04	17-Feb-04	22-Mar-04
pH	7.29	7.65	7.38	7.22	7.25	7.36	7.24	7.01	7.2	9.73
conductivity	1.215 ms	1.226 ms	1.184 ms	1.186 ms	1.273 ms	1.188 ms	1.135 ms	1.203 ms	1.193 ms	0.25 ms
ORP	-187.1 mV	-62.9 mV	-34.2 mV	77.6 mV	-29 mV	-26 mV	150 mV	82.4 mV	38.1 mV	-33.6 mV
DO	0.22 mg/L	0.35 mg/L	0.83 mg/L	0.37 mg/L	0.41 mg/L	0.19 mg/L	0.3 mg/L	0.4 mg/L	0.86 mg/L	0.48 mg/L
turbidity	593 NTU	24.1 NTU	7.8 NTU	7.22 NTU	30 NTU	24.4 NTU	14 NTU	70 NTU	31.9 NTU	140 NTU
alkalinity	241 mg/L	224 mg/L	244 mg/L	241 mg/L	227 mg/L	241 mg/L	239 mg/L	239 mg/L	260 mg/L	157 mg/L
sulfide	<0.2 mg/L									
TOC (average)	5.9 mg/L									
chloride	95.8 mg/L									
nitrate	7 mg/L									
nitrite	<0.63 mg/L									
sulfate	237 mg/L									
iron	63.9 ug/L									
manganese	153 ug/L									
TPH-g	0.26 mg/L									0.02J mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.096 mg/L
TPH-mo	<0.13 mg/L									<0.096 mg/L
benzene	35.9 ug/L	15.5 ug/L	28.4 ug/L	20.9 ug/L	19.9 ug/L	19.6 ug/L	17.7 ug/L	16.1 ug/L	24.3 ug/L	0.7 ug/L
carbon tetrachloride	<0.5 ug/L	1.8 ug/L	1.1 ug/L	1.1 ug/L	<0.5 ug/L	0.6 ug/L	0.6 ug/L	0.7 ug/L	1.1 ug/L	<0.5 ug/L
chloroform	2.1 ug/L	2.3 ug/L	1.8 ug/L	1.6 ug/L	1.2 ug/L	1.5 ug/L	1.4 ug/L	1.4 ug/L	2.4 ug/L	<0.5 ug/L
1,2-dichloroethane	4 ug/L	1.5 ug/L	2.7 ug/L	2.1 ug/L	2.6 ug/L	2.6 ug/L	2.2 ug/L	2.2 ug/L	3.1 ug/L	<0.5 ug/L
acetone	17 ug/L	7J ug/L	11 ug/L	<10 ug/L	8J ug/L	12 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
sec-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
tert-butylbenzene	2.3 ug/L	1.4 ug/L	1.8 ug/L	1.7 ug/L	0.9 ug/L	1.6 ug/L	1.6 ug/L	1.5 ug/L	1 ug/L	<0.5 ug/L
carbon disulfide	0.5J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
chloromethane	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.5 ug/L
2-hexanone	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	1J ug/L
isopropylbenzene	31.3 ug/L	3.7 ug/L	2.7 ug/L	1.4 ug/L	1.9 ug/L	1.1 ug/L	0.9 ug/L	0.9 ug/L	72.4 ug/L	1.3 ug/L
4-methyl-2-pentanone	<10 ug/L	<10 ug/L	2J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	1.1 ug/L	<0.5 ug/L
1,2,4-trimethylbenzene	<0.5 ug/L	0.6 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
xylenes	<1 ug/L	0.3J ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L	<1 ug/L
t-butyl alcohol	82 ug/L	53 ug/L	86 ug/L	79 ug/L	160 ug/L	<20 ug/L	84 ug/L	120 ug/L	150 ug/L	<20 ug/L

* *resampled due to leak in water pipeline*
[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 7 - Well 117-TM-03, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-03									
Screen Interval	98 - 103									
Location	downgradient - second row									
Date	Baseline 3-Sep-03	2-Oct-03*	6-Oct-03	14-Oct-03	20-Oct-03	18-Nov-03	15-Dec-03	21-Jan-04	17-Feb-04	24-Mar-04
pH	7.42	7.42	7.41	7.41	7.4	7.36	7.28	7.11	7.11	7.35
conductivity	1.138 ms	1.108 ms	1.118 ms	1.118 ms	1.112 ms	1.095 ms	1.057 ms	1.081 ms	1.052 ms	0.98 ms
ORP	-68.3 mV	-34.6 mV	-86.1 mV	-86.1 mV	-27.1 mV	-40.5 mV	-156.2 mV	69.3 mV	39.3 mV	88.9 mV
DO	0.46 mg/L	0.72 mg/L	0.24 mg/L	0.24 mg/L	0.59 mg/L	0.19 mg/L	0.24 mg/L	0.37 mg/L	2.29 mg/L	0.35 mg/L
turbidity	12.9 NTU	924 NTU	83.5 NTU	83.5 NTU	62 NTU	45 NTU	220 NTU	180 NTU	59.6 NTU	85 NTU
total kjeldahl nitrogen	1 mg/L									0.2 mg/L
orthophosphates	<0.05 mg/L									0.009J mg/L
total heterotrophs	600 cfu/ml									6000 cfu/ml
hydrocarbon degraders	100 cfu/ml									<10 cfu/ml
alkalinity	229 mg/L	229 mg/L	232 mg/L	235 mg/L	232 mg/L	234 mg/L	232 mg/L	236 mg/L	226 mg/L	270 mg/L
sulfide	<0.2 mg/L									
TOC (average)	2.1 mg/L									
chloride	94 mg/L									
nitrate	8.5 mg/L									
nitrite	<0.63 mg/L									
sulfate	195 mg/L									
iron	100 ug/L									
manganese	101 ug/L									
TPH-g	0.05 mg/L									0.04J mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.1 mg/L
TPH-mo	0.15 mg/L									0.02J mg/L
benzene	16.4 ug/L	9.3 ug/L	10.1 ug/L	8.2 ug/L	8.9 ug/L	8.3 ug/L	7.2 ug/L	7.7 ug/L	9.1 ug/L	7 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	0.3J ug/L	<0.5 ug/L	0.3J ug/L	0.4J ug/L	0.4J ug/L	0.6 ug/L	1 ug/L	0.9 ug/L
chloroform	2.3 ug/L	1.3 ug/L	1.5 ug/L	1.2 ug/L	1.5 ug/L	1.6 ug/L	1.5 ug/L	1.8 ug/L	2.6 ug/L	2.3 ug/L
1,2-dichloroethane	1.2 ug/L	0.8 ug/L	0.9 ug/L	0.8 ug/L	0.9 ug/L	0.8 ug/L	0.7 ug/L	0.8 ug/L	0.9 ug/L	0.8 ug/L
acetone	14 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
2-butanone	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	3J ug/L	<10 ug/L
tert-butylbenzene	0.6 ug/L	0.8 ug/L	0.9 ug/L	0.8 ug/L	0.4J ug/L	0.4J ug/L	0.3J ug/L	0.4J ug/L	<0.5 ug/L	<0.5 ug/L
2-hexanone	<10 ug/L	<10 ug/L	0.6J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
isopropybenzene	6.7 ug/L	1.9 ug/L	6.1 ug/L	3 ug/L	2.4 ug/L	0.6 ug/L	0.4J ug/L	<0.5 ug/L	8.5 ug/L	3.8 ug/L
methylene chloride	<0.5 ug/L	0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	4.2 ug/L
1,2,4-trimethylbenzene	<0.5 ug/L	0.6 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl alcohol	29 ug/L	32 ug/L	43 ug/L	28 ug/L	47 ug/L	<20 ug/L	20 ug/L	35 ug/L	39 ug/L	34 ug/L

* Resampled due to leak in water pipeline - water still cloudy after purging 1.5 gallon
[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
cfu/ml denotes colony forming units per millilite
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 8 - Well 117-TM-04, Sumamry of Monitoring Results, September 2003 to March 2004

Well					117-TM-04					
Screen Interval					98 - 103					
Location					downgradient - first row					
Date	Baseline 8-Sep-03	30-Sep-03	6-Oct-03	14-Oct-03	20-Oct-03	18-Nov-03	15-Dec-03	21-Jan-04	17-Feb-04	22-Mar-04
pH	7.28	7.36	7.37	7.26	7.23	7.42	7.26	7.29	7.16	7.43
conductivity	1.194 ms	1.19 ms	1.19 ms	1.186 ms	1.222 ms	1.164 ms	1.129 ms	1.179 ms	1.201 ms	1.186 ms
ORP	-55.1 mV	17.8 mV	-75.5 mV	60.9 mV	-75.1 mV	0.9 mV	113 mV	190.1 mV	37.9 mV	-28.7 mV
DO	0.75 mg/L	1.05 mg/L	0.19 mg/L	0.25 mg/L	0.22 mg/L	0.81 mg/L	0.11 mg/L	0.21 mg/L	0.78 mg/L	0.58 mg/L
turbidity	253 NTU	57.1 NTU	11.5 NTU	15 NTU	40 NTU	72.7 NTU	8.8 NTU	205 NTU	486 NTU	33 NTU
alkalinity	225 mg/L	237 mg/L	239 mg/L	243 mg/L	239 mg/L	239 mg/L	242 mg/L	243 mg/L	236 mg/L	240 mg/L
sulfide	<0.2 mg/L									
TOC (average)	7.6 mg/L									
chloride	91.6 mg/L									
nitrate	4.9 mg/L									
nitrite	<0.63 mg/L									
sulfate	229 mg/L									
iron	22.9J ug/L									
manganese	400 ug/L									
TPH-g	0.2 mg/L									0.12 mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.5[a] mg/L									<0.096 mg/L
TPH-mo	<0.7 mg/L									<0.096 mg/L
benzene	41.2 ug/L	23.5 ug/L	26.5 ug/L	21.4 ug/L	21.5 ug/L	20 ug/L	17.5 ug/L	18.9 ug/L	16.4 ug/L	16.4 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
chloroform	1.5 ug/L	1 ug/L	1.2 ug/L	0.9 ug/L	1 ug/L	1 ug/L	0.9 ug/L	0.8 ug/L	1.2 ug/L	0.7 ug/L
1,2-dichloroethane	3.9 ug/L	2.7 ug/L	3 ug/L	2.4 ug/L	2.5 ug/L	2.7 ug/L	2.3 ug/L	2.4 ug/L	3.3 ug/L	2.4 ug/L
acetone	<10 ug/L	9J ug/L	16 ug/L	5J ug/L	7J ug/L	18 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	5J ug/L
2-butanone	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
sec-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.3J ug/L	0.4J ug/L
tert-butylbenzene	1.4 ug/L	1.5 ug/L	1.9 ug/L	1.6 ug/L	1.5 ug/L	1.3 ug/L	1.7 ug/L	1.6 ug/L	0.9 ug/L	1 ug/L
cis-1,2-dichloroethene	0.9 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
isopropylbenzene	8.7 ug/L	4.7 ug/L	14.6 ug/L	4.6 ug/L	7 ug/L	3.8 ug/L	2.5 ug/L	2.2 ug/L	16.6 ug/L	6.3 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	<0.5 ug/L
t-butyl alcohol	92 ug/L	91 ug/L	110 ug/L	88 ug/L	180 ug/L	76 ug/L	81 ug/L	110 ug/L	180 ug/L	89 ug/L

[a] *Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.*
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 9 - Well 117-TM-05, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-05									
Screen Interval	98 - 103									
Location	downgradient - first row									
Date	Baseline 4-Sep-03	30-Sep-03	6-Oct-03	14-Oct-03	20-Oct-03	18-Nov-03	16-Dec-03	21-Jan-04	17-Feb-04	24-Mar-04
pH	7.33	7.93	7.42	7.3	7.26	7.37	7.24	6.97	7.2	7.34
conductivity	1.136 ms	1.125 ms	1.166 ms	1.152 ms	1.194 ms	1.146 ms	1.08 ms	1.175 ms	1.151 ms	1.16 ms
ORP	18.2 mV	11.2 mV	-75.8 mV	-3.6 mV	-66.9 mV	-49.7 mV	166.8 mV	77.2 mV	47.9 mV	89.6 mV
DO	0.25 mg/L	8.49 mg/L	0.15 mg/L	0.19 mg/L	0.16 mg/L	0.24 mg/L	0.16 mg/L	0.34 mg/L	1.27 mg/L	0.51 mg/L
turbidity	5.38 NTU	+999 NTU	44.8 NTU	23 NTU	2.9 NTU	270 NTU	33 NTU	260 NTU	47.9 NTU	65 NTU
total kjeldahl nitrogen	0.37 mg/L									0.13 mg/L
orthophosphates	<0.05 mg/L									0.029J mg/L
total heterotrophs	5000 cfu/ml									400 cfu/ml
hydrocarbon degraders	200 cfu/ml									40 cfu/ml
alkalinity	242 mg/L	231 mg/L	256 mg/L	242 mg/L	236 mg/L	236 mg/L	237 mg/L	244 mg/L	250 mg/L	243 mg/L
sulfide	<0.2 mg/L									
TOC (average)	5.5 mg/L									
chloride	95.8 mg/L									
nitrate	7.3 mg/L									
nitrite	<0.63 mg/L									
sulfate	189 mg/L									
iron	72.6 ug/L									
manganese	61.6 ug/L									
TPH-g	0.24 mg/L									0.08 mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.096[a] mg/L									<0.1 mg/L
TPH-mo	<0.13 mg/L									<0.1 mg/L
benzene	49.5 ug/L	13.8 ug/L	28.5 ug/L	24.6 ug/L	23.9 ug/L	20.6 ug/L	19.4 ug/L	11.3 ug/L	15.2 ug/L	11.9 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
chloroform	1.4 ug/L	0.6 ug/L	1.2 ug/L	0.9 ug/L	1.1 ug/L	1.4 ug/L	1.1 ug/L	1.1 ug/L	1.8 ug/L	1.3 ug/L
1,2-dichloroethane	3.4 ug/L	1.6 ug/L	2.4 ug/L	2 ug/L	2 ug/L	2 ug/L	1.8 ug/L	1.5 ug/L	2.1 ug/L	1.5 ug/L
acetone	14 ug/L	5J ug/L	12 ug/L	<10 ug/L	<10 ug/L	10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
2-butanone	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	1J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
sec-bnutylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	0.5J ug/L
tert-butylbenzene	1.4 ug/L	0.7 ug/L	1.2 ug/L	1.2 ug/L	0.8 ug/L	1.2 ug/L	1.2 ug/L	0.7 ug/L	0.5J ug/L	0.6 ug/L
isopropylbenzene	14.7 ug/L	2.7 ug/L	27.1 ug/L	7.6 ug/L	4.7 ug/L	1.9 ug/L	1.6 ug/L	17.9 ug/L	16.7 ug/L	9.6 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.5J ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl alcohol	64 ug/L	76 ug/L	94 ug/L	56 ug/L	130 ug/L	<20 ug/L	60 ug/L	78 ug/L	110 ug/L	71 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
cfu/ml denotes colony forming units per milliliter
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 10 - Well 117-TM-06, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-06									
Screen Interval	98 - 103									
Location	downgradient - first row									
Date	Baseline 9-Sep-03	30-Sep-03	7-Oct-03	15-Oct-03	20-Oct-03	19-Nov-03	16-Dec-03	21-Jan-04	18-Feb-04	22-Mar-04
pH	7.31	7.41	7.25	7.24	7.29	6.69	7.21	7.26	7.19	7.29
conductivity	1.125 ms	1.127 ms	1.142 ms	1.144 ms	1.153 ms	1.132 ms	1.095 ms	1.135 ms	1.134 ms	1.16 ms
ORP	108.5 mV	-23.3 mV	41.4 mV	117.8 mV	-44.7 mV	177.7 mV	-163.9 mV	144.7 mV	36.8 mV	-61.7 mV
DO	0.47 mg/L	1.07 mg/L	1.22 mg/L	0.24 mg/L	0.18 mg/L	0.8 mg/L	0.18 mg/L	0.2 mg/L	0.8 mg/L	0.35 mg/L
turbidity	153 NTU	71 NTU	33.4 NTU	0.41 NTU	7.25 NTU	25.1 NTU	13 NTU	31.3 NTU	161 NTU	9 NTU
alkalinity	245 mg/L	244 mg/L	245 mg/L	248 mg/L	235 mg/L	245 mg/L	248 mg/L	250 mg/L	241 mg/L	255 mg/L
sulfide	<0.2 mg/L									
TOC (average)	7.2 mg/L									
chloride	91.6 mg/L									
nitrate	6.1 mg/L									
nitrite	<0.63 mg/L									
sulfate	197 mg/L									
iron	54.5 ug/L									
manganese	60.7 ug/L									
TPH-g	0.39 mg/L									0.11 mg/L
TPH-jf	<0.05 mg/L									<0.05 mg/L
TPH-d	<0.1[a] mg/L									<0.096 mg/L
TPH-mo	<0.14 mg/L									<0.096 mg/L
benzene	19.3 ug/L	12.3 ug/L	17.3 ug/L	12.3 ug/L	11.5 ug/L	11.6 ug/L	12.1 ug/L	8.7 ug/L	9.9 ug/L	7.4 ug/L
carbon tetrachloride	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
chloroform	1.9 ug/L	1.1 ug/L	1.6 ug/L	1.2 ug/L	1.1 ug/L	1 ug/L	0.7 ug/L	0.7 ug/L	0.6 ug/L	0.5 ug/L
1,2-dichloroethane	2.9 ug/L	1.9 ug/L	3.5 ug/L	1.9 ug/L	2 ug/L	1.4 ug/L	1.7 ug/L	1.7 ug/L	1.9 ug/L	1.6 ug/L
acetone	<10 ug/L	7J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	3J ug/L	<10 ug/L
sec-butylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/l	0.7 ug/l	0.6 ug/l	0.5J ug/l
tert-butylbenzene	0.8 ug/L	1.2 ug/L	1.4 ug/L	1.8 ug/L	1.6 ug/L	1.5 ug/L	1.3 ug/L	0.9 ug/L	0.7 ug/L	0.5 ug/L
carbon disulfide	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
isopropylbenzene	30.8 ug/L	4.5 ug/L	8.5 ug/L	3.2 ug/L	2.7 ug/L	39.7 ug/L	42.5 ug/L	38.1 ug/L	15.8 ug/L	5.1 ug/L
n-propylbenzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	1 ug/L	1.2 ug/L	0.8 ug/L	<0.5 ug/L	<0.5 ug/L
t-butyl alcohol	71 ug/L	67 ug/L	<20 ug/L	<20 ug/L	160 ug/L	170 ug/L	70 ug/L	87 ug/L	86 ug/L	74 ug/L

[a] *Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.*
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 11 - Well 117-TM-07, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-07									
Screen Interval	94.5 - 99.5									
Location	downgradient - first row									
Date	Baseline 8-Sep-03	30-Sep-03	7-Oct-03	14-Oct-03	21-Oct-03	19-Nov-03	16-Dec-03	21-Jan-04	18-Feb-04	23-Mar-04
pH	7.44	7.42	7.37	7.45	7.33	7.05	7.31	7.12	7.14	7.43
conductivity	1.098 ms	1.127 ms	1.117 ms	1.105 ms	1.122 ms	1.128 ms	1.017 ms	1.103 ms	1.078 ms	1.12 ms
ORP	-214.7 mV	-20.1 mV	5.9 mV	-53.5 mV	95.5 mV	137 mV	135.9 mV	93.7 mV	50.6 mV	61.1 mV
DO	0.39 mg/L	1.06 mg/L	1.56 mg/L	1.16 mg/L	1.43 mg/L	5.89 mg/L	7.25 mg/L	7.09 mg/L	0.75 mg/L	6.17 mg/L
turbidity	1.09 NTU	27.7 NTU	9.57 NTU	8.31 NTU	12.1 NTU	17.1 NTU	4.53 NTU	7.1 NTU	8.18 NTU	24 NTU
alkalinity	221 mg/L	230 mg/L	242 mg/L	230 mg/L	228 mg/L	216 mg/L	228 mg/L	230 mg/L	217 mg/L	225 mg/L
sulfide	<0.2 mg/L									
TOC (average)	1.3 mg/L									
chloride	84.2 mg/L									
nitrate	7 mg/L									
nitrite	<0.63 mg/L									
sulfate	179 mg/L									
iron	68.4 ug/L									
manganese	103 ug/L									
TPH-g	0.02J mg/L									<0.5 mg/L
TPH-jf	<0.05 mg/L									<0.5 mg/L
TPH-d	<0.096[a] mg/L									<0.096 mg/L
TPH-mo	<0.13 mg/L									<0.096 mg/L
benzene	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
carbon tetrachloride	0.6 ug/L	0.6 ug/L	1.1 ug/L	0.4J ug/L	<0.5 ug/L	0.4J ug/L	0.6 ug/L	0.6 ug/L	<0.5 ug/L	1.1 ug/L
chloroform	4.2 ug/L	3.1 ug/L	4.9 ug/L	2.1 ug/L	2.1 ug/L	2.8 ug/L	2.5 ug/L	2.2 ug/L	2.7 ug/L	3.8 ug/L
1,2-dichloroethane	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	0.7 ug/L	0.6 ug/L	<0.5 ug/L	0.3J ug/L	0.3J ug/L	<0.5 ug/L	<0.5 ug/L
carbon disulfide	<10 ug/L	0.4J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L
cis-1,2-dichloroethene	0.6 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
isopropylbenzene	4.2 ug/L	1.4 ug/L	2.7 ug/L	1.3 ug/L	1.6 ug/L	1.9 ug/L	1.3 ug/L	<0.5 ug/L	0.5 ug/L	<0.5 ug/L
t-butyl alcohol	<20 ug/L	<20 ug/L	<20 ug/L	<20 ug/L	<20 ug/L	8J ug/L	<20 ug/L	<20 ug/L	<20 ug/L	<20 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

Table 12 - Well 117-TM-08, Summary of Monitoring Results, September 2003 to March 2004

Well	117-TM-08									
Screen Interval	98 - 103									
Location	downgradient - first row									
Date	Baseline 4-Sep-03	30-Sep-03	7-Oct-03	15-Oct-03	21-Oct-03	19-Nov-03	16-Dec-03	21-Jan-04	18-Feb-04	24-Mar-04
pH	7.31	7.57	7.41	7.33	7.28	7.07	7.32	7.33	7.2	7.35
conductivity	1.013 ms	1.048 ms	1.027 ms	1.008 ms	0.993 ms	0.996 ms	0.97 ms	1.019 ms	0.999 ms	1.017 ms
ORP	-73.6 mV	-20.9 mV	-43.9 mV	28.8 mV	81 mV	36.9 mV	-227.9 mV	104.2 mV	15.6 mV	79 mV
DO	0.21 mg/L	0.89 mg/L	1.19 mg/L	0.2 mg/L	0.28 mg/L	0.24 mg/L	0.23 mg/L	0.22 mg/L	0.51 mg/L	0.33 mg/L
turbidity	10.97 NTU	115 NTU	117 NTU	22 NTU	600 NTU	27.1 NTU	165 NTU	44.9 NTU	278 NTU	75 NTU
total kjeldahl nitrogen	0.33 mg/L									0.32 mg/l
orthophosphates	0.027J mg/L									0.088 mg/l
total heterotrophs	7000 cfu/ml									2000 cfu/ml
hydrocarbon degraders	700 cfu/ml									200 cfu/ml
alkalinity	232 mg/L	244 mg/L	244 mg/L	237 mg/L	244 mg/L	232 mg/L	237 mg/L	235 mg/L	246 mg/L	248 mg/L
sulfide	<0.2 mg/L									
TOC (average)	1.1 mg/L									
chloride	73.3 mg/L									
nitrate	5.3 mg/L									
nitrite	<0.63 mg/L									
sulfate	158 mg/L									
iron	73.4 ug/L									
manganese	68.8 ug/L									
TPH-g	0.04J mg/L									
TPH-jf	<0.05 mg/L									
TPH-d	<0.096[a] mg/L									
TPH-mo	<0.13 mg/L									
benzene	10.5 ug/L	<0.5 ug/L	7.5 ug/L	5.7 ug/L	3 ug/L	4.7 ug/L	4.7 ug/L	3.5 ug/L	2.7 ug/L	4 ug/L
carbon tetrachloride	2.6 ug/L	0.4J ug/L	3.5 ug/L	2.1 ug/L	1.2 ug/L	2.8 ug/L	1.9 ug/L	1.9 ug/L	1.5 ug/L	2.1 ug/L
chloroform	5 ug/L	2.1 ug/L	5.7 ug/L	3.4 ug/L	2.8 ug/L	3.9 ug/L	3.4 ug/L	3.3 ug/L	3.4 ug/L	4.1 ug/L
1,2-dichloroethane	0.6 ug/L	<0.5 ug/L	<0.5 ug/L	0.4J ug/L	0.3J ug/L	0.3J ug/L	<0.5 ug/L	0.4J ug/L	<0.5 ug/L	<0.5 ug/L
carbon disulfide	<10 ug/L	0.5J ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<10 ug/L	<0.5 ug/L
isopropylbenzene	5.5 ug/L	1 ug/L	1.3 ug/L	0.6 ug/L	0.7 ug/L	0.6 ug/L	0.6 ug/L	0.9 ug/L	0.5 ug/L	<0.5 ug/L
t-butyl alcohol	<20 ug/L	<20 ug/L	<20 ug/L	<20 ug/L	<20 ug/L	4J ug/L	<20 ug/L	12J ug/L	<20 ug/L	21 ug/L

[a] Sample chromatogram contained some unknown and/or isolated peaks in the diesel range.
ms denotes milliseamons
mV denotes millivolts
NTU denotes number of turbidity units
cfu/ml denotes colony forming units per milliliter
mg/L denotes milligrams per liter
ug/L denoted micrograms per liter

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.64	ft.	YSI 550	99827
Depth to Bottom		ft.	Lamotte 2020	4026-1103
Screen Interval		ft.	Calib Sheet page 100	

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 9:15

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
9:17		7.23	23.07	1.111	-1.2	3.62	190	
9:19		7.19	22.45	1.138	4.4	2.75	230	
9:21		7.17	22.47	1.140	7.3	2.48	250	
9:23		7.16	22.63	1.146	12.4	2.29	210	
9:25		7.15	22.66	1.147	19.2	2.02	180	
9:27		7.15	22.76	1.147	20.5	1.95	180	
9:29		7.15	22.60	1.147	22.5	1.83	170	
9:31		7.15	22.49	1.147	24.3	1.72	140	
9:33		7.15	22.39	1.146	24.2	1.65	130	
9:35		7.15	22.48	1.144	24.2	1.63	131	
	4.5 gallons							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-PZ-01
Sample Date/Time: 9/2/03 9:45
Sampler ID: JR
Weather Conditions: ☐ sunny ☐ rain ☒ overcast 85°F
Sample Collection Method: 2" pump

Analyses & Volume Collected:			
	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☑	Sulfide
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☑	TOC
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☑	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: Jody Rhoads

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.24	ft.	See pg 96	
Depth to Bottom		ft.		
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 10:37

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1040		7.49	24.37	1.076	20.3	3.00	60	
1043		7.31	23.52	1.071	-3.1	1.35	17	
10:46		7.27	23.60	1.076	-4.2	1.07	5.8	
10:49		7.28	23.50	1.072	-3.3	1.02	9.8	
10:52		7.25	23.13	1.070	-2.8	0.95	7.5	
10:55		7.26	23.76	1.070	-3.0	0.94	7.2	
	4 gallons							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-EX-03
Sample Date/Time: 9/2/03 11:00
Sampler ID: JR
Weather Conditions: ☒ sunny ☐ rain ☐ overcast 90 °F
Sample Collection Method: 2" pump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE ☑
SVOC (8270C) - 2 AL	☐	*Other please specify:*
TPH as diesel / m.oil - 2 AL	☑	Sulfide
TPH as gasoline / jet fuel - 2 VOA	☑	TOC
Metals - 1 HDPE	☑	
Pesticide/PCB (8081A/8082) - 2 AL	☐	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Jody Choate

~~[illegible]~~ JR

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-OX-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.23	ft.	See pg 96	
Depth to Bottom		ft.		
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 12:01

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
12:03		7.89	24.08	1.100	82.1	10.56	—	off scale
12:05		7.60	23.95	1.095	9.8	7.25	—	
12:07		7.49	24.20	1.085	-5.4	6.83	900	
12:09		7.44	24.26	1.079	-6.3	6.60	800	
12:11		7.41	24.43	1.077	-3.8	6.36	700	
12:13		7.41	24.65	1.074	-4.6	6.13	600	
12:15		7.41	24.78	1.071	-4.6	6.00	500	
12:17		7.41	24.90	1.071	-4.4	5.89	450	
12:19		7.41	24.93	1.071	-4.0	5.88	450	
12:21		7.41	25.27	1.081	-4.2	5.72	400	
12:23		7.43	25.48	1.080	-4.3	5.82	388	
	4 gallons							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-OX-01		
Sample Date/Time:	9/2/03 12:30		
Sampler ID:	JR		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 98 °F		
Sample Collection Method:	2" pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☑	Sulfide
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☑	TOC
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☑	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: Jody Rhoades

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-OX-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.20	ft.	See page 96	
Depth to Bottom		ft.		
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 1327

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1330		7.71	26.52	1.158	52.6	3.94	200	
1333		7.51	23.87	1.124	-7.7	2.96	85	
1336		7.46	24.03	1.119	-22.9	2.33	60	
1339		7.45	24.27	1.138	-24.9	1.99	38	
1342		7.47	24.33	1.140	-30.9	1.88	24	
1345		7.47	24.31	1.139	-31.2	1.86	22	
1348		7.48	24.32	1.138	-31.5	1.84	20	
	4 gallons							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-OX-02			
Sample Date/Time:	9/2/03 1400			
Sampler ID:	JP			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 100 °F			
Sample Collection Method:	2" pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☑	Sulfide	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☑	TOC	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☑		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836559
Project Location: Crows Landing
Well ID: 117-TM-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.38	ft.	La Motte turbidity meter	4026-N03
Depth to Bottom		ft.	YSI-556	100257
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 7:52

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
810		7.31	22.60	1.284	60.6	2.68	354	
815		7.31	22.67	1.256	57.1	1.77	593	
820		7.31	22.58	1.252	48.3	0.83	374	
825		7.28	22.49	1.247	40.2	0.69	220	
830		7.27	22.56	1.240	35.0	0.68	140	
835		7.30	22.82	1.238	25.8	0.76	98.3	
840		7.28	22.95	1.238	19.0	0.68	68.8	
845		7.28	22.94	1.247	14.1	0.48	46.8	
850		7.28	22.97	1.237	8.3	0.41	35.2	
855		7.29	23.14	1.238	16.0	0.62	41.9	
900		7.29	23.31	1.241	3.3	0.37	43.0	
905		7.29	23.41	1.241	-6.8	0.32	36.2	
910		7.30	23.44	1.240	-7.2	0.31	31.2	
915		7.30	23.44	1.239	-2.3	0.31	30.8	
	.75 gallons							

Field Test Kits Results: 9/3/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01	
Sample Date/Time:	9/3/03 ~~9:25~~ 9:20	
Sampler ID:	JR	
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 80 °F	
Sample Collection Method:		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA ☐	General Chemistry -1 HDPE ☐
	SVOC (8270C) - 2 AL ☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL ☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA ☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE ☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL ☐	

Prepared By: Jody Rhoads

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.13	ft.	La motte Turbidity Meter	4026-1103
Depth to Bottom		ft.	YSI-556	100257
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grunfos~~ Pump Bladder
Pump Start Time: 11:24

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1142		7.50	23.80	1.229	-138.0	1.40	285	
1152		7.36	23.66	1.216	-124.5	0.48	273	
1202		7.32	23.28	1.218	-147.1	0.43	86.0	
1212		7.31	23.24	1.215	-157.9	0.39	53.7	
1222		7.30	23.39	1.211	-158.8	0.42	33.9	
1232		7.31	23.43	1.211	-171.7	0.28	24.4	
1242		7.29	23.43	1.216	-180.9	0.24	49.6	
1252		7.29	23.43	1.215	-187.1	0.22	59.3	
	1.5 gallons							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02
Sample Date/Time:	9/3/03 12:55
Sampler ID:	JR
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 90° F
Sample Collection Method:	

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☐	General Chemistry -1 HDPE	☐
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Jody Chowdhury

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-TM-03
CL-99-57 (FD)

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.26	ft.	La Motte Turbidity Meter	4026-1103
Depth to Bottom		ft.	YSI-556	100257
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grundfos~~ Bladder Pump
Pump Start Time: 14:15

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1430		7.51	27.35	1.214	-12.5	1.59	34.2	
1440		7.43	24.80	1.124	-16.8	1.72	274	
1450		7.39	24.72	1.134	-39.2	0.51	133	
1500		7.40	25.10	1.134	-48.0	0.42	51.9	
1510		7.41	25.32	1.136	-52.8	0.42	30.3	
1520		7.42	25.49	1.140	-62.4	0.44	21.6	
1530		7.42	25.61	1.138	-68.3	0.46	12.9	
	1 gallon							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 Field Dup CL99-57
Sample Date/Time:	9/3/03 15:45 1558
Sampler ID:	JR
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 95 °F
Sample Collection Method:	

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☒		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☒		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Jody Rhodes

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Well ID: 117-TM-05
Project Number:
Project Location:

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.	Lamotte	4026-1103
Depth to Bottom		ft.	YSI 556	99827
Screen Interval	93-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grunfos~~ Bladder Pump
Pump Start Time: 930

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. mg/L (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0950		7.46	22.67	1.087	42.2	2.10	56.7	
0955		7.43	22.69	1.100	31.9	0.91	47.5	
1000		7.39	22.72	1.119	27.7	0.61	32.2	
1005		7.37	22.85	1.125	25.0	0.48	26.5	
1010		7.36	22.95	1.128	23.5	0.39	~~25~~ 18.6	
1013		7.35	22.95	1.129	23.5	0.36	RC 15.8	
1016		7.34	22.92	1.133	23.4	0.33	11.2	
1019		7.32	22.92	1.133	22.8	0.30	9.52	
1022		7.32	22.99	1.133	21.9	0.28	8.66	
1025		7.34	23.27	1.133	19.6	0.26	6.98	
1030		7.33	23.18	1.136	18.2	0.25	5.38	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-TM-05 (9/4/03)
Sample Date/Time: 9/4/03 1033
Sampler ID: RC
Weather Conditions: ☒ sunny ☐ rain ☐ overcast ~80 °F
Sample Collection Method: pump

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☒	TKN, Alk, Anions, TOC	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒	O-PO4, HPC	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☒		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number:
Project Location:

Well ID: Rise Blank
Collected prior to purging
117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.		
Depth to Bottom		ft.	N/A	
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
	Used	Beech	Nut	Baby	drinking	water		
			3711	Jul 2005				
			RD137	21:52				

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	RB-117-TM-05			
Sample Date/Time:	9/4/03 850			
Sampler ID:				
Weather Conditions:	☒ sunny ☐ rain ☐ overcast ~70 °F			
Sample Collection Method:	Pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☐
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☒		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [signature]

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number:
Project Location:
Well ID: 117-TM-08

WELL MEASUREMENTS

Depth to Water		ft.
Depth to Bottom		ft.
Screen Interval		ft.

Sampling equipment/meters used	Serial or ID #
Lamotte	4026-1103
YSI 556	99827

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grundfos~~ bladder Pump
Pump Start Time: 1300

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%* mg/L	*No Criteria*	
1315		7.40	25.59	1.033	-2.4	1.70	54.1	
1320		7.36	25.31	1.024	-45.2	0.54	36.6	
1325		7.35	24.62	1.023	-64.4	0.33	26.3	
1330		7.33	24.57	1.017	-69.8	0.28	23.1	CPMS 6/6
1335		7.33	24.54	1.015	72.6	0.24	19.7	
1338		7.33	24.28	1.017	-74.4	0.22	12.9	
1341		7.32	24.27	1.013	-74.8	0.22	12.2	
1345		7.31	24.27	1.013	-73.6	0.21	10.97	

RCandy

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-TM-08 (9/4/03)
Sample Date/Time: 9/4/03 1345
Sampler ID: RC/ER
Weather Conditions: ☒ sunny ☐ rain ☐ overcast ~90 °F
Sample Collection Method: Pump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
SVOC (8270C) - 2 AL	☐	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	☒	TKN / PO4 / TOC / Alk / Anions	
TPH as gasoline / jet fuel - 2 VOA	☒	HPC	
Metals - 1 HDPE	☒		
Pesticide/PCB (8081A/8082) - 2 AL	☐		

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: RCandy

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number:
Project Location:

Well ID: Rinse Blank collected prior to purging 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.		
Depth to Bottom		ft.	N/A	
Screen Interval	TF 9/8/03	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
		used Beech Nut baby drinking water						
		3711	July 2005					
		BD 137	21:52					
				TF 9/8/03				

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	RB-117-TM-08			
Sample Date/Time:	9/8/03 0755			
Sampler ID:	TF/ER			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast ~ 70 °F			
Sample Collection Method:	pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☐
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☒		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒	2 VOA	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	1 amber liter	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Stacy Zenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: 117-TM-09 TF 9/8/03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	~55	ft.	Lamotte	TF 9/8/03 ~~4683~~ 40216-1103
Depth to Bottom		ft.	YSI 556	99827
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grunfos~~ Pump bladder
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. mg/L (~~ppm~~)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
8:30 AM		7.40	20.51	1.053	-2.3	1.09	109.6	
8:35 AM		7.40	20.53	1.065	-30.2	0.79	194	
8:40 AM		7.38	20.54	1.070	-40.6	0.59	216	
8:45 AM		7.35	20.56	1.077	-46.4	0.50	201	
8:50 AM		7.32	20.67	1.090	-48.0	0.47	147	
8:53 AM		7.31	20.74	1.097	-48.0	0.37	132	
8:55 AM		7.30	20.78	1.097	-47.8	0.35	114	
8:57 AM		7.29	20.84	1.099	-35.2	0.33	97.4	

Field Test Kits Results: _____

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09		
Sample Date/Time:	9/8/03 0900		
Sampler ID:	ER/SS		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast ~70 °F		
Sample Collection Method:	pump		
Analyses & Volume Collected:	VOC (8260B) - ~~3~~ VOA 2 TF 9/8/03	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - ~~2~~ AL 1 TF 9/8/03	☒	1 HDPE TKN
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒	1 amber glass TOC, o-PO4
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☒	1 HDPE plate count, bacteria
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: Stacey Zunoz

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DATE 10/9/0/0/0/3

SAMPLE COLLECTION LOG

Project Name: CROPS LANDING
Project Number: 836557
Project Location:
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.	LAMOTTE	4026-1103
Depth to Bottom		ft.	YSI 566	99827
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos~~ Pump BLADDER
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/~~ms~~)	ORP (mV)	D.O. mg/L (~~ppm~~)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
11:40 AM		7.40	25.88	1.088	-302.7	1.13	5.64	
11:45 AM		7.40	25.90	1.106	-338.0	0.69	2.08	
11:50 AM		7.42	26.05	1.116	-308.4	0.49	6.16	
11:55 AM		7.46	26.25	1.119	-283.2	0.39	6.41	
12:00 pm		7.48	26.25	1.117	-306.9	0.38	6.44	
12:05 pm		7.47	26.26	1.109	-290.9	0.37	4.91	
12:10 pm		7.47	26.20	1.111	-274.2	0.43	2.67	
12:15 pm		7.46	26.10	1.105	-248.7	0.40	2.19	
12:20 pm		7.45	26.29	1.100	-231.8	0.39	1.31	
12:23 pm		7.44	26.43	1.098	-214.7	0.39	1.09	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07
Sample Date/Time:	9/8/03 1230
Sampler ID:	ER/SS
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 80 °F
Sample Collection Method:	PUMP

Analyses & Volume Collected:				
	VOC (8260B) - 1 VOA 2	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL 1	☒	1 HDPE TKN	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒	1 AMBER GLASS TOC, PO4	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☒		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [signature]

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SAMPLE COLLECTION LOG

Project Name: CROWS LANDING
Project Number: 836557
Project Location: CROWS LANDING
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.	LAMOTTE	4026-1103
Depth to Bottom		ft.	YSI 556	99827
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grunfos~~ BLADDER Pump
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/~~ms~~)	ORP (mV)	D.O. Mg/L (~~ppm~~)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
2:45 pm		7.37	26.60	1.205	-90.3	1.68	133	
2:50 pm		7.31	26.36	1.197	-79.4	1.30	151	
2:55 pm		7.30	26.30	1.195	-73.6	0.97	151	
2:57 pm		7.31	26.29	1.199	-70.0	0.89	230	
2:58 pm		7.29	26.28	1.196	-64.5	0.81	207	
3:00 pm		7.28	26.33	1.194	-55.1	0.75	253	

Field Test Kits Results: _____

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04
Sample Date/Time:	09/08/03 300 pm
Sampler ID:	DR/SS
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 80 °F
Sample Collection Method:	PUMP

Analyses & Volume Collected:				
	VOC (8260B) - ~~1~~ VOA 2	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - ~~2~~ AL 1	☒	1 HDPE TKN	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒	1 AMBER GLASS TOC, PO4	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☒		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [signature]

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SAMPLE COLLECTION LOG

Project Name: CROWS LANDING
Project Number: 836557
Project Location: CROWS LANDING
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.	LAMOTTE	4026-1103
Depth to Bottom		ft.	YSI 556	99827
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grumfos~~ Pump BLADDER
Pump Start Time: 8:00 pm

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/~~ms~~)	ORP (mV)	D.O. mg/L (~~ppm~~)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
8:15 pm		7.50	20.91	1.143	144.4	1.58	105.9	
8:25 pm		7.43	21.17	1.138	134.3	0.93	1077	
8:27 AM		7.41	21.35	1.135	130.1	0.81	888	
8:32 AM		7.39	21.47	1.132	126.2	0.72	605	
8:37 pm		7.37	21.75	1.132	119.8	0.60	397	
8:42 AM		7.32	21.76	1.129	114.6	0.51	252	
8:47 AM		7.31	22.05	1.125	108.5	0.47	153	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-TM-06
Sample Date/Time: 09/09/03 855 AM
Sampler ID: ER/SS
Weather Conditions: ☒ sunny ☐ rain ☐ overcast 70 °F
Sample Collection Method: PUMP

Analyses & Volume Collected:

	VOC (8260B) - ~~3~~ VOA 2	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - ~~2~~ AL 1	☒	1 HDPE TKN	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☒	1 AMBER GLASS TOC, PO4	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☒		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [signature]

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SAMPLE COLLECTION LOG

Project Name: CROWS LANDING
Project Number: 836557
Project Location: CROWS LANDING
Well ID: 117-OX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.	LAMOTTE	4026-1103
Depth to Bottom		ft.	YSI 556	99827
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ ~~Grunfos~~ Pump BLADDER
Pump Start Time: 11:40 ~~pm~~

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/~~ms~~)	ORP (mV)	D.O. mg/L (~~ppm~~)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
11:48 AM		7.41	23.69	1.073	42.4	1.86	103.8	
11:53 AM		7.36	23.50	1.070	36.4	1.19	100.3	
11:58 AM		7.35	23.42	1.068	32.3	0.94	97.7	
12:05 pm		7.35	23.44	1.067	24.5	0.73	75.2	
12:10 pm		7.34	23.45	1.065	21.2	0.67	78.5	
12:15 pm		7.35	23.46	1.063	14.8	0.62	70.8	
12:20 pm		7.35	23.39	1.062	10.1	0.63	71.0	
12:25 pm		7.35	23.36	1.062	8.9	0.63	75.9	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-OX-03
Sample Date/Time: 09/09/03
Sampler ID: ER/SS 1:15 pm
Weather Conditions: ☒ sunny ☐ rain ☐ overcast 80 °F
Sample Collection Method: PUMP

Analyses & Volume Collected:

VOC (8260B) - ~~3~~ VOA 4 → 2 ms/ms ☒	General Chemistry - 1 HDPE ☒
SVOC (8270C) - 2 AL ☒	*Other please specify:*
TPH as diesel / m.oil - 2 AL ☒	1 HDPE TKE
TPH as gasoline / jet fuel - ~~2~~ 4 VOA 2 ms/ms ☒	1 AMBER GLASS TOC, PO4
Metals - 1 HDPE ☒	
Pesticide/PCB (8081A/8082) - 2 AL ☐	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Angela Mc

Attachment 2
Baseline Analytical Results

Attachment 2: Analytical Results, ISOC Demonstration Project, Baseline Sampling

Sample ID		117-EX-03(9/2/03)		117-OX-01 (9/2/03)		117-OX-02(9/2/03)		117-PZ-01 (9/2/03)		117-TM-01 (9/3/03)		117-TM-02 (9/3/03)		117-TM-03(9/3/03)	
Date Collected		09/02/03		09/02/03		09/02/03		09/02/03		09/03/03		09/03/03		09/03/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	246		224		250		246		237		241		229	
Chloride	mg/L	81.6		80.9		97.4		91		99.7		95.8		94	
Nitrate As N	mg/L	5.1		8.1		6.4		3.7		7.5		7		8.5	
Nitrite	mg/L	0.98		0.5	U	0.63	U	2.4		0.63	U	0.63	U	0.63	U
Nitrogen, Total Kjeldahl (Tkn)	mg/L													1	
Phosphorus, Orthophosphate	mg/L													0.05	U
Sulfate	mg/L	183		189		179		202		253		237		195	
Sulfide	mg/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Total Organic Carbon (Ave)	mg/L	3.8		3.1		3.8		3.5		6.2		5.9		2.1	
Total Organic Carbon (Max)	mg/L	4.2		3.3		4.2		3.9		6.3		6.1		2.4	
Total Organic Carbon (Min)	mg/L	3.5		2.9		3.3		3.2		6.1		5.6		1.8	
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml													1.00E+02	
Total Heterotrophs	cfu/ml													6.00E+02	
Metals (EPA 6010B)															
Iron	µg/L	274		16300		647		9100		75.7		63.9		100	
Manganese	µg/L	11.1		349		35.5		223		130		153		101	
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L	0.096	U	0.096	U	0.096	U	0.096	U	0.096	U	0.096	U	0.096	U
Gasoline Range Organics	mg/L	0.1		0.05	U	0.1		0.11		0.29		0.26		0.05	U
JP-4 (Jet Propulsion Fuel #4)	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Motor Oil Range Organics	mg/L	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.15	
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	2.3		0.5	U	5.9		4		3.8		4		1.2	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U

Attachment 2: Analytical Results, ISOC Demonstration Project, Baseline Sampling

Sample ID		117-EX-03(9/2/03)		117-OX-01 (9/2/03)		117-OX-02(9/2/03)		117-PZ-01 (9/2/03)		117-TM-01 (9/3/03)		117-TM-02 (9/3/03)		117-TM-03(9/3/03)	
Date Collected		*09/02/03*		*09/02/03*		*09/02/03*		*09/02/03*		*09/03/03*		*09/03/03*		*09/03/03*	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	18	U	17	U	24	U	44	U	20		17		14	
Benzene	µg/L	14.3		3.6		9.7		18.3		40.2		35.9		16.4	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	0.5	J	10	U
Carbon Tetrachloride	µg/L	1.4		5.3		2.4		0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	3.4		4.5		4.8		2.6		1.3		2.1		2.3	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	41.1		2.5		2		188		11.1		31.3		6.7	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	3.3		0.5	U	0.5	U	6.7		0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5		0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	83		39		90		140		79		82		29	
Tert-Butylbenzene	µg/L	1.8		0.5	U	1.1		1.6		1.7		2.3		0.6	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.57	U	0.57	U	0.57	U	0.57	U	0.6		0.57	U	0.57	U
Trans-1,2-Dichloroethene	µg/L	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Attachment 2: Analytical Results, ISOC Demonstration Project, Baseline Sampling

Sample ID		117-TM-05 (9/4/03)		117-TM-08 (9/4/03)		117-TM-04(9/8/03)		117-TM-07(9/8/03)		117-TM-09(9/8/03)		117-OX-03(9/9/03)		117-TM-06(9/9/03)	
Date Collected		09/04/03		09/04/03		09/08/03		09/08/03		09/08/03		09/09/03		09/09/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	242		232		225		221		223		235		245	
Chloride	mg/L	95.8		73.3		91.6		84.2		90.1		83.8		91.6	
Nitrate As N	mg/L	7.3		5.3		4.9		7		5.9		7.4		6.1	
Nitrite	mg/L	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
Nitrogen, Total Kjeldahl (Tkn)	mg/L	0.37		0.33						0.18	U				
Phosphorus, Orthophosphate	mg/L	0.05	U	0.027	J					0.017	J				
Sulfate	mg/L	189		158		229		179		188		173		197	
Sulfide	mg/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Total Organic Carbon (Ave)	mg/L	5.5		1.1		7.6		1.3		3.4		5.7		7.2	
Total Organic Carbon (Max)	mg/L	7.7		1.5		8.2		2.3		4.1		7.7		10.1	
Total Organic Carbon (Min)	mg/L	3.9		1	U	7		0.69		2.5		3.8		5.4	
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml	2.00E+02		7.00E+02						9.00E+01					
Total Heterotrophs	cfu/ml	5.00E+03		7.00E+03						1.00E+04					
Metals (EPA 6010B)															
Iron	µg/L	72.6		73.4		50	U	68.4		54.8		50.5		54.5	
Manganese	µg/L	61.6		68.8		400		103		104		17.2		60.7	
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L	0.096	U	0.096	U	0.5	U	0.096	U	0.096	U	0.1	U	0.1	U
Gasoline Range Organics	mg/L	0.24		0.05	U	0.2		0.05	U	0.14		0.14		0.39	
JP-4 (Jet Propulsion Fuel #4)	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Motor Oil Range Organics	mg/L	0.13	U	0.13	U	0.7	U	0.13	U	0.13	U	0.14	U	0.14	U
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	3.4		0.6		3.9		0.5	U	2.7		3.5		2.9	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U

Attachment 2: Analytical Results, iSOC Demonstration Project, Baseline Sampling

Sample ID		117-TM-05 (9/4/03)		117-TM-08 (9/4/03)		117-TM-04(9/8/03)		117-TM-07(9/8/03)		117-TM-09(9/8/03)		117-OX-03(9/9/03)		117-TM-06(9/9/03)	
Date Collected		09/04/03		09/04/03		09/08/03		09/08/03		09/08/03		09/09/03		09/09/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	14	U	10	U	10	U	10	U	17	U	10	U	10	U
Benzene	µg/L	49.5		10.5		41.2		0.5	U	23.2		26.9		19.3	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.5	U	2.6		0.5	U	0.6		0.5	U	1.8		0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.4		5		1.5		4.2		2.1		4.1		1.9	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.9		0.6		0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	14.7		5.5		8.7		4.2		19.5		0.6		30.8	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	64		20	U	92		20	U	69		20	U	71	
Tert-Butylbenzene	µg/L	1.4		0.5	U	1.4		0.5	U	1		0.5	U	0.8	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U
Trans-1,2-Dichloroethene	µg/L	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel. (909) 590-1828 Fax (909) 590-1498

CONFORMS

REVIEWER: RC

DATE: 10/1/03

September 23, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-4984 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-034984
Collected by: Jody Rhoades
Collected on: 09/02/03

Received: 09/04/03
Extracted: 09/04/03
Tested: 09/04-10/03
Reported: 09/12/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03 (9/2/03) 03-04984-1	117-OX-01 (9/2/03) 03-04984-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	246	224
SULFIDE	E376.2	mg/L	0.2	<0.2	<0.2
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	4.2	3.3
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	3.5	2.9
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	3.8	3.1
Dilution Factor				12.5	10
CHLORIDE	9056	mg/L	0.2	81.6	80.9
NITRATE AS N	9056	mg/L	0.04	5.1	8.1
NITRITE AS N	9056	mg/L	0.05	0.98	<0.5
SULFATE	9056	mg/L	0.5	183	189
Dilution Factor				1	1
IRON	6010B	μg/L	50	274	16,300
MANGANESE	6010B	μg/L	5	11.1	349
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.10 [a]	0.04J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096 [b]
Dilution Factor				0.96	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [d]	<0.13 [b]	<0.13 [b]
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	18	17
BENZENE	SW8260B	μg/L	0.5	14.3	3.6
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [d]	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.8	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	1.4	5.3
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	3.4	4.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03 (9/2/03) 03-04984-1	117-OX-01 (9/2/03) 03-04984-2
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.73 (d)	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.3	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.55 (d)	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	41.1	2.5
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	3.3	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.57 (d)	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.55 (d)	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.52 (d)	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	83	39

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-02 (9/2/03) 03-04984-3	117-PZ-01 (9/2/03) 03-04984-4	Trip Blank (9/2/03) 03-04984-5
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	250	246	-
SULFIDE	E376.2	mg/L	0.2	<0.2	<0.2	-
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	4.2	3.9	-
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	3.3	3.2	-
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	3.8	3.5	-
Dilution Factor				12.5	12.5	1
CHLORIDE	9056	mg/L	0.2	97.4	91.0	-
NITRATE AS N	9056	mg/L	0.04	6.4	3.7	-
NITRITE AS N	9056	mg/L	0.05	<0.63	2.4	-
SULFATE	9056	mg/L	0.5	179	202	-
Dilution Factor				1	1	1
IRON	6010B	μg/L	50	647	9,100	-
MANGANESE	6010B	μg/L	5	35.5	223	-
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.10 [a]	0.11 [a]	0.01J
Dilution Factor				1	1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05	<0.05
Dilution Factor				0.96	0.96	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096 [b]	-
Dilution Factor				0.96	0.96	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [d]	<0.13	<0.13 [b]	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	24	44	20
BENZENE	SW8260B	μg/L	0.5	9.7	18.3	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [d]	<0.93	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	5J	3J
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.1	1.6	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	2.4	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	4.8	2.6	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.73 [d]	<0.73	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-02 (9/2/03) 03-04984-3	117-PZ-01 (9/2/03) 03-04984-4	Trip Blank (9/2/03) 03-04984-5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	5.9	4.0	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.55 (d)	<0.55	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	2.0	188	<0.5
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	6.7	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.57 (d)	<0.57	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.55 (d)	<0.55	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.52 (d)	<0.52	<0.52	<0.52

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-02 (9/2/03) 03-04984-3	117-PZ-01 (9/2/03) 03-04984-4	Trip Blank (9/2/03) 03-04984-5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	90	140	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Not a typical Gasoline pattern.
(b) Not a Diesel/Motor Oil pattern. Sample chromatogram mainly contained an isolated peak at about C11-C12 range and an unknown mixture in Diesel/ Motor Oil range.
(d) MDL reported.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: Crows Landing

APCL Service ID: 03-4984

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Hsin-Yi Lee

From: Condit, Rose [Rose.Condit@shawgrp.com]
Sent: Wednesday, September 24, 2003 9:36 AM
EricW@apclab.com
Cc: Hsin-Yi Lee (E-mail)
Subject: SDG 4984 - Crows Landing

Hi Eric, I just received this data package today and the COC is not signed as "Received by" the lab. Will you please check on this for me. Unfortunately the original COC is now with me again.

Rose Condit
Program Chemist, Shaw E & I
4005 Port Chicago Highway
Concord, CA, 94520
phone. 925-288-2151
fax. 925-827-2179

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CHAIN OF CUSTODY

Ref. Document # CL1017

Page 1 of + 2

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 09/03/2003
Waybill Number: 101400781 / 101400782
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): Jody Rhoades

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice	TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)
117-PZ-01 (9/2/03)	117 In-Situ Baseline	09/02/03	09:45	g	GW	5	VOA	X				X	X		X		4984					
"				g	GW	2	1 Liter Amber					X		X								
"				g	GW	4	Amber, HDPE		X	X	X	X				X	X	X	X	X		
117-EX-03 (9/2/03)	117 In-Situ Baseline	09/02/03	11:00	g	GW	5	VOA	X				X	X		X							
"				g	GW	2	1 Liter Amber					X		X								
"				g	GW	4	Amber, HDPE		X	X	X	X				X	X	X	X	X		
117-OX-01 (9/2/03)	117 In-Situ Baseline	09/02/03	12:30	g	GW	5	VOA	X				X	X		X							
"				g	GW	2	1 Liter Amber					X		X								
"				g	GW	4	Amber, HDPE		X	X	X	X				X	X	X	X	X		
117-OX-02 (9/2/03)	117 In-Situ Baseline	09/02/03	14:00	g	GW	5	VOA	X				X	X		X							
"				g	GW	2	1 Liter Amber					X		X								
"				g	GW	4	Amber, HDPE		X	X	X	X				X	X	X	X	X		

Special Instructions: Silica gel clean up for TPH/DMO

Turnaround Time: ☐ 24-hr ☐ 48-hr X Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By: Rose Condit Date: 9/03/03 Time:
Received By: Golden State Date: 9/3/03 Time:

Relinquished By: Date: Time:
Received By: Date: 9/4/03 Time: 0830

Relinquished By: Date: Time:
Received By: Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1017

Project Number: *836557*

Shipment Date: 09/03/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)	Cooler Temperature
Trip Blank (9/2/03)		09/02/03	07:00			2	VOA	X				X		X		X								
Temp Blank																								X

4084

CHAIN OF CUSTODY

Ref. Document # CL1

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 09/03/2003
Waybill Number: 101400781 / 101400782
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): Jody Rhoades

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)	
117-PZ-01 (9/2/03)	117 In-Situ Baseline	09/02/03	09:45	g	GW	5	VOA	X				X		X		X								
"				g	GW	2	1 Liter Amber					X			X									
"				g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
117-EX-03 (9/2/03)	117 In-Situ Baseline	09/02/03	11:00	g	GW	5	VOA	X				X		X		X								
"				g	GW	2	1 Liter Amber					X			X									
"				g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
117-OX-01 (9/2/03)	117 In-Situ Baseline	09/02/03	12:30	g	GW	5	VOA	X				X		X		X								
"				g	GW	2	1 Liter Amber					X			X									
"				g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
117-OX-02 (9/2/03)	117 In-Situ Baseline	09/02/03	14:00	g	GW	5	VOA	X				X		X		X								
"				g	GW	2	1 Liter Amber					X			X									
"				g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			

Analyses Requested

4984

Special Instructions: Silica gel clean up for TPH/DMO

Turnaround Time: ☐ 24-hr ☐ 48-hr X Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Rose Condit	9/03/03		Golden State	9/3/03	

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1017 Page 2 of 2

Project Number: *836557* Shipment Date: 09/03/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)	Cooler Temperature
Trip Blank (9/2/03)		09/02/03	07:00			2	VOA	X				X		X		X								
Temp Blank																								X

1984

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-4984

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-PZ-01 (9/2/03)	03-04984-4
117-EX-03 (9/2/03)	03-04984-1
117-OX-01 (9/2/03)	03-04984-2
117-OX-02 (9/2/03)	03-04984-3
Trip Blank (9/2/03)	03-04984-5

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
M8015V (Gasoline),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
6010B (Metals),
9056 (Anions by IC),
E310.1 (Alkalinity),
M8015V (JP-4),
E376.2 (Sulfide, Total),
9060 (Carbon, Total Organic (4xTOC)),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting ITEMS EDD format.

6. Anomaly

(1) SW8260B:

Acetone in the amount of 22 ug/L was detected in the Method Blank of batch 03G4073, exceeding the 10 ug/L reporting limit. Similar levels of Acetone were also detected in the associated field samples, due to lab contamination.

(2) M8015V:

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel. (909) 590-1828 Fax (909) 590-1498

CONFORMS

REVIEWER: RC

DATE: 10/1/03

September 25, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5016 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035016
Collected by: Jody Rhoades
Collected on: 09/03/03

Received: 09/05/03
Extracted: 09/09/03
Tested: 09/05-22/03
Reported: 09/23/03

Sample Description: Water from 117 In-Situ Baseline.
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01 (9/3/03) 03-05016-1	117-TM-02 (9/3/03) 03-05016-2	117-TM-03 (9/3/03) 03-05016-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	237	241	229
NITROGEN, TOTAL KJELDAHL (TKN)	E351.3	mg/L	0.18 [a]	-	-	1.0
PHOSPHORUS, ORTHOPHOSPHATE	E365.2	mg/L	0.05	-	-	<0.05
SULFIDE	E376.2	mg/L	0.2	<0.2	<0.2	<0.2
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	6.3	6.1	2.4
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	6.1	5.6	1.8
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	6.2	5.9	2.1
Dilution Factor				12.5	12.5	12.5
CHLORIDE	9056	mg/L	0.2	99.7	95.8	94.0
NITRATE AS N	9056	mg/L	0.04	7.5	7.0	8.5
NITRITE AS N	9056	mg/L	0.05	<0.63	<0.63	<0.63
SULFATE	9056	mg/L	0.5	253	237	195
Dilution Factor				1	1	1
IRON	6010B	μg/L	50	75.7	63.9	100
MANGANESE	6010B	μg/L	5	130	153	101

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01 (9/3/03) 03-05016-1	117-TM-02 (9/3/03) 03-05016-2
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.29 [b]	0.26 [b]
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [c]	<0.096 [c]
Dilution Factor				0.96	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [a]	<0.13	<0.13

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01 (9/3/03) 03-05016-1	117-TM-02 (9/3/03) 03-05016-2
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	20	17
BENZENE	SW8260B	μg/L	0.5	40.2	35.9
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [a]	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.7	2.3
CARBON DISULFIDE	SW8260B	μg/L	10	<10	0.5J
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.3	2.1
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.73 [a]	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	3.8	4.0
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01 (9/3/03) 03-05016-1	117-TM-02 (9/3/03) 03-05016-2
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	11.1	31.3
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.57 [a]	0.60	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.52 [a]	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	79	82

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-03 (9/3/03) 03-05016-3	CL-99-61 (9/3/03) 03-05016-4	TB-9/3/03 03-05016-5
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.05 [b]	0.05 [b]	0.01J
Dilution Factor				1	1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05	<0.05
Dilution Factor				0.96	0.96	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [c]	<0.096 [c]	-
Dilution Factor				0.96	0.96	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [a]	0.15	0.14	-

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-03 (9/3/03) 03-05016-3	CL-99-61 (9/3/03) 03-05016-4	TB-9/3/03 03-05016-5
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	14	13	<10
BENZENE	SW8260B	μg/L	0.5	16.4	13.0	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [a]	<0.93	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.6	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.3	1.8	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.73 [a]	<0.73	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1.2	0.9	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-03 (9/3/03) 03-05016-3	CL-99-61 (9/3/03) 03-05016-4	TB-9/3/03 03-05016-5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	6.7	5.0	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	1
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.57 [a]	<0.57	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.52 [a]	<0.52	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	29	29	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] MDL reported.

[b] Not a typical Gasoline or JP-4 pattern.

[c] Sample chromatogram contained an isolated peak at about C11-C12 range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY

Ref. Document # CL1

Shaw
Shaw Environmental and Infrastructure Inc.
4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 9/4/2003
Waybill Number: 101400780
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): Jody Rhoades

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice	TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)
117-TM-01 (9/3/03)	117 In-Situ Baseline	09/03/03	9:20	g	GW	4	VOA	X				X	X		X							
"				g	GW	2	1 Liter Amber					X		X								
"				g	GW	4	Amber, HDPE		X	X	X	X				X	X	X	X	X		
117-TM-02 (9/3/03)	117 In-Situ Baseline	09/03/03	12:55	g	GW	5	VOA	X				X	X		X							
"				g	GW	1	1 Liter Amber					X		X								
"				g	GW	4	Amber, HDPE		X	X	X	X				X	X	X	X	X		
117-TM-03 (9/3/03)	117 In-Situ Baseline	09/03/03	15:45	g	GW	4	VOA	X				X	X		X							
"				g	GW	1	1 Liter Amber					X		X								
"				g	GW	5	Amber, HDPE		X	X	X	X				X	X	X	X	X	X	X
CL-99-57 (9/3/03)	117 In-Situ Baseline	09/03/03	15:50	g	GW	4	VOA	X				X	X		X							
"				g	GW	1	1 Liter Amber					X		X								
TB-9/3/03		09/03/03	7:00	g	GW	2	Amber, HDPE	X				X	X		X							

5016

Special Instructions: Silica gel clean up for TPH/DMO

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II (III) Project Specific: ___ LEVEL 4

Relinquished By:	Date:	Received By:	Date:
Rose Condit	9/4/03	Golden State Courier	9/4/2003
Time:		Time:	
Relinquished By:	Date:	Received By:	Date: 9/5/3
	Time:		Time: 0820
Relinquished By:	Date:	Received By:	Date:
	Time:		Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CytoCulture
ENVIRONMENTAL
BIOTECHNOLOGY
CytoCulture International, Inc.
249 Tewksbury Avenue
Pt. Richmond, CA 94801 USA
510-233-0102

Shaw Environmental Inc.
Project Name: **Crows Landing**
Waybill Number: **1271V0920192405592**
Project Manager: **Bob Hulet**
Send Report to: **Rose Condit**
Address: 4005 Port Chicago Highway
Concord, CA 94520-1120
Tel: 925-288-9898
Email: rose.condit@shawgrp.com

Reporting Date: **September 12, 2003**
CytoCulture Lab Login: **03-157**
Project Number: **836557**
Phone Number: 925-288-9898

Samples: Three water samples were received on ice on 09/05/03. The samples were stored at 4°C and assayed the same day. Please see the attached chain of custody form.

AEROBIC
Hydrocarbon-Degrading and Total Heterotrophic Bacteria Enumeration Assays

Analysis Request: Enumeration of aerobic petroleum hydrocarbon-degrading bacteria (broad range petroleum derived from gasoline and diesel) and total heterotrophic bacteria by method 9215A (HPC)/ Standard Methods 9215B modified.

Carbon Sources: Pasteurized Chevron gasoline and diesel were dissolved into agar plates as the sole carbon and energy source for the growth of aerobic hydrocarbon-degrading bacteria.

Protocol for Hydrocarbon-Degrading Bacteria: Sterile agar plates (100 x 15 mm) were prepared with minimal salts medium at pH 6.8 with agar and hydrocarbons, without any other carbon sources or nutrients added. Triplicate plates were inoculated with 1.0 ml of each sample (log dilution 10^0) or log dilutions of each sample at 10^{-1}, 10^{-2}, and 10^{-3}. Hydrocarbon plates were counted after 7 days incubation at 30°C. The plate count data is reported as colony forming units (cfu) per milliliter (ml). Each enumeration value represents a statistical average of the plate count data obtained from two of the four inoculating log dilutions assayed.

Protocol for Total Heterotrophic Bacteria: Sterile agar plates (100 x 15 mm) were prepared with minimal salts and 2.35% Difco heterotrophic plate count agar at pH 6.8 without any other carbon source or nutrients added. Triplicate plates were inoculated with 1.0 ml of sample at log dilutions 10^{-1}, 10^{-2}, and 10^{-3}. The heterotrophic plates were counted after 3 days of incubation at 30° C. The plate count data is reported as colony forming units (cfu) per milliliter (ml) of sample. Each enumeration value represents a statistical average of two of the four inoculating log dilutions assayed.

AEROBIC
Hydrocarbon-Degrading and Total Heterotrophic Bacteria Enumeration Assay Results

Client Sample Number	Sample Date	Hydrocarbon Degraders (cfu/ml)	Target Hydrocarbons Tested		Total Heterotrophs (cfu/ml)
117-TM-03	09/03/03	1×10^2	Gasoline/Diesel		6×10^2
117-TM-05	09/04/03	2×10^2	Gasoline/Diesel		5×10^3
117-TM-08	09/04/03	7×10^2	Gasoline/Diesel		7×10^3
Sterile Water	09/05/03	0	Gasoline/Diesel		0
Air control	09/05/03	0	Gasoline/Diesel		0
Positive Control	09/05/03	6×10^8	Gasoline/Diesel		7×10^8

Reporting Limit for enumeration data is 1.0×10^1 cfu/ml.

A positive control sample of hydrocarbon-degrading bacteria was run concurrently with these samples using a mixed flask culture of bacteria isolated from contaminated groundwater sites in Northern California.

CytoCulture is available on a consulting basis to assist in the interpretation of these data and their application to field bioremediation protocols.

Joselita P. Tablante
Laboratory Technician

Randall von Wedel, Ph.D.
Principal Biochemist

C:\cytolab\lab reports\ Shaw Environmental 03-157

COPY 03-15

CHAIN OF CUSTODY

Ref. Document # CL1022

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #:

Shipment Date: 09/04/2003
Waybill Number: ~~101400780~~ 1Z 71V 09 20 19 240 5592
Lab Destination: Cytoculture
Lab Contact Name / ph. #: Randy Von Weidle

Sampler's Name(s): RC

	Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: Heterotropic Plate Count	Specific Hydrocarbon Degrading Bac
1	117-TM-03 (9/3/03)	117 In-Situ Baseline	09/03/03	15:45	g	GW	1	HDPE					X		X	X
2	117-TM-05 (9/4/03)	117 In-Situ Baseline	09/04/03	10:33	g	GW	1	HDPE					X		X	X
3	117-TM-08 (9/4/03)	117 In-Situ Baseline	09/04/03	13:45	g	GW	1	HDPE					X		X	X

9-5-03 (per Rose) Only Aerobic Work Assay

Special Instructions: Specific Hydrocarbon - Gasoline

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific:

Relinquished By:	Date:	Received By:	Date:
Rose Condit	9/4/03	UPS	09/04/2003
	Time:		Time:
Relinquished By:	Date: 9-5-03	Received By:	Date:
	Time:		Time:
Relinquished By:	Date:	Received By:	Date:
	Time:		Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

COPY

CytoCulture **Environmental Biotechnology**
249 Tewksbury Avenue
Pt. Richmond, CA 94801 USA Tel 510-233-0102
Email: lab@cytoculture.com

INVOICE: 03-157
SHAW Environmental and Infrastructure Inc.
4005 Port Chicago Hwy
Concord, CA 94520
Telephone Number: 925-288-2151
Attn: Rose Condit
Email: rose.condit@shawgrp.com

Invoice Date: September 12, 2003
Reporting Date: September 12, 2003
Project Number: 836557
Project Name: Crows Landing

No. Samples: 3 Water
Sampling Date: 09/03/03 and 09/04/03

Bacterial Plate Enumerations	Qty	Unit Price	Amount
Aerobic Hydrocarbon Degraders (cfu/ml) - Water	3	$60	$180.00
Aerobic Hydrocarbon Degraders (cfu/g) - Soil		$70	$0.00
Aerobic Total Heterotrophs (cfu/ml) - Water	3	$60	$180.00
Aerobic Total Heterotrophs (cfu/g) - Soil		$70	$0.00
Anaerobic Hydrocarbon Degraders (cfu/ml) - Water		$90	$0.00
Anaerobic Hydrocarbon Degraders (cfu/g) - Soil		$95	$0.00
Anaerobic Total Heterotrophs (cfu/ml) - Water		$90	$0.00
Anaerobic Total Heterotrophs (cfu/g) - Soil		$95	$0.00
100-ml Sample Bottles	3	$2	$6.00
Packaging and Handling Fee	1	$15	$15.00
Invoice Total			**$381.00**

Federal ID# 94-3029-884
Please have check mailed within 21 days payable to:

CytoCulture International, Inc.
249 Tewksbury Avenue
Point Richmond, CA 94801-3829

Thank you.

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

CONFORMS
REVIEWER: RC
DATE: 10/6/03

September 24, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5031 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035031
Collected by: RC/ER
Collected on: 09/04/03

Received: 09/05/03
Extracted: 09/09/03
Tested: 09/05-10/03
Reported: 09/18/03

Sample Description: Water from 117 In-Situ Baseline.
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-05 (9/4/03) 03-05031-1	Analysis Result 117-TM-08 (9/4/03) 03-05031-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	242	232
NITROGEN, TOTAL KJELDAHL (TKN)	E351.3	mg/L	0.18 [a]	0.37	0.33
PHOSPHORUS, ORTHOPHOSPHATE	E365.2	mg/L	0.05	<0.05	0.027J
SULFIDE	E376.2	mg/L	0.2	<0.2	<0.2
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	7.7	1.5
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	3.9	<1
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	5.5	1.1
Dilution Factor				12.5	12.5
CHLORIDE	9056	mg/L	0.2	95.8	73.3
NITRATE AS N	9056	mg/L	0.04	7.3	5.3
NITRITE AS N	9056	mg/L	0.05	<0.63	<0.63
SULFATE	9056	mg/L	0.5	189	158
Dilution Factor				1	1
IRON	6010B	μg/L	50	72.6	73.4
MANGANESE	6010B	μg/L	5	61.6	68.8

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-05 (9/4/03) 03-05031-1	Analysis Result 117-TM-08 (9/4/03) 03-05031-2
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.24 [b]	0.04J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [c]	<0.096 [c]
Dilution Factor				0.96	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [a]	<0.13	<0.13

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-05 (9/4/03) 03-05031-1	Analysis Result 117-TM-08 (9/4/03) 03-05031-2
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	14	<10
BENZENE	SW8260B	μg/L	0.5	49.5	10.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [a]	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.4	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	2.6
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.4	5.0
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.73 [a]	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	3.4	0.6
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-05 (9/4/03) 03-05031-1	117-TM-08 (9/4/03) 03-05031-2
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	14.7	5.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.57 [a]	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.52 [a]	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	64	<20

Component Analyzed	Method	Unit	PQL	Analysis Result RB-117-TM-05 03-05031-3	TB-9/4/03 03-05031-4
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.03J	0.01J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [d]	-
Dilution Factor				0.96	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [a]	<0.13	-

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Component Analyzed	Method	Unit	PQL	Analysis Result RB-117-TM-05 03-05031-3	TB-9/4/03 03-05031-4
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	13	<10
BENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [a]	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	1J	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.73 [a]	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result RB-117-TM-05 03-05031-3	TB-9/4/03 03-05031-4
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.57 [a]	0.58	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.55 [a]	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.52 [a]	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] MDL reported.

[b] Not a typical Gasoline or JP-4 pattern.

[c] Sample chromatogram contained an isolated peak at about C11-C12 range.

[d] Sample chromatogram contained unknown mixture in Diesel range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5031

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-05 (9/4/03)	03-05031-1
117-TM-08 (9/4/03)	03-05031-2
RB-117-TM-05	03-05031-3
TB-9/4/03	03-05031-4

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
M8015V (Gasoline),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
6010B (Metals),
9056 (Anions by IC),
E310.1 (Alkalinity),
M8015V (JP-4),
E376.2 (Sulfide, Total),
9060 (Carbon, Total Organic (4xTOC)),
E351.3 (Nitrogen, Total Kjeldahl (TKN)),
E365.2 (Phosphorus, Orthophosphate),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting ITEMS EDD format.

6. Anomaly

(1) M8015V:

Surrogate BFB recoveries in the samples 117-TM-05 (9/4/03) and 117-TM-08 (9/4/03) were outside of control limits due to matrix interference.

7. Note

CHAIN OF CUSTODY

Ref. Document # CL1022

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: *Bob Hulet 925-288-9898*
(Name & phone #)

Send Report To: *Rose Condit*
Phone/Fax Number: *925-288-2151*
Address: *4005 Port Chicago Hwy*
City: *Concord, CA, 94520*

Project Number: *836557*
Project Name / Location: *Crows Landing*
Purchase Order #: *205733*

Shipment Date: 09/04/2003
Waybill Number: *1Z71V0920194835374*
Lab Destination: *APCL* *Chino, CA*
Lab Contact Name / ph. #: *Hsin-Ye* *909-590-1828*

Sampler's Name(s): RC/ER

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)	TEMPERATURE
117-TM-05 (9/4/03)	117 In-Situ Baseline	09/04/03	10:33	g	GW	4	VOA	X				X		X		X								
"				g	GW	1	1 Liter Amber					X			X									
"				g	GW	5	Amber, HDPE		X	X	X	X					X	X	X	X	X	X	X	
117-TM-08 (9/4/03)	117 In-Situ Baseline	09/04/03	13:45	g	GW	5	VOA	X				X		X		X								
"				g	GW	1	1 Liter Amber					X			X									
"				g	GW	5	Amber, HDPE		X	X	X	X					X	X	X	X	X	X	X	
RB-117-TM-05	Rinse Blank	09/04/03	08:50	g	W	2	VOA	X				X		X		X								
"				g	W	1	1 Liter Amber					X			X									
TEMP BLANK																								X
TB-9/4/03		09/04/03	07:00	g	GW	2	VOA	X				X		X		X								

5031

Special Instructions: Silica gel clean up for TPH/DMO

Turnaround Time: ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day ☑ Normal

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Rose Condit	9/4/03		UPS	09/04/2003	
				9/5/03	1000

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

Hsin-Yi Lee

From: Condit, Rose [Rose.Condit@shawgrp.com]
Sent: Monday, September 08, 2003 6:38 AM
To: Hsin-Yi Lee
Subject: RE: Sample login confirmation for GW samples from Crows (03-5031, 03-501603-4984)

They are all ITEMS.

Yes, report water samples the same way you have been doing it for the past few years....no changes.

-----Original Message-----
From: Hsin-Yi Lee [mailto:HsinL@apclab.com]
Sent: Friday, September 05, 2003 04:10 PM
To: Condit, Rose
Subject: Sample login confirmation for GW samples from Crows (03-5031, 03-501603-4984)

<<LOGIN034984.PDF>> <<LOGIN035016.PDF>> <<LOGIN035031.PDF>>
What EDD format you need for those three services? ITEMS or EDF?
Also, per your request we will follow the same reporting as always for water
samples.

Thanks

Hsin-Yi Lee
Project Manager
Applied Physics and Chemistry Laboratory
13760 Magnolia Ave.
Chino, CA 91710
(909)-590-1828 x113
HsinL@apclab.com

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APCL

Applied Physics & Chemistry Laboratory

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September 30, 2003

CONFORMS
REVIEWER: RC
DATE: 10/3 - 10/6

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5097 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035097
Collected by: ER
Collected on: 09/08/03

Received: 09/10/03
Extracted: 09/15/03
Tested: 09/10-16/03
Reported: 09/17/03

Sample Description: Water from 117 In-Situ Baseline.
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04 (9/8/03) 03-05097-1	117-TM-07 (9/8/03) 03-05097-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	225	221
SULFIDE	E376.2	mg/L	0.2	<0.2	<0.2
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	8.2	2.3
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	7.0	0.69J
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	7.6	1.3
Dilution Factor				12.5	12.5
CHLORIDE	9056	mg/L	0.2	91.6	84.2
NITRATE AS N	9056	mg/L	0.04	4.9	7.0
NITRITE AS N	9056	mg/L	0.05	<0.63	<0.63
SULFATE	9056	mg/L	0.5	229	179
Dilution Factor				1	1
IRON	6010B	μg/L	50	22.9J	68.4
MANGANESE	6010B	μg/L	5	400	103
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.20 [a]	0.02J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				5	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.5 [b]	<0.096
Dilution Factor				5	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [c]	<0.7	<0.13
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	41.2	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [c]	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.4	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	0.6
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.5	4.2

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04 (9/8/03) 03-05097-1	117-TM-07 (9/8/03) 03-05097-2
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.73 (c)	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	3.9	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	0.9	0.6
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.55 (c)	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	8.7	4.2
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.57 (c)	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.55 (c)	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.52 (c)	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	92	<20

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09 (9/8/03) 03-05097-3	Analysis Result RB-117-TM-08 03-05097-4
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	223	-
SULFIDE	E376.2	mg/L	0.2	<0.2	-
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	4.1	-
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	2.5	-
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	3.4	-
Dilution Factor				12.5	1
CHLORIDE	9056	mg/L	0.2	90.1	-
NITRATE AS N	9056	mg/L	0.04	5.9	-
NITRITE AS N	9056	mg/L	0.05	<0.63	-
SULFATE	9056	mg/L	0.5	188	-
Dilution Factor				1	1
IRON	6010B	μg/L	50	54.8	-
MANGANESE	6010B	μg/L	5	104	-
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.14 [a]	0.02J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096
Dilution Factor				0.96	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [c]	<0.13	<0.13
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	17	13
BENZENE	SW8260B	μg/L	0.5	23.2	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 [c]	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.0	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	14
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.1	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09 (9/8/03) 03-05097-3	RB-117-TM-08 03-05097-4
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.73 (c)	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.7	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.55 (c)	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	19.5	1
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.57 (c)	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.55 (c)	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.52 (c)	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	69	<20

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09 (9/8/03) 03-05097-3
NITROGEN, TOTAL KJELDAHL (TKN)	E351.3	mg/L	0.18 [c]	<0.18
PHOSPHORUS, ORTHOPHOSPHATE	E365.2	mg/L	0.05	0.017J

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] Not typical Gasoline or JP-4 pattern.

[b] Sample chromatogram contained an isolated peak at about C11-C12 range.

[c] MDL reported.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 836557 Crows Landing

APCL Service ID: 03-5097

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/117 In-Situ Baseline./836557

For Shaw E & I

APCL Service No: 03-5097

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
RB-117-TM-08	03-05097-4
117-TM-09 (9/8/03)	03-05097-3
117-TM-07 (9/8/03)	03-05097-2
117-TM-04 (9/8/03)	03-05097-1
TB-9/8/03	03-05097-5

2. Analytical Methodology

Samples are analyzed by EPA methods

8260B (Volatile organics),
M8015V (Gasoline),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
6010B/7471A (TTLC 17 Metals),
9056 (Anions, by IC),
310.1 (Alkalinity),
M8015V (JP-4),
376.2 (Sulfide, Total),
9060 (Carbon, Total Organic (4xTOC)),
351.3 (Nitrogen, Total Kjeldahl (TKN)),
365.2 (Phosphorus, Orthophosphate),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting to analyze samples without Trip Blanks.

6. Anomaly

(1) Sample receiving/COC:

Apcl did not received containers for the sample TB-9. The sample was not analyzed, per client's instructions.

(1) M8015V:

CHAIN OF CUSTODY

Ref. Document # CL1024

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 9/9/2003
Waybill Number: Golden State Delivery Service
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): ER

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)	TEMPERATURE
RB-117-TM-08	Rinse Blank	09/08/03	7:55	g	W	2	VOA	X				X		X		X								
"		"	"	g	W	1	1 Liter Amber					X			X									
117-TM-09 (9/8/03)	117 In-Situ Baseline	09/08/03	9:00	g	GW	4	VOA	X				X		X		X								
"		"	"	g	GW	1	1 Liter Amber					X			X									
"		"	"	g	GW	5	Amber, HDPE		X	X	X	X					X	X	X	X	X	X	X	
117-TM-07 (9/8/03)	117 In-Situ Baseline	09/08/03	12:30	g	GW	4	VOA	X				X		X		X								
"		"	"	g	GW	1	1 Liter Amber					X			X									
"		"	"	g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
117-TM-04 (9/8/03)	117 In-Situ Baseline	09/08/03	15:00	g	GW	4	VOA	X				X		X		X								
"		"	"	g	GW	1	1 Liter Amber					X			X									

5097

Special Instructions: Silica gel clean up for TPH/DMO

Turnaround Time: ☐ 24-hr ☐ 48-hr ◂ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 9/5/03 Time: 0830	Received By: UPS	Date: 9/4/2003 Time:
Relinquished By:	Date: Time:	Received By:	Date: 9/10/03 Time: 0940
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO =Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1024

Project Number: *836557*

Shipment Date: 9/9/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)	Ortho-PO4 (EAP 365.2)	TKN (EPA 351.3)	Cooler Temperature
117-TM-04 (9/8/03)	117 In-situ Baseline	09/08/03	15:00	g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
Temp Blank		09/08/03	1600	g		1	VOA																	X
TB-9/8/03		09/08/03	7:00	g	GW	2	VOA	X				X		X		X								

5097

COPY

Cyto Culture
ENVIRONMENTAL
BIOTECHNOLOGY
CytoCulture International, Inc.
249 Tewksbury Avenue
Pt. Richmond, CA 94801 USA

Shaw Environmental Inc.
Project Name: **Crows Landing**
Waybill Number: **1Z71V0920195401250**
Project Manager: **Bob Hulet**
Send Report to: **Rose Condit**
Address: 4005 Port Chicago Highway
Concord, CA 94520-1120
Telephone: 925-288-9898
Email: rose.condit@shawgrp.com

Reporting Date: **September 16, 2003**
CytoCulture Lab Login: **03-158**
Project Number: **836557**
Phone Number: 925-288-9898
P.O. Number: 205733

Samples: One water sample was received on ice on 09/09/03. The samples were stored at 4°C and assayed the same day. Please see the attached chain of custody form.

AEROBIC
Hydrocarbon-Degrading and Total Heterotrophic Bacteria Enumeration Assays

Analysis Request: Enumeration of aerobic petroleum hydrocarbon-degrading bacteria (broad range petroleum derived from gasoline and diesel) and total heterotrophic bacteria by method 9215A (HPC)/ Standard Methods 9215B modified.

Carbon Sources: Pasteurized Chevron gasoline and diesel were dissolved into agar plates as the sole carbon and energy source for the growth of aerobic hydrocarbon-degrading bacteria.

Protocol for Hydrocarbon-Degrading Bacteria: Sterile agar plates (100 x 15 mm) were prepared with minimal salts medium at pH 6.8 with agar and hydrocarbons, without any other carbon sources or nutrients added. Triplicate plates were inoculated with 1.0 ml of each sample (log dilution 10^0) or log dilutions of each sample at 10^{-1}, 10^{-2}, and 10^{-3}. Hydrocarbon plates were counted after 7 days incubation at 30°C. The plate count data is reported as colony forming units (cfu) per milliliter (ml). Each enumeration value represents a statistical average of the plate count data obtained from two of the four inoculating log dilutions assayed.

COPY

Protocol for Total Heterotrophic Bacteria: Sterile agar plates (100 x 15 mm) were prepared with minimal salts and 2.35% Difco heterotrophic plate count agar at pH 6.8 without any other carbon source or nutrients added. Triplicate plates were inoculated with 1.0 ml of sample at log dilutions 10^{-1}, 10^{-2}, and 10^{-3}. The heterotrophic plates were counted after 3 days of incubation at 30° C. The plate count data is reported as colony forming units (cfu) per milliliter (ml) of sample. Each enumeration value represents a statistical average of two of the four inoculating log dilutions assayed.

AEROBIC
Hydrocarbon-Degrading and Total Heterotrophic Bacteria Enumeration Assay Results

Client Sample Number	Sample Date	Hydrocarbon Degraders (cfu/ml)	Target Hydrocarbons Tested		Total Heterotrophs (cfu/ml)
117-TM-09	09/08/03	9×10^1	Gasoline/Diesel		1×10^4
Sterile Water	09/09/03	0	Gasoline/Diesel		0
Air control	09/09/03	0	Gasoline/Diesel		0
Positive Control	09/09/03	2×10^8	Gasoline/Diesel		4×10^8

Reporting Limit for enumeration data is 1.0×10^1 cfu/ml.

A positive control sample of hydrocarbon-degrading bacteria was run concurrently with these samples using a mixed flask culture of bacteria isolated from contaminated groundwater sites in Northern California.

CytoCulture is available on a consulting basis to assist in the interpretation of these data and their application to field bioremediation protocols.

Joselita P. Tablante
Laboratory Technician

Randall von Wedel, Ph.D.
Principal Biochemist

C:\cytolab\lab reports\ Shaw Environmental 03-158

COPY US-158

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

CHAIN OF CUSTODY

Ref. Document # CL1025

Page 1 of 1

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Shipment Date: 09/08/2003
Waybill Number: 1Z71V0920195401250
Lab Destination: Cytoculture
Lab Contact Name / ph. #: Randy Von Weidle

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Sampler's Name(s): ER

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice	Analyses Requested: Heterotropic Plate Count	Specific Hydrocarbon Degrading Bac
117-TM-09 (9/8/03)	117 In-Situ Baseline	09/03/03	09:00	g	GW	1	HDPE					X	X	X

TF 9/8/03

Special Instructions: Specific Hydrocarbon - Gasoline

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific:

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	09/09/2003 TF 9/8/03	1500			
[signature]	9-9-2003	10 AM			

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

CONFORMS
REVIEWER: RC
DATE: 10/3/03

October 1, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose Condit

This package contains samples in our Service ID 03-5138 and your project 836557 Crows Landing
Enclosed please find:

(1) Original report;
(2) Oringinal Chain of Custody;
(3) One original and one CD of Level D Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035138
Collected by: SS
Collected on: 09/09/03

Received: 09/11/03
Extracted: 09/15/03
Tested: 09/11-17/03
Reported: 09/18/03

Sample Description: Water from 117 In-Situ Baseline.
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-03 (9/9/03) 03-05138-1	117-TM-06 (9/9/03) 03-05138-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	235	245
SULFIDE	E376.2	mg/L	0.2	<0.2	<0.2
CARBON, TOTAL ORGANIC (MAX)	9060	mg/L	1	7.7	10.1
CARBON, TOTAL ORGANIC (MIN)	9060	mg/L	1	3.8	5.4
CARBON, TOTAL ORGANIC (AVE)	9060	mg/L	1	5.7	7.2
Dilution Factor				12.5	12.5
CHLORIDE	9056	mg/L	0.2	83.8	91.6
NITRATE AS N	9056	mg/L	0.04	7.4	6.1
NITRITE AS N	9056	mg/L	0.05	<0.63	<0.63
SULFATE	9056	mg/L	0.5	173	197
Dilution Factor				1	1
IRON	6010B	μg/L	50	50.5	54.5
MANGANESE	6010B	μg/L	5	17.2	60.7
Dilution Factor				1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [a]	<0.1 [a]
Dilution Factor				1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.14 [b]	<0.14	<0.14

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-03 (9/9/03) 03-05138-1	117-TM-06 (9/9/03) 03-05138-2	TB-9/9/03 03-05138-3
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.14 [c]	0.39 [c]	0.02J
Dilution Factor				1	1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05	<0.05

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13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-03 (9/9/03) 03-05138-1	117-TM-06 (9/9/03) 03-05138-2	TB-9/9/03 03-05138-3
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	26.9	19.3	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.93 (b)	<0.93	<0.93	<0.93
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	0.8	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	1.8	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	4.1	1.9	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.73 (b)	<0.73	<0.73	<0.73
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	3.5	2.9	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.55 (b)	<0.55	<0.55	<0.55
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-OX-03 (9/9/03) 03-05138-1	117-TM-06 (9/9/03) 03-05138-2	TB-9/9/03 03-05138-3
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	0.6	30.8	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	0.7
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.57 (b)	<0.57	<0.57	<0.57
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.55 (b)	<0.55	<0.55	<0.55
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.52 (b)	<0.52	<0.52	<0.52
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	71	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Sample chromatogram contained an isolated peak at about C11-C12 range.

(b) MDL reported.

(c) Not a typical Gasoline or JP-4 pattern.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/117 In-Situ Baseline./836557

For Shaw E & I

APCL Service No: 03-5138

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-06 (9/9/03)	03-05138-2
117-OX-03 (9/9/03)	03-05138-1
TB-9/9/03	03-05138-3

2. Analytical Methodology

Samples are analyzed by EPA methods

8260B (Volatile organics),
M8015V (Gasoline),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
6010B (Metals),
9056 (Anions, by IC),
310.1 (Alkalinity),
M8015V (JP-4),
376.2 (Sulfide, Total),
9060 (Carbon, Total Organic (4xTOC)),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Emails requesting to correct collection times.

6. Anomaly

None.

7. Note

Silica Gel clean-up was performed in TPH analyses.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Hsin-Yi Lee

From: Condit, Rose [Rose.Condit@shawgrp.com]
Sent: Thursday, October 02, 2003 9:59 AM
To: Hsin-Yi Lee (E-mail)
Subject: COC CL1028 & CL1029 - analyses on hold

Hi Hsin-Yi, If you haven't started the analyses yet, will you please put sample #s 117-TM-02, 117-TM-03 and 117-TM-05 on hold. We are going to resample these wells (today if possible) and will re-submit. Do not discard the samples you have now, just don't analyze them unless I tell you otherwise.

Thanks,

Rose Condit
Program Chemist, Shaw E & I
4005 Port Chicago Highway
Concord, CA, 94520
phone. 925-288-2151
fax. 925-827-2179

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CHAIN OF CUSTODY

Ref. Document # CL1026

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 9/9/2003
Waybill Number: UPS 1Z71V0920398806064
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): ss

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-06 (9/9/03)	117 In-Situ Baseline	09/09/03	1315	g	GW	4	VOA	X				X		X		X								
"			↓	g	GW	1	1 Liter Amber					X			X									
"			↓	g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
117-OX-03 (9/9/03)	117 In-Situ Baseline	09/09/03	1315	g	GW	8	VOA	X				X		X		X							X	
"			↓	g	GW	2	1 Liter Amber					X			X								X	
"			↓	g	GW	4	Amber, HDPE		X	X	X	X					X	X	X	X	X			
Temp Blank		09/09/03																						X
TB-9/9/03		09/09/03	1315	g	GW	2	VOA	X				X		X		X								

5138

Special Instructions: Silica gel clean up for TPH/DMO...**Use 500ml for TPH-diesel MS/MSD**

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 9/9/03 Time: 1500	Received By: UPS	Date: 9/4/2003 Time:
Relinquished By:	Date: Time:	Received By:	Date: 9/11/3 Time: 11:58
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

Attachment 3
Monitoring Forms

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	T. Barry
Date	9/22/03

Dissolved Oxygen Readings and Sampling

TD = 105.85 106.04 106.79 (sticky)

		Well													
			800	1126	1231								830	833	838
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv) ppm		001	005	1.34	7.68	1.35	—	—	—	—	—	9.08	000	001	001
Samples Collected												(1105)	DTW =	58.22	58.23	~~58.09~~ 58.09
VOCs/alkalinity															
bioassessment/TPH															
final field parameters	DO (ppm)														
	ORP (mV)														
	pH														
	conductivity (us/ms)														
	temperature (°C)														

Equipment Readings

Oxygen Tank

high pressure	(psig)	2300
low pressure	(psig)	25

Control Panel

inlet pressure	(psig)	25

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20	20
flowrate	(cc/min)	15	15	15

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	[illegible]
Date	9/03/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		0	0	2.35 mg/L	4.14 mg/L	~~1.10~~ 0.50 mg/L	7.49 mg/L	7.50 mg/L	2.10 mg/L	2.65 mg/L	[illegible]	3.30 mg/L	40	48	80
Samples Collected															
VOCs/alkalinity															
bioassessment/TPH															
final field parameters	DO (ppm)						N/A								
	ORP (mV)														
	pH														
	conductivity (us/ms)														
	temperature (°C)														

Equipment Readings

Oxygen Tank

high pressure	(psig)	2300
low pressure	(psig)	25

Control Panel 0700

inlet pressure	(psig)	26

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20	20
flowrate	(cc/min)	20	17	19

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	RAmroe
Date	9/24/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		2.57 mg/L	2.87 mg/L	1.72 mg/L	1.72 mg/L	1.69	1.59 mg/L	1.67	1.8	1.79	1.06	1.31 mg/L	39 ppm	48 ppm	134
Samples Collected															
VOCs/alkalinity															
bioassessment/TPH															
final field parameters	DO (ppm)														
	ORP (mV)														
	pH														
	conductivity (us/ms)														
	temperature (°C)														

Equipment Readings

Oxygen Tank

high pressure	(psig)	2200
low pressure	(psig)	26

Control Panel

inlet pressure	(psig)	

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20	20
flowrate	(cc/min)	12 ~~15~~	15	10 ~~15~~

Cal High Range DO Meter 9/24/03 0700 → 10% x 100 = 100% in cal.

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	Ram. RFZ
Date	9/25/03 TMW.

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		2.01 mg/L	1.68 mg/L	1.91 mg/L	1.92 mg/L	1.89 mg/L	1.42 mg/L	3.04 mg/L	0.60 mg/L	0.87 mg/L	0.98 mg/L	1.98	48	210 ~~63~~ cm	276
Samples Collected														210	
VOCs/alkalinity															
bioassessment/TPH															
final field parameters	DO (ppm)														
	ORP (mV)					N	A								
	pH														
	conductivity (us/ms)														
	temperature (°C)														

Equipment Readings

Oxygen Tank

high pressure	(psig)	2150
low pressure	(psig)	25

Control Panel

inlet pressure	(psig)	24

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure P	(psig)	19.5	20	20
flowrate F	(cc/min)	17.5	14	12

Adjust to P = 20 F = 10 F = 8

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	Paul DeCamp
Date	9/29/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)															
Samples Collected															
VOCs/alkalinity				Yes	Yes	Yes						Yes			
bioassessment/TPH				NO	NO	NO						NO			
final field parameters	DO (ppm)			1.69	4.66	7.22						1.48			
	ORP (mV)			-12.0	105.2	-9.2						23.9			
	pH			7.38	11.17	7.66						7.46			
	conductivity (us/ms)			1.156	2.141	1.127						1.054			
	temperature (°C)			22.31	22.00	24.15						24.26			

10/2/03

10/2/03

10/3/03

10/2/03

Equipment Readings

Oxygen Tank

high pressure	(psig)	21500
low pressure	(psig)	21

Control Panel

inlet pressure	(psig)	

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20	20
flowrate	(cc/min)	17	9	7.5

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	[illegible]
Date	9/30/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)															
Samples Collected															
VOCs/alkalinity							Yes	Yes	Yes	Yes	Yes				
bioassessment/TPH							~~Yes~~ PD 9/30/03								
final field parameters	DO (ppm)						1.05	8.49	1.07	1.06	0.89				
	ORP (mV)			PD			17.8	11.2	-23.3	-20.1	-20.9		PD		
	pH				9/30/03		7.36	7.93	7.41	7.42	7.57			9/30/03	
	conductivity (us/ms)						1.190	1.125	1.127	1.127	1.048				
	temperature (°C)						22.49	24.90	24.60	24.19	33.06				

PD

Equipment Readings

Oxygen Tank

high pressure	(psig)	—
low pressure	(psig)	—

PD 9/30/03

Control Panel

inlet pressure	(psig)	—

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	—	—	—
flowrate	(cc/min)	—	—	—

PD 9/30/03

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	Paul DeOcampo
Date	10/1/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)												PD 10/1/03	039 ppm	75 ppm	91 ppm
Samples Collected															
VOCs/alkalinity		Yes	Yes												
bioassessment/TPH		NO	NO												
final field parameters	DO (ppm)	0.78	0.76												
	ORP (mV)	-40.8	-189.5							PD 10/1/03			PD		
	pH	7.50	7.37		PD										
	conductivity (us/ms)	1.071	1.116												
	temperature (°C)	22.68	21.81												

Equipment Readings

Oxygen Tank

high pressure	(psig)	2000
low pressure	(psig)	21

Control Panel

inlet pressure	(psig)	25

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20.5	20.5
flowrate	(cc/min)	17.5	8	7.5

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	P. DeOcampo
Date	10/6/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)															
Samples Collected															
VOCs/alkalinity				✓	✓	✓	✓	✓							
bioassessment/TPH					✓										
final field parameters	DO (ppm)			0.23	0.83	0.24	0.19	0.15				5.32			
	ORP (mV)			54.9	-34.2	-86.1	-75.5	-75.8				-16.1			
	pH			7.25	7.38	7.41	7.37	7.42				7.70			
	conductivity (us/ms)			1.245	1.185	1.118	1.190	1.166				1.118			
	temperature (°C)			21.58	21.79	25.80	24.82	29.15				31.51			

PD 10/6/03

PD 10/6/03

Equipment Readings

Oxygen Tank

high pressure	(psig)	
low pressure	(psig)	

PD 10/6/03

Control Panel

inlet pressure	(psig)	

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)			
flowrate	(cc/min)			

PD 10/6/03

LS5918 CTO 98 9.3

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	P. DeOcampo
Date	10/7/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)															
Samples Collected															
VOCs/alkalinity									✓	✓					
bioassessment/TPH															
final field parameters	DO (ppm)	.79	.36						1.22	1.56	1.19				
	ORP (mV)	-42.1	-148.6						41.4	5.9	-43.9				
	pH	7.21	7.15						7.25	7.34	7.41				
	conductivity (us/ms)	1.109	1.165						1.142	1.117	1.027				
	temperature (°C)	23.16	22.98						22.16	23.24	28.66				

PD 10/7/03

PD 10/7/03

PD 10/7/03

PD 10/7/03

Equipment Readings

Oxygen Tank

high pressure	(psig)	
low pressure	(psig)	

PD 10/7/03

Control Panel

inlet pressure	(psig)	

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)			
flowrate	(cc/min)			

PD 10/7/03

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	[illegible]
Date	10/8/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		[illegible] 10/8/03											93 ppm	78 ppm	109 ppm
Samples Collected															
VOCs/alkalinity															
bioassessment/TPH															
final field parameters	DO (ppm)														
	ORP (mV)							[illegible] 10/8/03							
	pH														
	conductivity (us/ms)														
	temperature (°C)														

Equipment Readings

Oxygen Tank

high pressure	(psig)	1700
low pressure	(psig)	25

Control Panel

inlet pressure	(psig)	25

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20.5	20.5
flowrate	(cc/min)	17	1	10

sampling
er

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	TF
Date	10/15/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)													74	130	101
Samples Collected															
VOCs/alkalinity		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
bioassessment/TPH															
final field parameters	DO (ppm)	0.20	0.43	0.15	0.37	0.18	0.25	0.19	0.24	1.16	0.20	0.17	74	130	101
	ORP (mV)	-52.8	-141.7	-66.0	77.6	17.7	60.9	-3.6	117.8	-53.5	28.8	52.0			
	pH	7.17	7.27	7.26	7.22	7.30	7.26	7.30	7.24	7.45	7.33	7.36			
	conductivity (us/ms)	1.114	1.164	1.247	1.186	1.106	1.186	1.152	1.144	1.105	1.008	1.079			
	temperature (°C)	23.04	25.11	24.23	20.78	22.15	22.76	24.12	20.62	25.12	20.04	23.53			

TF 10/15/03

Equipment Readings

Oxygen Tank

high pressure	(psig)	1400
low pressure	(psig)	21

Control Panel

inlet pressure	(psig)	26

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	~~1820~~	21
flowrate	(cc/min)	18	19	15

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	TF
Date	10/21/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)													~~102~~	~~595*~~	~~231~~ TF 10/22/03
Samples Collected													072	088	153
VOCs/alkalinity		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
bioassessment/TPH															
final field parameters	DO (ppm)	0.21 / 0.85	0.16 / 0.60	0.38	0.41	0.59	0.22	0.16	0.18	1.43 / 2.51	0.28	0.19 / 0.87			
	ORP (mV)	-24.7 / 449.1	-12.6 / 416.8	87.9	-29.0	-27.1	-75.1	-66.9	-44.7	95.5 / 331.6	81.0 ~~0.81~~ TF 10/21/03	-40.9 / 391.8		NA	
	pH	7.17 / 6.87	7.14 / 6.98	7.32	7.25	7.40	7.23	7.26	7.29	7.33 / 7.19	7.28	7.32 / 7.13		TF 10/21/03	
	conductivity (us/ms)	1.137 / 1.158	1.144 / 1.183	1.265	1.273	1.112	1.222	1.194	1.153	1.122 / 1.140	0.993	1.063 / 1.089			
	temperature (°C)	26.71 / 30.98	25.83 / 27.33	22.85	24.34	24.10	23.45	26.26	23.57	23.00 / 24.15	20.52	25.83 / 28.98			

TF 10/22/03 * recalib meter and redo injection well D.O. row

** lower #'s are the new meter brought out on site (YSI 650 MDS)

* left this in well for 1-2 hours

Equipment Readings

Oxygen Tank

high pressure	(psig)	8400
low pressure	(psig)	160

Control Panel

inlet pressure	(psig)	25.5

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	19.5	20.5	21.0
flowrate	(cc/min)	17	17	7

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	TF
Date	11/19/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)													075	318	412
Samples Collected															
VOCs/alkalinity		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
bioassessment/TPH															
final field parameters	DO (ppm)	0.52	0.10	0.65 / 1.13	0.19 / 0.89	0.19 / 0.79	0.81 / 0.73	0.24 / 0.58 TF	0.80 / 1.35	5.89 / 4.97	0.24 / 1.18				
	ORP (mV)	-69.0	-181.3	124.3 / 156.3	-26.0 / 130.0	-40.5 / 139.6	0.9 / 101.4	-49.7 / 186.3	177.7 / 220.6	137.2 / 193.3	36.9 / 247.0				
	pH	6.98	6.96	7.41 / 7.30	7.36 / 7.29	7.36 / 7.32	7.42 / 7.34	7.37 / 7.33	6.90 / 6.69	7.05 / 6.88	7.07 / 6.80			TF 11/19/03	
	conductivity (us/ms)	1.117	1.174	1.230 / 1.228	1.188 / 1.167	1.098 / 1.027	1.164 / 1.103	1.146 / 1.069	1.132 / 1.132 TF	1.128 / 1.145	0.996 / 1.008				
	temperature (°C)	21.84	23.72	20.06 / 21.04	21.27 / 22.02	21.19 / 22.91	18.64 / 18.67	20.47 / 21.33	16.60 / 15.82 TF	16.34 / 16.09	20.23 / 20.94				

YSI 556 / YSI 600

1.132

Equipment Readings

Oxygen Tank

high pressure	(psig)	2080
low pressure	(psig)	23

Control Panel

inlet pressure	(psig)	26

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	19.9	21.0	21.1
flowrate	(cc/min)	9	12	9.5

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	T. Fenger
Date	12/16/03

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)													98	225	240
Samples Collected															
VOCs/alkalinity															
bioassessment/TPH															
final field parameters	DO (ppm)	0.29	0.12	0.29	0.30	0.24	0.11	0.16	0.18	7.25	0.23	0.13			
	ORP (mV)	-236.2	-250.2	-150.4	150.0	-156.2	113.0	166.8	-163.9	135.9	-227.9	103.0			
	pH	7.27	7.25	7.23	7.24	7.28	7.26	7.24	7.21	7.31	7.32	7.27			
	conductivity (us/ms)	1.083	1.120	1.198	1.135	1.057	1.129	1.080	1.095	1.017	0.970	1.016			
	temperature (°C)	23.26	22.06	18.20	19.52	16.67	18.77	18.19	17.63	17.76	19.14	20.15			

TF 12/16/03

Equipment Readings

Oxygen Tank

high pressure	(psig)	5080
low pressure	(psig)	160

Control Panel

inlet pressure	(psig)	25.3

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20	20.5	20.7
flowrate	(cc/min)	13	16	15

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	01/12/04
Operator:	T. Fenger

Oxygen Tank

high pressure (psig):	1700
low pressure (psig):	23.5

Control Panel

inlet pressure (psig):	25.3	
117-OX-01 pressure (psig):	20.0	
117-OX-02 pressure (psig):	20.5	
117-OX-03 pressure (psig):	20.8	turned down TF 01/12/04
117-OX-01 flowrate (cc/min):	15.5	→ 12 cc/min
117-OX-02 flowrate (cc/min):	16	→ 12 cc/min
117-OX-03 flowrate (cc/min):	16	→ 11 cc/min

Date:	01/15/04
Operator:	T. Fenger

Oxygen Tank

high pressure (psig):	~~1600~~ 1500	TF 1/15/04
low pressure (psig):	24	

Control Panel

inlet pressure (psig):	25.1
117-OX-01 pressure (psig):	20.0
117-OX-02 pressure (psig):	20.5
117-OX-03 pressure (psig):	20.7
117-OX-01 flowrate (cc/min):	11.0
117-OX-02 flowrate (cc/min):	11.0
117-OX-03 flowrate (cc/min):	10.5

Additional Notes

* conversation w/ D. Kelly - instruct to turn down flowrate to 10-15 cc/min
* Dave Peet measured high pressure of tank at: 1550 psig on 2pm 01/14/04

note: readings from Site 117 system typically taken at beginning and end of every week.

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	T. Fenger
Date	01/20/04

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		—	TF 1/22/04									—	98	109	121
Samples Collected															
VOCs/alkalinity		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
bioassessment/TPH															
final field parameters	DO (ppm)	0.68	0.23	0.33	0.40	0.37	0.21	0.34	0.20	7.09	0.22	0.28	TF 1/21/04		
	ORP (mV)	-109.3	117.2	194.2	82.4	69.3	190.1	77.2	144.7	93.7	104.2	85.4			
	pH	7.17	6.83	7.29	7.01	7.11	7.29	6.97	7.26	7.12	7.33	7.04			
	conductivity (us/ms)	1.102	1.153	1.239	1.203	1.081	1.179	1.175	1.135	1.103	1.019	1.096			
	temperature (°C)	24.62	18.04	14.34	14.44	16.89	15.68	17.06	18.62	19.82	18.80	15.75			

Equipment Readings

Oxygen Tank

high pressure	(psig)	1250
low pressure	(psig)	24

Control Panel

inlet pressure	(psig)	25.2

		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20.0	20.6	20.9
flowrate	(cc/min)	10.0	10.5	10.5

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	2/2/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	710
low pressure (psig):	23

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.3
117-OX-02 pressure (psig):	20.8
117-OX-03 pressure (psig):	20.9
117-OX-01 flowrate (cc/min):	10.0
117-OX-02 flowrate (cc/min):	10.0
117-OX-03 flowrate (cc/min):	10.0

Date:	2/5/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	600
low pressure (psig):	22

Control Panel

inlet pressure (psig):	24.9
117-OX-01 pressure (psig):	20.0
117-OX-02 pressure (psig):	20.9
117-OX-03 pressure (psig):	20.9
117-OX-01 flowrate (cc/min):	12
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes Oxygen tank dropped 110 psi

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	2/9/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	450
low pressure (psig):	23

Control Panel

inlet pressure (psig):	25.5
117-OX-01 pressure (psig):	20.0
117-OX-02 pressure (psig):	20.5
117-OX-03 pressure (psig):	20.8
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Date:	2/12/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	375
low pressure (psig):	23

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.0
117-OX-02 pressure (psig):	20.8
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes

1440 - Changed O2 tank @ 2380 psi

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	2/17/04 0745
Operator:	P. DeOcampo

Oxygen Tank #080514-AIG

high pressure (psig):	2150
low pressure (psig):	22.0

Control Panel

inlet pressure (psig):	25.5
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	11

Date:	2/17/04 0745
Operator:	P. DeOcampo

Oxygen Tank #8820

high pressure (psig):	380
low pressure (psig):	22.0

Control Panel

	No Reading
inlet pressure (psig):	
117-OX-01 pressure (psig):	
117-OX-02 pressure (psig):	
117-OX-03 pressure (psig):	
117-OX-01 flowrate (cc/min):	
117-OX-02 flowrate (cc/min):	
117-OX-03 flowrate (cc/min):	↓

Additional Notes

* Switch O_2 tank 380psi (Last week O_2 tank)

note: readings from Site 117 system typically taken at beginning and end of every week.

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	P. DeOcampo
Date	2/18/04

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		0.33	0.22	1.12	0.86	2.29	0.78	1.27	0.80	0.75	0.51	0.33	56	83	94
Samples Collected															
VOCs/alkalinity		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
bioassessment/TPH															
final field parameters	DO (ppm)	0.33 ~~1.12~~ 2/18 pp 04	0.22	1.12	0.86	2.29	0.78	1.27	0.80	0.75	0.51	0.33			
	ORP (mV)	-145.6	-134.6	59.8	38.1	39.3	37.9	47.9	36.8	50.6	15.6	7.3			
	pH	7.19	7.18	7.21	7.20	7.11	7.16	7.20	7.19	7.14	7.20	7.25			
	conductivity (us/ms)	1.105	1.154	1.222	1.193	1.052	1.201	1.151	1.134	1.078	0.999	1.078			
	temperature (°C)	19.26	19.65	19.30	20.99	21.33	20.58	19.81	18.57	17.58	18.75	18.51			

Equipment Readings

Oxygen Tank

high pressure	(psig)	350
low pressure	(psig)	22

Control Panel

inlet pressure	(psig)	25.5		
		well		
		117-OX-01	117-OX-02	117-OX-03
pressure	(psig)	20.5	21.0	21.0
flowrate	(cc/min)	10	10	11

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	2/19/04 1330
Operator:	P. DeOcampo

Oxygen Tank# 8820

high pressure (psig):	300
low pressure (psig):	22.0

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Date:	2/19/04 1335
Operator:	P. DeOcampo

Oxygen Tank #080514-AIG

high pressure (psig):	2150
low pressure (psig):	22.0

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	20.8
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes Switch O2 tank from #8820(300psi) to #080514-AIG(2150psi) for the weekend.

note: readings from Site 117 system typically taken at beginning and end of every week.

SPD 2/19/04

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	2/23/04
Operator:	P. DeOcampo

Oxygen Tank # 080514-AIG

high pressure (psig):	2000
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.5
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Date:	2/23/04
Operator:	P. DeOcampo

Oxygen Tank # 8820

high pressure (psig):	300
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.3
117-OX-01 pressure (psig):	20.2
117-OX-02 pressure (psig):	20.9
117-OX-03 pressure (psig):	20.9
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes Switch O2 tank from tank#080514-AIG (2000psi) to tank#8820 (300ps

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	2/26/04
Operator:	P. DeOcampo

Oxygen Tank #8820

high pressure (psig):	180
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	20.9
117-OX-03 pressure (psig):	20.9
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Date:	2/26/04
Operator:	P. DeOcampo

Oxygen Tank #080514-AIG

high pressure (psig):	2080
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.25
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	20.9
117-OX-03 pressure (psig):	20.9
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes

Switch O2 tank from, tank#8820(180psi) to tank#080514-AIG(2080psi)

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	3/1/04
Operator:	P. DeCampo

Oxygen Tank # 080514-AIG

high pressure (psig):	1900
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.4
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	11
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Date:	3/~~5~~ 4 3/14/04 /04
Operator:	P. DeCampo

Oxygen Tank

high pressure (psig):	1800
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.4
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10.0
117-OX-02 flowrate (cc/min):	10.0
117-OX-03 flowrate (cc/min):	10.0

Additional Notes

~~3/4/03~~ 3/3/04 New O2 tank # G-581 on site. Removed O2 tank # 8820 (empty)
3/3/04

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	3/8/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	1800
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.4
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	11

Date:	3/11/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	1700
low pressure (psig):	22

Control Panel

inlet pressure (psig):	24.9
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	3/15/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	1550
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.4
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10.0
117-OX-02 flowrate (cc/min):	10.0
117-OX-03 flowrate (cc/min):	11.0

Date:	3/18/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	1500
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10.0
117-OX-02 flowrate (cc/min):	10.0
117-OX-03 flowrate (cc/min):	10.0

Additional Notes

note: readings from Site 117 system typically taken at beginning and end of every week.

ENHANCED IN SITU BIOREMEDIATION DEMONSTRATION PROJECT
MONITORING FORM

Operator	P. DeOcampo
Date	3/22/04

Dissolved Oxygen Readings and Sampling

		Well													
		117-EX-03	117-PZ-01	117-TM-01	117-TM-02	117-TM-03	117-TM-04	117-TM-05	117-TM-06	117-TM-07	117-TM-08	117-TM-09	117-OX-01	117-OX-02	117-OX-03
DO measurement (ppmv)		0.71	0.69	0.94	0.48	0.35	0.58	0.51	0.35	6.17	0.33	0.42	59	85	99
Samples Collected															
VOCs/alkalinity		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
bioassessment/TPH		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
final field parameters	DO (ppm)	0.71	0.69	0.94	0.48	0.35	0.58	0.51	0.35	6.17	0.33	0.42			
	ORP (mV)	-208.4	-243.0	11.3	-33.6	88.9	-28.7	89.6	-61.7	61.1	79.0	44.9			
	pH	7.31	7.32	7.38	9.73	7.35	7.43	7.34	7.29	7.43	7.35	7.39			
	conductivity (us/ms)	1.119	1.162	1.228	.205	.980	1.186	1.160	1.160	1.120	1.017	1.101			
	temperature (°C)	21.33	20.30	22.28	28.46	17.75	26.06	20.99	27.53	18.01	22.77	24.16			

Equipment Readings

Oxygen Tank

high pressure	(psig)	1250
low pressure	(psig)	22

Control Panel

inlet pressure	(psig)	25.0

		well		
		117-OX-01	117-OX-02	117-OX 03
pressure	(psig)	20.5	21.0	21.0
flowrate	(cc/min)	11	10	11

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	3/22/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	1250
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	11
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	11

Date:	3/25/04
Operator:	P. DeOcampo

Oxygen Tank

high pressure (psig):	1150
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes

note: readings from Site 117 system typically taken at beginning and end of every week.

Enhanced In-Situ Bioremediation Demonstration Project
Operation and Maintenance Form

Date:	3/29/04
Operator:	P.DeOcampo

Oxygen Tank

high pressure (psig):	1000
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Date:	4/1/04 ~~6/1/04~~ ~~PD~~ 4/1/04
Operator:	P.DeOcampo

Oxygen Tank

high pressure (psig):	900
low pressure (psig):	22

Control Panel

inlet pressure (psig):	25.0
117-OX-01 pressure (psig):	20.5
117-OX-02 pressure (psig):	21.0
117-OX-03 pressure (psig):	21.0
117-OX-01 flowrate (cc/min):	10
117-OX-02 flowrate (cc/min):	10
117-OX-03 flowrate (cc/min):	10

Additional Notes

note: readings from Site 117 system typically taken at beginning and end of every week.

Attachment 4
System Monitoring
Sample Collection Logs

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.90	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002162
Screen Interval		ft. PD 10/7/03		PD 10/7/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 10/7/03
Pump Start Time: 0815

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0825		7.38	20.63	1.111	91.0	0.97	50.7	Clear
0830		7.35	21.04	1.128	81.0	0.76	48.8	
0835		7.32	21.39	1.135	71.2	0.89	48.7	
0840		7.32	21.41	1.137	68.3	0.93	41.0	
0845		7.29	21.63	1.140	60.0	1.12	40.6	
0850		7.27	21.79	1.139	53.2	1.14	39.7	
0855		7.26	22.06	1.140	46.5	1.17	39.8	
0900		7.26	22.09	1.141	40.3	1.18	36.4	
0905		7.26	22.12	1.141	41.6	1.20	35.2	
0910	1.0 gal	7.25	22.16	1.142	41.4	1.22	33.4	

PD 10/7/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (10/7/03)		
Sample Date/Time:	10/7/03 0915		
Sampler ID:	Paul DeCamara		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F		
Sample Collection Method:	Low flow @ 36ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

* Calibrated Meters
YSI 556 #99827 PH 7.00/10.00 cond 10.00ms
Lamotte #LVE002162 NTU 1.00/10.00

Prepared By: [signature]

DATE 0 9 2 9 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117

Well ID: 117-~~PM~~-01 TM
PD 9/29/03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.42	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. PD 9/29/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 9/29/03
Pump Start Time: 0925

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%* 17.6%	*No Criteria*	
0945		7.40	22.29	1.167	-10.4	~~1.52~~ PD	60.9	
0950		7.39	22.31	1.162	-10.6	17.5%	55.2	
0955		7.39	22.36	1.160	-11.1	17.2%	54.5	
1000		7.38	22.27	1.158	-11.7	17.0%	51.3	
1005		7.38	22.31	1.156	-12.0	16.9%	50.1	
	2.4 L							

PD 9/29/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	~~117-PM-01 (9/29/03)~~ TM PD 9/29/03 117-TM		
Sample Date/Time:	9/29/03 1010		
Sampler ID:	Paul DeCampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 70 °F		
Sample Collection Method:	Bladder Pump @ 60ml/min Low flow		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

* Calibrated Meters
Ysi 556 #100257 7.00/10.00 PH 10.00 cond
Lamotte # LVE002178 1.00/10.00 NTU

Prepared By: Paul DeCampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location:
Well ID: 117-~~PM~~-02 TM SPD 9/29/03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	54.98	ft.	YSI 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. SPD 9/29/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump SPD 9/29/03
Pump Start Time: 1115

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1138		11.05	25.01	1.958	104.3	43.4%	85.1	
1142		11.18	25.07	2.140	107.2	45.4%	64.9	
1147		Recalibrated		Meter	PH 7.00/10.00		cond 10.0	
1210		11.19	25.90	2.171	104.3	48.9%	38.2	
1215		11.18	26.01	2.145	104.7	47.9%	22.9	
1220		11.17	26.12	2.140	104.6	46.0%	21.5	
1225		11.17	26.25	2.141	105.2	46.6%	22.0	
	3.0L							

SPD 9/29/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-~~PM~~-02(9/03)		
Sample Date/Time:	9/29/03 1230		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast	°F	
Sample Collection Method:	Bladder Pump @ 60ml low flow		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: Paul DeOcampo

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DATE	0 9 2 9 0 3

SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.01	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. PD 9/29/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ ~~Grunfos Pump~~ PD 9/29/03 Bladder Pump
Pump Start Time: 1220

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1240		7.88	24.74	1.171	-9.1	58.8%	247	
1245		7.69	24.27	1.133	-6.4	71.5%	238	
1250		7.67	24.24	1.131	-6.7	70.8%	230	
~~1255~~ PD		7.67	24.21	1.130	-7.9	72.0%	239	
1300 9/29/03		7.66	24.17	1.128	-8.6	71.4%	231	
1305		7.67	24.14	1.127	-8.4	72.0%	222	
1310		7.66	24.15	1.127	-9.2	72.2%	229	
	3.0L							
				PD	9/29/03			

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (9/03)			
Sample Date/Time:	9/29/03 1315			
Sampler ID:	Paul DeOcampo			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 86 °F			
Sample Collection Method:	Bladder Pump @ 60ml low flow			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Croux Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.94	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LE002178
Screen Interval		ft. PD 9/29/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ ~~Grunfos Pump~~ Bladder Pump PD 9/29/03
Pump Start Time: 1345

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1400		7.47	24.24	1.058	-25.9	15.2%	146	
1405		7.46	24.24	1.056	-25.4	15.4%	39.0	
1410		7.46	24.20	1.058	-24.9	15.4%	32.1	
1415		7.46	24.26	1.057	-24.1	15.1%	29.9	
1420		7.46	24.28	1.056	-23.9	14.9%	28.3	D.O.
1425	↓	7.46	24.26	1.054	-23.9	14.8%	28.9	001 ppm
	2.4L							

PD 9/29/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09 (9/03)			
Sample Date/Time:	9/29/03 1430			
Sampler ID:	Paul DeCamp			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast PD 9/29/03 86 °F			
Sample Collection Method:	Bladder Pump @ 60 ml low flow			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Paul DeCamp

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location:
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.40	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002173
Screen Interval		ft. PD 9/30/03		

Purging Method: 0930 ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ PD 9/30/03 Bladder Pump
Pump Start Time: ~~0910~~ PD 9/30/03

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1015		7.42	22.64	1.190	29.7	1.89	97.1	
1020		7.40	22.54	1.189	22.1	1.37	87.1	
1025		7.39	22.50	1.189	20.3	1.22	85.8	
1030		7.38	22.51	1.188	18.9	1.07	68.1	
1035		7.36	22.49	1.190	17.8	1.05	57.1	
	2.34L							
				PD	9/30/03			

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (9/30/03)		
Sample Date/Time:	9/30/03 1040		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 70 °F		
Sample Collection Method:	Low Flow @ 36ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location:
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.45	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE 002178
Screen Interval		ft. PD 9/30/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ 9/30/03 PD Bladder pump
Pump Start Time: 0940

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
09:44		7.85	23.80	1.134	7.9	8.87		Turbidity out of range.
0949		7.88	24.40	1.131	7.3	8.97		
0954		7.88	24.53	1.128	8.2	8.71		
1000		7.90	24.73	1.126	9.4	8.55		
1005		7.90	25.04	1.124	13.0	8.67		
1010		7.93	24.90	1.125	11.2	8.49		
	1.8L							
			PD	9/30/03				

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (9/30/03)			
Sample Date/Time:	9/30/03 1015			
Sampler ID:	Paul DeCampo Janell Schmidt			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F			
Sample Collection Method:	Low flow @ 36ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.85	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. PD 9/30/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 9/30/03
Pump Start Time: 1115

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1130		7.50	24.65	1.127	-16.5	.84	130	
1135		7.47	24.51	1.131	-19.8	.61	127	
1138		7.45	24.52	1.130	-19.8	.52	123	
1143		7.43	24.63	1.129	-19.4	.46	93.1	
1148		7.42	24.70	1.128	-23.3	.77	79.7	
1152		7.42	24.65	1.127	-22.5	1.00	74.6	
1157		7.41	24.60	1.127	-23.3	1.07	71.0	
	1.5L							
				PD	9/30/03			

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (9/30/03)		
Sample Date/Time:	9/30/03 1205		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast	81°F	
Sample Collection Method:	Low Flow @ 36ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location:
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	56.85	ft.	YSI 556	99827
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. DD 9/30/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump DD 9/30/03
Pump Start Time: 1125

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1210 ~~1140~~ DD 9/30/03		7.34	24.25	1.158	-17.8	1.67	77.7	
1215		7.40	24.29	1.148	-20.8	1.52	63.6	
1220		7.41	24.27	1.133	-22.0	1.26	36.4	
1225		7.42	24.23	1.130	-21.3	1.13	27.0	
1230		7.42	24.13	1.129	-20.4	1.08	24.8	
1235		7.42	24.19	1.127	-20.1	1.06	27.7	
	900ml							

DD 9/30/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (9/30/03)		
Sample Date/Time:	9/30/03 1240		
Sampler ID:	Paul DeCamp		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 83° F		
Sample Collection Method:	Low Flow @ 36ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.87	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. PD 9/30/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ ~~Grunfos Pump~~ PD 9/30/03
Pump Start Time: 1315

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1335		7.69	33.22	1.058	15.1	3.11	107.7	
1340		7.65	33.21	1.055	-1.9	2.03	98.7	
1345		7.62	33.14	1.051	-8.6	1.68	101.1	
1350		7.61	33.01	1.050	-12.1	1.16	114	
1355		7.59	33.07	1.046	-18.7	0.96	97.6	
1400		7.57	33.08	1.046	-20.1	0.92	102.2	
1405		7.57	33.06	1.048	-20.9	0.89	115	
	1.8 L							

PD 9/30/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08 (9/30/03)		
Sample Date/Time:	9/30/03 1416		
Sampler ID:	Paul DeCampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast	86 °F	
Sample Collection Method:	Low Flow @ 36ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location:
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.60	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval	-	ft. PD 10/1/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 0855

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0900		7.50	20.74	1.069	-227.8	1.25	46.0	
0903		7.47	20.94	1.077	-225.6	1.52	37.3	
0906		7.47	21.00	1.117	-191.9	0.70	43.0	
0909		7.39	21.67	1.117	-189.9	0.69	31.0	
0912		7.39	21.75	1.116	-188.5	0.73	55.8	
0915	3.0 Gals	7.37	21.81	1.116	-189.5	0.76	22.2	
				PD	10/1/03			

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-PZ-01 (10/1/03)		
Sample Date/Time:	10/1/03 0920		
Sampler ID:	Paul DeCampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 68 °F		
Sample Collection Method:	Low flow @ 100ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

* Calibrated Meters @ 830 10/1/03
YSI 556 #100257 7.00/10.00 PH 10.00 cond
Lamotte # LVE002175 1.00/10.00 NTU

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	68.11	ft.	YSI 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 1005

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1010		8.32	22.40	1.106	-50.3	2.49	20.6	
1013		7.71	21.77	1.073	-42.1	0.82	17.1	
1016		7.58	22.05	1.072	-41.8	0.76	15.2	
1019		7.55	22.31	1.071	-41.4	0.74	14.6	
1022		7.50	22.68	1.071	-40.8	0.78	12.1	
	3.5 Gal							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03 (10/1/03) MS/MSD/FD		
Sample Date/Time:	10/1/03 1030 1035		
Sampler ID:	Paul DeCampos		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 71 °F		
Sample Collection Method:	Low flow @ 100ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.15	ft.	Ysi 556	99827
Depth to Bottom	103.55	ft.	Lamotte	LVE002162.
Screen Interval		ft. PD 10/2/03		PD 10/2/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump 10/2/03
Pump Start Time: 1135

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1155		10.24	22.61	1.418	-9.6	2.07	163	cloudy Brn
1200		10.14	22.60	1.394	-10.4	2.01	133	sediment
1205		9.90	22.72	1.274	-31.5	1.15	137	
1210		9.73	22.72	1.269	-33.3	1.11	91.7	
1215		9.65	22.65	1.264	-35.7	1.05	91.2	
1220		9.35	22.70	1.262	-37.1	1.01	79.6	empty flow cell
1230		8.39	22.78	1.243	-45.9	0.74	62.0	~~Chang~~ PD 10/2/03
1237		8.20	22.76	1.235	-30.5	1.30	49.4	
1250		7.73	23.08	1.229	-59.4	.37	38.5	
1255		7.71	23.01	1.231	-60.4	.37	30.3	
1300		7.70	23.10	1.228	-61.1	.36	25.3	
1305		7.68	23.17	1.227	-61.5	.36	24.7	
1310		7.67	23.24	1.227	-62.3	.35	24.4	
1320		7.65	23.27	1.227	-63.5	.35	26.1	
1330	↓	7.65	23.31	1.226	-62.9	.35	24.1	
	1.5 gal							

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (10/2/03)			
Sample Date/Time:	10/2/03 1340			
Sampler ID:	Paul DeOcampo			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 80°F			
Sample Collection Method:	Low flow @ 36ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

* Calibrated meters
Ysi 556 # 99827 PH 7.00/10.00 cond 10.00

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DATE 10 0 0 2 0 3

PD 10/2/03

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.01	ft.	Ysi 556	100257
Depth to Bottom	103.35	ft.	Lamotte	LVE002178
Screen Interval		ft. PD 10/2/03	PD 10/2/03	

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 10/2/03
Pump Start Time: 1245

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1316		7.47	24.33	1.113	-23.8	1.26	359	cloudy Brn. sediment
1325		7.43	23.62	1.100	-28.8	0.85	372	↓
1335		7.48	23.71	1.110	-16.1	1.13	188	empty flow cell
1350		7.50	24.13	1.117	-6.7	1.57	197	
1400		7.45	24.52	1.110	-21.9	1.08	251	
1410		7.51	24.73	1.114	-20.0	2.00	286	empty flow cell
1420		7.43	24.32	1.106	-27.8	0.87	324	cloudy Brn. sediment
1430		7.43	24.35	1.105	-28.1	0.84	820	
1440		7.41	24.67	1.104	-34.7	0.73	860	
1445		7.41	24.90	1.105	-33.4	0.70	790	
1450		7.41	24.92	1.106	-36.1	0.74	860	
1500	↓	7.42	24.86	1.108	-34.6	0.72	924	↓
	1.5 gal							

Field Test Kits Results: PD 10/2/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (10/02/03)
Sample Date/Time:	10/2/03 1506
Sampler ID:	Paul DeOcampo
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 81 °F
Sample Collection Method:	Low flow @ 300ml/min

Analyses & Volume Collected:

	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

* Calibrated Meters
YSI 556 #100257 PH 7.00/10.00 Cond 10.00 ms
Lamotte # LVE002178

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-01

WELL MEASUREMENTS

Depth to Water	55.14 PD 10/6/03 ft.	
Depth to Bottom	ft.	
Screen Interval	ft. PD 10/6/03	

Sampling equipment/meters used	Serial or ID #
YSI 556	99827
Lamotte	LWE002162

PD 10/6/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 10/6/03
Pump Start Time: 0730

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0740		~~19.05~~ 7.47 PD	19.05	1.397	70.8	0.42	91.8	
0745		7.45 10/6/03	19.20	1.390	71.0	0.40	105.2	
0750		7.42	19.27	1.388	71.0	0.38	109.6	
0755		7.41	19.40	1.382	70.4	0.36	114	
0805		7.38	19.64	1.362	70.1	0.33	116	
0812		7.35	19.83	1.348	67.6	0.30	109.5	
0817		7.32	20.05	1.328	65.4	0.28	83.2	
0822		7.36	20.26	1.304	91.4	1.52	68.7	
0827		7.30	20.40	1.294	86.0	0.48	52.7	
0832		7.28	20.60	1.280	80.0	0.31	40.1	
0837		7.27	21.00	1.266	69.9	0.25	74.7	
0842		7.26	21.31	1.254	62.1	0.24	16.1	
0847		7.27	21.37	1.251	60.1	0.24	13.1	
0852		7.26	21.45	1.249	57.6	0.24	11.7	
0857	↓	7.26	21.51	1.245	57.1	0.24	11.4	
0902	1.2 gal	7.25	21.58	1.246	54.9	0.23	10.98	

PD 10/6/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (10/6/03)
Sample Date/Time:	10/6/03 0910
Sampler ID:	Paul DeCamp
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 60's °F
Sample Collection Method:	Low flow @ 36 ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

*Calibrated meters
YSI 556 # 99827 PH 7.00/10.00 Cond 10.00 mS
Lamotte # LWE002162 NTU 1.00/10.00

Prepared By: Paul DeCamp

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.21	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. PD 10/6/03	PD 10/6/03	

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ PD 10/6/03 Bladder Pump
Pump Start Time: 0800

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0805		7.99	19.56	1.241	35.4	3.85	20.9	Clear
0810		8.00	19.64	1.250	24.7	1.24	21.3	
0815		7.74	19.86	1.236	11.3	0.74	33.5	
0820		7.58	19.92	1.224	5.4	0.64	38.5	
0825		7.53	19.98	1.220	4.8	0.63	41.4	
0830		7.44	20.16	1.203	-7.5	0.71	48.0	
0835		7.43	20.15	1.201	-9.8	0.79	44.5	
0840		7.38	20.90	1.188	-30.1	1.23	54.3	
0845		7.38	20.99	1.189	-33.4	1.20	48.3	
0850		7.37	21.00	1.188	-34.9	1.16	37.1	
0855		7.37	21.11	1.187	-35.0	1.14	30.8	
0900		7.37	21.10	1.185	-36.1	1.08	29.4	
0905		7.37	21.37	1.187	-34.6	1.01	18.9	
0915		7.37	21.50	1.186	-35.1	.96	14.5	
0920		7.37	21.55	1.186	-35.8	.92	12.8	
0925	↓	7.38	21.69	1.185	-34.9	.87	8.36	
0930	1.2 gal	7.38	21.79	1.184	-34.2	.83	7.80	✓

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (10/6/03)		
Sample Date/Time:	10/6/03 0935		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 69 °F		
Sample Collection Method:	Low Flow @ 36ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

* Calibrated meter
Ysi 556 # 100257 PH 7.00/10.00 cond 10.00mS
Lamotte # LVE002178 NTU 1.00/10.00

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.15	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002157
Screen Interval		ft.		

PD 10/6/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder pump PD 10/6/03
Pump Start Time: 1015

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1020 0740 PD 10/6/03		7.71 PD 10/6/03	25.83	1.168	-50.2	2.35	80.7	Clear
1025		7.51	25.49	1.146	-69.3	.89	57.1	Clear
1030		7.51	25.48	1.146	-70.9	.89	32.3	↓
1035		7.49	25.23	1.142	-75.5	.66	44.9	↓
1040		7.48	25.21	1.139	-77.4	.60	55.4	↓
1045		7.45	25.18	1.121	-88.5	.39	122	Sl. Cloudy
1050		7.45	25.19	1.123	-89.2	.38	72.4	Clear
1055		7.44	25.45	1.118	-89.0	.32	95.4	↓
1100		7.43	25.62	1.118	-87.9	.29	85.7	↓
1105		7.43	25.64	1.117	-88.2	.27	114	Sl. Cloudy
1110	↓	7.42	25.80	1.120	-87.6	.25	85.5	
1115	1.0 gal	7.41	25.80	1.118	-86.1	.24	83.5	

PD 10/6/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (10/6/03)
Sample Date/Time:	10/6/03 1120
Sampler ID:	Paul DeOcampo
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 70 °F
Sample Collection Method:	Low Flow @ 36ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.70	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft. PD 10/6/03		PD 10/6/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 10/6/03
Pump Start Time: 1230

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C* 24.56	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1250		7.42	~~1.190~~ PD 10/6/03	1.190	-82.5	0.49	78.0	
1255		7.41	24.69	1.191	-83.1	0.64	40.6	
1300		7.41	24.70	1.193	-81.4	0.65	36.8	
1305		7.40	24.69	1.193	-79.9	0.54	35.1	
1310		7.40	24.69	1.193	-79.8	0.50	36.7	
1315		7.38	24.64	1.190	-81.6	0.29	21.6	
1320		7.38	24.87	1.192	-75.9	0.21	19.8	
1325		7.37	24.87	1.191	-74.5	0.21	13.8	
1330	↓	7.37	24.82	1.191	-74.7	0.19	13.2	
1335	1.0gal	7.37	24.82	1.190	-75.5	0.19	11.5	

PD 10/6/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (10/6/03)			
Sample Date/Time:	10/6/03 1340			
Sampler ID:	Paul DeCampo			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 78 °F			
Sample Collection Method:	Low flow @ 36ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.61	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LVE002178
Screen Interval		ft.		

10/6/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder pump 10/6/03
Pump Start Time: 1405

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1415		7.55	29.04	1.178	-11.4	3.36	33.3	Clear
1420		7.52	28.91	1.174	-28.0	1.72	32.5	↓
1425		7.48	28.95	1.170	-37.4	0.99	25.7	
1430		7.46	28.89	1.169	-49.2	0.45	37.4	
1435		7.45	28.63	1.168	-61.7	0.31	64.3	
1440		7.44	28.89	1.167	-71.7	0.21	83.7	Sl. cloudy
1445		7.44	28.93	1.166	-73.1	0.20	76.7	Clear
1450		7.44	29.02	1.165	-74.1	0.19	71.1	" "
1455		7.43	29.17	1.165	-75.2	0.16	55.6	Clear
1500	↓	7.42	29.09	1.167	-75.7	0.16	47.4	↓
1505	1.0 gal	7.42	29.15	1.166	-75.8	0.15	44.8	

10/6/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (10/6/03) CL-99-63 (10/6/03)
Sample Date/Time:	10/6/03 1510 1515
Sampler ID:	Paul DeCamp
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 79°F
Sample Collection Method:	

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.69	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002162
Screen Interval		ft.		

PD 10/6/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 10/6/03
Pump Start Time: 1145

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1155		7.70	30.64	1.121	-17.2	6.36	41.4	
1200		7.64	30.54	1.121	-19.7	6.02	36.1	
1205		7.65	30.48	1.118	-20.2	5.91	34.3	
1210		7.65	30.46	1.121	-18.8	5.75	31.2	
1215		7.65	30.42	1.121	-18.6	6.02	27.6	
1220		7.68	30.98	1.119	-17.9	5.52	24.7	
1225		7.68	31.01	1.118	-17.0	5.36	23.8	
1230	↓	7.69	31.12	1.118	-16.7	5.33	21.8	
1235	0.8 gal	7.70	31.51	1.118	-16.1	5.32	16.2	

PD 10/6/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-TM-09 (10/6/03)
Sample Date/Time: 10/6/03 1240
Sampler ID: Paul DeOcampo
Weather Conditions: ☒ sunny ☐ rain ☐ overcast 76 °F
Sample Collection Method: Low flow 36ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.83	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002162
Screen Interval		ft.		

PD 10/7/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump PD 10/7/03 PD 10/7/03

Pump Start Time: 0930

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0945		7.43	22.94	1.158	34.8	4.07	321	Cloudy
0950		7.41	23.07	1.149	31.0	3.02	190	↓
0955		7.41	23.09	1.145	28.6	2.73	138	Sl. Cloudy
1000		7.39	23.17	1.134	24.2	2.23	78.4	Clear
1005		7.39	23.24	1.124	14.0	1.77	34.3	
1010		7.39	23.19	1.123	12.0	1.73	21.6	
1015		7.38	23.22	1.119	8.0	1.64	18.6	
1020		7.39	23.18	1.118	7.2	1.59	15.6	
1025		7.39	23.19	1.117	6.7	1.56	13.9	
1030	↓	7.38	23.22	1.118	6.1	1.56	12.2	
1035	0.6gal	7.37	23.24	1.117	5.9	1.56	9.57	↓

PD 10/7/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (10/7/03)			
Sample Date/Time:	10/7/03 1040			
Sampler ID:	Paul DeCampo			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 68 °F			
Sample Collection Method:	Low Flow @ 36ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.55	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002162
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ ~~Grunfos Pump~~ Bladder Pump
Pump Start Time: 1015

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1045 ~~1030~~		7.93	25.71	1.024	37.7	8.66	162	Cloudy
1050		7.82	25.73	1.022	4.9	8.97	153	
1055		7.79	26.13	1.021	-6.2	8.40	197	
1100		7.50	26.46	1.023	-13.6	4.35	196	
1105		7.50	26.60	1.023	-13.6	3.62	179	
1110		7.45	27.10	1.023	-27.6	2.53	137	
1115		7.45	27.40	1.024	-29.4	2.22	136	
1120		7.42	27.35	1.023	-33.9	1.80	129	
1125		7.43	27.42	1.024	-34.8	1.76	124	
1130		7.42	27.71	1.024	-38.7	1.91	120	sl cloudy
1135		7.42	27.96	1.025	-39.2	1.36	120	
1140		7.42	28.02	1.025	-40.1	1.29	114	
1145		7.42	28.33	1.027	-41.0	1.32	121	
1150		7.41	28.38	1.027	-41.7	1.28	112	
1155		7.42	28.47	1.027	-42.1	1.22	116	
1200		7.41	28.41	1.027	-43.0	1.23	115	
1205	1.2 gal	7.41	28.66	1.027	-43.9	1.19	117	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08(10/7/03)			
Sample Date/Time:	10/7/03 1210			
Sampler ID:	Paul DeCampo			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 72 °F			
Sample Collection Method:	Low flow @ 36ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.42	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002162
Screen Interval		ft.		

PD 10/7/03 PD 10/7/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 1310

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1315		7.53	21.68	1.163	-190.1	1.17	68.0	clear
1318		7.34	21.96	1.160	-178.0	.85	42.9	
1321		7.24	22.21	1.158	-165.3	.66	40.8	
1324		7.17	22.71	1.162	-156.8	.51	32.8	
1327		7.16	22.82	1.159	-153.9	.48	24.6	
1330		7.15	22.87	1.162	-151.7	.41	21.3	
1333		7.15	22.92	1.164	-149.9	.38	18.6	
1336	45 gals	7.15	22.98	1.165	-148.6	.36	10.98	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-PZ-01 (10/7/03) MS/MSD VOCs only		
Sample Date/Time:	10/7/03 1340		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 85 °F		
Sample Collection Method:	Low Flow 700 ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.70	ft.	Ysi 556	99827
Depth to Bottom		ft.	Lamotte	LVE002162
Screen Interval		ft.		

PD 10/7/03

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump
Pump Start Time: 1415

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1420		7.32	22.82	1.109	-15.9	.97	11.9	Clear
1423		7.21	22.66	1.108	-28.7	.84	12.8	
1426		7.20	22.76	1.107	-36.9	.74	12.9	
1429		7.20	22.91	1.109	-39.1	.76	12.0	
1432		7.21	23.01	1.110	-40.6	.80	18.9	
1435		7.21	23.10	1.111	-41.3	.81	11.9	
1438	4.0gal	7.21	23.16	1.109	-42.1	.79	12.1	

PD 10/7/03

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03 (10/7/03)		
Sample Date/Time:	10/7/03 1445		
Sampler ID:	Paul DeCampo		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 86 °F		
Sample Collection Method:	Low Flow 200ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing
Well ID: ~~TM~~ 117-TM-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.23	ft.	Lamotte 2020	2178 10NTU=10.01
Depth to Bottom	—	ft.		1.0NTU=1.09
Screen Interval	98-103'	ft.	YSI	100257

Purging Method: ☑ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: _____

4.0 pH Reading - 3.79
4.49 Cond - reading - 4.425

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0950		7.39	21.19	1.339	-91.8	3.04	399	
1005		7.42	22.02	1.278	-102.5	10.35	error	>1110 NTU
1025		7.39	21.80	1.259	-154.2	0.56	926	
1045		7.40	23.13	1.254	-115.7	0.83	380	
1055		7.36	23.69	1.254	-106.9	0.38	330	
1105		7.36	23.81	1.255	-117.1	0.34	231	
1115		7.38	24.87	1.252	-148.9	0.32	149	
1130		7.39	24.70	1.253	-153.1	0.24	86.2	
1140		7.38	25.20	1.248	-145.3	0.26	52.7	
1150		7.41	25.77	1.252	-150.2	0.30	44.0	
1200		7.36	23.99	1.245	-128.2	0.20	35.9	
1210		7.29	24.08	1.248	-83.9	0.18	53.7	
1215		7.26	24.23	1.247	-66.0	0.15	31.0	

Field Test Kits Results: _____

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01		
Sample Date/Time:	10/14/03 1215		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F		
Sample Collection Method:	bladder pump - low flowpurge		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	general chemistry
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: J. Jungen

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Well ID: 117-TM-02
Project Number:
Project Location: Crows Landing

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.20	ft.	YSI 556 STD	99827
Depth to Bottom	—	ft.	pH 4.0	Reading - 3.94
Screen Interval	98-103'	ft.	4.49 cond	Cond - 4.539

Purging Method: ☑ ~~Peristaltic~~ Pump ☐ Bailer ☐ Grunfos Pump Lamotte 2020 WE2162
Pump Start Time: 750 Bladder
10NTU = 9.91
1NTU = .06

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. mg/l (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0815		7.26	20.16	1.189	155.6	0.65	37	
0820		7.21	20.21	1.188	149.9	0.54	50	
830		7.29	20.47	1.186	146.0	1.50	45	
840		7.23	20.56	1.185	114.6	0.44	32	
845		7.23	20.57	1.187	105.2	0.41	21	
855		7.22	20.68	1.188	90.9	0.38	14	
900		7.22	20.78	1.186	77.6	0.37	8.6	

Field Test Kits Results: High Range meter 001 ppm

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02(10/14/03)		
Sample Date/Time:	10/14/03 0905		
Sampler ID:	RC		
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~65 °F		
Sample Collection Method:	bladder pump / dedicated tubing		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: R Cardoso

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Crows Landing - SHR 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	54.94	ft.	See page 36	
Depth to Bottom	—	ft.		
Screen Interval	98-103'	ft.		

Purging Method: ☑ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 0945

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
~~0855~~ 955		7.56	21.49	1.122	32.8	2.09	21	
1000		7.42	21.43	1.115	30.5	0.91	15	
1005		7.37	21.51	1.114	29.0	0.65	17	
1010		7.32	21.59	1.108	27.7	0.23	70	
1020		7.30	21.74	1.103	22.5	0.19	60	
1025		7.29	21.88	1.104	20.6	0.18	32	
1035		7.30	22.15	1.106	17.7	0.18	14	

TF 10/14/03

Field Test Kits Results: TF 10/14/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (10/14/03)		
Sample Date/Time:	10/14/03 1040		
Sampler ID:	RC		
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~ 70 °F		
Sample Collection Method:	bladder pump / dedicated tubing		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for general chemistry
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: _____

DATE 1 0 1 4 0 3

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Mike Hinall
419-425-6054

SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SHR 117
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.34	ft.	See pg 1	
Depth to Bottom	—	ft.		
Screen Interval	—	ft.		

Purging Method: ☑ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: ~~1235~~ 1330

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/~~ms~~)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1345		7.47	23.24	1.190	58.1	8.00	—	
1350		7.33	22.69	1.189	49.1	2.09	500	
1355		7.32	22.62	1.190	46.1	1.45	350	
1400		7.30	22.66	1.192	39.0	0.69	230	
1410		7.26	22.49	1.192	32.0	0.41	150	
1415		7.26	22.47	1.191	29.3	0.34	95	
1420		7.25	22.49	1.189	26.0	0.28	60	
1425		7.25	22.49	1.187	23.4	0.26	39	
1430		7.25	22.56	1.188	20.7	0.25	32	meter shut off
1435		7.25	22.69	1.188	74.2	0.32	23	Restart meter
1438		7.25	22.73	1.186	66.8	0.27	20	
1440		7.26	22.76	1.184	60.9	0.25	15	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (10/14/03)			
Sample Date/Time:	10/14/03 1445			
Sampler ID:	RC / TF			
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~65 °F			
Sample Collection Method:	low flow purge			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: R Conder

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SAMPLE COLLECTION LOG

Project Name: Cruces Landing
Project Number: 836557
Project Location:
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.59	ft.	See pg 36	
Depth to Bottom	—	ft.		
Screen Interval	98-103	ft.		

Purging Method: ☑ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1120

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1130		7.45	23.84	1.168	100.1	2.45	8.4	
1133		7.37	23.64	1.164	80.5	0.73	5.6	
1140		7.34	23.73	1.160	58.2	0.36	50	
1145		7.31	23.76	1.157	37.7	0.28	55	
1150		7.32	24.11	1.152	22.2	0.23	45	
1155		7.31	24.08	1.154	6.5	0.19	32	
1200		7.30	24.30	1.153	1.8	0.20	26	
1205		7.30	24.12	1.152	-3.6	0.19	23	
~~1210~~								

TF 10/14/03

Field Test Kits Results: — TF 10/14/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04C (10/14/03)		
Sample Date/Time:	10/14/03 1210		
Sampler ID:	RC		
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~80 °F		
Sample Collection Method:	Bladder pump / dedicated tubing		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: R Conlon

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.63	ft.	YSI	see page 40
Depth to Bottom	—	ft.	La Motte	
Screen Interval	98-103'	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 0940

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1000		7.50	21.94	1.077	127.2	0.77	50	
1010		7.48	22.39	1.085	114.4	0.43	21.6	
1015		7.41	22.56	1.085	102.4	0.29	21.1	
1020		7.40	22.82	1.083	91.5	0.24	16.3	
1050		7.37	23.37	1.080	[illegible]	0.19	12.6	
1100		7.36	23.53	1.079	52.0	0.17	9.59	

TF 10/15/03

Field Test Kits Results: — TF 10/14/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09 (10/15/03)			
Sample Date/Time:	10/15/03 1105			
Sampler ID:	TF			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F			
Sample Collection Method:	low flow pump (200mL)			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	general chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Tracy Senger

DATE 1 0 1 4 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117

Well ID: 117-TM-07
*duplicate (see below)

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.54	ft.	See pg 36	
Depth to Bottom	—	ft.		
Screen Interval	98-103'	ft.		

Purging Method: ☑ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump

Pump Start Time: 1305

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1315		7.45	24.62	1.182	-32.2	2.51	641	
1330		7.44	24.79	1.144	-42.6	1.64	137	
1335		7.45	24.63	1.121	-47.5	1.40	39.5	
1345		7.45	24.82	1.110	-50.5	1.16	14.1	
1350		7.45	25.12	1.105	-53.5	1.16	8.31	

TF 10/14/03

Field Test Kits Results: — TF 10/14/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (10/14/03) * and duplicate CL-09-64		
Sample Date/Time:	10/14/03 1355		at 1400
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast		°F
Sample Collection Method:	bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for general
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	chemistry
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: J. Yenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number:
Project Location:
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.44	ft.	YSI 100257 Calib	✓ 4.0pH reading = 3.98
Depth to Bottom	—	ft.	Cond -	4.49ms reading = 4.350
Screen Interval	~~98-103'~~ 4	ft.	Turb 2020 LVE 002178	

Purging Method: ☑ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 735

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0755		6.78	18.45	1.006	170.3	1.06	>1100	Very muddy
0800		7.15	18.90	1.005	148.8	0.53	>1100	
0810		7.25	19.29	1.003	127.1	0.34	900	Dumped flow-cell
0815		7.35	19.57	1.007	113.2	0.60	200	
0820		7.33	19.82	1.006	96.3	0.27	120	
0830		7.34	19.89	1.005	82.3	0.37	75	
0835		7.33	20.20	1.003	66.0	0.41	55	
0840		7.34	20.07	1.008	52.0	0.28	34	
0845		7.33	20.14	1.006	47.4	0.26	28	
0850		7.34	20.13	1.006	41.2	0.21	38	
0855		7.34	20.10	1.005	33.6	0.20	23	
0900		7.33	20.04	1.008	28.8	0.20	22	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08(10/15/03)		
Sample Date/Time:	10/15/03 0900		
Sampler ID:	RC		
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~65 °F		
Sample Collection Method:	low flow purge		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: R Candlot

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 8306551
Project Location: SHR 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.56	ft.	YSI - 99827	99827 ~~PS 36~~ RC 10/15
Depth to Bottom	—	ft.	LA MOTTE 2020	LVE 002162
Screen Interval	98-103	ft.		

Purging Method: ☒ ~~Peristaltic~~ TF Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 0725

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0735		6.92	18.29	1.045	196.1	2.50	55	
0745		7.26	18.81	1.124	166.2	0.57	23	
0800		7.25	19.56	1.140	142.9	0.45	5.16	
0820		7.28	20.10	1.140	153.6	0.48	2.55	
0835		7.25	20.46	1.142	136.9	0.24	2.06	
0840		7.25	20.33	1.144	133.2	0.26	1.71	
0845		7.24	20.52	1.141	125.2	0.22	1.78	
0850		7.24	20.62	1.144	117.8	0.24	0.41	

TF 10/15/03

Field Test Kits Results: YSI Calib ✓ 4.0 pH - reading = 4.0
4.49 mc Cond - reading = 4.466 ms

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (10/15/03) * MS/MSD taken here *		
Sample Date/Time:	10/15/03 0855		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F		
Sample Collection Method:	pumping		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	general chemistry
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	2 VOA taken for MS/MSD

Prepared By: Jacey Jenson

DATE 1 0 1 5 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number:
Project Location:
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.85	ft.	see pg 3	
Depth to Bottom	—	ft.		
Screen Interval	—	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder if no/slow Pump ☐ Bailer ☑ Grunfos Pump
Pump Start Time: 0930 ~250 ml/min

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0935		7.47	21.70	1.108	-3.2	2.36	4.5	
0940		7.34	21.47	1.107	2.5	1.88	12	
0943		7.20	21.94	1.100	-3.6	0.76	4.8	
0946		7.22	22.10	1.102	-6.1	0.70	3.8	
0950		7.22	22.48	1.104	-7.6	0.60	4.9	
0953		7.22	22.67	1.102	-11.8	0.43	3.4	pump continually
0957		7.17	22.80	1.098	-16.7	0.33	3.1	stopping + starting
1003		7.16	24.51	1.105	-32.3	0.18	7.4	could not maintain
1006		7.17	24.18	1.110	-37.6	0.28	10	steady flow
1009		7.14	22.46	1.110	-38.9	0.27	15	
1015		7.15	23.76	1.110	-41.0	0.11	10	
1017		7.17	23.57	1.112	-49.7	0.11	3.1	
1026		7.17	23.04	1.114	-52.8	0.20	2.2	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03(10/15/03)
Sample Date/Time:	10/15/03 1030
Sampler ID:	RC
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~75 °F
Sample Collection Method:	dedicated tubing / G pump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☑
SVOC (8270C) - 2 AL	☐	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for	
TPH as gasoline / jet fuel - 2 VOA	☐	general chemistry	
Metals - 1 HDPE	☐		
Pesticide/PCB (8081A/8082) - 2 AL	☐		

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: R Condit

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SAMPLE COLLECTION LOG

Project Name: Crows landing
Project Number: 836557
Project Location: SITE 117
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.49	ft.	See page 3	
Depth to Bottom	—	ft.		
Screen Interval	—	ft.		

Purging Method: ☒ Peristaltic Pump ☐ Bailer ☑ Grunfos Pump
Pump Start Time: 1145 ~~[illegible]~~ TF 10/15/03

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1147		7.36	25.72	1.162	-142.7	2.83	75	
1155		7.21	22.65	1.152	-141.2	0.76	100	
1200		7.23	23.62	1.152	-147.3	0.30	55	
1205		7.24	24.58	1.158	-146.9	0.44	85	
1210		7.25	24.68	1.163	-143.6	0.41		
1215		7.27	25.11	1.164	-141.7	0.43	80	—Pump Stop—
Restart								
1345								
1400		7.36	25.79	1.148	-47.6	0.97	38	
1405		7.29	25.30	1.173	-61.6	0.57	180	
1410		7.17	23.81	1.163	-64.4	0.43	180	
1413		7.17	24.82	1.166	-91.4	0.25	120	
1415		7.17	24.85	1.166	-97.8	0.18	110	
1417		7.22	24.99	1.168	-99.4	0.15	85	
1420		7.22	24.92	1.164	-98.8	0.14	80	

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-PZ-01(10/15/03)
Sample Date/Time:	10/15/03 1430 ~~1220~~ RC 10/15/03
Sampler ID:	RC
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~85 °F
Sample Collection Method:	6 Pump dedicated tubing

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	general chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: K Condit

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Well ID: 117-TM-01
Project Number: ~~836~~ TF 10/20/03 836557
Project Location: Site 117

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.25	ft.	YSI 556 MPS	99827
Depth to Bottom	—	ft.	LaMotte	LVE002178
Screen Interval	98-103'	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 0805

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0830		7.37	20.64	1.300	~~45.4~~ TF 10/20/03 160.8	7.04	349	
0835		7.33	20.88	1.292	150.7	0.62	>1100	
0845		7.55	21.31	0.681	138.6	8.33	>1000 TF 10/20/03	*dumped out
0900		7.31	21.64	1.258	122.7	0.21	631	dirty cloudy water
0910		TF 10/20/03 ~~7.33~~ 7.31	21.96	1.257	114.1	0.21	295	and refilled chamber
0920		7.32	21.92	1.254	112.9	0.58	97.6	
0930		7.31	22.10	1.257	105.2	0.31	65.5	
0940		7.31	22.51	1.258	98.2	0.33	59.4	
0950		7.32	22.85	1.265	87.9	0.38	66.4	

TF 10/20/03

Field Test Kits Results: — TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (10/20/03)		
Sample Date/Time:	10/20/03 1000		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F		
Sample Collection Method:	low flow pump - purge		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	general chemistry
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: D. Jenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.10	ft.	YSI	100257
Depth to Bottom	—	ft.	La Motte	LVE002162
Screen Interval	98'-103'	ft.		

Purging Method: [X] ~~Peristaltic~~ Bladder Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0810

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0835		7.31	21.23	1.112	98.7	5.04	11	
0840		7.27	21.60	1.197	91.6	2.91	17	
0850		7.24	21.70	1.249	65.8	1.76	50	
0900		7.33	21.79	1.257	57.3	5.02	22	
0915		7.24	21.93	1.263	25.6	0.40	37	
0925		7.24	21.93	1.261	12.3	0.28	23	
0940		7.24	23.53	1.264	-3.9	0.44	23	
0950		7.26	24.15	1.264	-7.5	0.45	23	
0955		7.26	24.50	1.271	-13.9	0.45	31	
1015		7.25	24.34	1.273	-29.0	0.41	30	
			TF 10/20/03					

Field Test Kits Results: TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (10/20/03)			
Sample Date/Time:	10/20/03 1020			
Sampler ID:	TF			
Weather Conditions:	[X] sunny [ ] rain [ ] overcast °F			
Sample Collection Method:	low flow pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity for general Chemistry only	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: D. Burger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	54.93	ft.	YSI 556 MPS	99827
Depth to Bottom	—	ft.	Lq MOHR	LVE 002178
Screen Interval	98-103'	ft.		

Purging Method: [X] ~~Peristaltic~~ Bladder Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 1205

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1230		~~7.34~~	24.05	~~1.059~~	14.6	4.32	200	
1235		7.34	23.64	1.111	-10.1	0.75	222	
1245		7.34	23.76	1.110	-14.6	~~0.64~~	145	
1300		7.36	23.85	1.108	-19.9	0.52	101.3	
1315		7.38	23.96	1.103	-23.6	0.53	86.7	
1320		7.40	24.17	1.114	-26.2	0.55	72.2	
1330		7.40	24.10	1.114	-27.2	0.56	70.9	
1340		7.40	24.10	1.112	-27.1	0.59	62.0	

TF 10/20/03

Field Test Kits Results: TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (10/20/03)			
Sample Date/Time:	10/20/03 ~~1100~~ 1350			
Sampler ID:	TF 10/20/03			
Weather Conditions:	[X] sunny [ ] rain [ ] overcast °F			
Sample Collection Method:	low flow pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for general	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	Chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: Stacy Zenger

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SAMPLE COLLECTION LOG

TF 10/20/03

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	53.31	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	La Motte	LVE002162
Screen Interval	98-103'	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1105

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1130		7.27	22.95	1.224	-61.8	0.30	200	
1145		7.24	22.95	1.218	-71.5	0.23	90	
1210		7.24	22.95	1.217	-74.9	0.21	60	
1220		7.24	23.07	1.218	-76.3	0.20	45	
1230		7.24	23.08	1.220	-76.9	0.20	45	
1240		7.24	23.27	1.218	~~-61.9~~ TF 10/20/03 -73.7	0.24	43	
1250		7.23	23.45	1.222	-75.1	0.22	40	

TF 10/20/03

* note: water in chamber has a lot of bubbles (coming out of solution?)

Field Test Kits Results: → TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (10/20/03)
Sample Date/Time:	10/20/03 1250
Sampler ID:	TF
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F
Sample Collection Method:	low flow pump-purge

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	general Chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [illegible]

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SR 117
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.44	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	LaMotte	LVE002162
Screen Interval	98-103'	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1340

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1400		7.33	26.96	1.196	-39.9	1.58	450	
1410		7.31	27.19	1.204	-48.8	0.65	456	
1430		7.30	27.56	1.205	-53.0	0.56	140	emptied out
1445		7.29	27.40	1.202	-63.1	0.49	55	YSI chamber-cloudy
1455		7.29	27.01	1.202	-66.5	0.35	24	w/ sediment
1510		7.26	26.05	1.192	-62.3	0.22	13	
1525		7.26	26.[illegible]	1.186	-64.1	0.18	5.9	
1535		7.26	26.33	1.193	-63.8	0.17	5.0	
1540		7.26	26.20	1.192	-65.2	0.17	3.6	
1545		7.26	26.20	1.194	-66.9	0.16	2.9	
~~1555~~		~~7.3~~	~~23.74~~	~~1.153~~	~~-38.4~~	~~0.16~~		

TF 10/20/03 to go on pg 12

* note: water in chamber has a lot of bubbles (coming out of solution?)

Field Test Kits Results: TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (10/20/03)			
Sample Date/Time:	10/20/03 1350			
Sampler ID:	TF			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F			
Sample Collection Method:	low flow pump-purge			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for general	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Tracey Ferrer

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SHR 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.56	ft.	YSI	091827
Depth to Bottom	—	ft.	LQ MOTR	LVE 002178
Screen Interval	98-103'	ft.		

Purging Method: [X] ~~Peristaltic~~ Bladder Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 1445

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%* TF 10/20/03	*+/- 10%*	*+/- 10%*	*No Criteria*	
1505		7.32	23.73	1.157	30.3	0.88	52.[illegible]	
1520		7.31	23.70	1.155	0.4	0.30	38.2	
1535		7.29	23.58	1.153	-14.00	0.20	30.9	
1545		7.29	23.60	1.154	-26.6	0.17	21.1	
1555		7.30	23.71	1.153	-39.1	0.16	14.5	
1610		7.30	23.56	1.154	-42.7	0.17	9.34	
1620		7.29	23.57	1.153	-44.7	0.18	7.25	
			TF 10/20/03					

note: water has some/few bubbles in chamber (coming out of solution?)

Field Test Kits Results: TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (10/20/03)
Sample Date/Time:	10/20/03 1630
Sampler ID:	TF
Weather Conditions:	[X] sunny [ ] rain [ ] overcast °F
Sample Collection Method:	low flow pump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for general chemistry	
TPH as gasoline / jet fuel - 2 VOA	[ ]		
Metals - 1 HDPE	[ ]		
Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Tracy Zenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117

Well ID: 117-TM-07
* MS/MSD taken here

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.69	ft.	YSI 556 MPS	99827
Depth to Bottom	—	ft.	YSI 650 MDS	78802
Screen Interval	~~98-103~~ ? TF 12/14/03	ft.	LaMotte	LVE002178

Purging Method: 94.5-99.5 [X] ~~Peristaltic~~ Bladder Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0800

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0819		7.23	19.47	1.132	210.5	6.36	103.6	
0824		7.25	19.68	1.162	197.7	3.17	168	
0829		7.30	19.82	1.163	184.7	2.71	130	
0834		7.32	19.98	1.167	172.0	2.59	85.7	
0839		7.29	20.48	1.160	162.4	2.37	67.2	
0853		7.35/7.28	21.49/21.50	1.152/1.214	134.1/172.7	1.89/3.08	33.2	second number
0900		7.34	21.94	1.144	124.4	1.74	28.0	VSI 650MDS
		7.22	22.07	1.192	230.9	2.88		
0905		7.38	22.27	1.137	118.7	2.29	25.0	
		7.20	22.78	1.175	276.9	2.74		* second is the
0910		7.36	22.65	1.127	103.2	1.50	19.3	650MDS meter
		7.18	23.52	1.158	315.2	2.61		
0920		7.35	22.87	1.124	99.0	1.51	14.4	
		7.17	23.83	1.150	325.9	2.56		
0927		7.33	23.00	1.122	95.5	1.43	12.1	
		7.19	24.15	1.140	331.6	2.51		

Field Test Kits Results: TF 10/20/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (10/21/03)			
Sample Date/Time:	10/21/03 ~~0850~~ TF 10/21/03) 0945			
Sampler ID:	TF			
Weather Conditions:	[X] sunny [ ] rain [ ] overcast			°F
Sample Collection Method:	low flow pump-purge			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for a general	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	Chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: Stacy Zongu

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.38	ft.	YSI ~~650~~ 556 10/21/03	100257
Depth to Bottom	—	ft.		
Screen Interval	98-103'	ft.	LaMotte	LVE002162

Purging Method: [X] ~~Peristaltic~~ Bladder Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0735

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0752		7.10	18.40	0.985	190.4	5.10	250	
0757		7.21	18.76	0.984	166.5	3.80	230	
0802		7.24	19.49	0.983	152.5	3.16	240	
0807		7.27	20.13	0.992	137.4	0.96	700	
0812		7.28	20.13	0.994	125.2	0.64	1100	
0817		7.28	20.23	0.993	111.6	0.48	900	
0822		7.29	20.48	0.990	97.6	0.34	750	
0827		7.30	20.57	0.991	91.7	0.32	650	
0832		7.28	20.52	0.993	81.0	0.28	600	

TF 10/21/03

Field Test Kits Results: TF 10/21/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-TM-08 (10/21/03)
Sample Date/Time: 10/21/03 0850
Sampler ID: TF
Weather Conditions: [X] sunny [ ] rain [ ] overcast °F
Sample Collection Method: low flow pump-purge

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE [X]
SVOC (8270C) - 2 AL	[ ]	*Other please specify:*
TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for general
TPH as gasoline / jet fuel - 2 VOA	[ ]	chemistry
Metals - 1 HDPE	[ ]	
Pesticide/PCB (8081A/8082) - 2 AL	[ ]	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Stacy Zunger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.53	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	LaMotte	LVE002162
Screen Interval	98-103'	ft.	YSI 650 MDS	78802

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1015

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1040		7.39	24.27	1.070	-21.8	1.46	—	
		7.34	29.29	1.120	290.8	2.94	—	*second time is always
1050		7.35	24.77	1.072	-28.5	0.41	85	
		7.16	28.16	1.090	349.7	1.95	—	YSI 650 MDS
1100		7.35	24.93	1.071	-30.8	0.32	80	
		7.14	28.07	1.076	368.6	1.47		
1105		7.33	25.31	1.065	-34.6	0.27	80	
		7.13	28.31	1.059	331.6	1.19		
11:25		7.32	25.37	1.064	-37.0	0.26	60	
		7.13	28.51	1.076	378.8	0.94		
1130		7.32	25.42	1.067	-38.5	0.22	55	
		7.12	28.90	1.103	388.5	0.94		
1135		7.32	25.58	1.064	-39.5	0.19	55	
		7.12	28.90	1.096	392.8	0.90		
1140		7.32	25.83	1.063	-40.9	0.19	50	
		7.13	28.98	1.089	391.8	0.87		
								—

Field Test Kits Results: TF 10/21/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09 (10/21/03)
Sample Date/Time:	10/21/03 ~~TF 1150~~ 1145 10/21/03
Sampler ID:	TF
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F
Sample Collection Method:	low flow pump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
SVOC (8270C) - 2 AL	☐	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for general	
TPH as gasoline / jet fuel - 2 VOA	☐	chemistry	
Metals - 1 HDPE	☐		
Pesticide/PCB (8081A/8082) - 2 AL	☐		

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Doug Singer

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 826557
Project Location: Site 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.82	ft.	YSI 556 MPS	99827
Depth to Bottom	—	ft.	YSI 650 MDS	78802
Screen Interval	80-115'	ft.	La Motte	LVE 002478

Purging Method: [X] ~~Peristaltic~~ Bladder Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 1300

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
~~1400~~ 1405 (TF 10/21/03)		7.17 / 7.22	28.03 / 34.79	1.141 / 1.153	-20.6 / 266.3	0.60 / 1.92	—	lower #s are from
1415		7.17 / 7.05	27.83 / 32.75	1.137 / 1.165	-33.3 / 342.6	0.30 / 1.28	7.14	
1425		7.17 / 7.03	27.77 / 32.85	1.136 / 1.134	-36.2 / 364.0	0.26 / 1.17	7.70	also chambers
1435		7.18 / 7.01	27.55 / 32.67	1.139 / 1.105	-39.5 / 411.1	0.25 / 1.16	4.34	have a lot of bubbles
1445		7.18 / 6.88	27.00 / 31.03	1.141 / 1.078	-45.0 / 354.6	0.25 / 1.25	5.34	in them
							TF 10/21/03	
1500		7.17 / 6.87	26.94 / 30.86	1.143 / 1.074	-44.8 / 417.2	0.25 / 1.08	3.59	
1505		7.17 / 6.86	26.76 / 30.77	1.141 / 1.078	-22.0 / 433.7	0.22 / 1.01	4.14	
1510		7.17 / 6.87	26.71 / 31.47	1.142 / 1.151	-24.5 / 436.4	0.22 / 0.91	6.96	
1515		7.17 / 6.87	30.96 / 26.71	1.137 / 1.158	-24.7 / 449.1	0.21 / 0.85	5.10	

TF 10/21/03

Note: will take equipment rinse blank

Field Test Kits Results: TF 10/21/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03 (10/21/03)		
Sample Date/Time:	10/21/03 1520		
Sampler ID:	TF		
Weather Conditions:	[X] sunny [ ] rain [ ] overcast °F		
Sample Collection Method:	low flow pump-purge		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE [X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for general
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	chemistry
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]	

* Pulled tubing out of in TM 07 Prepared By: [signature]
Purged line / rinse, then pumped for one hour before even taking field parameters

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117

Well ID: 117-PZ-01
* CL-99-65 duplicate of 117-PZ01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.39	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	YSI 650 MDS	78802
Screen Interval	79.3'-114.3'	ft.	LQ Mohr	LVE002162

Purging Method: TF 10/21/03 ☒ ~~Peristaltic~~ Bladder Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: ~~8~~ 1345

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1455		7.29	27.96	1.190	-44.2	3.20	14	
1505		7.15	26.79	1.149	-50.2	0.30	7.1	
1520		7.14	26.88	1.147	-50.7	0.21	4.1	
1540		7.12 / 6.97	26.81 / 27.08	1.152 / 1.193	-58.6 / 437.5	0.28 / 1.11	4.4	
1545		7.13 / 6.98	25.65 / 27.80	1.148 / 1.190	-67.2 / 351.6	0.19 / 0.81	5.0	
1550		7.13 / 6.97	25.66 / 27.54	1.145 / 1.182	-71.2 / 410.6	0.16 / 0.65	2.8	
1555		7.13 / 6.98	25.80 / 27.43	1.144 / 1.181	-72.1 / 415.3	0.16 / 0.61	2.2	
1600		7.14 / 6.98	25.83 / 27.33	1.144 / 1.183	-72.6 / 416.8	0.16 / 0.60	2.8	

TF 10/21/03

* Note: Tubing used for 117-TM-09, rinse/purged w/ distilled water and then pumped for one hour before even taking field parameters, will take equipt. rinse blank

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-PZ-01 (10/21/03)	CL-99-65 TF 10/21/03
Sample Date/Time:	10/21/03 1605	10/21/03 1610
Sampler ID:	TF	
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F	
Sample Collection Method:	low flow pump-purge	

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for general	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	chemistry	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: Tracy Zinger

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SAMPLE COLLECTION LOG

Project Name: CDWS Landing
Project Number: 8360557
Project Location: SHR 117
Well ID: ER (10/21/03)

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water		ft.		
Depth to Bottom		ft. TF		
Screen Interval		ft. 10/21/03		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
	equipment rinse blank of 117-EX-03, tubing come from 117-TM-07							
	pumped for approximately one hour with distilled							
	water before sampling							
			TF 10/21/03					

Field Test Kits Results: _____

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	ER (10/21/03)		
Sample Date/Time:	10/21/03 1630		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast		°F
Sample Collection Method:	TF 10/21/03 low flow pump		
Analyses & Volume Collected:	VOC (8260B) - 4 VOA	☒	General Chemistry -1 HDPE ☐
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: Tracy Zinger

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SAMPLE COLLECTION LOG

Project Name: CDNS Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.21	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	LQ MOHR	LVE002162
Screen Interval	98-103	ft.	YSI 650 MDS/600XL	78802

Purging Method: [X] ~~Peristaltic~~ Bladder Pump TF 11/18/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0900

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0940		7.39	18.91	1.247	178.0	0.82		
0955		7.41	19.52	1.240	156.5	0.68	280	
"		7.23	19.65	1.288	176.8	1.40		YSI 650 MDS
1000		7.41	19.73	1.234	150.3	0.64	220	on 2nd line
"		7.26	20.07	1.237	169.8	1.27		
1005		7.41	19.91	1.234	138.2	0.62	150	
"		7.28	20.07	1.251	166.5	1.12		
1010		7.42	19.84	1.232	129.2	0.62	130	
"		7.29	20.81	1.242	164.3	1.03		
1015		7.41	20.06	1.230	124.3	0.65	85	
"		7.30	21.04	1.228	156.3	1.13		

TF 11/18/03

Field Test Kits Results: TF 11/18/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (11/18/03)			
Sample Date/Time:	11/18/03 1030			
Sampler ID:	TF			
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 65 °F			
Sample Collection Method:	Bladder pump-low flow			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity (gen.chem.)	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: J. Yenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SITE 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	54.98	ft.	YSI 556 MPS	99827
Depth to Bottom	—	ft.	LaMotte	LVE002178
Screen Interval	98-103	ft.	YSI 650 MDS/600XL	78802

Purging Method: [X] ~~Peristaltic~~ Bladder Pump (TF 11/18/03) [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0905

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0950		7.37	19.68	1.185	69.9	0.59	115	
0955		7.35	19.95	1.183	67.1	0.55	113	
1000		7.35	20.14	1.182	54.5	0.43	93.8	
1005	TF 11/18/03	7.35	20.30	1.183	43.5	0.32	79.9	
1010		7.36	20.50	1.181	40.3	0.44	73.8	
1015		7.37	20.58	1.181	13.0	0.22	76.9	
1030		7.36	20.64	1.194 *	-33.8	0.22	N/A	add 2nd meter
1040		7.33	20.93	1.191 TF	-33.7	0.19	60.1 *	YSI 600XL
"		7.36	21.58	1.189	133.7	1.25		TF 11/18/03
1050		7.36	21.11	1.190	-22.1	0.19	32.1	
"		7.30	21.82	1.171	133.9	1.00		
1100		7.38	21.16	1.189	-24.0	0.19	27.8	
"		7.30	21.93	1.171	134.8	0.96		
1105		7.36	21.27	1.188	-26.0	0.19	24.4	
"		7.29	22.02	1.167	135.0	0.89		
			TF 11/18/03					

Field Test Kits Results: TF 11/18/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (11/18/03)			
Sample Date/Time:	11/18/02 1115			
Sampler ID:	TF			
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 70 °F			
Sample Collection Method:	low flow - bladder pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity (gen. chem.)	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: [signature]

DATE 1 1 1 8 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 830557
Project Location: SHE 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	11/18/03 Serial or ID #
Depth to Water	54.77	ft.	YSI 556 MPS	TF ~~100251~~ 99827
Depth to Bottom	—	ft.	La Motte	LVE002162
Screen Interval	98-103	ft.	YSI 650 MDS/600XL	78802

Purging Method: ☒ ~~Peristaltic~~ Pump (TF 11/18/03 Bladder) ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1300

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1315		7.44	21.11	1.110	-27.0	0.79	N/A	
"		7.92	23.19	1.049	43.2	3.29		← 2nd time is
1320		7.42	21.14	1.109	-39.0	0.53	60	YSI 600XL
"		7.58	23.20	1.036	74.1	2.20		
1330		7.38	21.25	1.095	-45.9	0.22	140	
"		7.32	22.98	1.025	137.1	1.07		
1340		7.38	21.23	1.094	-45.9	0.20	130	
"		7.32	22.98	1.026	141.6	1.02		
1350		7.37	21.16	1.094	-45.6	0.20	95	
"		7.32	22.92	1.023	139.1	0.90		
1355		7.37	21.18	1.093	-45.3	0.18	75	
"		7.32	22.85	1.023	137.8	0.85		
1400		7.36	21.19	1.095	-40.5	0.19	45	
"		7.32	22.91	1.027	139.6	0.79		
			TF 11/18/03					

Field Test Kits Results: TF 11/18/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (11/18/03)		
Sample Date/Time:	11/18/03 1410		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 75 °F		
Sample Collection Method:	low flow - bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity (gen. chem.)
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: J Senger

DATE 1 1 1 8 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.29	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	LaMotte	LVE002178
Screen Interval	98-103	ft.	YSI 600XL / 650 MDS	78802

Purging Method: ☑ ~~Peristaltic~~ Pump TF 11/14/03 ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1330 Bladder

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1400		7.99	21.79	0.511	68.5	19.35	N/A	
1405		7.65	19.36	1.147	27.8	5.37	96.8	
1410		7.57	19.19	1.172	20.5	2.91	244	
1430		7.46	18.76	1.176	6.7	0.75	N/A	2nd line is
"		7.42	19.17	1.116	134.8	1.37		← YSI 600XL
1440		7.45	18.70	1.170	4.9	0.66	195	
"		7.36	18.86	1.111	118.6	0.98		
1450		7.43	18.62	1.167	3.1	0.64	113	
"		7.35	18.67	1.106	108.6	0.81		
1500		7.41	18.63	1.166	2.8	0.66	104.7	
"		7.35	18.66	1.105	108.4	0.78		
1505		7.42	18.63	1.165	1.8	0.75	98.6	
"		7.35	18.63	1.104	107.0	0.74		
1510		7.42	18.64	1.165	1.6	0.78	104.7	
"		7.34	18.64	1.103	106.3	0.72		
1515		7.42	18.64	1.164	0.9	0.81	72.7	
"		7.34	18.67	1.103	101.4	0.73		

Field Test Kits Results: — TF 11/18/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (11/18/03)		
Sample Date/Time:	11/18/03 1525		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 75 °F		
Sample Collection Method:	low flow - bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity (gen. chem)
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: J Jenson

DATE 1 1 1 8 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Well ID: 117-TM-05
Project Number: 836557
Project Location: SHE 117

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.31	ft.	YSI	99827
Depth to Bottom	—	ft.	LaMotte	LVE 002162
Screen Interval	98-103	ft.	YSI 650 MDS / 600 XL	78802

Purging Method: [X] ~~Peristaltic~~ Bladder Pump (TF 11/18/03) [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 1500

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1515		7.49	21.10	1.173	-24.4	3.91	750	
1525		7.39	20.96	1.151	-42.5	0.32	769	2nd line is
"		7.40	21.68	1.078	124.5	1.01	750	← YSI 600XL
1530		7.39	20.92	1.148	-46.7	0.29		
"		7.39	21.67	1.077	132.5	0.89		
1535		7.39	20.87	1.148	-46.9	0.26	950	
"		7.38	21.64	1.076	137.8	0.83		
1540		7.38	20.94	1.147	-50.2	0.32	600	
"		7.35	21.53	1.072	157.5	0.60		
1545		7.38	20.95	1.146	-50.7	0.30	500	
"		7.35	21.52	1.071	159.5	0.57		
1550		7.37	20.77	1.146	-50.9	0.28	380	TF 11/18/03
"		7.34	21.45	1.074	170.6	0.54		
1555		7.37	20.72	1.147	-50.8	0.27	340	
"		7.34	21.46	1.073	172.9	0.53		
1600		7.37	20.47	1.146	-49.7	0.24	270	
"		7.33	21.33	1.069	185.3	0.50		

Field Test Kits Results: TF 11/18/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (11/18/03)		
Sample Date/Time:	11/18/03 1615		
Sampler ID:	TF		
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 75°F		
Sample Collection Method:	low flow bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry - 1 HDPE [X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity (gen. chem)
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]	

Prepared By: J Jenger

DATE 1 1 1 9 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 830557
Project Location: Site 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.75	ft.	see pg 26	
Depth to Bottom	—	ft.	YSI	99827
Screen Interval	79.3-114.3	ft.	Lamotte	2162

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ Grunfos Pump
Pump Start Time: 0745

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0750		6.06	16.53	1.122	109.1	1.58	13	* Pump problems
0755		6.46	17.36	1.108	24.2	1.12	6.2	Surging/Starting
0800		6.82	18.42	1.106	-0.7	0.93	4.2	Stopping randomly
0805	1.04	6.92	18.41	1.100	-9.4	0.94	6.7	No continuous flow
0810		6.00	21.57	1.115	-42.5	1.12	3.8	
0820		7.01	22.31	1.118	-72.4	0.66	3.9	
0825		7.15	20.34	1.112	-65.4	0.45	5.4	
0830		~~7.05~~ 7.14	21.77	1.112	-65.0	0.56	3.3	Pump shut off
0833		6.98	21.84	1.117	-69.0	0.52	1.6	

JF 11/19/03

Field Test Kits Results: JF 11/19/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03 (11/19/03)			
Sample Date/Time:	11/19/03 0835			
Sampler ID:	KC			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 60° F			
Sample Collection Method:	low flow - ~~bladder~~ grunfos pump * 11/19/03			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity (gen chem)	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: J Zenger

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SAMPLE COLLECTION LOG

Project Name: CRWS Landfill
Project Number: 331055 7
Project Location: Site 117

Well ID: 117-TM-06
*duplicate taken here

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.47	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	LQ Motte	LVE-002178
Screen Interval	98-103	ft.	YSI 650 MDS / 600 XL	78802

Purging Method: [X] ~~Peristaltic~~ Pump TF 11/19/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0715 Bladder

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0750		6.90	17.33	1.134	185.5	1.26	98.2	
"		6.53	15.62	1.139	213.1	2.57		2nd line is 600XL
0755		6.90	17.38	1.131	180.8	0.91	28.9	
"		6.61	15.58	1.136	215.0	1.67		
0800		6.90	17.53	1.130	178.7	0.79	44.8	
"		6.64	15.81	1.136	216.8	1.53		
~~0805~~ 810		6.90	16.96	1.134	177.8	0.76	39.1	
"		6.69	15.04	1.136	217.2	1.52		
0815		6.90	16.60	1.132	177.7	0.80	25.1	
"		6.69	1.132	15.12	220.6	1.35		

TF 11/19/03

Field Test Kits Results: TF 11/19/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (11/19/03) CL99-70			
Sample Date/Time:	11/19/03 0825 0830			
Sampler ID:	TF			
Weather Conditions:	[ ] sunny [ ] rain [X] overcast 60 °F			
Sample Collection Method:	low flow - bladder pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity (gen. chem)	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: J. Yenger

DATE 1 1 1 9 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SHR 117
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.45	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	LaMotte	LVE 002178
Screen Interval	94.5-99.5	ft.	YSI 650MDS/ 600XL	78802

Purging Method: [X] ~~Peristaltic~~ Bladder Pump TF 11/19/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0810

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0840		7.20	15.02	0.615	162.5	10.68		
0845		7.12	15.06	0.711	164.9	10.36		
0855		7.01	15.11	1.159	166.8	5.46		
"		6.94	14.38	0.682	195.2	6.42		←2nd line is
0900		7.01	15.24	1.156	164.2	5.68		YSI 600XL
"		6.92	14.54	0.617	195.9	9.91		
0905		7.02	15.19	1.155	161.7	5.56		
"		6.90	14.76	1.144	195.3	~~6.90~~ TF 11/19/03 5.63		
0910		7.02	15.19	1.150	159.3	5.64		
"		6.89	14.93	1.158	194.0	5.27		
0915		7.01	15.41	1.143	156.4	6.02	20.2	
"		6.88	15.07	1.158	192.9	5.17		
0920		7.04	15.82	1.136	147.8	5.82		
"		7.05	16.15	1.132	142.2	5.86		
0927	2nd meter →	6.87	15.97	1.147	192.6	5.05		
0930		7.05	16.34	1.128	137.2	5.89	17.1	
"		6.88	16.09	1.145	193.3	4.97		

Field Test Kits Results: TF 11/19/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (11/19/03)		
Sample Date/Time:	11/19/03 0950		
Sampler ID:	TF		
Weather Conditions:	[ ] sunny [ ] rain [X] overcast 60°F		
Sample Collection Method:	low flow - bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry - 1 HDPE [X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity (gen chem)
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]	

Prepared By: J Zinger

DATE 1 1 1 9 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.42	ft.	YSI	99827
Depth to Bottom	—	ft.	IQ MOHR	LVE002162
Screen Interval	79.3-114.3	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☑ Grunfos Pump
Pump Start Time: 0925

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0926		7.19	19.07	1.151	-201.2	0.91	16	
0930		7.03	21.45	1.161	-189.6	0.31	7.6	
0935		6.97	20.33	1.165	-197.0	0.19	4.9	
0940		7.02	19.69	1.166	-195.4	0.26	6.3	
0947		6.93	22.57	1.174	-190.3	0.14	21	
0950		6.95	24.72	1.176	-194.7	0.09	6.7	
0957		6.95	23.16	1.174	-183.5	0.09	5.4	
1000		6.99	22.36	1.177	-184.5	0.10	7.2	pump stop
1007		6.96	20.88	1.170	-181.5	0.12	2.2	
1015		6.99	24.60	1.179	-170.5	0.14	9.0	
1020		6.94	24.12	1.179	-172.8	0.12	7.6	
1023		6.96	23.72	1.174	-181.3	0.10	3.7	

Field Test Kits Results: TF 11/19/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-PZ-01 (11/19/03)		
Sample Date/Time:	11/19/03 1025		
Sampler ID:	RC		
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 60 °F		
Sample Collection Method:	low flow - grunfos pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity (gen. chem)
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: J Stinger

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SAMPLE COLLECTION LOG

Project Name: Cronus Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-08

WELL MEASUREMENTS

RC 11/19/03

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.44 11	ft.	Seepg - 26 + 29	
Depth to Bottom	—	ft.		
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder pump
Pump Start Time: 1230

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1230		7.23	25.64	1.016	68.3	2.14	97.1	
"	2nd meter	6.88	28.15	1.034	194.0	3.04	—	
1240		7.20	25.03	1.022	62.6	1.05	82.3	
"	2nd meter	6.87	28.00	1.033	217.6	2.96	—	
1245		7.19	22.76	1.032	57.8	1.08	90.1	
"	2nd meter	6.87	27.70	1.026	228.5	2.63	—	
1250		21.32 7.11		1.008	52.8	1.21	82.4	
"	2nd meter	6.83	24.52	1.040	245.6	2.49	~~8~~	
1300		7.10	21.14	1.002	47.6	0.69	76.5	
"	2nd meter	6.80	23.02	1.024	259.6	2.35	—	
~~1305~~							RC 11/19/03	
1305	~~2nd meter~~	7.10	21.10	1.001	43.2	0.58	88.9	
"	2nd meter	6.78	22.39	1.004	276.1	1.93	—	
1310		7.09	20.68	1.000	40.6	0.41	46.6	
"	2nd meter	6.78	22.01	1.006	268.2	1.57	—	
1315		7.08	20.70	0.998	39.0	0.28	40.8	
"	2nd meter	6.79	21.30	1.004	238.5	1.46	—	

Field Test Kits Results: — TF 11/19/03

Continued on page 33

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08 (11/19/03)			
Sample Date/Time:	11/19/03 1335			
Sampler ID:	RC			
Weather Conditions:	☑ sunny ☐ rain ☐ overcast ~65-70 °F			
Sample Collection Method:	low flow bladder pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☐
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity ✓	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: R Condit

DATE 1 1 1 9 0 3

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SAMPLE COLLECTION LOG

TF 11/19/03

Project Name: Crows Landing
Project Number: 836057
Project Location: SHE 117
Well ID: 117-TM-08 09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.44	ft.	YSI 556 MPS	100257
Depth to Bottom	—	ft.	La Motte	LVE 002168
Screen Interval	98-103	ft.	YSI 650 MDS/600XL	78802

Purging Method: [X] ~~Peristaltic~~ Pump [ ] Bailer [ ] Grunfos Pump
Pump Start Time: ~~1015~~ ~~1235~~ 1330 Bladder TF 11/19/03

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
~~1350~~		7.34	21.00	1.091	-14.9	0.98	110	
~~1355~~		7.26	21.02	1.095	-19.4	0.53	150	
1400		7.11	21.22	1.090	-15.0	0.33	95	
1405		7.18	21.34	1.086	-22.1	0.27	70	
1408		7.16	21.48	1.082	-25.1	0.22	55	
1411		7.15	21.52	1.085	-26.3	0.21	45	
1415		7.15	21.52	1.083	-27.4	0.19	40	
1418		7.14	21.52	1.083	-28.5	0.17	34	
1421		7.14	21.41	1.083	-29.9	0.16	29	
1424		7.13	21.45	1.080	-30.5	0.15	31	
1429		7.13	21.40	1.081	-28.4	0.20	33	
1432		7.13	21.34	1.080	-31.1	0.18	23	
1435		7.12	21.15	1.079	-32.8	0.15	23	
1438		7.12	21.19	1.080	-33.3	0.13	24	
1442		7.12	21.28	1.078	-33.6	0.12	23	
					TF 11/19/03			

Field Test Kits Results: TF 11/19/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09(11/19/03)			
Sample Date/Time:	11/19/03 1425			
Sampler ID:	TF			
Weather Conditions:	[ ] sunny [ ] rain [X] overcast 70 °F			
Sample Collection Method:	low flow - bladder			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity (gen. chem)	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: J. Kreyer

DATE 1 1 1 9 0 3

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SAMPLE COLLECTION LOG

~~Project Name:~~ _____ Well ID: 117-TM-08 Continued from page 31

Project Number: TF 11/19/03

Project Location:

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
~~Depth to Water~~		ft.		
Depth to Bottom		ft. TF 11/19/03		
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump

Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1325		7.07	20.48	0.997	38.0	0.25	27.1	
"	2nd meter	6.79	21.37	1.004	253.5	1.22	—	
1330		7.07	20.23	0.996	36.9	~~0.24~~ 0.24		
"	2nd meter	6.80	20.94	1.008	247.0	1.18		

TF 11/19/03

Field Test Kits Results: _____ TF 11/19/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:				
Sample Date/Time:				
Sampler ID:				
Weather Conditions:	☒ sunny ☐ rain ☐ overcast °F			
Sample Collection Method:	page 31			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☐	General Chemistry - 1 HDPE	☐
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [illegible]

DATE 12 15 03

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117

Well ID: 117-TM-01
*duplicate taken here

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.05	ft.	~~TF 12/15/03 99828~~ YSI 556 MPS	99828
Depth to Bottom	—	ft.	LaMotte 2020	LVE002227
Screen Interval	98'-103'	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump TF 12/15/03 ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 0855

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
0910		7.25	17.09	1.194	-136.2	2.03	377	
0915		7.25	17.76	1.198	-151.5	1.16	217	
0925		7.24	18.20	1.201	-145.2	0.52	42.7	
0930		7.24	18.24	1.204	-147.0	0.51	34.9	
0935		7.23	18.30	1.202	-148.1	0.50	28.3	
0940		7.23	18.16	1.201	-152.9	0.43	20.0	
0950		7.22	18.16	1.199	-153.7	0.33	30.9	
0955		7.23	18.15	1.200	-154.2	0.32	19.6	
1000		7.22	18.37	1.197	-150.1	0.29	28.7	
1005		7.23	18.20	1.198	-150.4	0.29	21.5	
			TF 12/15/03					

Field Test Kits Results: — TF 12/15/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (12/15/03)		CL-99-71	
Sample Date/Time:	12/15/03 1010		1015	
Sampler ID:	TF			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast		60 °F	
Sample Collection Method:	low flow bladder pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	gen. chem.	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: J Zenger

DATE 1 2 1 5 0 3

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SAMPLE COLLECTION LOG

Project Name: Cross Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	54.98	ft.	YSI 556 MPS	100254
Depth to Bottom	—	ft.	LA MOTE 2020	LVE002162
Screen Interval	98-103'	ft.		

Purging Method: [X] ~~Peristaltic~~ Bladder Pump TF 12/15/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0930

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
having problems w/ pump, stop, troubleshoot, and restart								
restarted @ 1005								
1020		7.32	18.78	1.125	194.1	1.72	150	
1025		7.31	19.14	1.144	188.7	1.42	140	
1030		7.29	19.50	1.152	173.1	0.96	90	
1040		7.28	19.87	1.137	152.2	0.83	45	
1045		7.27	19.68	1.170	152.4	0.65	38	
1055		7.27	20.08	1.159	150.4	0.52	29	
1100		7.25	19.64	1.148	149.6	0.43	28	
1105		7.26	19.76	1.145	149.5	0.35	26	
1110		7.25	19.62	1.140	149.8	0.31	20	
1115		7.24	19.32	1.142	149.6	0.30	20	
1120		7.24	19.52	1.135	150.0	0.30	14	
				TF 12/15/03				

Field Test Kits Results: TF 12/15/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (12/15/03)		
Sample Date/Time:	12/15/03 1130		
Sampler ID:	TF		
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 60 °F		
Sample Collection Method:	low flow bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE [X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for gen. Chem.
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]	

Prepared By: J Jernigan

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	54.80	ft.	YSI 556 MPS	99828
Depth to Bottom	—	ft.	Lg Mohr	LVE 002227
Screen Interval	98-103'	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump TF 12/16/03 ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1340

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10% -131.0*	*+/- 10%*	*No Criteria*	
1350		7.31	16.12	1.063	~~-131.0~~	2.65	33	had a really
1355		7.25	16.26	1.077	-135.5	1.25	39.6	hard time
1400		7.24	16.31	1.081	-142.9	0.79	45	getting the tubing
1405		7.28	16.02	1.076	-158.0	0.45	~~>~~200	
1410		7.30	16.21	1.073	-155.1	0.37	250	
1415		7.19	16.45	1.066	-166.9	0.30	390	
~~1420~~		~~7.36~~	~~17.74~~	~~1.176~~	~~11~~	~~114.6~~		~~Er~~ JS 12/15
1420		7.24	16.83	1.060	-171.9	0.26	950	
1425		7.32	16.52	1.052	-174.8	0.23	>1200	Er 3
1430		7.35	16.67	1.050	-173.2	0.20	>1200	"
1435		7.36	16.57	1.046	-171.8	0.20	>1200	"
1440		7.28	16.83	1.046	-169.9	0.20	>1200	"
1445		7.39	16.70	1.049	-171.1	0.20		Er 2
1450		7.33	16.51	1.066	-138.9	0.45		Er 2
1500		7.31	16.75	1.060	-145.6	0.24	750	
1510		7.28	16.60	1.060	-152.6	0.25	500	
1515		7.27	16.56	1.060	-155.1	0.26	370	continued TF 12/16/03

Field Test Kits Results: TF 12/15/03 TF 12/15/03

fro on pg. ~~38~~ 40

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (12/15/03)
Sample Date/Time:	12/15/03 1545
Sampler ID:	TF
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F
Sample Collection Method:	low flow bladderpump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
SVOC (8270C) - 2 AL	☐	*Other please specify:*
TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for
TPH as gasoline / jet fuel - 2 VOA	☐	gen. chem
Metals - 1 HDPE	☐	
Pesticide/PCB (8081A/8082) - 2 AL	☐	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: [illegible]

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SHC 117

Well ID: 117-TM-03

continued from pg. 38

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	~~55.22~~ 12/15/03		See pg. 38	
Depth to Bottom		ft.		
Screen Interval		ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: _____

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1520		7.26	16.67	1.058	754.3	0.25	270	
1525		7.28	16.57	1.058	756.2	0.23	240	
1530		7.28	16.67	1.057	756.2	0.24	220	

12/15/03

Field Test Kits Results: _____

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	See pg. 38	
Sample Date/Time:		
Sampler ID:		
Weather Conditions:	☐ sunny ☐ rain ☐ overcast °F	
Sample Collection Method:		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA ☐	General Chemistry - 1 HDPE ☐
	SVOC (8270C) - 2 AL ☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL ☐	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA ☐	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE ☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL ☐	

Prepared By: _____

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 826551
Project Location: Site 117

Well ID: 117-TM-04
*MS/MSD taken here

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.39	ft.	YSI 556 MPS	100254
Depth to Bottom	—	ft.	La Motte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump (TF 12/16/03) ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1400

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1415		7.38	17.35	1.177	116.1	1.07	320	
1420		7.36	17.74	1.177	115.9	0.74	190	
1425		7.32	18.11	1.170	115.2	0.56	140	
1430		7.33	18.31	1.165	115.1	0.42	110	
1435		7.29	18.44	1.165	115.8	0.30	75	
1440		7.27	18.56	1.158	115.3	0.24	50	
1445		7.38	18.66	1.151	105.9	0.21	39	
1450		7.32	18.75	1.150	112.1	0.17	34	
1500		7.30	18.75	1.145	107.1	0.13	26	
1505		7.29	18.74	1.144	110.2	0.32	17	
1515		7.27	18.73	1.141	111.6	0.15	17	
1520		7.32	18.80	1.133	103.6	0.12	50	
1525		7.26	18.81	1.131	113.1	0.10	11	
1530		7.26	18.81	1.129	112.5	0.11	10.0	
1535		7.26	18.77	1.129	113.0	0.11	8.8	
			TF 12/15/03					

Field Test Kits Results: TF 12/15/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (12/15/03)	JS 12/15
Sample Date/Time:	12/15/03 1550	*MS/MSD
Sampler ID:	TF	
Weather Conditions:	☒ sunny ☐ rain ☐ overcast	65 °F
Sample Collection Method:	low flow bladder pump	

Analyses & Volume Collected:				
	VOC (8260B) - ~~5~~ 4 VOA 6 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for gen chem.	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: J Zinger

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TF 12/16/03

SAMPLE COLLECTION LOG

Project Name: Cross Landing
Project Number: 836587
Project Location: Site 117
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.22	ft.	YSI 556 MPS	100254
Depth to Bottom	—	ft.	LaMotte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☒ ~~Peristaltic~~ Bladder Pump TF 12/16/03 ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 0745

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
0750		7.30	17.20	1.104	167.3	0.88	750	
0755		7.30	17.20	1.102	168.6	0.64	500	
0800		7.29	17.31	1.099	167.7	0.51	250	
0805		7.28	17.39	1.095	167.3	0.39	140	
0810		7.27	17.57	1.090	173.5	0.31	90	
0815		7.27	17.72	1.088	175.9	0.25	65	
0820		7.25	17.91	1.085	172.9	0.20	45	
0825		7.25	18.23	1.080	170.6	0.16	40	
0830		7.24	18.18	1.082	168.0	0.16	45	
0835		7.24	18.19	1.080	166.8	0.16	33	

Field Test Kits Results: TF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (12/16/03)			
Sample Date/Time:	12/16/03 0850			
Sampler ID:	TF			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 60 °F			
Sample Collection Method:	low flow bladder pump			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for gen. Chem.	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: SHR 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.42	ft.	YSI 556 MPS	99828
Depth to Bottom	—	ft.	LA MOTTE	LVE 002227
Screen Interval	98-103	ft.		

Purging Method: [X] ~~Peristaltic~~ Bladder Pump TF 12/16/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 0800

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	0745AM
0820		7.19	16.57	1.059	-148.2	1.11	121	pump not
0825		7.22	17.33	1.076	-157.9	0.65	110	pumping, pull
0830		7.22	17.69	1.093	-155.3	0.37	80	back out and
0835		7.21	17.87	1.094	-158.6	0.31	55	check valves, etc
0845		7.21	17.92	1.095	-153.3	0.28	44.1	
0855		7.20	17.56	1.094	-156.9	0.28	32.8	
0900		7.20	17.68	1.096	-164.4	0.22	17	
0905		7.21	17.67	1.096	-162.5	0.19	15.9	
0910		7.20	17.76	1.095	-162.4	0.19	14.0	
0915		7.21	17.63	1.095	-163.9	0.18	13	

12/16 JB

Field Test Kits Results: TF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (12/16/03)
Sample Date/Time:	12/16/03 0930
Sampler ID:	TF
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 60 °F
Sample Collection Method:	low flow bladder pump

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	[X]	General Chemistry - 1 HDPE	[X]
SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	[ ]	Alkalinity only for gen.	
TPH as gasoline / jet fuel - 2 VOA	[ ]	chem.	
Metals - 1 HDPE	[ ]		
Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J Yenger

DATE 1 2 1 6 0 3

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.49	ft.	YSI 556 MPS	100254
Depth to Bottom	—	ft.	La Motte	LVE002162
Screen Interval	94.5-99.5	ft.		

Purging Method: TF 12/16/03 [X] ~~Peristaltic~~ Pump TF 12/16/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 09:40 Bladder

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1000		7.32	15.42	1.109	149.7	4.15	211	
1005		7.29	16.41	1.097	147.9	4.46	103.1	
1010		7.31	16.92	1.088	147.3	4.90	65.0	
1015		7.27	17.21	1.066	149.2	5.53	35.8	
1020		7.30	17.08	1.055	146.1	5.94	22.8	
1025		7.32	16.99	1.043	145.0	6.23	13.3	
1035		7.29	16.95	1.035	153.9	6.50	8.71	
1041		7.30	16.98	1.030	149.6	6.70	9.98	
1050		7.30	16.93	1.023	147.7	6.96	4.72	
1055		7.31	16.83	1.024	150.8	7.48	4.59	
1100		7.31	16.81	1.022	150.9	7.30	4.18	
1105		7.32	16.73	1.020	145.5	7.34	3.78	
1110		7.33	16.78	1.017	145.9	7.32	2.90	
1115		7.32	17.35	1.013	146.8	7.24	2.00	
1120		7.31	17.76	1.017	135.9	7.25	4.53	
			TF 12/16/03					

Field Test Kits Results: TF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (12/16/03)
Sample Date/Time:	12/16/03 1130
Sampler ID:	TF
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 65 °F
Sample Collection Method:	low flow bladder pump

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	alkalinity only for	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]	gen chem.	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: D Zemaya

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836557
Project Location: Site 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.02	ft.	YSI 556 MPS	99828
Depth to Bottom	—	ft.	La Motte	LVE 002227
Screen Interval	98-103	ft.		

Purging Method: [X] ~~Peristaltic~~ Bladder Pump TF 12/16/03 [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 1010

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		+/- 0.1	+/- 1° C	+/- 3%	+/- 10%	+/- 10%	No Criteria	
1020		7.37	19.12	0.965	-226.9	0.50		Er2
1025		7.34	19.13	0.965	-224.6	0.35	750	
JS/12/16 ~~1030~~		~~7.27~~	~~17.01~~	~~1.041~~				
1035		7.33	19.16	0.966	-225.8	0.24	600	
1040		7.38	19.05	0.964	-226.7	0.19	700	
1045		7.30	19.28	0.968	-223.3	0.19	698	
1050		7.33	19.21	0.967	-223.9	0.20	345	
1055		7.33	19.16	0.970	-226.5	0.22	200	
1100		7.32	19.14	0.970	-227.9	0.23	165	

TF 12/16/03

Field Test Kits Results: TF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08 (12/16/03)
Sample Date/Time:	12/16/03 1115
Sampler ID:	TF
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 65 °F
Sample Collection Method:	low flow bladder pump

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	[X]	General Chemistry -1 HDPE	[X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	[ ]	alkalinity only for gen. chem.	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	[ ]		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	[ ]		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	[ ]		

Prepared By: J Jenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 7 Site 117
Project Location: 836557
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	55.51	ft.	YSI 556 MPS	100254
Depth to Bottom	—	ft.	LaMotte 2020	LVE002162
Screen Interval	98-103'	ft.		

Purging Method: [X] ~~Peristaltic~~ Pump (JF 12/16/03 Bladder) [ ] Bailer [ ] Grunfos Pump
Pump Start Time: 1305

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1315		7.40	19.79	1.045	117.7	0.94	50.1	
1320		7.38	19.93	1.044	118.6	0.78	51.7	
1330		7.30	20.23	1.022	114.4	0.27	72.4	
1335		7.29	20.26	1.021	113.2	0.26	63.7	
1340		7.29	20.28	1.023	110.9	0.20	49.8	
1345		7.28	20.36	1.019	108.9	0.17	50.4	
1350		7.28	20.43	1.020	108.1	0.16	49.4	
1355		7.28	20.46	1.018	107.3	0.16	42.1	
1400		7.27	20.51	1.015	106.6	0.15	40.1	
1405		7.27	20.55	1.016	103.0	0.13	49.9	

JF 12/16/03

Field Test Kits Results: — JF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09 (12/16/03)		
Sample Date/Time:	12/16/03 1420		
Sampler ID:	JF		
Weather Conditions:	[X] sunny [ ] rain [ ] overcast 65 °F		
Sample Collection Method:	low flow bladder pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	[X]	General Chemistry - 1 HDPE [X]
	SVOC (8270C) - 2 AL	[ ]	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	[ ]	Preliminary only for gen. chem.
	TPH as gasoline / jet fuel - 2 VOA	[ ]	
	Metals - 1 HDPE	[ ]	
	Pesticide/PCB (8081A/8082) - 2 AL	[ ]	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J. Ringer

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 836551
Project Location: Site 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.62	ft.	YSI 556 MPS	99828
Depth to Bottom	—	ft.	LA MOTTE	LVE002227
Screen Interval	79.3-114.3	ft.		

Purging Method: ☒ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1130

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%* TF 12/16/03	*+/- 10%*	*+/- 10%*	*No Criteria*	
1135		7.26	15.89	~~2~~1.060	-217.8	2.59	25.0	
1140		7.30	15.69	1.054	-194.5	5.61	27.0	pump not
1150		7.28	20.88	1.075	-210.9	1.57	5.16	flowing continuously
1155		7.29	21.84	1.073	-216.3	1.56	1.62	- speed it up (restart)
1200		7.31	20.09	0.911	-197.5	—	—	← restart pump again
1210		7.29	22.86	1.081	-216.3	0.37	1.55	← restart again
1215		7.30	22.82	1.075	-232.0	0.39		
1220		7.29	20.40	1.074	-234.6	1.83	0.97	
1225		7.25	21.78	1.074	-215.9	1.64	0.23	
1235		7.27	20.51	1.077	-208.9	0.72	0.59	
1240		7.24	23.73	1.084	-228.3	0.28	0.50	
1245		7.28	23.50	1.080	-237.6	0.27	0.27	
1250		7.28	23.78	1.087	-238.4	0.26	0.39	
1255		7.27	23.26	1.083	-236.2	0.28 TF 12/16/03	0.63	
			TF 12/16/03					

Field Test Kits Results: TF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03 (12/16/03)		
Sample Date/Time:	12/16/03 1300		
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F		
Sample Collection Method:	low flow ~~bladder~~ peristaltic pump		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for gen.
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	chem.
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐	
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Prepared By: J Senger

DATE 1 2 1 6 0 3

Shaw
Shaw Environmental & Infrastructure, Inc.

SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 826557
Project Location: Site 117
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial or ID #
Depth to Water	58.50	ft.	YSI 556 MPS	99828
Depth to Bottom	—	ft.	LaMotte 2020	LV6002221
Screen Interval	79.3-114.3	ft.		

Purging Method: ☒ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump
Pump Start Time: 1440

PURGE DATA

Time	Approximate Volume	pH	Temp. (C)	Cond. (µs/ms)	ORP (mV)	D.O. (ppm)	Turbidity NTU	Notes
Stabilization criteria		*+/- 0.1*	*+/- 1° C*	*+/- 3%*	*+/- 10%*	*+/- 10%*	*No Criteria*	
1445		7.35	19.00	1.115	-239.9	2.42	192	water smells
1450		7.28	19.60	1.116	-230.0	0.47	225	sulfur-like
1455		7.28	19.33	1.117	-230.3	0.15	206	bio foul?
1500		7.23	22.36	1.121	-253.2	0.54	29.3	
1505		7.25	21.86	1.123	-252.9	0.17	13.2	
1510		7.23	22.32	1.125	-250.7	0.11	6.58	
1515		7.23	22.25	1.124	-251.3	0.12	3.02	
1520		7.25	22.06	1.120	-250.2	0.12	2.75	

TF 12/16/03

Field Test Kits Results: TF 12/16/03

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-PZ-01 (12/16/03)
Sample Date/Time: 12/16/03 1540
Sampler ID: TF
Weather Conditions: ☒ sunny ☐ rain ☐ overcast 70°F
Sample Collection Method: low flow bladder pump

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity only for	
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☐	gen. Chem.	
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: [illegible]

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TF 1/21/04

SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: SHR 117

Well ID: 117-TM-01
*duplicate taken here

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.70	ft.	YSI	100254
Depth to Bottom	—	ft.	La Motte	LVE002117
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 0725

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-01 YSI 100254 LaMotte LVE002117

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	Temp.	Cond.	ORP	D.O.	Turb.
0725 Start						
0750	7.33	13.14	1.238	213.2	0.51	71200
0755	7.40	12.77	1.242	211.6	TF 1/21/04 ~~2.28~~ 1.01	484
0800	7.32	13.28	1.234	212.2	0.30	NA
pump broke - try replacing batteries					restart: 0810	
0825	7.31	9.47	1.237	205.7	0.44	209
0830	7.27	12.02	1.213	204.9	0.34	77.8
0835	7.31	13.31	1.226	200.2	0.30	38.8
0840	7.30	13.92	1.235	198.7	0.27	23.6
0845	7.30	14.12	1.239	197.4	0.31	16.9
0850	7.30	14.23	1.238	196.5	0.30	13.0
0855	7.29	14.34	1.239	194.2	0.33	17.9

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (01/21/04) / FS-01			
Sample Date/Time:	01/21/04 0900 duplicate 0905			
Sampler ID:	TF			
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 50 °F			
Sample Collection Method:	low flow bladder pump TF 1/21/04 <50 mL/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Tracy Zenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.47	ft.	YSI	100257
Depth to Bottom	—	ft.	LaMotte	LVE002126
Screen Interval	98-103'	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 0745

PURGE DATA

Time	Approximate	Temp.	Sp.cond.	D.O.	pH	ORP (mV)	Turbidity NTU	Notes

FIELD ACTIVITY SUBJECT: WELL ID: 117-TM-02 YSI 100257

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS: LaMotte LVE002126

Time	pH	Temp.	Cond.	ORP	D.O.	Turb
0745 start						
0755	6.54	12.25	1.196	173.3	3.77	>1200
0800	6.82	12.84	1.217	149.9	1.23	>1200
0805	6.92	13.35	1.227	130.2	0.79	850
0819	6.95	13.65	1.226	114.0	0.68	450
0820	6.96	13.65	1.221	103.2	0.52	220
0825	6.97	13.70	1.220	99.9	0.49	180
0830	7.00	13.88	1.213	93.2	0.44	140
0835	6.98	14.26	1.208	87.3	0.42	100
0840	7.00	14.47	1.208	84.0	0.40	80
0845	7.01	14.44	1.203	82.4	0.40	70

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (01121104)			
Sample Date/Time:	01/21/04 / 0850			
Sampler ID:	TF			
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 50 °F			
Sample Collection Method:	low flow bladder pump		<50 mL/min	
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ TF 1/21/04 -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Tracy Fenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.31	ft.	YSI	100257
Depth to Bottom	—	ft.	LA MOTTE	LVE002126
Screen Interval	98-103'	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 0935

PURGE DATA

	Approximate	Temp.	Sp.cond.	D.O.		ORP	Turbidity

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-03 YSI 100257 LaMotte LVE002126

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	Temp.	Cond.	ORP	D.O.	Turb
0935 start						
1000	7.04	15.68	1.085	77.2	0.74	700
1005	7.05	16.02	1.082	74.3	0.56	800
1010	7.06	15.99	1.083	72.8	0.55	700
1015	7.06	16.00	1.083	71.8	0.48	650
1020	7.08	16.13	1.083	69.1	0.43	550
1025	7.06	16.46	1.081	70.2	0.38	360
1030	7.09	16.62	1.081	67.8	0.37	250
1035	7.11	16.89	1.081	69.3	0.37	180
	~~7.3~~ TF 1/21/04					

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (01/21/04)
Sample Date/Time:	01/21/04 / 10:40
Sampler ID:	TF
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 60 °F
Sample Collection Method:	low flow bladder pump <50 ml/min

Analyses & Volume Collected:			
	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ -1 HDPE ☒ TF 01/21/04
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Tracy Kruger

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SAMPLE COLLECTION LOG

Project Name: Cows Landing
Project Number: 101454
Project Location: Site 117

Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.76	ft.	YSI	100254
Depth to Bottom	—	ft.	La Motte	LVE002117
Screen Interval	98-103'	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 10:00

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-04 YSI 100254

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS: La Motte LVE002117

Time	pH	Temp	Cond	ORP	D.O.	Turb
1000	Starts					
1015	7.44	15.46	1.176	185.3	1.59	715
1020	7.39	15.66	1.194	183.5	0.57	1051
1025	7.35	16.10	1.190	183.2	0.35	>1200
1035	7.35	15.89	1.191	189.1	0.50	>1200
1040	7.32	15.59	1.185	188.3	0.27	>1200
1045	7.31	15.60	1.184	188.1	0.24	901
1055	7.31	15.71	1.183	191.5	0.41	535
1100	7.31	15.67	1.182	190.6	0.25	367
1105	7.30	15.60	1.180	190.2	0.24	277
1110	7.29	15.68	1.179	190.1	0.21	205

SAMPLING INFORMATION

Sample Number:	117-TM-04 (01/21/04)		
Sample Date/Time:	01/21/04 / 11:20		
Sampler ID:	TF		
Weather Conditions:	☐ sunny ☐ rain ☒ overcast	60 °F	
Sample Collection Method:	low flow bladder pump	<50 mL/min	
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ - 1 HDPE ☒ TF 01/21/04
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Gracy Zengin

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SAMPLE COLLECTION LOG

Project Name: Cons Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.87	ft.	YSI	100257
Depth to Bottom	—	ft.	LA MOTTE	LVE002126
Screen Interval	98-103'	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 11:25

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-05 YSI 100257 LaMotte LVE002126

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	temp	cond	ORP	D.O.	Turb
11:25 start						
11:45	6.76	17.56	1.174	106.8	1.07	>1200
11:50	6.77	17.59	1.180	96.9	0.81	>1200
11:55	6.87	16.63	1.185	86.6	0.68	>1200
12:00	6.84	16.62	1.179	87.6	0.51	600
12:05	6.86	16.70	1.179	85.5	0.49	500
12:15	6.94	16.66	1.177	80.1	0.37	360
12:20	6.95	16.78	1.177	79.1	0.35	280
12:25	6.97	17.06	1.175	77.2	0.34	260

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (01/21/04)
Sample Date/Time:	01/21/04 / 12:35
Sampler ID:	TF
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 65 °F
Sample Collection Method:	low flow bladder pump < 50 mL/min

Analyses & Volume Collected:			
	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J. Jensen

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	55.08	ft.	YSI	100254
Depth to Bottom	—	ft.	La Motte	LVE002117
Screen Interval	98-103'	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 12:20

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-06 YSI 100254 La Motte LVE002117

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	Temp	cond	ORP	D.O.	Turb.
12:20 start						
12:40	7.30	17.34	1.148	153.5	0.70	71200
12:45	7.30	17.79	1.144	150.8	0.48	732
12:50	7.28	17.55	1.145	151.0	0.38	370
12:55	7.27	18.02	1.140	149.6	0.30	143
13:10	7.27	18.64	1.134	147.1	0.22	72.2
13:15	7.27	18.76	1.136	146.2	0.22	53.6
13:20	7.26	18.58	1.134	145.1	0.20	35.4
13:25	7.26	18.02	1.135	144.7	0.20	31.3

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (01/21/04)			
Sample Date/Time:	01/21/04 / 13:30			
Sampler ID:	TF			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F			
Sample Collection Method:	low flow bladder pump <50 mL/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ TF 1/21/04 - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J. Henger

Shaw® Shaw Environmental, Inc.

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-07
* MS/MSD taken here

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	55.01	ft.	YSI	100257
Depth to Bottom	—	ft.	LaMotte	LVE002126
Screen Interval	94.5-99.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump
Pump Start Time: 13:15

PURGE DATA

Time	Approximate	Temp.	Sp.cond.	D.O.	--	ORP	Turbidity

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-07 YSI 100257 LaMotte LVE002126

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	Temp	cond	ORP	D.O.	Turb.
13:15 start						
13:35	6.90	19.29	1.062	118.6	8.34	210
.40	6.85	19.18	1.159	102.9	4.82	210
13:45	6.95	19.40	1.165	94.2	5.63	95
13:50	6.96	19.35	1.166	93.3	5.37	80
13:55	6.98	19.31	1.160	92.4	5.95	65
14:00	7.04	19.23	1.149	91.3	5.96	39
14:05	7.07	18.82	1.130	91.5	6.01	27
14:10	7.06	19.02	1.122	93.7	6.91	15 ← right after this reading, begins dropping down in D.O., then comes up again (cycling?)
14:15	7.08	19.19	1.116	93.4	7.07	16
14:20	7.10	19.28	1.108	93.0	7.11	9.5
14:25	7.12	19.82	1.103	93.7	7.09	7.1

SAMPLING INFORMATION

Sample Number:	117-TM-07 (01/21/04)		
Sample Date/Time:	01/21/04 / 14:35	* MS/MSD taken here	
Sampler ID:	TF		
Weather Conditions:	☒ sunny ☐ rain ☐ overcast	65 °F	
Sample Collection Method:	low flow bladder pump	<50 mL/min	
Analyses & Volume Collected:	VOC (8260B) - ~~3~~ VOA 5	☒	~~General Chemistry~~ TF 1/21/04 - 1 HDPE ☒
	SVOC (8270C) - 2 AL TF 1/21/04	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
- High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Y. Zengin

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.62	ft.	YSI	100254
Depth to Bottom	—	ft.	La Motte	LVE002117
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 14:00

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O.	pH	ORP	Turbidity	Notes

Stabili

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-08 YSI 100254

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS: La Motte LVE002117

Time	pH	temp	cond.	ORP	D.O.	Turb.
14:00 start						
14:20	7.41	19.59	1.008	131.4	0.92	>1200
14:25	7.39	19.28	1.014	123.6	0.57	970
14:30	7.37	19.31	1.014	118.2	0.44	547
14:35	7.36	19.32	1.016	114.5	0.36	363
14:40	7.35	19.23	1.017	112.4	0.32	185
14:45	7.34	19.25	1.018	110.9	0.29	124
14:50	7.34	19.16	1.018	108.0	0.25	58.4
14:55	7.33	19.14	1.020	106.3	0.24	40.4
15:00	7.33	18.80	1.019	104.2	0.22	44.9

1/22/04 TF

Fi

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08 (01/21/04)
Sample Date/Time:	01/21/04 / 15:10
Sampler ID:	TF
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F
Sample Collection Method:	low flow bladder pump <50 mL/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ Alkalinity -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐		
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: D. Zenger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: Site 117 5
Project Location: 101454 TF 1/21/04
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.99	ft.	YSI	100257
Depth to Bottom	—	ft.	LaMotte	LVE-002126
Screen Interval	98-103'	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump
Pump Start Time: 15:15

FIELD ACTIVITY SUBJECT: Well ID: 117-TM-09 YSI 100257 LaMotte LVE 002126

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	temp	cond.	ORP	D.O.	Turb.
TF 1/21/04 ~~1515~~ SIOAT 1515						
1535	6.79	16.96	1.108	118.7	1.39	>1200
1540	6.81	16.91	1.108	117.1	1.28	>1200
1545	6.84	16.95	1.106	110.8	0.86	>1200
1550	6.89	17.08	1.104	103.2	0.63	>1200
1555	6.94	16.81	1.103	96.9	0.54	>1200
1605	7.12	16.36	1.105	89.3	0.72	>1200
1610	6.98	16.22	1.101	93.4	0.42	>1200
1615	7.00	16.15	1.101	90.0	0.36	1100
1620	7.02	16.02	1.099	88.0	0.32	750
1625	7.04	15.92	1.096	85.7	0.30	600
1630	7.04	15.75	1.096	85.4	0.28	

SAMPLING INFORMATION

Sample Number:	117-TM-09 (01/21/04)			
Sample Date/Time:	01/21/04 / ~~15:15~~ TF 1/22/04 16:35			
Sampler ID:	TF			
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F			
Sample Collection Method:	low flow bladder pump <50 mL/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ Ie Water -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J. Ringer

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117

Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	57.95	ft.	YSI	100257
Depth to Bottom	—	ft.	LaMOTE	LVE002117
Screen Interval	19.5 - 114.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 11:00

PURGE DATA

	Approximate	Temp.	Sp.cond.	D.O.		ORP	Turbidity

FIELD ACTIVITY SUBJECT: WELL ID: 117-PZ-01 YSI 100257

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS: LaMOTE LVE002117

Time	pH	temp	cond	ORP	D.O.	Turb
11:00 Start						
11:15	6.69	17.16	1.128	178.7	2.46	23.5
20	6.77	17.62	1.142	169.2	1.32	12.2
11:25	6.79	17.84	1.150	159.6	0.84	7.95
11:30	6.81	17.98	1.154	151.2	0.59	4.45
11:35	6.81	18.14	1.155	143.8	0.44	4.44
11:40	6.81	18.16	1.154	138.3	0.36	2.08
11:45	6.80	18.33	1.152	134.4	0.36	4.45
11:50	6.81	18.43	1.151	130.3	0.29	2.54
11:55	6.83	18.57	1.150	125.5	0.25	4.73
12:00	6.80	18.56	1.153	119.7	0.26	1.47
12:05	6.83	18.64	1.153	117.2	0.23	1.58

SAMPLING INFORMATION

Sample Number:	117-PZ-01 (01122104)			
Sample Date/Time:	01/22/04 / 12:10			
Sampler ID:	TF			
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 60 °F			
Sample Collection Method:	low flow bladder pump < 50 mL/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ -1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J. Henger

DATE 0 1 2 2 0 4

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	58.31	ft.	YSI	100254
Depth to Bottom	—	ft.	LaMotte	LVE 002126
Screen Interval	79.5 - 114.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☒ Grunfos Pump ☐ Bladder Pump

Pump Start Time: 12:00

PURGE DATA

	Approximate	Temp.	Sp.cond.	D.O.	pH	ORP	Turbidity	Notes

FIELD ACTIVITY SUBJECT: Well ID: 117-EX-03 YSI 100254 LaMotte LVE002126

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	pH	temp	cond	ORP	D.O.	Turb
12:00 start						
12:30	7.15	20.51	1.096	-115.9	1.09	400
12:35	7.16	19.82	1.093	-107.1	1.23	50
12:40	7.21	17.09	1.01	-57.4	3.89	27
12:45	7.18	17.40	1.097	-60.1	3.36	26
12:50	7.17	19.33	1.097	-86.8	2.35	21
12:55	7.16	24.23	1.099	-100.8	0.83	9.5
13:00	7.21	24.66	1.092	-104.9	0.61	9.3
13:05	7.17	24.62	1.02	-109.3	0.68	8.6

flow unsteady even with new valve installed (to help lower the flow while keeping high speed to pump)

SAMPLING INFORMATION

Sample Number:	117-EX-03 (01/22/04)
Sample Date/Time:	01/22/04 / 13:15
Sampler ID:	TF
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 65 °F
Sample Collection Method:	grunfos pump ~ 400 mL/min

Analyses & Volume Collected:			
	VOC (8260B) - 3 VOA	☒	~~General Chemistry~~ - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: J Jerger

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.64	ft.	YSI 556	100257
Depth to Bottom	—	ft.	~~LVE~~ LaMotte	LVE002162
Screen Interval	98-103	ft.	2/17/04	

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 1030

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
~~0945~~ 1040		18.21	1.242	7.50	7.19	96.7	87.9	cloudy red/brown
1050		19.41	1.219	0.98	7.18	69.5	out of Range	
1055		19.31	1.226	0.99	7.19	63.5		
1100		19.39	1.222	1.02	7.19	62.9		
1105		19.38	1.222	1.08	7.19	61.9		
1110		19.33	1.223	1.09	7.20	60.6		
1115	1.5 L	19.30	1.222	1.12	7.21	59.8		

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (2/17/04)
Sample Date/Time:	2/17/04 1120
Sampler ID:	Paul DeCampo
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 50 °F
Sample Collection Method:	Low Flow bladder <5 ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:* 500ml	
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity	
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeCampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.35	ft.	Ysi 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.	PD 2/17/04	

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1115

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1130		20.73	1.193	2.84	7.26	60.4	407	Cloudy
1135		20.65	1.195	2.06	7.21	58.6	80.7	Clear
1140		20.76	1.192	0.95	7.19	44.8	38.3	
1145		20.90	1.193	0.79	7.18	43.3	31.6	
1150		20.96	1.192	0.77	7.19	41.0	30.2	
55		20.91	1.193	0.78	7.19	41.1	33.3	
1200		20.97	1.194	0.83	7.20	39.9	31.6	
1205	1.5L	20.99	1.193	0.86	7.20	38.1	31.9	

PD 2/17/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-02 (2/17/04)		
Sample Date/Time:	2/17/04 1210 Dup collected @ 1215		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☐ sunny ☐ rain ☑ overcast 56 °F		
Sample Collection Method:	Low Flow bladder pump <50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

N - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Cross Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.37	ft.	YSI 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 1235

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1310		22.52	1.076	4.61	7.18	37.5	43.5	Clear
1315		21.22	1.075	4.54	7.25	42.5	43.0	↓
1320		21.05	1.062	4.73	7.25	46.6	91.3	cloudy Brn
1325		21.21	1.057	5.75	7.10	49.1	358	↓
1330		21.55	1.053	2.97	7.10	46.1	200	↓
1335		21.66	1.054	2.57	7.11	41.1	131	↓
1340		21.23	1.055	2.36	7.10	40.1	66.9	Clear
1345	1.5L	21.33	1.052	2.29	7.11	39.3	59.6	↓

2/17/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (2/17/04)
Sample Date/Time:	2/17/04 1350
Sampler ID:	Paul DeCampo
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 59 °F
Sample Collection Method:	Low Flow bladder Pump <50ml/min

Analyses & Volume Collected:			
	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	Alkalinity
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeCampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	55.05	ft.	Ysi 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1340

2/17/04

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1410		20.73	1.201	2.17	7.15	52.9	109.6	Cloudy
1415		20.75	1.202	1.70	7.14	51.7	136	
1420		20.82	1.203	1.41	7.14	48.6	212	
1425		20.97	1.201	1.07	7.15	43.6	353	
1430		20.79	1.199	.86	7.16	39.2	617	
35		20.68	1.200	.81	7.15	38.1	511	
1440	1.5L	20.58	1.201	.78	7.16	37.9	486	

2/17/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (2/17/04)		
Sample Date/Time:	2/17/04 / 1445		
Sampler ID:	Paul DeCamp		
Weather Conditions:	☐ sunny ☐ rain ☑ overcast 53 °F		
Sample Collection Method:	Low Flow bladder pump 50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

N - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeCamp

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.74	ft.	Ysi 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.		

PD 2/17/04

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1450

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1505		19.96	1.152	1.91	7.19	56.4	150	cloudy
1510		19.93	1.152	1.60	7.19	55.2	823	↓
1515		19.91	1.152	1.45	7.19	53.5	69.2	clear
1520		19.84	1.151	1.32	7.20	49.7	54.1	↓
1525	1.0L	19.81	1.151	1.27	7.20	47.9	49.9	↓

PD 2/17/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (2/17/04)			
Sample Date/Time:	2/17/04 / 1530			
Sampler ID:	Paul DeCampo			
Weather Conditions:	☐ sunny ☐ rain ☑ overcast 52 °F			
Sample Collection Method:				
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☐		
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeCampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.96	ft.	Ysi 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 0930

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
0950		17.57	1.119	3.08	7.19	27.9	317	cloudy
0955		18.00	1.130	0.90	7.17	38.1	364	
1000		18.83	1.133	0.75	7.18	38.1	265	
1005		18.56	1.134	0.74	7.19	37.8	210	
1010		18.54	1.133	0.77	7.19	37.2	174	
1015	2.0L	18.57	1.134	0.80	7.19	36.8	161	

SPD 2/18/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (2/18/04) 1
Sample Date/Time:	2/18/04 / 1020
Sampler ID:	Paul DeOcampo
Weather Conditions:	☐ sunny ☐ rain ☑ overcast 50° °F
Sample Collection Method:	Low Flow bladder Pump <50ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	55.30	ft.	Ysi 556	100257
Depth to Bottom		ft.	Lamotte	LWE002162
Screen Interval	94.5-99.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

2/18/04

Pump Start Time: 1030

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1045		17.30	1.078	2.64	7.19	58.4	47.6	Clear
1050		17.42	1.079	1.85	7.16	56.4	23.6	
1055		17.49	1.075	1.55	7.11	57.3	16.9	
1100		17.53	1.077	0.85	7.12	52.6	10.62	
1105		17.65	1.076	0.79	7.13	51.7	9.42	
1110	1.5L	17.58	1.078	0.75	7.14	50.6	8.18	

2/18/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (2/18/04)		
Sample Date/Time:	2/18/04 / 1115		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☐ sunny ☐ rain ☒ overcast 60 °F		
Sample Collection Method:	Low Flow bladder pump <50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.75	ft.	Ysi 556	100257
Depth to Bottom	ND	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1120

PD 2/18/04

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1130		19.16	1.000	0.91	7.22	26.2	out of Range	Cloudy redish Br
1135		18.73	0.997	0.59	7.20	17.3	↓	
1140		18.71	0.998	0.54	7.19	16.9	371	
1145		18.76	0.998	0.52	7.19	16.5	322	
1150	1.0L	18.75	0.999	0.51	7.20	15.6	278	

PD 2/18/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08 (2/18/04)
Sample Date/Time:	2/18/04 / 1155
Sampler ID:	Paul DeCampo
Weather Conditions:	☒ sunny ☐ rain ☐ overcast 60 °F
Sample Collection Method:	Low Flow bladder Pump <50ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE	☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity	
	TPH as diesel / m.oil - 2 AL	☐		
	TPH as gasoline / jet fuel - 2 VOA	☐		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeCampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	55.15	ft.	Ysi 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump PD 2/18/04

Pump Start Time: 1200

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1215		19.90	1.084	0.93	7.30	-3.2	1038	Cloudy Redish Brn
1220		19.09	1.080	0.55	7.28	2.0	531	
1225		18.91	1.079	0.35	7.26	7.0	240	
1230		18.82	1.077	0.35	7.26	6.8	174	
1235		18.57	1.077	0.33	7.26	7.0	149	
240	1.5L	18.51	1.078	0.33	7.25	7.3	129	

PD 2/18/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09 (2/18/04)		
Sample Date/Time:	2/18/04 / 1245		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☒ rain ☒ overcast 56 °F		
Sample Collection Method:	Low Flow bladder pump <50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: Paul DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-PZ-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	57.75	ft.	YS: 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	79.5-114.5	ft.		

PD 2/18/04

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 1240

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1300		19.43	1.151	0.65	7.17	-123.7	66.5	Clear
1305		19.~~9.15~~ PD 2/18/04	1.153	0.30	7.17	-128.8	20.7	↓
1310		19.46	1.156	0.25	7.18	-132.8	9.31	
1315		19.58	1.154	0.23	7.18	-133.9	4.65	
1320		19.55	1.155	0.23	7.19	-134.6	4.75	
1325	1.5L	19.65	1.154	0.22	7.18	-134.6	3.30	↓

PD 2/18/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	~~117-TM-C~~ PD 2/18/04 117-PZ-01(2/18/04) MS/MSD		
Sample Date/Time:	2/18/04 / 1330		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☒ overcast 52 °F		
Sample Collection Method:	Low Flow bladder pump <50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: Site 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	58.26	ft.	YSI 556	100257
Depth to Bottom	—	ft.	Lamotte	LVE002162
Screen Interval	79.5-114.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☒ Bladder Pump

Pump Start Time: 1325

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1340	1	19.51	1.104	1.05	7.21	-135.9	11.3	
1345		19.50	1.106	0.79	7.21	-140.4	10.39	
1350		19.56	1.105	0.59	7.21	-143.1	7.17	
1355		19.11	1.107	0.41	7.20	-147.4	5.58	
1400		19.19	1.106	0.38	7.19	-145.8	4.52	
1405		19.39	1.106	0.36	7.20	-146.1	4.48	
1410	1.5L	19.26	1.105	0.33	7.19	-145.6	3.36	

PD 2/18/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03		
Sample Date/Time:	2/18/04 / 1415		
Sampler ID:	Paul DeOcampo		
Weather Conditions:	☒ sunny ☐ rain ☒ overcast 56 °F		
Sample Collection Method:	Low Flow bladder Pump <50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☒	General Chemistry - 1 HDPE ☒
	SVOC (8270C) - 2 AL	☐	*Other please specify:* Alkalinity
	TPH as diesel / m.oil - 2 AL	☐	
	TPH as gasoline / jet fuel - 2 VOA	☐	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-01

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.50	ft.	Ysi 556	100254
Depth to Bottom	——	ft.	Lamotte 2020	LVE002222
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 0920

PURGE DATA

Time	Approximate volume purged		Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:			*± 1°C*	*± 3%*	*± 10%*	*± 0.1*	*± 10%*	*No Criteria*	
0935			21.04	1.161	3.33	7.40	58.1	55	
0938			21.13	1.179	2.70	7.37	42.3	40	
0941			21.26	1.197	1.77	7.36	28.1	22	
0944			21.36	1.220	1.38	7.36	19.1	16	
0947			21.53	1.228	1.19	7.37	11.6	12	
0950			21.59	1.229	1.11	7.37	10.9	12	
0953			22.01	1.229	1.09	7.38	10.5	8.9	
0956			22.11	1.229	.99	7.37	10.9	9.4	
0959		✓	22.20	1.229	.97	7.37	11.0	8.6	
1002	1.5L		22.28	1.228	.94	7.38	11.3	8.9	

PD 3/22/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-01 (3/22/04)			
Sample Date/Time:	3/22/04 / 1005			
Sampler ID:	P. DeOcampo			
Weather Conditions:	☑ sunny ☐ rain ☐ overcast		60.5 °F	
Sample Collection Method:	Low flow bladder Pump <50ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☑		
	TPH as gasoline / jet fuel - 2 VOA	☑		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-02

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.19	ft.	Ysi 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE002222
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1030

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1050		27.63	.204	2.01	9.67	-12.7	300	
1053		27.60	.203	0.93	9.65	-15.5	300	
1056		27.80	.201	0.79	9.71	-26.3	270	
1059		27.91	.201	0.73	9.71	-19.5	250	
1102		28.22	.201	0.56	9.71	-28.7	200	
1105		28.28	.202	0.52	9.72	-29.5	190	
1108		28.33	.203	0.50	9.72	-31.1	180	
1111		28.40	.203	0.49	9.71	-31.6	170	
1114	↓	28.45	.204	0.50	9.72	-32.1	160	
1117	1.2L	28.46	.205	0.48	9.73	-33.6	140	PH High, cond Low # stabilized

PD 3/22/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number: 117-TM-02 (3/22/04)
Sample Date/Time: 3/22/04 / 1120
Sampler ID: P. DeOcampo
Weather Conditions: ☑ sunny ☐ rain ☐ overcast 70 °F
Sample Collection Method: Low flow <50ml/min

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
SVOC (8270C) - 2 AL	☐	*Other please specify:*
TPH as diesel / m.oil - 2 AL	☑	
TPH as gasoline / jet fuel - 2 VOA	☑	
Metals - 1 HDPE	☐	
Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-04

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.41	ft.	YSI 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE007222
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1215

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1235		26.26	1.146	2.87	7.56	-37.8	100	
1238		26.22	1.159	1.87	7.53	-44.9	80	
1241		25.93	1.175	.90	7.48	-48.5	45	
1244		25.81	1.179	.86	7.46	-45.5	37	
1247		25.79	1.179	.83	7.46	-43.9	39	
1250		25.65	1.181	.79	7.45	-39.9	32	
1253		25.84	1.184	.71	7.44	-33.7	28	
1256		25.98	1.184	.68	7.43	-31.6	33	
1259	✓	26.02	1.186	.60	7.44	-29.9	30	
1302	1.3L	26.06	1.186	.58	7.43	-28.7	33	

PD 3/22/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-04 (3/22/04)			
Sample Date/Time:	3/22/04 / 1305			
Sampler ID:	P. DeOcampo			
Weather Conditions:	☑ sunny ☐ rain ☐ overcast		70°F	
Sample Collection Method:	Low flow bladder pump <50ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
	TPH as diesel / m.oil - 2 AL	☑		
	TPH as gasoline / jet fuel - 2 VOA	☑		
	Metals - 1 HDPE	☐		
	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-06

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.65	ft.	Ysi 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE 002722
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1330

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1345		27.97	1.141	1.02	7.47	-239.2	22	
1350		27.83	1.142	0.72	7.42	-198.5	21	
1353		27.86	1.143	0.67	7.41	-187.9	17	
1356		27.58	1.150	0.67	7.39	-166.8	14	
1359		27.50	1.154	0.63	7.36	-151.5	14	
1402		27.58	1.158	0.58	7.34	-103.1	12	
1405		27.59	1.159	0.49	7.31	-83.1	11	
1408		27.52	1.160	0.46	7.30	-78.6	10	
1411		27.58	1.159	0.42	7.29	-70.0	12	
1414	↓	27.61	1.159	0.39	7.30	-67.9	10	
1417	1.5L	27.53	1.160	0.35	7.29	-61.7	9	

PD 3/22/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-06 (3/22/04)			
Sample Date/Time:	3/22/04 / 1420			
Sampler ID:	P. DeCampo			
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 70° °F			
Sample Collection Method:	Low flow bladder pump <500ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
Notes:	TPH as diesel / m.oil - 2 AL	☑		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☑		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: P. DeCampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-07

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.44	ft.	Ysi 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE002222
Screen Interval	94.5-99.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 0830

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
0850		16.99	1.066	2.38	7.35	49.1	39	
0853		17.03	1.068	2.15	7.36	47.9	40	
0856		17.29	1.088	2.89	7.37	50.0	45	
0859		17.34	1.099	2.88	7.37	51.2	40	
0902		17.68	1.120	6.09	7.41	57.9	29	
0905		17.74	1.120	6.07	7.42	58.6	25	
0908		17.79	1.120	6.10	7.42	59.0	23	
0911		17.90	1.119	6.15	7.43	60.1	20	
0914	↓	17.96	1.119	6.12	7.43	60.6	19	
0917	1.2 L	18.01	1.120	6.17	7.43	61.1	24	

PD 3/23/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-07 (3/23/04)
Sample Date/Time:	3/23/04 / 0920
Sampler ID:	P. DeOcampo
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 60s °F
Sample Collection Method:	Low flow <500ml/min

Analyses & Volume Collected:				
	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
Notes:	TPH as diesel / m.oil - 2 AL	☑		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☑		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117

Well ID: 117-PZ-01 ~~117-PZ-01~~

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	57.64	ft.	Ysi 556	100254
Depth to Bottom	——	ft.	Lamotte 2020	LVE002222
Screen Interval	79.5 - 114.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 0930

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
0950		19.92	1.163	3.05	7.47	-247.9	8.2	
0953		19.95	1.163	1.60	7.39	-248.8	3.7	
0956		20.03	1.162	1.26	7.36	-246.7	4.2	
0959		20.17	1.162	0.78	7.34	-243.9	3.0	
1002		20.19	1.164	0.75	7.33	-242.5	2.0	
1005		20.76	1.163	0.76	7.32	-241.5	1.9	
1008	↓	20.35	1.161	0.71	7.32	-241.5	2.2	
1011	1.0L	20.30	1.162	0.69	7.32	-243.0	1.7	

PD 3/23/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	~~117-TM~~ PD 3/23/04 117-PZ-01 (3/23/04) FS-01 (3/23/04)	
Sample Date/Time:	3/23/04 / 1015 1020	
Sampler ID:	P. DeCampo	
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 60° °F	
Sample Collection Method:	Low flow <500ml/min	
Analyses & Volume Collected:	VOC (8260B) - 3 VOA ☑	General Chemistry -1 HDPE ☑
	SVOC (8270C) - 2 AL ☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL ☑	
	TPH as gasoline / jet fuel - 2 VOA ☑	
	Metals - 1 HDPE ☐	
	Pesticide/PCB (8081A/8082) - 2 AL ☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeCampo

Shaw® Shaw Environmental, Inc.

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-EX-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	58.01	ft.	Ysi 556	100254
Depth to Bottom	—	ft.	Lamotte 7070	LVE002777
Screen Interval	79.5-114.5	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1100

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1115		21.47	1.116	2.60	7.39	-187.6	1.3	
1118		21.50	1.117	1.71	7.37	-190.6	1.8	
1121		21.42	1.117	1.53	7.36	-194.8	0.35	
1124		21.45	1.118	0.93	7.34	-200.1	0.25	
1127		21.43	1.118	0.89	7.33	-203.5	1.0	
1130		21.33	1.120	0.85	7.32	-204.8	0.25	
1133		21.40	1.118	0.78	7.31	-206.1	1.1	
1136	✓	21.35	1.119	0.73	7.31	-207.8	1.0	
1139	1.5L	21.33	1.119	0.71	7.31	-208.4	1.0	

PD 3/23/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-EX-03 (3/23/04) *MS/MSD
Sample Date/Time:	3/23/04 / 1145
Sampler ID:	P. DeOcampo
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 70.5 °F
Sample Collection Method:	Low flow bladder pump <500ml/min

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
SVOC (8270C) - 2 AL	☐	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	☑		
TPH as gasoline / jet fuel - 2 VOA	☑		
Metals - 1 HDPE	☐		
Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-05

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.51	ft.	YSi 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE002222
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 0900

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
0915		19.99	1.149	2.67	7.38	116.1	21	
0918		20.10	1.151	1.86	7.36	113.6	11	
0921		20.25	1.155	1.35	7.34	108.3	14	
0924		20.38	1.156	1.14	7.34	105.4	12	
0927		20.74	1.160	0.64	7.34	93.4	60	
0930		20.82	1.160	0.58	7.34	91.6	60	
0933	↓	20.87	1.161	0.55	7.34	89.7	65	
0936	1.5L	20.99	1.160	0.51	7.34	89.6	65	
				PD 3/24/04				

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-05 (3/24/04)
Sample Date/Time:	3/24/04 / 0940
Sampler ID:	P. DeOcampo
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 70° °F
Sample Collection Method:	Low flow <50ml/min

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
SVOC (8270C) - 2 AL	☐	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	☑		
TPH as gasoline / jet fuel - 2 VOA	☑		
Metals - 1 HDPE	☐		
Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-03

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	53.97	ft.	Ysi 556	100254
Depth to Bottom		ft.	Lamotte 2020	LWE002222
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 0815

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
0830		15.45	.327	1.80	7.74	92.8	30	
0833		15.76	.314	1.40	7.75	91.6	38	
0836		17.13	.612	.84	7.46	93.1	150	
0839		17.53	.921	.40	7.39	91.4	180	
0842		17.58	.967	.34	7.37	90.6	170	
845		17.64	.974	.36	7.36	89.9	130	
0848		17.66	.980	.37	7.36	89.6	120	
0851	↓	17.70	.981	.36	7.35	89.1	110	
0853	1.5L	17.75	.980	.35	7.35	88.9	85	

PD 3/24/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-03 (3/24/04)		
Sample Date/Time:	3/24/04 / 0855		
Sampler ID:	P. DeOcampo		
Weather Conditions:	☑ sunny ☐ rain ☐ overcast	60° °F	
Sample Collection Method:	Low flow <50ml/min		
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE ☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*
	TPH as diesel / m.oil - 2 AL	☑	
	TPH as gasoline / jet fuel - 2 VOA	☑	
	Metals - 1 HDPE	☐	
	Pesticide/PCB (8081A/8082) - 2 AL	☐	

Notes:
HDPE - High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-08

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	54.35	ft.	Ysi 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE002222
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1030

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1° C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1045		22.40	1.016	1.49	7.45	111.4	100	
1048		22.42	1.015	1.17	7.41	113.0	110	
1051		22.54	1.016	.58	7.36	93.4	130	
1054		22.59	1.016	.53	7.36	91.1	110	
1057		22.65	1.016	.49	7.36	89.6	120	
1100		22.66	1.017	.45	7.36	87.8	100	
1103		22.70	1.017	.41	7.35	85.6	95	
1106		22.76	1.017	.38	7.35	82.9	85	
1109	↓	22.73	1.017	.35	7.35	80.1	85	
1112	1.5L	22.77	1.017	.33	7.35	79.0	75	

PD 3/24/04

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-08 (3/24/04)			
Sample Date/Time:	3/24/03 / 1115			
Sampler ID:	P. DeOcampo			
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 70° °F			
Sample Collection Method:	Low flow <50 ml/min			
Analyses & Volume Collected:	VOC (8260B) - 3 VOA	☑	General Chemistry -1 HDPE	☑
	SVOC (8270C) - 2 AL	☐	*Other please specify:*	
Notes:	TPH as diesel / m.oil - 2 AL	☑		
HDPE - High Density Polyethylene	TPH as gasoline / jet fuel - 2 VOA	☑		
AL - Amber One Liter Glass Bottle	Metals - 1 HDPE	☐		
VOA - Volatile Organic Analysis Vial	Pesticide/PCB (8081A/8082) - 2 AL	☐		

Prepared By: P. DeOcampo

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SAMPLE COLLECTION LOG

Project Name: Crows Landing
Project Number: 101454
Project Location: 117
Well ID: 117-TM-09

WELL MEASUREMENTS

			Sampling equipment/meters used	Serial # or ID #
Depth to Water	55.04	ft.	Ysi 556	100254
Depth to Bottom	—	ft.	Lamotte 2020	LVE007277
Screen Interval	98-103	ft.		

Purging Method: ☐ Peristaltic Pump ☐ Bailer ☐ Grunfos Pump ☑ Bladder Pump

Pump Start Time: 1130

PURGE DATA

Time	Approximate volume purged	Temp. (°C)	Sp.cond. (mS/cm)	D.O. (ppm)	pH	ORP (mV)	Turbidity NTU	Notes
Stabilization criteria:		± 1°C	± 3%	± 10%	± 0.1	± 10%	No Criteria	
1145		24.03	1.099	3.90	7.41	77.8	110	
1148		23.91	1104	1.16	7.50	30.7	170	
1151		23.83	1.105	.80	7.39	44.4	190	
1154		23.98	1.101	.52	7.38	48.6	170	
1157		24.09	1.102	.47	7.38	47.0	140	
00		24.08	1.102	.44	7.39	46.2	120	
1203	↓	24.09	1.101	.43	7.39	45.7	120	
1206	1.2L	24.16	1.101	.42	7.39	44.9	120	
				PO 3/24/04				

Field Test Kits Results:

Stabilization Criteria may change based on project specific requirements

SAMPLING INFORMATION

Sample Number:	117-TM-09(3/24/04)
Sample Date/Time:	3/24/04 / 1210
Sampler ID:	P. DeOcampo
Weather Conditions:	☑ sunny ☐ rain ☐ overcast 70.5 °F
Sample Collection Method:	Low flow <50ml/min

Analyses & Volume Collected:

VOC (8260B) - 3 VOA	☑	General Chemistry - 1 HDPE	☑
SVOC (8270C) - 2 AL	☐	*Other please specify:*	
TPH as diesel / m.oil - 2 AL	☑		
TPH as gasoline / jet fuel - 2 VOA	☑		
Metals - 1 HDPE	☐		
Pesticide/PCB (8081A/8082) - 2 AL	☐		

Notes:
- High Density Polyethylene
AL - Amber One Liter Glass Bottle
VOA - Volatile Organic Analysis Vial

Prepared By: P. DeOcampo

Attachment 5
System Monitoring
Analytical Results

Sample ID		117-TM-01(9/29/03)		117-TM-09(9/29/03)		117-TM-04(9/30/03)		117-TM-05(9/30/03)		117-TM-06(9/30/03)		117-TM-07(9/30/03)		117-TM-08(9/30/03)	
Date Collected		09/29/03		09/29/03		09/30/03		09/30/03		09/30/03		09/30/03		09/30/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	235		249		237		231		244		230		244	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.7		0.8		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	2.5		1		2.7		1.6		1.9		0.5	U	0.5	U
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	3	J	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	39		12		9	J	5	J	7	J	10	U	10	U

Sample ID		117-TM-01(9/29/03)		117-TM-09(9/29/03)		117-TM-04(9/30/03)		117-TM-05(9/30/03)		117-TM-06(9/30/03)		117-TM-07(9/30/03)		117-TM-08(9/30/03)	
Date Collected		09/29/03		09/29/03		09/30/03		09/30/03		09/30/03		09/30/03		09/30/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	25.3		9.3		23.5		13.8		12.3		0.5	U	0.5	U
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	0.4	J	0.5	J
Carbon Tetrachloride	µg/L	0.5	U	0.4	J	0.5	U	0.5	U	0.5	U	0.6		0.4	J
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1		1.4		1		0.6		1.1		3.1		2.1	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	8.3		3.6		4.7		2.7		4.5		1.4		1	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	2.4		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	120		39		91		76		67		20	U	20	U
Tert-Butylbenzene	µg/L	1.4		0.9		1.5		0.7		1.2		0.5	U	0.5	U
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	0.3	J	0.3	J	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-EX-03(10/1/03)		117-PZ-01(10/1/03)		117-TM-02(10/2/03)		117-TM-03(10/2/03)		117-TM-01(10/6/03)		117-TM-02(10/6/03)		117-TM-03(10/6/03)	
Date Collected		10/01/03		10/01/03		10/02/03		10/02/03		10/06/03		10/06/03		10/06/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	249		251		224		229		235		244		232	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.6		0.6		0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	1.2		1.6		1.5		0.8		3.4		2.7		0.9	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	0.6	J
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	8	J	7	J	10	U	18		11		10	U

Sample ID		117-EX-03(10/1/03)		117-PZ-01(10/1/03)		117-TM-02(10/2/03)		117-TM-03(10/2/03)		117-TM-01(10/6/03)		117-TM-02(10/6/03)		117-TM-03(10/6/03)	
Date Collected		10/01/03		10/01/03		10/02/03		10/02/03		10/06/03		10/06/03		10/06/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	6.8		7.5		15.5		9.3		38		28.4		10.1	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.7		0.5	U	1.8		0.5	U	0.5	U	1.1		0.3	J
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.5		1.1		2.3		1.3		1.1		1.8		1.5	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	15.8		16.7		3.7		1.9		7.7		2.7		6.1	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	2	J	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	1.4		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.8		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	35		76		53		32		100		86		43	
Tert-Butylbenzene	µg/L	1		0.9		1.4		0.8		1.7		1.8		0.9	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	0.3	J	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-04(10/6/03)		117-TM-05(10/6/03)		117-TM-09(10/6/03)		117-EX-03(10/7/03)		117-PZ-01(10/7/03)		117-TM-06(10/7/03)		117-TM-07(10/7/03)	
Date Collected		10/06/03		10/06/03		10/06/03		10/07/03		10/07/03		10/07/03		10/07/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	239		242		256		251		253		245		242	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	3		2.4		0.7		1.1		3.3		3.5		0.5	U
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	16		12		7	J	10	U	10	U	10	U	10	U

Sample ID		117-TM-04(10/6/03)		117-TM-05(10/6/03)		117-TM-09(10/6/03)		117-EX-03(10/7/03)		117-PZ-01(10/7/03)		117-TM-06(10/7/03)		117-TM-07(10/7/03)	
Date Collected		10/06/03		10/06/03		10/06/03		10/07/03		10/07/03		10/07/03		10/07/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	26.5		28.5		1.2		8.9		13.1		17.3		0.5	U
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	0.4	J	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.5	U	0.5	U	0.5	U	0.9		0.5	U	0.5	U	1.1	
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.2		1.2		0.8		1.7		1.1		1.6		4.9	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	14.6		27.1		2.2		13.7		60.3		8.5		2.7	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	1.5		1.7		0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.4	J	1.2		0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	110		94		66		20	U	20	U	20	U	20	U
Tert-Butylbenzene	µg/L	1.9		1.2		0.5	U	0.7		1.4		1.4		0.5	U
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-08(10/7/03)		117-TM-01(10/14/03)		117-TM-02(10/14/03)		117-TM-03(10/14/03)		117-TM-04(10/14/03)		117-TM-05(10/14/03)		117-TM-07(10/14/03)	
Date Collected		10/07/03		10/14/03		10/14/03		10/14/03		10/14/03		10/14/03		10/14/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	244		232		241		235		243		242		230	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	0.5	U	2.4		2.1		0.8		2.4		2		0.7	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U

Sample ID		117-TM-08(10/7/03)		117-TM-01(10/14/03)		117-TM-02(10/14/03)		117-TM-03(10/14/03)		117-TM-04(10/14/03)		117-TM-05(10/14/03)		117-TM-07(10/14/03)	
Date Collected		10/07/03		10/14/03		10/14/03		10/14/03		10/14/03		10/14/03		10/14/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	7.5		27		20.9		8.2		21.4		24.6		0.5	U
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	3.5		0.5	U	1.1		0.5	U	0.5	U	0.5	U	0.4	J
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	5.7		0.8		1.6		1.2		0.9		0.9		2.1	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	1.3		3		1.4		3		4.6		7.6		1.3	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	20	U	71		79		28		88		56		20	U
Tert-Butylbenzene	µg/L	0.5	U	1.4		1.7		0.8		1.6		1.2		0.5	U
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-EX-03(10/15/03)		117-PZ-01(10/15/03)		117-TM-06(10/15/03)		117-TM-08(10/15/03)		117-TM-09(10/15/03)		117-TM-01(10/20/03)		117-TM-02(10/20/03)	
Date Collected		10/15/03		10/15/03		10/15/03		10/15/03		10/15/03		10/20/03		10/20/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	246		257		248		237		242		235		227	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	1.3		1.8		1.9		0.4	J	1		2.5		2.6	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	8	J

Sample ID		117-EX-03(10/15/03)		117-PZ-01(10/15/03)		117-TM-06(10/15/03)		117-TM-08(10/15/03)		117-TM-09(10/15/03)		117-TM-01(10/20/03)		117-TM-02(10/20/03)	
Date Collected		10/15/03		10/15/03		10/15/03		10/15/03		10/15/03		10/20/03		10/20/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	7.8		8.1		12.3		5.7		9.2		25.6		19.9	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.5		0.5	U	0.5	U	2.1		0.5		0.5	U	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.3		0.9		1.2		3.4		1.6		1		1.2	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	23.2		126		3.2		0.6		1.7		3.5		1.9	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	2.2		2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.4	J	1		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	20	U	20	U	20	U	20	U	20	U	20	U	160	
Tert-Butylbenzene	µg/L	0.9		0.8		1.8		0.5	U	0.7		1.3		0.9	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-03(10/20/03)		117-TM-04(10/20/03)		117-TM-05(10/20/03)		117-TM-06(10/20/03)		117-EX-03(10/21/03)		117-PZ-01(10/21/03)		117-TM-07(10/21/03)	
Date Collected		10/20/03		10/20/03		10/20/03		10/20/03		10/21/03		10/21/03		10/21/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	232		239		236		235		244		246		228	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	0.9		2.5		2		2		1.1		1.6		0.6	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	7	J	10	U	10	U	10	U	10	U	10	U

Sample ID		117-TM-03(10/20/03)		117-TM-04(10/20/03)		117-TM-05(10/20/03)		117-TM-06(10/20/03)		117-EX-03(10/21/03)		117-PZ-01(10/21/03)		117-TM-07(10/21/03)	
Date Collected		10/20/03		10/20/03		10/20/03		10/20/03		10/21/03		10/21/03		10/21/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	8.9		21.5		23.9		11.5		6.9		8.7		0.5	U
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.3	J	0.5	U	0.5	U	0.5	U	0.4	J	0.5	U	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.5		1		1.1		1.1		1.1		0.7		2.1	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	2.4		7		4.7		2.7		13.2		32.7		1.6	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.6	U	0.7	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	1.2		0.4	J	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.8		0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	47		180		130		160		71		77		20	U
Tert-Butylbenzene	µg/L	0.4	J	1.5		0.8		1.6		0.6		0.6		0.5	U
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-08(10/21/03)		117-TM-09(10/21/03)		117-EX-03(11/19/03)		117-PZ-01(11/19/03)		117-TM-06(11/19/03)		117-TM-07(11/19/03)		117-TM-08(11/19/03)	
Date Collected		10/21/03		10/21/03		11/19/03		11/19/03		11/19/03		11/19/03		11/19/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	244		252		245		251		245		216		232	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	0.3	J	0.9		1.5		2.2		1.4		0.5	U	0.3	J
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U

Sample ID		117-TM-08(10/21/03)		117-TM-09(10/21/03)		117-EX-03(11/19/03)		117-PZ-01(11/19/03)		117-TM-06(11/19/03)		117-TM-07(11/19/03)		117-TM-08(11/19/03)	
Date Collected		10/21/03		10/21/03		11/19/03		11/19/03		11/19/03		11/19/03		11/19/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	3		7.2		7.4		9.6		11.6		0.5	U	4.7	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	1.2		0.4	J	0.6	J	0.5	UJ	0.5	UJ	0.4	J	2.8	J
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	2.8		1.3		1.2		0.7		1		2.8		3.9	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	0.7		1.1		25.4		70		39.7		1.9		0.6	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	2.2		2.4		1		0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5		1		0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	20	U	31		29	J	150	J	170	J	8	J	4	J
Tert-Butylbenzene	µg/L	0.5	U	0.5		1.1		1.2		1.5		0.5	U	0.5	U
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-09(11/19/03)		117-TM-01(11/18/03)		117-TM-02(11/18/03)		117-TM-03(11/18/03)		117-TM-04(11/18/03)		117-TM-05(11/18/03)		117-TM-01(12/15/03)	
Date Collected		11/19/03		11/18/03		11/18/03		11/18/03		11/18/03		11/18/03		12/15/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	245		232		241		234		239		236		232	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	1.2		2.8		2.6		0.8		2.7		2		2.6	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	1	J	10	UJ
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	8	J	13		12		10	U	18		10		10	UJ

Sample ID		117-TM-09(11/19/03)		117-TM-01(11/18/03)		117-TM-02(11/18/03)		117-TM-03(11/18/03)		117-TM-04(11/18/03)		117-TM-05(11/18/03)		117-TM-01(12/15/03)	
Date Collected		11/19/03		11/18/03		11/18/03		11/18/03		11/18/03		11/18/03		12/15/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	7.3		25.5		19.6		8.3		20		20.6		24.1	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.7	J	0.5	U	0.6		0.4	J	0.5	U	0.5	U	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.6		1.1		1.5		1.6		1		1.4		1	
Chloromethane	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	1		3.5		1.1		0.6		3.8		1.9		2.6	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	21	J	20	UJ	20	UJ	20	UJ	76	J	20	UJ	90	
Tert-Butylbenzene	µg/L	0.9		1.7		1.6		0.4	J	1.3		1.2		1.7	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-02(12/15/03)		117-TM-03(12/15/03)		117-TM-04(12/15/03)		117-EX-03(12/16/03)		117-PZ-01(12/16/03)		117-TM-05(12/16/03)		117-TM-06(12/16/03)	
Date Collected		12/15/03		12/15/03		12/15/03		12/16/03		12/16/03		12/16/03		12/16/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	239		232		242		250		253		237		248	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	2.2		0.7		2.3		1.2		1.5		1.8		1.7	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
2-Butanone	µg/L	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U	10	U

Sample ID		117-TM-02(12/15/03)		117-TM-03(12/15/03)		117-TM-04(12/15/03)		117-EX-03(12/16/03)		117-PZ-01(12/16/03)		117-TM-05(12/16/03)		117-TM-06(12/16/03)	
Date Collected		12/15/03		12/15/03		12/15/03		12/16/03		12/16/03		12/16/03		12/16/03	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	17.7		7.2		17.5		7.8		8.8		19.4		12.1	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.6		0.4	J	0.5	U	0.4	J	0.5	UJ	0.5	UJ	0.5	UJ
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	1.4		1.5		0.9		1.1		0.5	J	1.1		0.7	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	0.9		0.4	J	2.5		16.2		13.9		1.6		42.5	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.8	UJ	0.7	UJ	0.5	UJ	0.5	UJ
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.4	J	0.4	J	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	1.1		0.4	J	0.5	U	1.2	
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.6		0.4	J	0.5	U	0.4	J
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	84		20		81		53		80		60		70	
Tert-Butylbenzene	µg/L	1.6		0.3	J	1.7		0.8		0.5		1.2		1.3	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-07(12/16/03)		117-TM-08(12/16/03)		117-TM-09(12/16/03)		117-TM-01(1/21/04)		117-TM-02(1/21/04)		117-TM-03(1/21/04)		117-TM-04(1/21/04)	
Date Collected		12/16/03		12/16/03		12/16/03		01/21/04		01/21/04		01/21/04		01/21/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	228		237		250		238		239		236		243	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	0.3	J	0.5	U	0.9		2.8		2.2		0.8		2.4	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ

Sample ID		117-TM-07(12/16/03)		117-TM-08(12/16/03)		117-TM-09(12/16/03)		117-TM-01(1/21/04)		117-TM-02(1/21/04)		117-TM-03(1/21/04)		117-TM-04(1/21/04)	
Date Collected		12/16/03		12/16/03		12/16/03		01/21/04		01/21/04		01/21/04		01/21/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	0.5	U	4.7		7.1		26		16.1		7.7		18.9	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.6	J	1.9	J	0.5	J	0.5	U	0.7		0.6		0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	2.5		3.4		1.5		0.8		1.4		1.8		0.8	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	1.3		0.6		2.9		1.7		0.9		0.5	U	2.2	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	20	U	20	U	48		100		120		35		110	
Tert-Butylbenzene	µg/L	0.5	U	0.5	U	0.7		1.8		1.5		0.4	J	1.6	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-05(1/21/04)		117-TM-06(1/21/04)		117-TM-07(1/21/04)		117-TM-08(1/21/04)		117-TM-09(1/21/04)		117-EX-03(1/22/04)		117-PZ-01(1/22/04)	
Date Collected		01/21/04		01/21/04		01/21/04		01/21/04		01/21/04		01/22/04		01/22/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	244		250		230		235		251		250		255	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	1.5		1.7		0.3	J	0.4	J	1.1		1.2		2.5	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ

Sample ID		117-TM-05(1/21/04)		117-TM-06(1/21/04)		117-TM-07(1/21/04)		117-TM-08(1/21/04)		117-TM-09(1/21/04)		117-EX-03(1/22/04)		117-PZ-01(1/22/04)	
Date Collected		01/21/04		01/21/04		01/21/04		01/21/04		01/21/04		01/22/04		01/22/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	11.3		8.7		0.5	U	3.5		5.5		4.7		13.6	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Carbon Tetrachloride	µg/L	0.5	U	0.5	U	0.6		1.9		0.6		0.3	J	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
Chloroform	µg/L	1.1		0.7		2.2		3.3		1.5		1		0.5	J
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
Cumene	µg/L	17.9		38.1		0.5	U	0.9		6		1.1		3.7	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	J	0.8		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.7		0.5	U	0.5	U	0.5	U	0.5	U	0.4	J
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	78		87		20	U	12	J	54		52		85	
Tert-Butylbenzene	µg/L	0.7		0.9		0.5	U	0.5	U	0.6		0.5	U	0.5	J
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-01(2/17/04)		117-TM-02(2/17/04)		117-TM-03(2/17/04)		117-TM-04(2/17/04)		117-TM-05(2/17/04)		117-EX-03(2/18/04)		117-PZ-01(2/18/04)	
Date Collected		02/17/04		02/17/04		02/17/04		02/17/04		02/17/04		02/18/04		02/18/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	246		260		226		236		250		246		246	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L														
Gasoline Range Organics	mg/L														
JP-4 (Jet Propulsion Fuel #4)	mg/L														
Motor Oil Range Organics	mg/L														
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	3.9		3.1		0.9		3.3		2.1		1.3		2	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	3	J	10	U	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	9	J	10	UJ	10	UJ	10	UJ	10	UJ	3	J	10	U

Sample ID		117-TM-01(2/17/04)		117-TM-02(2/17/04)		117-TM-03(2/17/04)		117-TM-04(2/17/04)		117-TM-05(2/17/04)		117-EX-03(2/18/04)		117-PZ-01(2/18/04)	
Date Collected		02/17/04		02/17/04		02/17/04		02/17/04		02/17/04		02/18/04		02/18/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	30.5		24.3		9.1		16.4		15.2		2.9		10.7	J
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Carbon Tetrachloride	µg/L	0.5	U	1.1		1		0.5	U	0.5	U	0.3	J	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
Chloroform	µg/L	0.4	J	2.4		2.6		1.2		1.8		0.9		0.4	J
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	52.8		72.4		8.5		16.6		16.7		2.2		0.9	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.8		1.1		0.5	U	0.4	J	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.3	J	0.4	J	0.3	J	0.5	
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	160		150		39		180		110		63		84	
Tert-Butylbenzene	µg/L	1		1		0.5	U	0.9		0.5	J	0.4	J	0.6	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-06(2/18/04)		117-TM-07(2/18/04)		117-TM-08(2/18/04)		117-TM-09(2/18/04)		117-TM-01(3/22/04)		117-TM-02(3/22/04)		117-TM-04(3/22/04)	
Date Collected		02/18/04		02/18/04		02/18/04		02/18/04		03/22/04		03/22/04		03/22/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	241		217		246		250		246		157		240	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L														
Phosphorus, Orthophosphate	mg/L														
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml														
Total Heterotrophs	cfu/ml														
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L									0.096	U	0.096	U	0.096	U
Gasoline Range Organics	mg/L									0.17	J	0.02	J	0.12	J
JP-4 (Jet Propulsion Fuel #4)	mg/L									0.05	U	0.05	U	0.05	U
Motor Oil Range Organics	mg/L									0.096	U	0.096	U	0.096	U
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	1.9		0.5	U	0.5	U	1		2.4		0.5	U	2.4	
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	U	10	U	10	U	10	U	10	UJ	10	UJ	10	UJ
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	1	J	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	3	J	10	U	10	U	10	U	5	J	10	U	5	J

Sample ID		117-TM-06(2/18/04)		117-TM-07(2/18/04)		117-TM-08(2/18/04)		117-TM-09(2/18/04)		117-TM-01(3/22/04)		117-TM-02(3/22/04)		117-TM-04(3/22/04)	
Date Collected		02/18/04		02/18/04		02/18/04		02/18/04		03/22/04		03/22/04		03/22/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	9.9		0.5	U	2.7		4.5		20.2		0.7		16.4	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.5	U	0.5	U	1.5		0.4	J	0.5	U	0.5	U	0.5	U
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	0.6		2.7		3.4		1.5		0.4	J	0.5	U	0.7	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	J	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	15.8		0.5		0.5		3.6		4.3		1.3		6.3	
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.6		0.5	U	0.5	U	0.4	J	0.5	U	0.5	U	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	86		20	U	20	U	51		88		20	U	89	
Tert-Butylbenzene	µg/L	0.7		0.5	U	0.5	U	0.6		0.6		0.5	U	1	
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-06(3/22/04)		117-EX-03(3/23/04)		117-PZ-01(3/23/04)		117-TM-07(3/23/04)		117-TM-03(3/24/04)		117-TM-05(3/24/04)		117-TM-08(3/24/04)	
Date Collected		03/22/04		03/23/04		03/23/04		03/23/04		03/24/04		03/24/04		03/24/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
Alkalinity	mg/L	255		248		254		225		270		243		248	
Chloride	mg/L														
Nitrate As N	mg/L														
Nitrite	mg/L														
Nitrogen, Total Kjeldahl (Tkn)	mg/L									0.2		0.13		0.32	
Phosphorus, Orthophosphate	mg/L									0.009	J	0.029	J	0.088	
Sulfate	mg/L														
Sulfide	mg/L														
Total Organic Carbon (Ave)	mg/L														
Total Organic Carbon (Max)	mg/L														
Total Organic Carbon (Min)	mg/L														
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)															
Hydrocarbon Degraders	cfu/ml									<1.00E+02		4.00E+01		2.00E+02	
Total Heterotrophs	cfu/ml									6.00E+03		4.00E+02		2.00E+03	
Metals (EPA 6010B)															
Iron	µg/L														
Manganese	µg/L														
Total Petroleum Hydrocarbons (EPA 8015B)															
Diesel Range Organics	mg/L	0.096	U	0.096	U	0.096	U	0.096	U	0.1	U	0.1	U	0.1	U
Gasoline Range Organics	mg/L	0.11	J	0.05	J	0.08		0.05	U	0.04	J	0.08	J	0.04	J
JP-4 (Jet Propulsion Fuel #4)	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	UJ	0.05	U
Motor Oil Range Organics	mg/L	0.096	U	0.096	U	0.096	U	0.096	U	0.02	J	0.1	U	0.1	U
Volatile Organic Compounds (EPA 8260B)															
1,1,1,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	µg/L	1.6		1.1		1.9		0.5	U	0.8		1.5		0.5	U
1,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	µg/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U
2-Butanone	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U
2-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Acetone	µg/L	10	U	10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ

Sample ID		117-TM-06(3/22/04)		117-EX-03(3/23/04)		117-PZ-01(3/23/04)		117-TM-07(3/23/04)		117-TM-03(3/24/04)		117-TM-05(3/24/04)		117-TM-08(3/24/04)	
Date Collected		03/22/04		03/23/04		03/23/04		03/23/04		03/24/04		03/24/04		03/24/04	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzene	µg/L	7.4		2.4		8.9		0.5	U	7		11.9		4	
Bromobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	µg/L	0.5	U	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	µg/L	10	U	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U
Carbon Tetrachloride	µg/L	0.5	U	0.5	U	0.5	U	1.1		0.9		0.5	U	2.1	
Chlorobenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	µg/L	0.5		0.7	U	0.5	U	3.8		2.3	U	1.3	U	4.1	
Chloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cumene	µg/L	5.1		1.6		1.1		0.5	U	3.8		9.6		0.5	U
Dibromochloromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tert-Butyl Ether	µg/L	1	U	1	U	1	U	1	U	1	UJ	1	UJ	1	UJ
Methylene Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	4.2	U	3.2	U	2.6	U
Naphthalene	µg/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
P-Isopropyltoluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	J	0.5	U
Styrene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Alcohol	µg/L	74		48	J	64	J	20	UJ	34	J	71	J	21	J
Tert-Butylbenzene	µg/L	0.5		0.4	J	0.4	J	0.5	U	0.5	U	0.6		0.5	U
Tetrachloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylenes(Total)	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

Sample ID		117-TM-09(3/24/04)	
Date Collected		03/24/04	
Parameter	Units	Result	Qual
General Chemistry			
Alkalinity	mg/L	250	
Chloride	mg/L		
Nitrate As N	mg/L		
Nitrite	mg/L		
Nitrogen, Total Kjeldahl (Tkn)	mg/L	0.32	
Phosphorus, Orthophosphate	mg/L	0.021	J
Sulfate	mg/L		
Sulfide	mg/L		
Total Organic Carbon (Ave)	mg/L		
Total Organic Carbon (Max)	mg/L		
Total Organic Carbon (Min)	mg/L		
Bacteria Enumeration Assays (Method 9215A (HPC)/Standard Methods 9215B modified)			
Hydrocarbon Degraders	cfu/ml	7.00E+01	
Total Heterotrophs	cfu/ml	2.00E+03	
Metals (EPA 6010B)			
Iron	µg/L		
Manganese	µg/L		
Total Petroleum Hydrocarbons (EPA 8015B)			
Diesel Range Organics	mg/L	0.1	U
Gasoline Range Organics	mg/L	0.06	
JP-4 (Jet Propulsion Fuel #4)	mg/L	0.05	U
Motor Oil Range Organics	mg/L	0.1	U
Volatile Organic Compounds (EPA 8260B)			
1,1,1,2-Tetrachloroethane	µg/L	0.5	U
1,1,1-Trichloroethane	µg/L	0.5	U
1,1,2,2-Tetrachloroethane	µg/L	0.5	U
1,1,2-Trichloroethane	µg/L	0.5	U
1,1-Dichloroethane	µg/L	0.5	U
1,1-Dichloroethene	µg/L	0.5	U
1,1-Dichloropropene	µg/L	0.5	U
1,2,3-Trichlorobenzene	µg/L	0.5	U
1,2,3-Trichloropropane	µg/L	0.5	U
1,2,4-Trichlorobenzene	µg/L	0.5	U
1,2,4-Trimethylbenzene	µg/L	0.5	U
1,2-Dibromo-3-Chloropropane	µg/L	0.5	U
1,2-Dibromoethane	µg/L	0.5	U
1,2-Dichlorobenzene	µg/L	0.5	U
1,2-Dichloroethane	µg/L	1.1	
1,2-Dichloropropane	µg/L	0.5	U
1,3,5-Trimethylbenzene	µg/L	0.5	U
1,3-Dichlorobenzene	µg/L	0.5	U
1,3-Dichloropropane	µg/L	0.5	U
1,4-Dichlorobenzene	µg/L	0.5	U
2,2-Dichloropropane	µg/L	0.5	U
2-Butanone	µg/L	10	U
2-Chlorotoluene	µg/L	0.5	U
2-Hexanone	µg/L	10	U
4-Chlorotoluene	µg/L	0.5	U
Acetone	µg/L	10	UJ

Sample ID		117-TM-09(3/24/04)	
Date Collected		03/24/04	
Parameter	Units	Result	Qual
Benzene	µg/L	4.5	
Bromobenzene	µg/L	0.5	U
Bromochloromethane	µg/L	0.5	U
Bromodichloromethane	µg/L	0.5	U
Bromoform	µg/L	0.5	U
Bromomethane	µg/L	0.5	U
Carbon Disulfide	µg/L	10	U
Carbon Tetrachloride	µg/L	0.5	J
Chlorobenzene	µg/L	0.5	U
Chloroethane	µg/L	0.5	U
Chloroform	µg/L	1.8	U
Chloromethane	µg/L	0.5	U
Cis-1,2-Dichloroethene	µg/L	0.5	U
Cis-1,3-Dichloropropene	µg/L	0.5	U
Cumene	µg/L	1.9	
Dibromochloromethane	µg/L	0.5	U
Dibromomethane	µg/L	0.5	U
Dichlorodifluoromethane	µg/L	0.5	U
Ethylbenzene	µg/L	0.5	U
Hexachlorobutadiene	µg/L	0.5	U
Methyl Isobutyl Ketone	µg/L	10	U
Methyl Tert-Butyl Ether	µg/L	1	UJ
Methylene Chloride	µg/L	3	U
Naphthalene	µg/L	0.5	U
N-Butylbenzene	µg/L	0.5	U
N-Propylbenzene	µg/L	0.5	U
P-Isopropyltoluene	µg/L	0.5	U
Sec-Butylbenzene	µg/L	0.5	U
Styrene	µg/L	0.5	U
Tert-Butyl Alcohol	µg/L	57	J
Tert-Butylbenzene	µg/L	0.5	U
Tetrachloroethene	µg/L	0.5	U
Toluene	µg/L	0.5	U
Trans-1,2-Dichloroethene	µg/L	0.5	U
Trans-1,3-Dichloropropene	µg/L	0.5	U
Trichloroethene	µg/L	0.5	U
Trichlorofluoromethane	µg/L	0.5	U
Vinyl Chloride	µg/L	0.5	U
Xylenes(Total)	µg/L	1	U

mg/L denotes milligrams per liter.
µg/L denotes micrograms per liter.
qual denotes qualifier.
U qualifier indicates that the analyte was not detected at the specified detection limit.
J qualifier indicates that the associated numerical value is an estimate.
UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is an estimate.

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

October 17, 2003

CONFORMS
REVIEWER: RL
DATE: 11/3/03

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5442 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035442
Collected by: ER
Collected on: 09/29/03

Received: 10/01/03
Extracted: N/A
Tested: 10/01-10/03
Reported: 10/14/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(9/29/03) 03-05442-1	117-TM-09(9/29/03) 03-05442-4
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	235	249

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(9/29/03) 03-05442-1	117-TM-09(9/29/03) 03-05442-4	TB-01(9/29/03) 03-05442-5
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	39	12	<10
BENZENE	SW8260B	µg/L	0.5	25.3	9.3	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	3J	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.4	0.9	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	0.4J	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.0	1.4	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(9/29/03) 03-05442-1	117-TM-09(9/29/03) 03-05442-4	TB-01(9/29/03) 03-05442-5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.5	1	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	8.3	3.6	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	2.4	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	0.7	0.8	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	0.3J	0.3J	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	120	39	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5442

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(9/29/03)	03-05442-1
117-TM-02(9/29/03)	03-05442-2
117-TM-03(9/29/03)	03-05442-3
117-TM-09(9/29/03)	03-05442-4
TB-01(9/29/03)	03-05442-5

2. Analytical Methodology

Samples are analyzed by EPA methods
8260 (Volatile organics),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting to correct sample ID and collection time. Email requesting to hold analysis for three samples.

6. Anomaly

None

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

CHAIN OF CUSTODY

Ref. Document # CL1028

Page 1 of 2

5442

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Shipment Date: 9/30/2003
Waybill Number: UPS 1Z71V0920196750078
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Sampler's Name(s): ER

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(9/29/03	water	09/29/03	10:00	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					
117-TM-02(9/29/03)	water	09/29/03	12:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					
117-TM-03(9/29/03)	water	09/29/03	13:15	g	GW	1	VOA	X				X				X								
"				g	GW	3	1HPDE					X							X					
117-TM-09(9/29/03)	Water	09/29/03	14:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					

Analyses Requested

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr
(Normal) 2 week TAT ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 9/30/03 Time: 0820	Received By: UPS	Date: 9/30/03 Time:	Date: 9/18/2003
Relinquished By:	Date: Time:	Received By:	Date: 10/1/03 Time: 0900	
Relinquished By:	Date: Time:	Received By:	Date: Time:	

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1028

Project Number: *836557*

Shipment Date: 9/30/2003

Project Name / Location: *Rows Landing*

5442

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	NaOH	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
TB-01 (09/29/03)	Trip Blank	09/02/03		G	GW	2	VOA	X								X								

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

October 21, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5474 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RL
DATE: 11/3/03

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035474
Collected by: PD
Collected on: 09/30/03

Received: 10/02/03
Extracted: N/A
Tested: 10/03-11/03
Reported: 10/14/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(9/30/03) 03-05474-1	117-TM-05(9/30/03) 03-05474-2	117-TM-06(9/30/03) 03-05474-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	237	231	244
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	9J	5J	7J
BENZENE	SW8260B	µg/L	0.5	23.5	13.8	12.3
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.5	0.7	1.2
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.0	0.6	1.1
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.7	1.6	1.9
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(9/30/03) 03-05474-1	117-TM-05(9/30/03) 03-05474-2	117-TM-06(9/30/03) 03-05474-3
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	4.7	2.7	4.5
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	91	76	67

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(9/30/03) 03-05474-4	117-TM-08(9/30/03) 03-05474-5	TB-02(9/30/03) 03-05474-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	230	244	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	0.4J	0.5J	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.6	0.4J	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	3.1	2.1	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(9/30/03) 03-05474-4	117-TM-08(9/30/03) 03-05474-5	TB-02(9/30/03) 03-05474-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1.4	1	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: Crows Landing

APCL Service ID: 03-5474

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Applied P & Ch Laboratory
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Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5474

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-04(9/30/03)	03-05474-1
117-TM-05(9/30/03)	03-05474-2
117-TM-06(9/30/03)	03-05474-3
117-TM-07(9/30/03)	03-05474-4
117-TM-08(9/30/03)	03-05474-5
TB-02(9/30/03)	03-05474-6

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting to take sample off hold.

6. Anomaly

None

5474

CHAIN OF CUSTODY

Ref. Document # CL1029

Shaw
Shaw Environmental and Infrastructure Inc.
4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 10/1/2003
Waybill Number: GS101400787
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): PD

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-04(9/30/03)	water	09/30/03	10:40	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					
117-TM-05(9/30/03)	water	09/30/03	10:15	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					
117-TM-06(9/30/03)	water	09/30/03	12:05	g	GW	1	VOA	X				X				X								
"				g	GW	3	1HPDE					X							X					
117-TM-07(9/30/03)	Water	09/30/03	12:40	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal 2 week TAT ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 10/1/03 Time: 0800	Received By:	Date: ~~9/18/2003~~ 10/2/3 Time: 0900
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1028

Project Number: *836557*

Shipment Date: 10/1/2003

Project Name / Location: *Crows Landing*

5474

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-08(9/30/03)	water	09/30/03	14:10	G	GW	3	VOA	X								X								
"						1	HDPE					X							X					
TB-02(9/30/03)	Trip blank	09/30/03		G	GW	2	VOA	X								X								

APCL

Applied Physics & Chemistry Laboratory

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CONFORMS
REVIEWER: RC
DATE: 10/31/03

October 20, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose Condit

This package contains samples in our Service ID 03-5510 and your project 836557 Crows Landing
Enclosed please find:

(1) Original report;
(2) Oringinal Chain of Custody;
(3) One original and one CD of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035510
Collected by: PD
Collected on: 10/02/03

Received: 10/03/03
Extracted: N/A
Tested: 10/03-08/03
Reported: 10/13/03

Sample Description: Water from CTO 86
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-02(10/2/03) 03-05510-1	Analysis Result 117-TM-03(10/2/03) 03-05510-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	224	229

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-02(10/2/03) 03-05510-1	Analysis Result 117-TM-03(10/2/03) 03-05510-2	Analysis Result TB-04(10/2/03) 03-05510-3
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	7J	<10	<10
BENZENE	SW8260B	μg/L	0.5	15.5	9.3	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.4	0.8	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	1.8	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.3	1.3	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-02(10/2/03) 03-05510-1	117-TM-03(10/2/03) 03-05510-2	TB-04(10/2/03) 03-05510-3
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1.5	0.8	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	3.7	1.9	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	0.6	0.6	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	0.3J	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	53	32	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 836557 Crows Landing

APCL Service ID: 03-5510

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5510

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-02(10/2/03)	03-05510-1
117-TM-03(10/2/03)	03-05510-2
TB-04(10/2/03)	03-05510-3

2. Analytical Methodology

Samples are analyzed by EPA methods
8260 (Volatile organics),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY

Ref. Document # CL1031

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 10/2/2003
Waybill Number: UPS1Z71V0920193593646
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): PD

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-02(10/2/03)	water	10/02/03	13:40	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					
117-TM-03(10/2/03)	water	10/02/03	15:05	g	GW	3	VOA	X				X				X								
"				g	GW	1	1HPDE					X							X					
TB-04(10/2/03)	water	10/02/03		g	GW	2	VOA	X				X				X								
							VOA																	

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day (Normal) 2 week TAT

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 10/2/03 Time: 1630	Received By:	Date: ~~9/18/2003~~ 10/3/3 Time: 1000
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes

C = Composite G = Grab

Matrix Codes

DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

October 28, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose Condit

This package contains samples in our Service ID 03-5586 and your project 836557 Crows Landing
Enclosed please find:

(1) Original report;
(2) Oringinal Chain of Custody;
(3) One original and one CD of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 11/5/03

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035586
Collected by: PD
Collected on: 10/06/03

Received: 10/08/03
Extracted: N/A
Tested: 10/10-17/03
Reported: 10/21/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(10/6/03) 03-05586-1	117-TM-02(10/6/03) 03-05586-2	117-TM-03(10/6/03) 03-05586-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	235	244	232
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	18	11	<10
BENZENE	SW8260B	µg/L	0.5	38.0	28.4	10.1
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.7	1.8	0.9
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	1.1	0.3J
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.1	1.8	1.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	3.4	2.7	0.9
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(10/6/03) 03-05586-1	117-TM-02(10/6/03) 03-05586-2	117-TM-03(10/6/03) 03-05586-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	0.6J
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	7.7	2.7	6.1
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	2J	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	100	86	43

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(10/6/03) 03-05586-4	117-TM-05(10/6/03) 03-05586-5	117-TM-09(10/6/03) 03-05586-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	239	242	256
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	16	12	7J
BENZENE	SW8260B	µg/L	0.5	26.5	28.5	1.2
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.9	1.2	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	0.4J
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.2	1.2	0.8
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	3.0	2.4	0.7
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(10/6/03) 03-05586-4	117-TM-05(10/6/03) 03-05586-5	117-TM-09(10/6/03) 03-05586-6
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	14.6	27.1	2.2
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	110	94	66

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-63(10/6/03) 03-05586-7	TB-05(10/6/03) 03-05586-8
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	µg/L	10	12	<10
BENZENE	SW8260B	µg/L	0.5	26.6	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.1	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.1	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-63(10/6/03) 03-05586-7	TB-05(10/6/03) 03-05586-8
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.3	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	25.1	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-63(10/6/03) 03-05586-7	TB-05(10/6/03) 03-05586-8
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	70	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5586

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(10/6/03)	03-05586-1
117-TM-02(10/6/03)	03-05586-2
117-TM-03(10/6/03)	03-05586-3
117-TM-04(10/6/03)	03-05586-4
117-TM-05(10/6/03)	03-05586-5
117-TM-09(10/6/03)	03-05586-6
CL-99-63(10/6/03)	03-05586-7
TB-05(10/6/03)	03-05586-8

2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

Ref. Document # CL1032

Page 1 of 2

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 10/7/2003
Waybill Number: GS101400789
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): PD

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(10/6/03)	water	10/06/03	910	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					
117-TM-02(10/6/03)	water	10/06/03	935	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					
117-TM-03(10/6/03)	water	10/06/03	1120	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					
117-TM-04(10/6/03)	water	10/06/03	1340	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					

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Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day (Normal) 2 week TAT

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 10/7/03 Time: 0800	Received By:	Date: 9/18/2003 10/8/03 Time: 0830
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1032

Project Number: *836557*

Shipment Date: 10/7/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-05(10/6/03)	water	10/06/03	1510	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
117-TM-09(10/6/03)	water	10/06/03	1240	g	GW	3	VOA	X				X				X								
"						1	HPDE					X							X					
CL-99-63(10/6/03)	water	10/06/03	1515	g	GW	3	VOA	X				X				X								
TB-05(10/6/03	trip blank	10/06/03	N/A	g	GW	2	VOA	X				X				X								

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APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

October 28, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5602 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 11/5/03

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035602
Collected by: PD
Collected on: 10/07/03

Received: 10/09/03
Extracted: N/A
Tested: 10/14-20/03
Reported: 10/23/03

Sample Description: Water from Crows Landing
Project Description: 836557

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-PZ-01(10/7/03) 03-05602-1	117-EX-03(10/7/03) 03-05602-2	117-TM-06(10/7/03) 03-05602-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	253	251	245
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	13.1	8.9	17.3
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	1.2	0.4J	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.4	0.7	1.4
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	0.9	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.1	1.7	1.6
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	3.3	1.1	3.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-PZ-01(10/7/03) 03-05602-1	117-EX-03(10/7/03) 03-05602-2	117-TM-06(10/7/03) 03-05602-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	60.3 [a]	13.7	8.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	1.7	1.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20	<20

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(10/7/03) 03-05602-4	117-TM-08(10/7/03) 03-05602-5	TB-06(10/7/03) 03-05602-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	242	244	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	<0.5	7.5	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	1.1	3.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	4.9	5.7	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(10/7/03) 03-05602-4	117-TM-08(10/7/03) 03-05602-5	TB-06(10/7/03) 03-05602-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	2.7	1.3	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Analyzed with a dilution factor of 5.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/cto 86/836557

For Shaw E & I

APCL Service No: 03-5602

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-06(10/7/03)	03-05602-3
117-TM-07(10/7/03)	03-05602-4
117-TM-08(10/7/03)	03-05602-5
117-PZ-01(10/7/03)	03-05602-1
117-EX-03(10/7/03)	03-05602-2
TB-06(10/7/03)	03-05602-6

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

Ref. Document # CL1033

Shaw
Shaw Environmental and Infrastructure Inc.
4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 10/8/2003
Waybill Number: GS 101809560
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Ye 909-590-1828

Sampler's Name(s): PD

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice	TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-06(10/7/03)	water	10/07/03	915	g	GW	3	VOA	X				X			X								
"				g	GW	1	HDPE					X						X					
117-TM-07(10/7/03)	water	10/07/03	1040	g	GW	3	VOA	X				X			X								
"				g	GW	1	HDPE					X						X					
117-TM-08(10/7/03)	water	10/07/03	1210	g	GW	3	VOA	X				X			X								
"				g	GW	1	HDPE					X						X					
*117-PZ-01(10/7/03)	water	10/07/03	1340	g	GW	9	VOA	X				X			X							X	
"				g	GW	1	HDPE					X						X					

Analyses Requested

5602

Special Instructions: *MS/MSD VOCs ONLY

Turnaround Time: ◀(Normal) 2 week TAT ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 10/8/03 Time: 0900	Received By:	Date: ~~10/8/2003~~ 10/9/03 Time: 0930
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

Ref. Document # CL1033

Project Number: *836557*

Shipment Date: 10/8/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-EX-03(10/7/03)	water	10/07/03	1445	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
TB-06(10/7/03)	Trip blank	10/07/03	N/A	g	GW	2	VOA	X				X				X								

5602

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
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October 29, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5689 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RE
DATE: 11/5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035689
Collected by: TF/RC
Collected on: 10/14/03

Received: 10/16/03
Extracted: N/A
Tested: 10/17-22/03
Reported: 10/23/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(10/14/03) 03-05689-1	117-TM-02(10/14/03) 03-05689-2	117-TM-03(10/14/03) 03-05689-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	232	241	235
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	27.0	20.9	8.2
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.4	1.7	0.8
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	1.1	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	0.8	1.6	1.2
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.4	2.1	0.8
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(10/14/03) 03-05689-1	117-TM-02(10/14/03) 03-05689-2	117-TM-03(10/14/03) 03-05689-3
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	3.0	1.4	3.0
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	71	79	28

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(10/14/03) 03-05689-4	117-TM-05(10/14/03) 03-05689-5	117-TM-07(10/14/03) 03-05689-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	243	242	230
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	5J	<10	<10
BENZENE	SW8260B	μg/L	0.5	21.4	24.6	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.6	1.2	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	0.4J
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.9	0.9	2.1
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.4	2.0	0.7
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(10/14/03) 03-05689-4	117-TM-05(10/14/03) 03-05689-5	117-TM-07(10/14/03) 03-05689-6
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	4.6	7.6	1.3
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
T-BUTYL ALCOHOL	SW8260B	µg/L	20	88	56	<20

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-64 03-05689-7	TB(10/14/03) 03-05689-8
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	µg/L	10	<10	10J
BENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	1J
N-BUTYLBENZENE	SW8260B	µg/L	0,5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	0.4J	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	2.3	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-64 03-05689-7	TB(10/14/03) 03-05689-8
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	0.7	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1.4	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	1J
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-64 03-05689-7	TB(10/14/03) 03-05689-8
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5689

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(10/14/03)	03-05689-1
117-TM-02(10/14/03)	03-05689-2
117-TM-03(10/14/03)	03-05689-3
117-TM-04(10/14/03)	03-05689-4
117-TM-05(10/14/03)	03-05689-5
117-TM-07(10/14/03)	03-05689-6
CL-99-64	03-05689-7
TB(10/14/03)	03-05689-8

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

5689

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

CHAIN OF CUSTODY

Ref. Document # CL1034

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Shipment Date: 10/15/2003
Waybill Number: GS102444163
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Sampler's Name(s): ~~BO~~ TF/Rc

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(10/14/03)	Week 3 - in-situ O2 at UST 117	10/14/03	12:15	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					
117-TM-02(10/14/03)	Week 3 - in-situ O2 at UST 117	10/14/03	9:05	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					
117-TM-03(10/14/03)	Week 3 - in-situ O2 at UST 117	10/14/03	10:40	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					
117-TM-04(10/14/03)	Week 3 - in-situ O2 at UST 117	10/14/03	14:45	g	GW	3	VOA	X				X				X								
"				g	GW	1	HPDE					X							X					

Analyses Requested

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By: Rose Condit Date: 10/15/03 Time:
Received By: Golden State Courier Date: 10/15/03 Time:

Relinquished By: Date: Time:
Received By: Date: 10/16/3 Time: 1000

Relinquished By: Date: Time:
Received By: Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continue)

5683

Ref. Document # CL1034

Project Number: *836557*

Shipment Date: 10/15/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-05(10/14/03)	Week 3 - in-situ O2 at UST 117	10/14/03	12:10	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
117-TM-07(10/14/03)	Week 3 - in-situ O2 at UST 117	10/14/03	13:55	g	GW	3	VOA	X				X				X								
"						1	HPDE					X							X					
CL-99-64	water	10/14/03	14:00	g	GW	2	VOA	X				X				X								
TB(10/14/03)	trip blank	10/14/03	7:00	g	GW	2	VOA	X				X				X								

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

November 3, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5715 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: ll
DATE: 11/5/03

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035715
Collected by: TF/RC
Collected on: 10/15/03

Received: 10/17/03
Extracted: N/A
Tested: 10/20-25/03
Reported: 10/28/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(10/15/03) 03-05715-1	117-PZ-01(10/15/03) 03-05715-2	117-TM-06(10/15/03) 03-05715-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	246	257	248
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	7.8	8.1	12.3
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.4J	1.0	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.9	0.8	1.8
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.3	0.9	1.2
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1.3	1.8	1.9
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(10/15/03) 03-05715-1	117-PZ-01(10/15/03) 03-05715-2	117-TM-06(10/15/03) 03-05715-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	23.2	126 [a]	3.2
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	2.2	2.0	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20	<20

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-08(10/15/03) 03-05715-4	117-TM-09(10/15/03) 03-05715-5	TB(10/15/03) 03-05715-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	237	242	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	15
BENZENE	SW8260B	μg/L	0.5	5.7	9.2	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	0.7	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	2.1	0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	3.4	1.6	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	0.4J	1.0	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-08(10/15/03) 03-05715-4	117-TM-09(10/15/03) 03-05715-5	TB(10/15/03) 03-05715-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	5J
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	0.6	1.7	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	3J
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Analyzed with a dilution factor of 5.

Respectfully submitted,

Dominic Kau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5715

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-06(10/15/03)	03-05715-3
117-TM-09(10/15/03)	03-05715-5
117-TM-08(10/15/03)	03-05715-4
117-PZ-01(10/15/03)	03-05715-2
117-EX-03(10/15/03)	03-05715-1
TB(10/15/03)	03-05715-6

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

Ref. Document # CL1035

Shaw
Shaw Environmental and Infrastructure Inc.
4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 10/16/2003
Waybill Number: 1024441164
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

5715

Sampler's Name(s): TF & RC

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-06(10/15/03)	week 3 - in-situ O2 UST 117	10/15/03	8:55	g	GW	5	VOA	X				X				X							X	
"				g	GW	1	HDPE					X							X					
117-TM-09(10/15/03)	week 3 - in-situ O2 UST 117	10/15/03	11:05	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-08(10/15/03)	week 3 - in-situ O2 UST 117	10/15/03	9:00	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-PZ-01(10/15/03)	week 3 - in-situ O2 UST 117	10/15/03	14:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions: *MS/MSD VOCs ONLY

Turnaround Time: ◀ Normal ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Tracy Jerger	10/16/03	0800	Golden State Courier		
				10/17/03	0930

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # CL1035

5715

Project Number: 836557

Shipment Date: 10/16/2003

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-EX-03(10/15/03)	week 3 - in-situ O2 UST 117	10/15/03	10:30	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
TB(10/15/03)	Trip blank	10/15/03	7:00	g	GW	2	VOA	X				X				X								

TF 10/16/03

APCL

Applied Physics & Chemistry Laboratory

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Tel. (909) 590-1828 Fax (909) 590-1498

November 6, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5766 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 11/18/03

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035766
Collected by: TF
Collected on: 10/20/03

Received: 10/22/03
Extracted: N/A
Tested: 10/24-25/03
Reported: 10/28/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(10/20/03) 03-05766-1	117-TM-02(10/20/03) 03-05766-2	117-TM-03(10/20/03) 03-05766-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	235	227	232
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	8J	<10
BENZENE	SW8260B	µg/L	0.5	25.6	19.9	8.9
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.3	0.9	0.4J
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	0.3J
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1	1.2	1.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.5	2.6	0.9
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(10/20/03) 03-05766-1	117-TM-02(10/20/03) 03-05766-2	117-TM-03(10/20/03) 03-05766-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	3.5	1.9	2.4
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	160	47

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(10/20/03) 03-05766-4	117-TM-05(10/20/03) 03-05766-5
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	239	236
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	µg/L	10	7J	<10
BENZENE	SW8260B	µg/L	0.5	21.5	23.9
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.5	0.8
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1	1.1
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.5	2.0
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(10/20/03) 03-05766-4	117-TM-05(10/20/03) 03-05766-5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	7.0	4.7
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	180	130

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-06(10/20/03) 03-05766-6	TB(10/20/03) 03-05766-7
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	235	-

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Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-06(10/20/03) 03-05766-6	TB(10/20/03) 03-05766-7
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	11.5	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.6	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.1	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.0	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-06(10/20/03) 03-05766-6	TB(10/20/03) 03-05766-7
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	2.7	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	160	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5766

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(10/20/03)	03-05766-1
117-TM-02(10/20/03)	03-05766-2
117-TM-03(10/20/03)	03-05766-3
117-TM-04(10/20/03)	03-05766-4
117-TM-05(10/20/03)	03-05766-5
117-TM-06(10/20/03)	03-05766-6
TB(10/20/03)	03-05766-7

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY

Ref. Document # CL1036

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: *Bob Hulet 925-288-9898*
(Name & phone #)

Send Report To: *Rose Condit*
Phone/Fax Number: *925-288-2151*
Address: *4005 Port Chicago Hwy*
City: *Concord, CA, 94520*

Project Number: *836557*
Project Name / Location: *Crows Landing*
Purchase Order #: *205733*

Shipment Date: 10/21/2003
Waybill Number: *101809558*
Lab Destination: *APCL* *Chino, CA*
Lab Contact Name / ph. #: *Hsin-Yi* *909-590-1828*

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(10/20/03)	1 month - in-situ O2 UST 117	10/20/03	10:00	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-02(10/20/03)	1 month - in-situ O2 UST 117	10/20/03	10:20	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-03(10/20/03)	1 month - in-situ O2 UST 117	10/20/03	13:50	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-04(10/20/03)	1 month - in-situ O2 UST 117	10/20/03	12:50	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

5769

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr ◂ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date:	Received By:	Date:
Tracy Zenzi	10/21/03	Golden State Courier	
	Time: 0830		Time:
Relinquished By:	Date:	Received By:	Date: 10/22/3
	Time:		Time: 8:00
Relinquished By:	Date:	Received By:	Date:
	Time:		Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO =Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # CL1036

Project Number: *836557*

Shipment Date: 10/21/2003

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-05(10/20/03)	1 month - in-situ O2 UST 117	10/20/03	15:50	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
117-TM-06(10/20/03)	1 month - in-situ O2 UST 117	10/20/03	16:30	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
TB(10/20/03)	Trip blank	10/20/03		g	GW	2	VOA	X				X				X								

TF 10/20/03

10/21/03

5766

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

November 6, 2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-5788 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) One copy of Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 11/12/03

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-035788
Collected by: TF
Collected on: 10/21/03

Received: 10/23/03
Extracted: N/A
Tested: 10/24-27/03
Reported: 10/29/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(10/21/03) 03-05788-1	117-PZ-01(10/21/03) 03-05788-2	117-TM-07(10/21/03) 03-05788-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	244	246	228
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	3J	5J	<10
BENZENE	SW8260B	µg/L	0.5	6.9	8.7	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.8	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	0.6	0.6	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	0.4J	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.1	0.7	2.1
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	1.1	1.6	0.6
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(10/21/03) 03-05788-1	117-PZ-01(10/21/03) 03-05788-2	117-TM-07(10/21/03) 03-05788-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	13.2	32.7	1.6
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	0.6	0.7	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	1.2	0.4J	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	71	77	<20

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-08(10/21/03) 03-05788-4	117-TM-09(10/21/03) 03-05788-5	CL-99-65 03-05788-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	244	252	255
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	3J	4J
BENZENE	SW8260B	μg/L	0.5	3.0	7.2	7.8
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	0.8
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	0.5	0.6
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	1.2	0.4J	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.8	1.3	0.7
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	0.3J	0.9	1.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-08(10/21/03) 03-05788-4	117-TM-09(10/21/03) 03-05788-5	CL-99-65 03-05788-6
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	0.7	1.1	32.1
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	0.6
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	0.4J
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	<20	31	75

Component Analyzed	Method	Unit	PQL	Analysis Result ER(10/21/03) 03-05788-7	TB(10/21/03) 03-05788-8
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	µg/L	10	7J	3J
BENZENE	SW8260B	µg/L	0.5	0.4J	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.2	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER(10/21/03) 03-05788-7	TB(10/21/03) 03-05788-8
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	5.4	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	1.3
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	0.4J	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER(10/21/03) 03-05788-7	TB(10/21/03) 03-05788-8
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-5788

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-07(10/21/03)	03-05788-3
117-TM-08(10/21/03)	03-05788-4
117-TM-09(10/21/03)	03-05788-5
117-EX-03(10/21/03)	03-05788-1
117-PZ-01(10/21/03)	03-05788-2
CL-99-65	03-05788-6
ER(10/21/03)	03-05788-7
TB(10/21/03)	03-05788-8

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting to change sample IDs.

6. Anomaly

None

Hsin-Yi Lee

From: Condit, Rose [Rose.Condit@shawgrp.com]
Sent: Monday, October 27, 2003 6:42 AM
To: Hsin-Yi Lee
Subject: RE: Sample login confirmation for Crows (Question)

Yes, the sample ID should say (10/21/03) not 10/20/03. The TB should not be a problem because we only need VOCs analyzed.

-----Original Message-----
From: Hsin-Yi Lee [mailto:HsinL@apclab.com]
Sent: Friday, October 24, 2003 03:11 PM
To: Condit, Rose
Subject: Sample login confirmation for Crows (Question)

Rose,

For 03-5788:

1. We received only 1 vial for Trib Blank.
2. Sample 117-TM-07(10/20/03), 117-TM-08(10/20/03) and 117-TM-09(10/20/03) was collected on 10/21/03. Is the sample ID need to be revise?

Thanks

If you have any questions please feel free to contact me.

Hsin-Yi Lee
Project Manager
Applied Physics and Chemistry Laboratory
13760 Magnolia Ave.
Chino, CA 91710
(909)-590-1828 x113
HsinL@apclab.com

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CHAIN OF CUSTODY

Ref. Document # CL1037

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

5788

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 10/22/2003
Waybill Number: 101809559
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-07(10/20/03)	1 month - in-situ O2 UST 117	10/21/03	09:45	g	GW	5	VOA	X				X				X							X	
"				g	GW	1	HDPE					X							X					
117-TM-08(10/20/03)	1 month - in-situ O2 UST 117	10/21/03	08:50	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-09(10/20/03)	1 month - in-situ O2 UST 117	10/21/03	11:45	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-EX-03(10/21/03)	1 month - in-situ O2 UST 117	10/21/03	15:20	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions: *MS/MSD VOCs only

Turnaround Time: ☐ 24-hr ☐ 48-hr ◂ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	10/22/03	0830	Golden State Courier		
			[signature]	10/23/3	0900

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # CL1037

5788

Project Number: 836557

Shipment Date: 10/22/2003

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-PZ-01(10/21/03)	1 month - in-situ O2 UST 117	10/21/03	16:05	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
CL-99-65	1 month - in-situ O2 UST 117	10/21/03	16:10	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
ER(10/21/03)	Equiptment Rinse Blank	10/21/03	16:30	g	GW	2	VOA	X				X				X								
TB(10/21/03)	Trip blank	10/21/03	07:00	g	GW	2	VOA	X				X				X								

FF 10/21/03

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

December 8, 2003

SHAW E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-6225 and your project 836557 Crows Landing. Enclosed please find:

(1) Original report.
(2) Oringinal Chain of Custody.
(3) One original and one compact disk of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-036225
Collected by: TF
Collected on: 11/18/03

Received: 11/20/03
Extracted: N/A
Tested: 11/21-25/03
Reported: 11/26/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(11/18/03) 03-06225-1	117-TM-02(11/18/03) 03-06225-2	117-TM-03(11/18/03) 03-06225-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	232	241	234
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	13	12	<10
BENZENE	SW8260B	µg/L	0.5	25.5	19.6	8.3
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.7	1.6	0.4J
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	0.6	0.4J
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.1	1.5	1.6
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.8	2.6	0.8
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(11/18/03) 03-06225-1	117-TM-02(11/18/03) 03-06225-2	117-TM-03(11/18/03) 03-06225-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	3.5	1.1	0.6
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20	<20

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(11/18/03) 03-06225-4	117-TM-05(11/18/03) 03-06225-5	TB(11/18/03) 03-06225-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	239	236	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	18	10	<10
BENZENE	SW8260B	µg/L	0.5	20.0	20.6	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	1J	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.3	1.2	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.0	1.4	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.7	2.0	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(11/18/03) 03-06225-4	117-TM-05(11/18/03) 03-06225-5	TB(11/18/03) 03-06225-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	3.8	1.9	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	76	<20	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 836557 Crows Landing

APCL Service ID: 03-6225

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-6225

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(11/18/03)	03-06225-1
117-TM-02(11/18/03)	03-06225-2
117-TM-03(11/18/03)	03-06225-3
117-TM-04(11/18/03)	03-06225-4
117-TM-05(11/18/03)	03-06225-5
TB(11/18/03)	03-06225-6

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY

Ref. Document # CL1043

6225

Shaw
Shaw Environmental and Infrastructure Inc.
4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 11/19/2003
Waybill Number: 101809551
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(11/18/03)	2 month - in-situ O2 UST 117	11/18/03	10:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-02(11/18/03)	2 month - in-situ O2 UST 117	11/18/03	11:15	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-03(11/18/03)	2 month - in-situ O2 UST 117	11/18/03	14:10	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-04(11/18/03)	2 month - in-situ O2 UST 117	11/18/03	15:25	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions: 117-TM-04 and 117-TM-05 contain only 250ml HDPE each for alkalinity

Turnaround Time: ☐ 24-hr ☐ 48-hr ◀ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date: 11/19/03 Time: 800 AM	Received By: Golden State Courier	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: 11/20/3 Time: 1100
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # 11043

Page 2 of 2

6225

Project Number: 836557

Shipment Date: 11/19/2003

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-05(11/18/03)	2 month - in-situ O2 UST 117	11/18/03	16:15	g	GW	3	VOA	X				X				X								
"						1	HDPE					X							X					
TB(11/18/03)	Trip blank	11/18/03	07:00	g	GW	1	VOA	X				X				X								

TF 11/19/03

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

December 12,2003

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-6223 and your project Crows Landing. Enclosed please find:

(1) Original Final Report.
(2) Original Chain of Custody.
(3) One Original and one compact disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: TD
DATE: 01-08-04

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-036223
Collected by: TF/RC
Collected on: 11/19/03

Received: 11/20/03
Extracted: N/A
Tested: 11/21-25/03
Reported: 11/26/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(11/19/03) 03-06223-1	117-PZ-01(11/19/03) 03-06223-2	117-TM-06(11/19/03) 03-06223-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	245	251	245
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	7.4	9.6	11.6
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	0.5	1.0	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.1	1.2	1.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	0.6	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.2	0.7	1
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	1.5	2.2	1.4
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(11/19/03) 03-06223-1	117-PZ-01(11/19/03) 03-06223-2	117-TM-06(11/19/03) 03-06223-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	25.4	70.0 [a]	39.7
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	2.2	2.4	1.0
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	29	150	170

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(11/19/03) 03-06223-4	117-TM-08(11/19/03) 03-06223-5	117-TM-09(11/19/03) 03-06223-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	216	232	245
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	8J
BENZENE	SW8260B	μg/L	0.5	<0.5	4.7	7.3
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	0.9
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.4J	2.8	0.7
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.8	3.9	1.6
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	0.3J	1.2
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(11/19/03) 03-06223-4	117-TM-08(11/19/03) 03-06223-5	117-TM-09(11/19/03) 03-06223-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1.9	0.6	1.0
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	8J	4J	21

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-70 03-06223-7	TB(11/19/03) 03-06223-8
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	242	-

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-70 03-06223-7	, TB(11/19/03) 03-06223-8
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	15	<10
BENZENE	SW8260B	μg/L	0.5	11.0	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	0.8J	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.4	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.9	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.1	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-70 03-06223-7	TB(11/19/03) 03-06223-8
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	36.4	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	1	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	110	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Analyzed with a dilution factor of 2.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-6223

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-06(11/19/03)	03-06223-3
CL-99-70	03-06223-7
117-TM-07(11/19/03)	03-06223-4
117-TM-08(11/19/03)	03-06223-5
117-TM-09(11/19/03)	03-06223-6
117-PZ-01(11/19/03)	03-06223-2
117-EX-03(11/19/03)	03-06223-1
TB(11/19/03)	03-06223-8

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email with corrected COC.

6. Anomaly

None

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898
(Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

6223

CHAIN OF CUSTODY

Ref. Document # CL1044

Page 1 of 2

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 11/19/2003
Waybill Number: 1Z 71V 092 01 9770 5384
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): TF, RC

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-06(11/19/03)	2 month - in-situ O2 UST 117	11/19/03		g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
CL-99-70	2 month - in-situ O2 UST 117	11/19/03		g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-07(11/19/03)	2 month - in-situ O2 UST 117	11/19/03		g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-08(11/19/03)	2 month - in-situ O2 UST 117	11/19/03		g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions: *MS/MSD for VOCs only

Turnaround Time: ☐ 24-hr ☐ 48-hr (Normal) ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Stacy Senger	11/19/03	1630	~~Golden State Courier~~ UPS	11/20/03	
				11/20/03	0950

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY

Ref. Document # CL1044

6223

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 11/19/2003
Waybill Number: 1Z 71V 01 092 9770 5384
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): TF, RC

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-06(11/19/03)	2 month - in-situ O2 UST 117	11/19/2003	8:25	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
CL-99-70	2 month - in-situ O2 UST 117	11/19/2003	8:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-07(11/19/03)	2 month - in-situ O2 UST 117	11/19/2003	9:50	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-08(11/19/03)	2 month - in-situ O2 UST 117	11/19/2003	13:35	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions: *MS/MSD for VOCs only

Turnaround Time: ☐ 24-hr ☐ 48-hr ◂ Normal ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: / Time:	Received By:	Date: / Time:
		Golden State Courier	
Relinquished By:	Date: / Time:	Received By:	Date: / Time:
Relinquished By:	Date: / Time:	Received By:	Date: / Time:

Method Codes

C = Composite G = Grab

Matrix Codes

DW = Drinking Water SO =Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # CL1044

Project Number: *836557*

Shipment Date: 11/20/2003

Project Name / Location: *Crows Landing*

6223

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	NaOH	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-09(11/19/03)	2 month - in-situ O2 UST 117	11/19/03		g	GW	5	VOA	X				X				X							X	
"				g	GW	1	HDPE					X							X					
117-PZ-01(11/19/03)	2 month - in-situ O2 UST 117	11/19/03		g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-EX-03(11/19/03)	2 month - in-situ O2 UST 117	11/19/03		g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
TB(11/19/03)	Trip blank	11/19/03	07:00	g	GW	1	VOA	X				X				X								

TF 11/19/03

CHAIN OF CUSTODY (continued)

Ref. Document # CL1044

Project Number: 836557

Shipment Date: 11/20/2003

Project Name / Location: Crows Landing

6223

Sample ID Number	Sample Description	Collection Information: Date	Collection Information: Time	Collection Information: Method	Matrix	# of containers	Container type	Preservative: HCL	Preservative: NaOH	Preservative: HNO_3	Preservative: H_2SO_4	Preservative: Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-09(11/19/03)	2 month - in-situ O2 UST 117	11/19/2003	14:25	g	GW	5	VOA	X				X				X							X	
"				g	GW	1	HDPE					X							X					
117-PZ-01(11/19/03)	2 month - in-situ O2 UST 117	11/19/2003	10:25	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-EX-03(11/19/03)	2 month - in-situ O2 UST 117	11/19/2003	8:35	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
TB(11/19/03)	Trip blank	11/19/2003	7:00	g	GW	1	VOA	X				X				X								

Hsin-Yi Lee

From: Condit, Rose [Rose.Condit@shawgrp.com]
Sent: Thursday, November 20, 2003 9:11 AM
To: Condit, Rose; Hsin-Yi Lee (E-mail)
Subject: RE: COC CL1044

COC-CL1044-2 month in-situ.xls...

Here is the corrected COC

<<COC-CL1044-2 month in-situ.xls>>

> -----Original Message-----
> From: Condit, Rose
> Sent: Thursday, November 20, 2003 08:49 AM
> To: Hsin-Yi Lee (E-mail)
> Cc: Fenger, Tracy
> Subject: COC CL1044
>
> Hi Hsin-Yi, We forgot to enter the sample times on COC CL1044, so you will get an updated COC (via email) this morning. Just attach this corrected COC to the one we signed and mailed with the samples (you should receive today by UPS). Let me know if you have any questions.
>
> Thanks,
>
> Rose Condit
> Program Chemist, Shaw E & I
> 4005 Port Chicago Highway
> Concord, CA, 94520
> phone. 925-288-2151
> fax. 925-827-2179
>

6223

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The Shaw Group Inc.
http://www.shawgrp.com

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

January 02,2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-6603 and your project Crows Landing. Enclosed please find:

(1) Original Final Report.
(2) Original Chain of Custody.
(3) One Original and one compact disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: T.D
DATE: 1-9-04

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-036603
Collected by: TF
Collected on: 12/15/03

Received: 12/17/03
Extracted: N/A
Tested: 12/17/03
Reported: 12/19/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(12/15/03) 03-06603-1	117-TM-02(12/15/03) 03-06603-2	117-TM-03(12/15/03) 03-06603-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	232	239	232
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	24.1	17.7	7.2
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.7	1.6	0.3J
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	0.6	0.4J
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1	1.4	1.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.6	2.2	0.7
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(12/15/03) 03-06603-1	117-TM-02(12/15/03) 03-06603-2	117-TM-03(12/15/03) 03-06603-3
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	2.6	0.9	0.4J
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	90	84	20

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(12/15/03) 03-06603-4	CL-99-71 03-06603-5	TB(12/15/03) 03-06603-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	242	236	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	17.5	22.7	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.7	1.6	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.9	0.9	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.3	2.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(12/15/03) 03-06603-4	CL-99-71 03-06603-5	TB(12/15/03) 03-06603-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	2.5	2.4	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	81	88	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-6603

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(12/15/03)	03-06603-1
CL-99-71	03-06603-5
117-TM-02(12/15/03)	03-06603-2
117-TM-03(12/15/03)	03-06603-3
117-TM-04(12/15/03)	03-06603-4
TB(12/15/03)	03-06603-6

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

Ref. Document # CL1046

Page 1 of 2

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 12/16/2003
Waybill Number: 101809552
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

6603

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(12/15/03)	3 month - in-situ O2 UST 117	12/15/2003	10:10	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
CL-99-71	3 month - in-situ O2 UST 117	12/15/2003	10:15	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-02(12/15/03)	3 month - in-situ O2 UST 117	12/15/2003	11:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-03(12/15/03)	3 month - in-situ O2 UST 117	12/15/2003	15:45	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions: *MS/MSD for VOCs only

Turnaround Time: ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day (Normal)

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date: 12/16/03 Time: 09AM	Received By: Golden State Courier	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: 12/17/03 Time: 0940
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes

C = Composite G = Grab

Matrix Codes

DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # CL1046

6603

Project Number: 836557

Shipment Date: 12/16/2003

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-04(12/15/03)	3 month - In-situ O2 UST 117	12/15/2003	15:50	g	GW	5	VOA	X				X				X							X	
"				g	GW	1	HDPE					X							X					
TB(12/15/03)	Trip blank	12/15/2003	07:00	g	GW	1	VOA	X				X				X								

TF 12/16/03

APCL

Applied Physics & Chemistry Laboratory

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Tel. (909) 590-1828 Fax (909) 590-1498

January 07,2004

CONFORMS
REVIEWER: RC
DATE: 1/8/04

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 03-6623 and your project Crows Landing. Enclosed please find:

(1) Original Final Report.
(2) Original Chain of Custody.
(3) One Original and one compact disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-036623
Collected by: TF
Collected on: 12/16/03

Received: 12/18/03
Extracted: N/A
Tested: 12/18-20/03
Reported: 12/22/03

Sample Description: Water
Project Description: 836557 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(12/16/03) 03-06623-1	117-PZ-01(12/16/03) 03-06623-2	117-TM-05(12/16/03) 03-06623-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	250	253	237
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	7.8	8.8	19.4
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	0.4J	0.4J	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	0.6	0.4J	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	0.8	0.5	1.2
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	0.4J	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1.1	0.5J	1.1
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	1.2	1.5	1.8
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(12/16/03) 03-06623-1	117-PZ-01(12/16/03) 03-06623-2	117-TM-05(12/16/03) 03-06623-3
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	16.2	13.9	1.6
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	0.8	0.7	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	1.1	0.4J	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	53	80	60

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-06(12/16/03) 03-06623-4	117-TM-07(12/16/03) 03-06623-5	117-TM-08(12/16/03) 03-06623-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	248	228	237
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	12.1	<0.5	4.7
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.4J	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.3	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	0.6	1.9
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.7	2.5	3.4
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1.7	0.3J	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-06(12/16/03) 03-06623-4	117-TM-07(12/16/03) 03-06623-5	117-TM-08(12/16/03) 03-06623-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	42.5	1.3	0.6
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	1.2	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	70	<20	<20

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09(12/16/03) 03-06623-7	TB(12/16/03) 03-06623-8
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	250	-

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Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09(12/16/03) 03-06623-7	TB(12/16/03) 03-06623-8
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	7.1	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.7	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.5	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	0.9	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09(12/16/03) 03-06623-7	TB(12/16/03) 03-06623-8
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	2.9	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	0.3J
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	48	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/836557

For Shaw E & I

APCL Service No: 03-6623

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-05(12/16/03)	03-06623-3
117-TM-06(12/16/03)	03-06623-4
117-TM-07(12/16/03)	03-06623-5
117-TM-08(12/16/03)	03-06623-6
117-TM-09(12/16/03)	03-06623-7
117-PZ-01(12/16/03)	03-06623-2
117-EX-03(12/16/03)	03-06623-1
TB(12/16/03)	03-06623-8

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting to revise COC sample ID.

6. Anomaly

(1) Sample receiving/COC:

APCL received COC with listed sample 117-EX-01(12/16/03), however with corresponding container labeled as 117-EX-03(12/16/03). The latter was adopted as valid sample ID.

CHAIN OF CUSTODY

Ref. Document # CL1047

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 836557
Project Name / Location: Crows Landing
Purchase Order #: 205733

Shipment Date: 12/17/2003
Waybill Number: 101809553
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

6623

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-05(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	08:50	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-06(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	09:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-07(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	11:30	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-TM-08(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	11:15	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr (Normal) ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date: 12/17/03 Time: 9 AM	Received By: Golden State Courier	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: 12/18/3 Time: 0940
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # CL1047

Project Number: 836557

Shipment Date: 12/17/2003

Project Name / Location: Crows Landing

6623

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-09(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	14:20	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-PZ-01(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	15:40	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
117-EX-~~01~~ 03TD(12/16/03)	3 month - in-situ O2 UST 117	12/16/2003	13:00	g	GW	3	VOA	X				X				X								
"				g	GW	1	HDPE					X							X					
TB(12/16/03)	Trip blank	12/16/2003	07:00	g	GW	1	VOA	X				X				X								

12/17/03

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

February 09, 2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose Condit

This package contains samples in our Service ID 04-1267 and your project 101454 Crows Landing
Enclosed please find:

(1) Original report;
(2) Oringinal Chain of Custody;
(3) One original and one CD of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 2/18/04

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-041267
Collected by: TF
Collected on: 01/21/04

Received: 01/23/04
Extracted: N/A
Tested: 01/26/04
Reported: 01/29/04

Sample Description: Water from 4th month UST GW
Project Description: 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(1/21/04) 04-01267-1	117-TM-02(1/21/04) 04-01267-2	117-TM-03(1/21/04) 04-01267-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	238	239	236
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	26.0	16.1	7.7
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	1.8	1.5	0.4J
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	0.7	0.6
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	0.8	1.4	1.8
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.8	2.2	0.8
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(1/21/04) 04-01267-1	117-TM-02(1/21/04) 04-01267-2	117-TM-03(1/21/04) 04-01267-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1.7	0.9	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	100	120	35

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(1/21/04) 04-01267-4	117-TM-05(1/21/04) 04-01267-5	117-TM-06(1/21/04) 04-01267-6
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	243	244	250
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	18.9	11.3	8.7
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	0.7
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.6	0.7	0.9
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.8	1.1	0.7
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.4	1.5	1.7
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(1/21/04) 04-01267-4	117-TM-05(1/21/04) 04-01267-5	117-TM-06(1/21/04) 04-01267-6
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	2.2	17.9	38.1
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	0.5J	0.8
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	110	78	87

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(1/21/04) 04-01267-7	117-TM-08(1/21/04) 04-01267-8	117-TM-09(1/21/04) 04-01267-9
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	230	235	251

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(1/21/04) 04-01267-7	117-TM-08(1/21/04) 04-01267-8	117-TM-09(1/21/04) 04-01267-9
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	<0.5	3.5	5.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	0.6
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.6	1.9	0.6
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.2	3.3	1.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	0.3J	0.4J	1.1
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(1/21/04) 04-01267-7	117-TM-08(1/21/04) 04-01267-8	117-TM-09(1/21/04) 04-01267-9
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	<0.5	0.9	6.0
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	12J	54

Component Analyzed	Method	Unit	PQL	Analysis Result FS-01 04-01267-10	TB(1/21/04) 04-01267-11
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	238	-

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result FS-01 04-01267-10	TB(1/21/04) 04-01267-11
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	23.2	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.7	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.7	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.6	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result FS-01 04-01267-10	TB(1/21/04) 04-01267-11
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1.6	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	93	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/4th month UST GW/101454

For Shaw E & I

APCL Service No: 04-1267

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(1/21/04)	04-01267-1
117-TM-02(1/21/04)	04-01267-2
117-TM-03(1/21/04)	04-01267-3
117-TM-04(1/21/04)	04-01267-4
FS-01	04-01267-10
117-TM-05(1/21/04)	04-01267-5
117-TM-06(1/21/04)	04-01267-6
117-TM-07(1/21/04)	04-01267-7
117-TM-08(1/21/04)	04-01267-8
117-TM-09(1/21/04)	04-01267-9
TB(1/21/04)	04-01267-11

2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

1267

CHAIN OF CUSTODY

Ref. Document # FS1000

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925
JS1-22-04
Shipment Date: ~~10~~ 01/22/2004
Waybill Number: Golden State - 102444169
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	09:00	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-02(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	08:50	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-03(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	10:40	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-04(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	11:20	g	GW	3/1	VOA / HDPE	X				X				X			X					
FS-01	4 month - in-situ O2 UST 117	01/21/2004	09:05	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-05(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	12:35	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-06(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	13:30	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-07(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	14:35	g	GW	5/1	VOA / HDPE	X				X				X			X				X	

Special Instructions: *MS/MSD for VOCs only

Turnaround Time: ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day X Standard - 10 Day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Stacy Zenger	01/22/04	09:00	Golden State Courier		
				1/23/04	0900

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

126

Ref. Document # FS1000

Project Number: 101454

Shipment Date: 01/22/2004

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
117-TM-08(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	15:10	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-09(1/21/04)	4 month - in-situ O2 UST 117	01/21/2004	16:35	g	GW	3/1	VOA / HDPE	X				X				X			X					
TB(1/21/04)	Trip Blank	01/21/2004	07:00	g	BW	1	VOA	X				X				X								

01/22/04

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
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February 09,2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 04-1268 and your project 101454 Crows Landing. Enclosed please find:

(1) Original Final Report.
(2) Original Chain of Custody.
(3) One Original and one compact disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 2/11/04

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-041268
Collected by: TF
Collected on: 01/22/04

Received: 01/23/04
Extracted: N/A
Tested: 01/23-26/04
Reported: 01/29/04

Sample Description: Water from 4th Month UST GW
Project Description: 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(1/22/04) 04-01268-1	117-PZ-01(1/22/04) 04-01268-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	250	255

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(1/22/04) 04-01268-1	117-PZ-01(1/22/04) 04-01268-2	TB(1/22/04) 04-01268-3
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	<10	<10
BENZENE	SW8260B	µg/L	0.5	4.7	13.6	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.4J	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.5J	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	0.3J	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	1	0.5J	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(1/22/04) 04-01268-1	117-PZ-01(1/22/04) 04-01268-2	TB(1/22/04) 04-01268-3
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1.2	2.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	1.1	3.7	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	52 [a]	85 [a]	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
[a] Reported as "ND" previously due to the shift of the retention time.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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Case Narrative

Project: Crows Landing/4th Month UST GW/101454

For Shaw E & I

APCL Service No: 04-1268

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-PZ-01(1/22/04)	04-01268-2
117-EX-03(1/22/04)	04-01268-1
TB(1/22/04)	04-01268-3

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting to revise sample ID according to sample label.

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

CHAIN OF CUSTODY

1268

Ref. Document # FS1001

Page 1 of 1

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Shipment Date: 01/22/2004
Waybill Number: 1Z 71V 092 01 9879 0325
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Sampler's Name(s): TF

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-PZ-01(1/22/04)	4 month - in-situ O2 UST 117	01/22/2004	12:10	g	GW	3/1	VOA / HDPE	X				X				X			X					
117-EX-01(1/22/04)	4 month - in-situ O2 UST 117	01/22/2004	13:15	g	GW	3/1	VOA / HDPE					X				X			X					
TB(1/22/04)	Trip Blank	01/22/2004	07:00	g	GW	1	VOA	X				X				X								
		TF	1/22/04																					

Special Instructions:

Turnaround Time: X Standard - 10 Day ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: LEVEL 3

Relinquished By:	Date: 01/22/04 Time: 1600	Received By: Golden State Courier	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: 1/23/04 Time: 0950
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
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March 03, 2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 04-1659 and your project Crows Landing. Enclosed please find:

(1) Original Analytical Report.
(2) Original Chain of Custody.
(3) Original and one Compact Disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: T.D
DATE: 3-8-04

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-041659
Collected by: P.De Ocampo
Collected on: 02/17/04

Received: 02/19/04
Extracted: N/A
Tested: 02/20-23/04
Reported: 03/01/04

Sample Description: Water from O_2 UST 117.
Project Description: 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(2/17/04) 04-01659-1	117-TM-02(2/17/04) 04-01659-2	117-TM-03(2/17/04) 04-01659-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	246	260	226
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	9J	<10	<10
BENZENE	SW8260B	μg/L	0.5	30.5	24.3	9.1
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	3J
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.0	1	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	1.1	1
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.4J	2.4	2.6
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	1.1 [a]	<1.1	<1.1	<1.1
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	3.9	3.1	0.9
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(2/17/04) 04-01659-1	117-TM-02(2/17/04) 04-01659-2	117-TM-03(2/17/04) 04-01659-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	52.8	72.4 (b)	8.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	1.8 (a)	<1.8	<1.8	<1.8
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	0.8	1.1	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	160	150	39

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(2/17/04) 04-01659-4	Analysis Result 117-TM-05(2/17/04) 04-01659-5
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	236	250
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	16.4	15.2
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.3J	0.4J
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.9	0.5J
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.2	1.8
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	1.1 [a]	<1.1	<1.1
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	3.3	2.1
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(2/17/04) 04-01659-4	Analysis Result 117-TM-05(2/17/04) 04-01659-5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	16.6	16.7
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	1.8 [a]	<1.8	<1.8
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	0.4J	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	180	110

Component Analyzed	Method	Unit	PQL	Analysis Result FS-02(2/17/04) 04-01659-6	Analysis Result TB-(2/17/04) 04-01659-7
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	250	-

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Component Analyzed	Method	Unit	PQL	Analysis Result FS-02(2/17/04) 04-01659-6	TB-(2/17/04) 04-01659-7
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	11	<10
BENZENE	SW8260B	μg/L	0.5	23.0	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.0	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	1.1	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.2	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	1.1 [a]	<1.1	<1.1
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.7	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result FS-02(2/17/04) 04-01659-6	TB-(2/17/04) 04-01659-7
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	67.4 [b]	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	1.8 [a]	<1.8	<1.8
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	1.1	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	180	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
[a] MDL reported.
[b] Analyzed with a dilution factor of 2.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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Case Narrative

Project: Crows Landing/101454

For Shaw E & I

APCL Service No: 04-1659

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(2/17/04)	04-01659-1
117-TM-02(2/17/04)	04-01659-2
FS-02(2/17/04)	04-01659-6
117-TM-03(2/17/04)	04-01659-3
117-TM-04(2/17/04)	04-01659-4
117-TM-05(2/17/04)	04-01659-5
TB-(2/17/04)	04-01659-7

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Ref. Document # FS1004

Page 1 of 1

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Shipment Date: 02/18/2004
Waybill Number: 102444170
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Sampler's Name(s): P.DEOCAMPO

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	11:20	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-02(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	12:10	G	GW	3/1	VOA / HDPE	X				X				X			X					
FS-02(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	12:15	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-03(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	13:50	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-04(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	14:45	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-05(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	15:30	G	GW	3/1	VOA / HDPE	X				X				X			X					
TB-(2/17/04)	5 month-in-situ O2 UST 117	02/17/2004	08:00	G	GW	1	VOA	X				X				X								

1659

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr
X Standard - 10 Day ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 2/18/04 Time: 0800	Received By: Golden State Courier	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: 2/19/04 Time: 0825
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
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March 03, 2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 04-1689 and your project Crows Landing. Enclosed please find:

(1) Original Analytical Report.
(2) Original Chain of Custody.
(3) Original and one Compact Disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: T-D
DATE: 3-8-04

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Coudit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-041689
Collected by: P.de Ocampo
Collected on: 02/18/04

Received: 02/20/04
Extracted: N/A
Tested: 02/21-24/04
Reported: 03/01/04

Sample Description: Water from O_2 UST 117.
Project Description: 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(2/18/04) 04-01689-1	117-PZ-01(2/18/04) 04-01689-2	117-TM-06(2/18/04) 04-01689-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	246	246	241
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	3J	<10	3J
BENZENE	SW8260B	μg/L	0.5	2.9	10.7	9.9
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.3J	0.5	0.6
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.4J	0.6	0.7
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.3J	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.9	0.4J	0.6
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1.3	2.0	1.9
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(2/18/04) 04-01689-1	117-PZ-01(2/18/04) 04-01689-2	117-TM-06(2/18/04) 04-01689-3
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	2.2	0.9	15.8
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	63	84	86

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(2/18/04) 04-01689-4	Analysis Result 117-TM-08(2/18/04) 04-01689-5
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	217	246
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	<0.5	2.7
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	1.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	2.7	3.4
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(2/18/04) 04-01689-4	Analysis Result 117-TM-08(2/18/04) 04-01689-5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	0.5	0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	<20

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09(2/18/04) 04-01689-6	Analysis Result TB-(2/18/04) 04-01689-7
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	250	-

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09(2/18/04) 04-01689-6	TB-(2/18/04) 04-01689-7
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	4.5	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.4J	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.6	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	0.4J	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	1.5	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	1	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-09(2/18/04) 04-01689-6	TB-(2/18/04) 04-01689-7
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	3.6	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	51	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/101454

For Shaw E & I

APCL Service No: 04-1689

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-06(2/18/04)	04-01689-3
117-TM-07(2/18/04)	04-01689-4
117-TM-08(2/18/04)	04-01689-5
117-TM-09(2/18/04)	04-01689-6
117-PZ-01(2/18/04)	04-01689-2
117-EX-03(2/18/04)	04-01689-1
TB-(2/18/04)	04-01689-7

2. Analytical Methodology

Samples are analyzed by EPA methods
SW8260B (Volatile organics),
E310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

Ref. Document # FS1005

Page 1 of 1

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925

Shipment Date: 02/19/2004
Waybill Number: GS#102444171
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): P.DEOCAMPO

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-06(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	10:20	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-07(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	11:15	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-08(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	11:55	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-TM-09(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	12:45	G	GW	3/1	VOA / HDPE	X				X				X			X					
117-PZ-01(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	13:30	G	GW	6/2	VOA / HDPE	X				X				X			X				X	
117-EX-03(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	14:15	G	GW	3/1	VOA / HDPE	X				X				X			X					
TB-(2/18/04)	5 month-in-situ O2 UST 117	02/18/2004	08:00	G	GW	1	VOA	X				X				X								

1689

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr
X Standard - 10 Day ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 2/19/04 Time: 0800	Received By: Golden State Courier	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: 2/20/04 Time: 0840
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
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April 13, 2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose Condit

This package contains samples in our Service ID 04-2191 and your project 101454 Crows Landing
Enclosed please find:

(1) Original report;
(2) Oringinal Chain of Custody;
(3) One original and one CD of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 4/26/04

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-042191
Collected by: P.DeOcampo
Collected on: 03/22/04

Received: 03/23/04
Extracted: 03/24/04
Tested: 03/24-25/04
Reported: 03/31/04

Sample Description: Water from 6 month-in-situ O2 UST 117
Project Description: 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(3/22/04) 04-02191-1	117-TM-02(3/22/04) 04-02191-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	246	157
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.17 [a]	0.02J
Dilution Factor				1	1
JET FUEL, JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096 [b]
Dilution Factor				0.96	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096	<0.096
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	µg/L	10	5J	<10
BENZENE	SW8260B	µg/L	0.5	20.2	0.7
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	0.4J	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	0.6	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	0.4J	<0.5
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	0.5J
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	2.4	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-01(3/22/04) 04-02191-1	117-TM-02(3/22/04) 04-02191-2
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	1J
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	4.3	1.3
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	88	<20

Applied P & CH Laboratories
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(3/22/04) 04-02191-3	117-TM-06(3/22/04) 04-02191-4	TB-01(3/22/04) 04-02191-5
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	240	255	-
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.12 [a]	0.11 [a]	<0.05
Dilution Factor				1	1	1
JET FUEL, JP-4	M8015V	mg/L	0.05	<0.05	<0.05	<0.05
Dilution Factor				0.96	0.96	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096 [b]	-
Dilution Factor				0.96	0.96	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096	<0.096	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	5J	<10	<10
BENZENE	SW8260B	μg/L	0.5	16.4	7.4	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.4J	0.5J	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	1.0	0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.7	0.5	<0.5
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	2.4	1.6	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-04(3/22/04) 04-02191-3	117-TM-06(3/22/04) 04-02191-4	TB-01(3/22/04) 04-02191-5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	6.3	5.1	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	89	74	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Not a typical Gasoline or JP-4 pattern.
(b) Sample chromatogram contained isolated peaks at about C11 range and unknown mixture in Gasoline/Diesel range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/6 month-in-situ O2 UST 117/101454

For Shaw E & I

APCL Service No: 04-2191

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-01(3/22/04)	04-02191-1
117-TM-02(3/22/04)	04-02191-2
117-TM-04(3/22/04)	04-02191-3
117-TM-06(3/22/04)	04-02191-4
TB-01(3/22/04)	04-02191-5

2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics),
M8015V (Gasoline),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
M8015V (JP-4),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) M8015V:

Surrogate BFB recoveries in the samples 117-TM-01(3/22/04), 117-TM-04(3/22/04) and 117-TM-06(3/22/04) were outside of control limits due to matrix interference from co-eluting peak, possibly Isopropylbenzene.

CHAIN OF CUSTODY

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Ref. Document # FS1007

21612

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925

Shipment Date: 03/22/2004
Waybill Number: 1Z71V0920195721584
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): P.DeOcampo

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-01(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	10:05	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-01(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	10:05	G	GW	2	Amber					X			X									
117-TM-02(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	11:20	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-02(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	11:20	G	GW	2	Amber					X			X									
117-TM-04(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	13:05	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-04(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	13:05	G	GW	2	Amber					X			X									
117-TM-06(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	14:20	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-06(3/22/04)	6 month-in-situ O2 UST 117	03/22/2004	14:20	G	GW	2	Amber					X			X									

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr
X Standard - 10 Day ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 3/22/04 Time: 1600	Received By:	Date: 3/23/04 Time: 1000
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

Ref. Document # FS1007

Project Number: *101454*

Shipment Date: 03/22/2004

Project Name / Location: *Crows Landing*

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
TB-01(3/22/04)	Trip Blank	03/22/2004	07:00	G	BW	2	VOA	X				X		X		X								

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

April 13, 2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose Condit

This package contains samples in our Service ID 04-2210 and your project 101454 Crows Landing
Enclosed please find:

(1) Original report;
(2) Oringinal Chain of Custody;
(3) One original and one CD of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CONFORMS
REVIEWER: RC
DATE: 4/26/04

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-042210
Collected by: P.DeOcampo
Collected on: 03/23/04

Received: 03/24/04
Extracted: 03/24/04
Tested: 03/24-27/04
Reported: 03/31/04

Sample Description: Water from 6 month-in-situ O2 UST 117
Project Description: 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(3/23/04) 04-02210-1	117-PZ-01(3/23/04) 04-02210-2	117-TM-07(3/23/04) 04-02210-3
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	248	254	225

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(3/23/04) 04-02210-1	117-PZ-01(3/23/04) 04-02210-2
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.05J	0.08 [a]
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				0.96	0.96
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096
Dilution Factor				0.96	0.96
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096 [b]	<0.096 [b]
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	μg/L	10	<10	<10
BENZENE	SW8260B	μg/L	0.5	2.4	8.9
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	0.3J	0.4J
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	0.4J	0.4J
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	0.7	0.4J
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-EX-03(3/23/04) 04-02210-1	117-PZ-01(3/23/04) 04-02210-2
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	1.1	1.9
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	µg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	µg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	µg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	µg/L	0.5	1.6	1.1
P-ISOPROPYLTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	µg/L	1	<1	<1
NAPHTHALENE	SW8260B	µg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	µg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	µg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	µg/L	20	48	64

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(3/23/04) 04-02210-3	FS-01(3/23/04) 04-02210-4	TB-02(3/23/04) 04-02210-5
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	<0.05	0.09 [a]	<0.05
Dilution Factor				1	1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05	<0.05
Dilution Factor				0.96	0.96	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096	<0.096 [b]	-
Dilution Factor				0.96	0.96	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.096	<0.096 [b]	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	µg/L	10	<10	2J	3J
BENZENE	SW8260B	µg/L	0.5	<0.5	9.4	<0.5
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.4J	<0.5
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.4J	<0.5
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	1.1	<0.5	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	3.8	0.4J	0.7
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	1.9	<0.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-07(3/23/04) 04-02210-3	FS-01(3/23/04) 04-02210-4	TB-02(3/23/04) 04-02210-5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	<0.5	1.4	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	<20	76	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Not a typical Gasoline or JP-4 pattern.
(b) Sample chromatogram contained isolated peaks at about C11 range and unknown mixture in Gasoline/Diesel/Motor Oil range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/6 month-in-situ O2 UST 117/101454

For Shaw E & I

APCL Service No: 04-2210

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-07(3/23/04)	04-02210-3
117-PZ-01(3/23/04)	04-02210-2
FS-01(3/23/04)	04-02210-4
117-EX-03(3/23/04)	04-02210-1
TB-02(3/23/04)	04-02210-5

2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics),
M8015V (Gasoline),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
M8015V (JP-4),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

CHAIN OF CUSTODY

2210

Ref. Document # FS1008

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925

Shipment Date: 3/23/04
Waybill Number: 1Z71V0920193721784
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Sampler's Name(s): P.DeOcampo

Sample ID Number	Sample Description	Collection Information Date	Time	Method	Matrix	# of containers	Container type	Preservative HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	TEMPERATURE
117-TM-07(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	09:20	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-07(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	09:20	G	GW	2	Amber					X			X									
117-PZ-01(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	10:15	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-PZ-01(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	10:15	G	GW	2	Amber					X			X									
FS-01(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	10:20	G	GW	5	VOA	X				X		X		X								
FS-01(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	10:20	G	GW	2	Amber					X			X									
117-EX-03(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	11:45	G	GW	10/2	VOA / HDPE	X				X		X		X			X				X	
117-EX-03(3/23/04)	6 month-in-situ O2 UST 117	03/23/2004	11:45	G	GW	4	Amber					X			X								X	

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr
X Standard - 10 Day ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 3/23/04 Time: 1600	Received By:	Date: 3/24/4 Time: 1010
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO =Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

2210

Ref. Document # FS1008

Project Number: 101454

Shipment Date: 03/23/2004

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	Sulfide (EPA 376.2)		USE FOR MS/MSD	Cooler Temperature
TB-02(3/23/04)	Trip Blank	03/23/2004	07:00	G	BW	2	VOA	X				X		X		X								

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

April 12, 2004

Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway,
Concord CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 04-2226 and your project :Project 101454 Crows Landing.
Enclosed please find:

(1) Original Analytical Report.
(2) Original Chain of Custody.
(3) One Original and one compact disc of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

CONFORMS
REVIEWER: ll
DATE: 4/23/04

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Shaw E & I
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)827-5927

Service ID #: 801-042226
Collected by: P.DeOcampo
Collected on: 03/24/04

Received: 03/25/04
Extracted: 03/26/04
Tested: 03/26-30/04
Reported: 04/01/04

Sample Description: Water from 6 month-in-situ O2 UST 117
Project Description: Project 101454 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-03(3/24/04) 04-02226-1	Analysis Result 117-TM-05(3/24/04) 04-02226-2
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	270	243
NITROGEN, TOTAL KJELDAHL	E351.3	mg/L	0.099 [a]	0.20	0.13
ORTHOPHOSPHATE AS P	E365.2	mg/L	0.05	0.0090J	0.029J
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.04J	0.08 [b]
Dilution Factor				1	1
JET FUEL, JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [c]	<0.1 [c]
Dilution Factor				1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	0.02J	<0.1
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	SW8260B	µg/L	10	<10	<10
BENZENE	SW8260B	µg/L	0.5	7.0	11.9
BROMOBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOFORM	SW8260B	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	µg/L	10	<10	<10
N-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.5J
TERT-BUTYLBENZENE	SW8260B	µg/L	0.5	<0.5	0.6
CARBON DISULFIDE	SW8260B	µg/L	10	<10	<10
CARBON TETRACHLORIDE	SW8260B	µg/L	0.5	0.9	<0.5
CHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
CHLOROFORM	SW8260B	µg/L	0.5	2.3	1.3
CHLOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	µg/L	0.5	0.8	1.5
1,1-DICHLOROETHENE	SW8260B	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-03(3/24/04) 04-02226-1	Analysis Result 117-TM-05(3/24/04) 04-02226-2
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	3.8	9.6
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.74 [a]	4.2	3.2
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	34	71

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-08(3/24/04) 04-02226-3	117-TM-09(3/24/04) 04-02226-4	TB-03(3/24/04) 04-02226-5
ALKALINITY	E310.1	mg-$CaCO_3$/L	20	248	250	-
NITROGEN, TOTAL KJELDAHL	E351.3	mg/L	0.099 [a]	0.32	0.32	-
ORTHOPHOSPHATE AS P	E365.2	mg/L	0.05	0.088	0.021J	-
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.04J	0.06 [b]	<0.05
Dilution Factor				1	1	1
JET FUEL, JP-4	M8015V	mg/L	0.05	<0.05	<0.05	<0.05
Dilution Factor				1	1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [c]	<0.1 [c]	-
Dilution Factor				1	1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1	<0.1	-
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	SW8260B	μg/L	10	<10	<10	<10
BENZENE	SW8260B	μg/L	0.5	4.0	4.5	<0.5
BROMOBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE (MEK)	SW8260B	μg/L	10	<10	<10	<10
N-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CARBON DISULFIDE	SW8260B	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	SW8260B	μg/L	0.5	2.1	0.5J	<0.5
CHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	SW8260B	μg/L	0.5	4.1	1.8	0.8
CHLOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	1.1	<0.5
1,1-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-TM-08(3/24/04) 04-02226-3	117-TM-09(3/24/04) 04-02226-4	TB-03(3/24/04) 04-02226-5
CIS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
2-HEXANONE	SW8260B	μg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	SW8260B	μg/L	0.5	<0.5	1.9	<0.5
P-ISOPROPYLTOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	SW8260B	μg/L	0.74 [a]	2.6	3.0	2.3
4-METHYL-2-PENTANONE (MIBK)	SW8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	SW8260B	μg/L	1	<1	<1	<1
NAPHTHALENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	SW8260B	μg/L	0.5	<0.5	<0.5	<0.5
XYLENE (TOTAL)	SW8260B	μg/L	1	<1	<1	<1
T-BUTYL ALCOHOL	SW8260B	μg/L	20	21	57	<20

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
[a] MDL reported.
[b] Not a typical Gasoline or JP-4 pattern.
[c] Sample chromatogram contained isolated peaks at about C11 range and an unknown mixture in Gasoline/Diesel range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/6 month-in-situ O2 UST 117/Project 101454

For Shaw E & I

APCL Service No: 04-2226

1. Sample Identification

The sample identifications are listed in the following table:

Shaw E & I Sample ID	APCL Sample ID
117-TM-03(3/24/04)	04-02226-1
117-TM-05(3/24/04)	04-02226-2
117-TM-08(3/24/04)	04-02226-3
117-TM-09(3/24/04)	04-02226-4
TB-03(3/24/04)	04-02226-5

2. Analytical Methodology

Samples are analyzed by EPA methods

SW8260B (Volatile organics),
M8015V (Gasoline),
M8015V (JP-4),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
E310.1 (Alkalinity),
E351.3 (Nitrogen, Total Kjeldahl (TKN)),
E365.2 (Phosphorus, Orthophosphate),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) SW8260B:

Methylene Chloride was detected in the field samples, in the amounts exceeding the reporting limits. Traces of Methylene Chloride were also detected in the associated Method Blank. Methylene Chloride is a common lab contaminant, and may not be originated from the samples.

CHAIN OF CUSTODY

Shaw

Shaw Environmental and Infrastructure Inc.

4005 Port Chicago Hwy
Concord, CA 94520

Ref. Document # FS1009

Page 1 of 2

2229

Project Number: 101454
Project Name / Location: Crows Landing
Purchase Order #: 14925

Shipment Date: 03/24/2004
Waybill Number: 1Z71V0920191414397
Lab Destination: APCL Chino, CA
Lab Contact Name / ph. #: Hsin-Yi 909-590-1828

Project Manager: Bob Hulet 925-288-9898 (Name & phone #)

Send Report To: Rose Condit
Phone/Fax Number: 925-288-2151
Address: 4005 Port Chicago Hwy
City: Concord, CA, 94520

Sampler's Name(s): P.DeOcampo

Sample ID Number	Sample Description	Collection Information: Date	Time	Method	Matrix	# of containers	Container type	Preservative: HCL	ZnAc	HNO_3	H_2SO_4	Ice		Analyses Requested: TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010B	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	TKN(EPA351.3)	Orthophosphate(EPA 365.2)	USE FOR MS/MSD	TEMPERATURE
117-TM-03(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	08:55	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-03(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	08:55	G	GW	2/2	Amber/Hdpe				X	X			X						X	X		
117-TM-05(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	09:40	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-05(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	09:40	G	GW	2/2	Amber/Hdpe				X	X			X						X	X		
117-TM-08(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	11:15	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-08(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	11:15	G	GW	2/2	Amber/Hdpe				X	X			X						X	X		
117-TM-09(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	12:10	G	GW	5/1	VOA / HDPE	X				X		X		X			X					
117-TM-09(3/24/04)	6 month-in-situ O2 UST 117	03/24/2004	12:10	G	GW	2/2	Amber/Hdpe				X	X			X						X	X		

Special Instructions:

Turnaround Time: ☐ 24-hr ☐ 48-hr
X Standard - 10 Day ☐ 3-day ☐ 5-day

Level Of QC Required: I II III Project Specific: ___ LEVEL 3

Relinquished By:	Date: 3/24/04 Time: 1500	Received By:	Date: 3/25/04 Time: 1000
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:

Method Codes
C = Composite G = Grab

Matrix Codes
DW = Drinking Water SO = Soil
GW = Ground Water SL = Sludge
WW = Waste Water CP = Chip Samples
SW = Surface Water WP = Wipe Samples
LIQ = Other Liquid SOL = Other Solid
GS = Air Sample

CHAIN OF CUSTODY (continued)

2226

Ref. Document # FS1009 .

Project Number: 101454

Shipment Date: 03/24/2004

Project Name / Location: Crows Landing

Sample ID Number	Sample Description	Collection Information			Matrix	# of containers	Container type	Preservative						Analyses Requested										
		Date	Time	Method				HCL	NaOH	HNO_3	H_2SO_4	Ice		TPH - Jet Fuel & gasoline (8015B)	TPH / Diesel & motor oil (8015B)	VOCs (8260B)	Dissolved Metals (Fe & Mn) 6010	Anions (No2, NO3, Cl, SO4)	Alkalinity	TOC (EPA 9060)	TKN(EPA351.3)	Orthophosphate(EPA 365.2)	USE FOR MS/MSD	Cooler Temperature
TB-03(3/24/04)	Trip Blank	03/24/2004	07:00	G	BW	2	VOA	X				X		X		X								

04-2226

Cyto Culture
ENVIRONMENTAL
BIOTECHNOLOGY
CytoCulture International, Inc.
249 Tewksbury Avenue
Pt. Richmond, CA 94801 USA

APC Laboratory
Project Number: **101454**
Project Name: **Crows Landing, SHAW E & I, Inc.**
Project Manager: **Rose Condit, Hsin-Yi Lee**
Address: 13760 Magnolia Avenue
Chino, CA 91710
Telephone: 909-1828 x 113 **Fax:** 909-590-1498
Email: HSINL@APCLAB.com

Reporting Date: **March 31, 2004**
CytoCulture Lab Log-In: **04-44**

Samples: Four water samples on ice were received 03/24/04. The samples were stored at 4°C and were assayed on the same business day. Please see attached chain of custody.

AEROBIC
Hydrocarbon-Degrading and Total Heterotrophic Bacteria Enumeration Assays

Analysis Request: Enumeration of aerobic petroleum hydrocarbon-degrading bacteria (broad range petroleum derived from pasteurized, regular gasoline and diesel No. 2) and total heterotrophic bacteria by method 9215A (HPC)/ Standard Methods 9215B modified.

Carbon Sources: Pasteurized Chevron regular gasoline and diesel No. 2 were dissolved into agar plates as the sole carbon and energy source for the growth of aerobic hydrocarbon-degrading bacteria.

Protocol for Hydrocarbon-Degrading Bacteria: Sterile agar plates (100 x 15 mm) were prepared with minimal salts medium at pH 6.8 with agar and hydrocarbons, without any other carbon sources or nutrients added. Triplicate plates were inoculated with 1.0 ml of each sample (log dilution 10^0) or log dilutions of each sample at 10^{-1}, 10^{-2}, and 10^{-3}. Hydrocarbon plates were counted after 7 days incubation at 30°C. The plate count data are reported as colony forming units (cfu) per milliliter (ml). Each enumeration value represents a statistical average of the plate count data obtained from two of the four inoculating log dilutions assayed.

Protocol for Total Heterotrophic Bacteria: Sterile agar plates (100 x 15 mm) were prepared with minimal salts and 2.35% Difco heterotrophic plate count agar at pH 6.8 without any other

carbon source or nutrients added. Triplicate plates were inoculated with 1.0 ml of sample at log 10^0 and log dilutions of 10^{-1}, 10^{-2}, and 10^{-3}. The heterotrophic plates were counted after 3 days of incubation at 30° C. The plate count data are reported as colony forming units (cfu) per milliliter (ml) of sample. Each enumeration value represents a statistical average of two of the four inoculating log dilutions assayed.

AEROBIC
Hydrocarbon-Degrading and Total Heterotrophic Bacteria Enumeration Assay Results

Client Sample Number	Sample Date	Hydrocarbon Degraders (cfu/ml)	Target Hydrocarbons Tested		Total Heterotrophs (cfu/ml)
117-TM-05	03/24/04	4×10^1	Gasoline/Diesel		4×10^2
117-TM-03	03/24/04	$< 1 \times 10^1$	Gasoline/Diesel		6×10^3
117-TM-08	03/24/04	2×10^2	Gasoline/Diesel		2×10^3
117-TM-09	03/24/04	7×10^1	Gasoline/Diesel		2×10^3
Sterile Water	03/24/04	0	Gasoline/Diesel		0
Air control	03/24/04	0	Gasoline/Diesel		0
Positive Control	03/24/04	6×10^9	Gasoline/Diesel		7×10^9

Reporting Limit for enumeration data is 1.0×10^1 cfu/ml.

A positive control sample of hydrocarbon-degrading bacteria was run concurrently with these samples using a mixed flask culture of bacteria isolated from contaminated groundwater sites in Northern California.

CytoCulture is available on a consulting basis to assist in the interpretation of these data and their application to field bioremediation protocols.

Joselita P. Tablante
Laboratory Technician

Randall von Wedel, Ph.D.
Principal Biochemist

C:\CytoCulture 2004\Cytolab\Lab reports\APC Laboratory\Water 04-44

APC Laboratory

Subcontracted Microbiology Assays
performed by
CytoCulture Environmental Biotechnology
CHAIN OF CUSTODY FORM

04-44

Project Name: Crows Landing Project No.: 101454	APC Laboratory Purchase Order / LOG IN:
Client: Shaw E&I, Inc.	CytoCulture LOG IN #:
Address to Send Results: 13760 Magnolia Avenue Chino, CA 91710	
Email for Sending Data: HSINL@APCLAB.COM	APC Laboratory Project Manager: HSIN-YI LEE
Telephone number for Follow-up: (909) 590-1828 x113 Fax number for Follow-up: (909) 590-1498	APC Laboratory Sampler / Recorder:

Sample I.D.	Sampling				Acrobic Analyses Requested								
	Date	Time	Soil	Water	Hydrocarbon Degrading Bacteria Plate Count	Total Heterotrophic Bacteria Plate Count	pH	DO	NH_3	PO_4	NO_3	SO_4	Indicate Target Hydrocarbon
117-TM-05(3/24/04)	3/24/04	0940		✓	✓	✓							
117-TM-03(3/24/04)	↓	0855		✓	✓	✓							
117-TM-08(3/24/04)	↓	1115		✓	✓	✓							
117-TM-09(3/24/04)	↓	1210		✓	✓	✓							

Chain of Custody Record	Signature of this form constitutes a firm Purchase Order for services.		Payment DUE on Reporting Date.
Relinquished by:	Date/Hr: 3/24/04 1600	Please call CytoCulture to notify our lab of samples being shipped.	*Deliver samples on ice to:* CytoCulture Environmental
Received for CytoCulture Lab by:	Date/Hr: 3/24/04 1600	CytoCulture Lab Services Tel: 510-233-0102 Fax: 510-233-3777	249A Tewksbury Avenue Point Richmond, CA 94801