

SECOR International Incorporated

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ENVIRONMENTAL
PROTECTION
99 DEC -3 AM 9:03

TRANSMITTAL MEMORANDUM

To: NAME COMPANY
 Juliet Shin Alameda County

From: Steve McCabe

Subject: **Quarterly Report**
 575 Paseo Grande, San Lorenzo, California

Date: November 25, 1996

Attached is the Quarterly Report for the Bohannon Site located at 575 Paseo Grande per your request. Results from the sampling of the soil aeration pile are also included. Do not hesitate to call me if you have any questions or require additional information.

November 26, 1996

Mr. Mike Jepsen
David D. Bohannon Organization
60 Hillsdale Mall
San Mateo, California 94403

**RE: Fourth Quarter 1996 Monitoring and Sampling Report
575 Paseo Grande, San Lorenzo, California**

Dear Mr. Jepsen:

SECOR International Incorporated (*SECOR*) is pleased to present the results of the fourth quarter 1996 activities conducted at 575 Paseo Grande (the Site) in San Lorenzo, California (Figures 1 and 2). This report presents the results of the quarterly sampling event conducted on October 8, 1996, as well as the results of soil samples collected from the aerated soil pile which was generated from excavated soil from the former underground storage tank (UST) area.

BACKGROUND

Over the last 25 years, the site has been used as an asphalt paved parking area. The site was a gasoline station prior to 1969. Little information is known about the site history related to its use as a gasoline service station. In anticipation of property redevelopment, initial investigation activities were conducted in March 1995 to determine if out-of-service gasoline service station underground equipment remained on-Site. The work was conducted by Twining Laboratories, Inc. (TLI), as documented in their letter report dated April 15, 1995. The work conducted included a magnetometer survey followed by an exploratory excavation. In summary, the work conducted identified underground gasoline service station equipment which include what appeared to be the former tank pit, approximately 110 feet of fuel delivery system piping, and a grease sump and/or hydraulic lift pit in an area which may have been the former service garage (Figure 2). Field evidence and one soil sample indicated the potential for soil contamination along the piping runs, around the grease sump, and around the inferred location of the former tank pit. Characterization of the magnitude and extent of potential soil contamination was not conducted during initial investigation activities.

In June 1995, *SECOR* conducted additional activities at the Site which included removal of the former UST system piping and the former grease sump, and characterization soil sampling along piping lines and around the former grease sump and former tank pit areas. This work was summarized in *SECOR*'s letter report dated June 29, 1995. The characterization data from this investigation indicated that there were two areas of concern (AOCs) at the Site. These areas were the former grease sump area and the former gasoline distribution system area. *SECOR* subsequently conducted excavation activities in the vicinity of the two AOCs. The soil excavated from the former sump area was transported off-Site for disposal. The soil generated from the UST excavation was treated by means of aeration. Three groundwater monitor wells were installed during the investigation activities to evaluate the degree to which the groundwater had been impacted. The results of the soil characterization and groundwater monitoring activities are reported in *SECOR*'s, "Report of Interim Remedial Actions," dated June 4, 1996.

SCOPE OF WORK

Groundwater Sampling - Quarterly groundwater sampling activities were initiated at the Site pursuant to the request of the Alameda County Health Care Services Agency. The three Site monitoring wells (MW-1, MW-2, and MW-3), were gauged for depth-to-water and sampled on October 8, 1996. Each of the three wells were purged of at least three casing volumes of water prior to sampling. A copy of the field data sheets are presented in Attachment 1. The groundwater samples were submitted to Curtis and Thompkins Analytical Laboratories, a California state-certified laboratory, for the following analyses: total petroleum hydrocarbons as gasoline (TPHg) and heavy chain hydrocarbons (TPH) by modified U.S. Environmental Protection Agency (EPA) Method 8015; benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020; halogenated volatile organic compounds (HVOCs) by EPA Method 8010; and semi-volatile organic compounds (SVOCs) analyses by EPA Method 8270. Additionally, one of the groundwater samples was analyzed for total dissolved solids (TDS) to determine whether the groundwater beneath the site is potable. Copies of the certified analytical reports are presented in Attachment 2. ✓

Aeration Soil Pile Sampling - In June 1996, approximately 550 cubic yards of excavated soil from the former UST area began treatment by means of aeration. The soil was transferred from a stockpile on-Site to 16015 Via Arriba (additional property owned by the David D. Bohannon Organization which is located across the street [Paseo Grande] from the Site) where it was spread out in a layer approximately 1-foot thick. The soil covered an area of approximately 14,500 square feet. The treatment area was enclosed with a locking chain link fence. The soil was aerated in accordance with Bay Area Air Quality Management District Regulation 8, Rule 40 regarding the uncontrolled emission of volatile organics from soil aeration. The soil was turned weekly using a backhoe equipped with a ripping tool for two weeks to enhance and expedite the aeration process. On August 22, 1996, 30 soil samples were collected (approximately one soil sample for every 20 cubic yards) from the aerated soil to confirm that complete aeration of the soil had been achieved. Samples were transferred to Superior Analytical Laboratory, a state-certified laboratory, for TPHg and BTEX analysis by EPA Methods 8015 (modified) and 8020, respectively. Copies of the certified laboratory analytical reports are included in Attachment 3. After receiving laboratory results which confirmed that TPHg and BTEX constituents were not present in the soil, the soil was used as fill material on the 16015 Via Arriba property. The soil was compacted to a minimum of 90 percent compaction during the week of October 21, 1996. Compaction test results are included in Attachment 4. ✓

GROUNDWATER ELEVATION RESULTS

Groundwater elevation data collected on October 8, 1996, is summarized in Table 1. The average depth-to-water at the Site on October 8, 1996, was 7.15 feet below grade. A potentiometric surface map showing the interpreted groundwater surface elevation on October 8, 1996, is presented as Figure 3. The average hydraulic gradient across the Site on October 8, 1996, was approximately 0.005 feet per foot and was toward the west (Figure 3). These results are inconsistent with flow direction results obtained during the prior monitoring event (May 1996). However, elevations obtained during the May 1996 monitoring event were collected shortly after monitoring well installation, and therefore, the groundwater elevations

*last gtr, it was
to Southeast.*

*Same as
last gtr*

in these wells may not have reached equilibrium. Because the hydraulic gradient is relatively flat across the Site, slight discrepancies in depth-to-water measurements can cause an apparent change in the groundwater flow direction. Groundwater measurements collected during the first quarter of 1997 will be used to confirm the groundwater flow direction across the Site.

GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results from samples collected on October 8, 1996, are summarized in Table 2. TPHg was detected in samples collected from the three Site wells (MW-1, MW-2, and MW-3) at 120 micrograms per liter ($\mu\text{g}/\ell$), 8,400 $\mu\text{g}/\ell$, and 1,800 $\mu\text{g}/\ell$, respectively. Benzene was detected in samples collected from monitor wells MW-2 and MW-3 at 530 $\mu\text{g}/\ell$ and 2,700 $\mu\text{g}/\ell$, respectively.

Total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) were detected above the reporting limits in monitor wells MW-2 and MW-3. However, these results were reported by the laboratory to be lighter hydrocarbons than the indicated standard, indicating that they may be degraded gasoline.

HVOC compounds consisting of cis-1,2-dichloroethene (1.9 $\mu\text{g}/\ell$), trichloroethene (3.8 $\mu\text{g}/\ell$), and tetrachloroethane (2.2 $\mu\text{g}/\ell$) were only detected in the sample collected from monitor well MW-1. The detected HVOCs were all below their respective Maximum Contaminant Level (MCL).

SVOC compounds were not detected in monitor well MW-1. Naphthalene and 2-methylnaphthalene were detected at 190 $\mu\text{g}/\ell$ and 26 $\mu\text{g}/\ell$, respectively in monitor well MW-2. The groundwater sample from monitor well MW-3 contained phenol at 17 $\mu\text{g}/\ell$, naphthalene at 9.7 $\mu\text{g}/\ell$, and 2-methylnaphthalene at 110 $\mu\text{g}/\ell$. There are no established MCLs for the detected SVOCs at the Site.

Total dissolved solids were analyzed in the sample from monitor well MW-1 with a reported concentration of 940 mg/ℓ . This value is approaching the upper recommended limit of 1,000 mg/ℓ for drinking water.

↑ But does not exceed the 3,000 ppm given in Board Resolution

SOIL ANALYTICAL RESULTS

Laboratory reports for 30 samples collected from the aerated soil are included in Attachment 3. TPHg and BTEX constituents were below laboratory detection limits in all of the samples analyzed, indicating that the soil had been successfully remediated.

RESPONSE TO SEPTEMBER 12, 1996, LETTER FROM ALAMEDA COUNTY

The following discussion addresses the comments presented in the above referenced letter from Ms. Juliet Shin of the Alameda County Health Care Services Agency.

Comment 1: "Due to the elevated contaminant concentrations identified in all three of the newly installed monitoring wells, this office is requesting that quarterly groundwater monitoring resume at the site. Groundwater samples should be analyzed for TPHg, TPH for heavier hydrocarbon chains, BTEX, halogenated volatile organics (Method 8010), and semi-volatile organics (Method 8270). This office is also requesting that a Total Dissolved Solids (TDS) analysis be conducted on one of the groundwater samples collected in the next sampling event to help determine whether the groundwater beneath the site is potable."

Response 1: Groundwater samples were collected on October 8, 1996, and submitted for the requested analyses. Based on the analytical results, the heavy chain hydrocarbon analyses do not appear necessary. Additionally, because the HVOC detections were below MCLs and no MCLs are established for the SVOC detections, *SECOR* recommends analyzing future samples for TPHg and BTEX only during the quarterly sampling events.

Comment 2: "Although the estimated groundwater flow direction is southeasterly, none of the three on-site monitoring wells are located southeast (i.e., downgradient) of any of the former piping, tanks, or sump areas. Therefore, if groundwater continues to flow towards the southeast in the next two quarterly groundwater monitoring events, at least one additional well will need to be installed southeast of the former excavation areas in order to properly address the downgradient extent of the observed contaminant plume."

Response 2: As discussed above, the groundwater gradient measured on October 8, 1996, was towards the west. This apparent reversal in the gradient direction is likely the result of non-equilibrated conditions during the initial monitoring event (May 1996). Because the groundwater table is relatively flat, minor changes in the groundwater elevation can indicate an erroneous flow direction. The first quarter 1997 groundwater monitoring event should confirm the groundwater flow direction. Based on the October 8, 1996 monitoring data, monitor well MW-3 is located downgradient from the source areas at the Site.

Comment 3: "This office is concerned that Wells MW-1 and MW-2 may not be screened properly. Based on the well logs, groundwater was initially encountered at roughly 12- to 14-feet below ground surface (bgs) in wells MW-1 and MW-2 and then stabilized at approximately 5.5-feet bgs, which implies that the groundwater aquifer is semi-confined. If this is the case and the top of the water bearing zone lies where groundwater was initially identified, then both MW-1 and MW-2 are only screening one to two feet into the aquifer. Additionally, chlorinated hydrocarbons, which tend to sink in the aquifer due to their density, have been identified in these two wells, therefore, the short screened intervals of these wells may not be accessing the full extent of chlorinated hydrocarbons potentially existing in the aquifer. Unless adequate rationalization for the effectiveness of these screened intervals can be submitted, additional screening or wells may be necessary in these locations."

Response 3: During excavation activities conducted at the Site, groundwater was encountered at depths of less than 9 feet bgs in both excavations, indicating that groundwater is flowing at depths greater than 12 to 14 feet bgs as indicated on the logs for monitor wells MW-1 and MW-2. Because it can be difficult to identify the saturated zone from soil samples, it is possible that groundwater is flowing in the sediments above the 12- to 14-foot bgs location where groundwater was recorded on the lithologic logs. There is likely a zone of increased groundwater flow at the 12- to 14-foot depth in the vicinity of monitor wells MW-1 and MW-2; however, it is also likely, based on the amount of groundwater that entered the excavations, that groundwater flow is also occurring at shallower depths. Regarding the sinking of chlorinated solvents, it is true that separate-phase chlorinated solvents do tend to sink, however, dissolved-phase chlorinated solvents are less likely to sink because once dissolved, the density differential is greatly reduced. Additionally, the low concentrations of HVOCs detected at the Site are not suggestive of separate-phase product, indicating that the vertical variation of HVOC concentrations may not be significant. Based on the facts that groundwater is likely flowing above the 12- to 14-foot bgs level in the vicinity of monitor wells MW-1 and MW-2 and that the concentrations of HVOCs detected do not indicate the presence of separate-phase solvents, the screened intervals for monitor wells MW-1 and MW-2 are adequate to monitor groundwater conditions at the Site.

Comment 4: "Lastly, this office is requesting that details of the aeration of excavated soils, including confirmatory soil sample results, be submitted to this office in future quarterly reports."

Response 4: The confirmatory soil sample analytical results are included in Attachment 3.

Mr. Mike Jepsen
David D. Bohannon Organization
November 26, 1996
Page 6

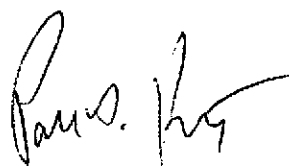
If you have any questions or require more information, please call us at (510) 686-9780.

Sincerely,

SECOR International Incorporated



Steven M. McCabe
Project Hydrogeologist/Project Manager



Paul D. Horton, R.G.
Principal Hydrogeologist

cc: Ms. Juliet Shin, Alameda County Health Care Services Agency

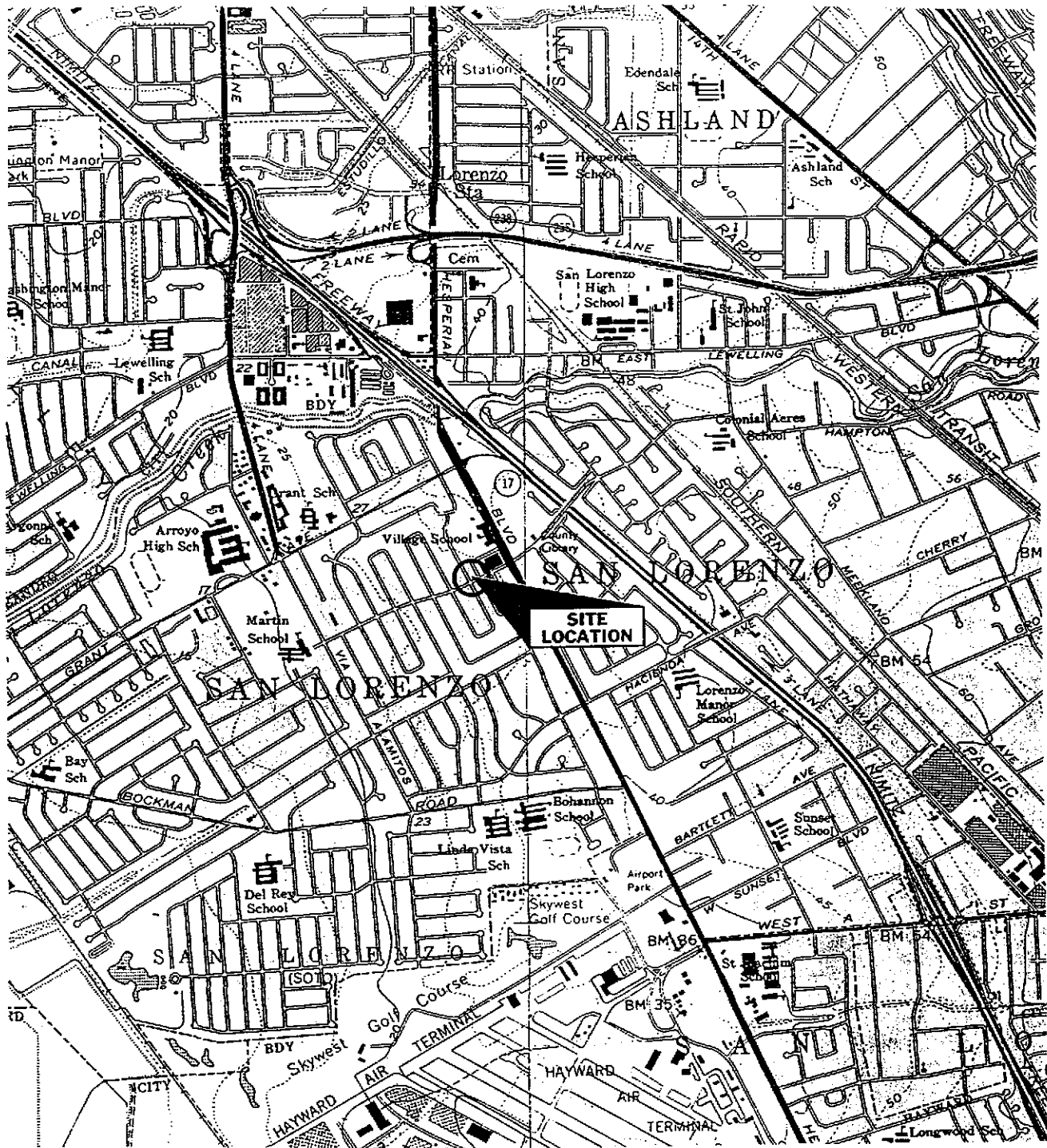
Figure 1 - Site Location Map
Figure 2 - Sample Location Map
Figure 3 - Potentiometric Surface Map

Table 1 - Groundwater Elevation Data
Table 2 - Detected Constituents in Groundwater

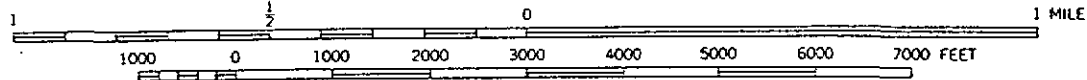
Attachments:

- 1 - Field Data Sheets
- 2 - Laboratory Analytical Reports - Groundwater
- 3 - Laboratory Analytical Reports - Soil
- 4 - Compaction Test Reports

SAN LEANDRO AND HAYWARD QUADRANGLE
 California
 7.5 Minute Series (Topographic)



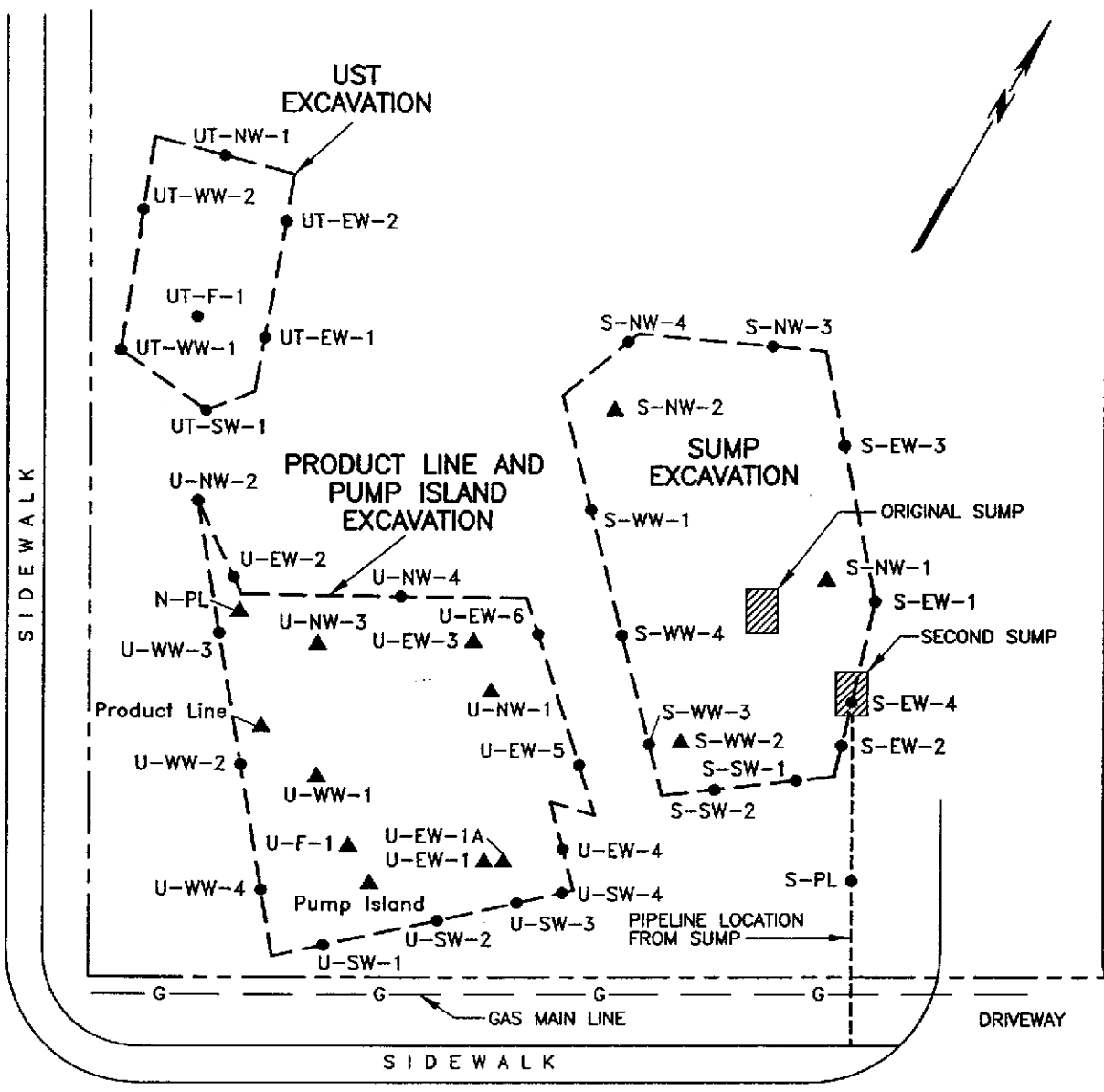
SCALE 1:24000



DRAFTED BY: JLH	CHECKED BY: SM	PROJECT NO. 70074-001	FIGURE 1	SECOR 1390 Willow Pass Road Suite 360 Concord, CA 94520
DWG. DATE: 06-16-95	REV. DATE:			
FILE NAME: slorenz.f01				

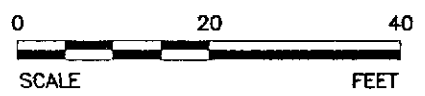
PASEO LARGAVISTA

SIDEWALK



LEGEND:

- ▲ S-SW-2 EXCAVATED SAMPLE LOCATION
- UT-EW-1 SAMPLE LOCATION
- LIMITS OF EXCAVATION
- - - - - APPROXIMATE PROPERTY BOUNDARY



SOURCE: NOLTE AND ASSOCIATES, INC., DATED 1996.

199605.231411 X:\1\JOBS\196\BOHANNON\SNLORENZ\1\SAMPLE

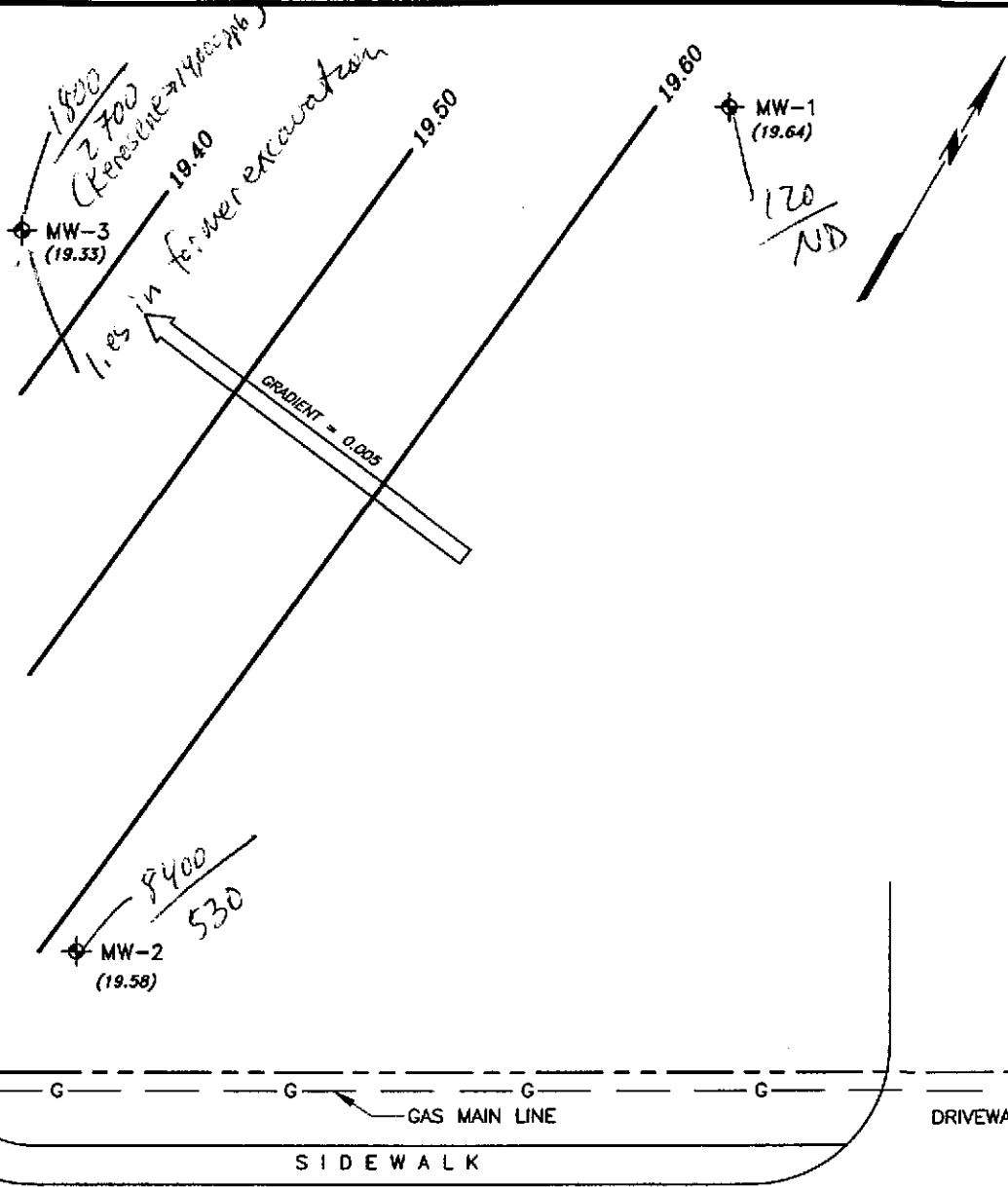
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INCORPORATED

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JOB NO.	70074-001-02

FIGURE 2
DAVID D. BOHANNON ORGANIZATION
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
SAMPLE LOCATION MAP

PASEO LARGAVISTA

SIDEWALK



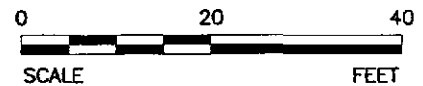
GAS MAIN LINE
DRIVEWAY
SIDEWALK

PASEO GRANDE

7/19 (ppb) H₂O
B

LEGEND:

- MW-1 GROUNDWATER MONITORING WELL
- 19.40 GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- (19.58) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- APPROXIMATE PROPERTY BOUNDARY



SOURCE: NOLTE AND ASSOCIATES, INC., DATED 1996.

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INTERNATIONAL
INCORPORATED

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DATE	13NOV96
JOB NO.	70074-001-02

FIGURE 3
DAVID D. BOHANNON ORGANIZATION
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
**POTENTIOMETRIC SURFACE
MAP - OCTOBER 8, 1996**

Table 1
Groundwater Elevation Data
575 Paseo Grande
San Lorenzo, California

Well I.D.	Date	TOC	DTW	ELEV.
MW-1	10/8/96	27.11	7.47	19.64
MW-2	10/8/96	26.73	7.15	19.58
MW-3	10/8/96	26.15	6.82	19.33

TOC = Top of well casing relative to Mean Sea Level (MSL)

DTW = Depth to Water

ELEV. = Water table elevation above MSL

Table 2
Detected Constituents in Groundwater (ug/l)
October 8 1996
575 Paseo Grande
San Lorenzo, California

Compound	MW-1	MW-2	MW-3
Benzene	<0.5	530	2700
Toluene	<0.5	<50	240
Ethylbenzene	2.7	400	910
Total xylenes	<0.5	360	970
TPH-as-gasoline	120	8400	1800
Kerosene C10-C16	<50	6400 L	14000 L
Diesel C12-C22	<50	840 YL	2800 YL
Motor Oil C22-C50	<300	<300	<900
cis-1,2-Dichloroethene	1.9	<10	<10
Trichloroethene	3.8	<5	<5
Tetrachloroethene	2.2	<5	<5
Total Dissolved Solids	940,000	NA	NA
Phenol	<9.4	<10	17
Naphthalene	<9.4	190	9.7
2-methylnaphthalene	<9.4	26	110

MCL
6 ppb
5 ppb
5 ppb

← PR ts ⇒ 240 ppb (Tap water)

ug/l = micrograms per liter (parts per billion)
L = Lighter hydrocarbons than indicated standard
Y = Sample exhibits fuel pattern which does not resemble standard
NA = Not Analyzed

SECOR International Incorporated
HYDROLOGIC DATA SHEET

Date: 10/8/96 Project: David D. Bohannon Project #: 70074-001-02

Sampler: LZ Page 1 of 1

WELL or LOCATION	TIME	MEASUREMENT				COMMENTS
		TOC	DTW	DTB	DIA	
MW-1	0920		7.47	14.82	2"	9/16", the casing is too high to use the cap.
MW-2	0934		7.15	14.73	2"	9/16"
MW-3	0928		6.82	12.69	2"	9/16"
One drum on-site						

Post-it® Fax Note 7671		Date <u>10/8/96</u>	# of pages <u>5</u>
To <u>Steve</u>	From <u>Liping</u>		
Co./Dept.	Co.		
Phone #	Phone #		
Fax #	Fax #		

TOC = Top of Well Casing Elevation
 DTW = Depth to Groundwater Below TOC
 DTB = Depth to Bottom of Well Casing Below TOC
 DIA = Well Casing Diameter
 ELEV = Groundwater Elevation

SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70074-001-02
 PURGED BY: LR
 SAMPLED BY: LR

WELL ID: MW-1
 SAMPLE ID: MW-1
 CLIENT NAME: David D. Robinson
 LOCATION: San Lorenzo, CA

TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER (inches): 2 3 _____ 4 _____ 4.5 _____ 6 _____ Other _____

CASING ELEVATION: (feet/MSL): _____	VOLUME IN CASING (gal) <u>1.3</u>
DEPTH TO WATER (feet): <u>7.47</u>	CALCULATED PURGE (gal) <u>3.9</u>
DEPTH OF WELL (feet): <u>14.82</u>	ACTUAL PURGE VOL (gal) <u>4.0</u>

DATE PURGED: 10/8/96 Start (2400 Hr) 0950 End (2400 Hr) 1000
 DATE SAMPLED: 10/8/96 Start (2400 Hr) _____ End (2400 Hr) 1005

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): _____

FIELD MEASUREMENTS						
TIME (2400 Hr)	VOLUME (gal)	pH (ratio)	E.C. (umho/cm@25°C)	TEMPERATURE (°F)	COLOR (PtCo)	TURBIDITY (NTU) visual
<u>0954</u>	<u>1.3</u>	<u>7.86</u>	<u>1592</u>	<u>81.8</u>	<u>Tan</u>	<u>High</u>
<u>0957</u>	<u>2.6</u>	<u>7.49</u>	<u>1531</u>	<u>80.3</u>	<u>v</u>	<u>v</u>
<u>1000</u>	<u>4.0</u>	<u>7.44</u>	<u>1533</u>	<u>78.5</u>	<u>v</u>	<u>v</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

D.O. (ppm): _____ COLOR, COBALT (0-100): _____

ODOR: _____

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
_____ 2" Bladder Pump	_____ Bailor (Teflon®)	_____ 2" Bladder Pump	_____ Bailor (Teflon®)
_____ Centrifugal Pump	_____ Bailor (PVC)	_____ DDL Sampler <input checked="" type="checkbox"/>	_____ Bailor (PVC (disposable))
_____ Submersible Pump	_____ Bailor (Stainless Steel)	_____ Submersible Pump	_____ Bailor (Stainless Steel)
_____ Well Wizard™	_____ Dedicated	_____ Well Wizard™	_____ Dedicated
Other: <u>Disposable Bailor</u>		Other: _____	

WELL INTEGRITY: Good LOCK #: _____

REMARKS: _____

SIGNATURE: [Signature] Page 1 of 1

SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70074-001-02
PURGED BY: LB
SAMPLED BY: LT

WELL ID: MW-2
SAMPLE ID: MW-2
CLIENT NAME: David D. Baharwan
LOCATION: San Lorenzo, CA

TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____
CASING DIAMETER (inches): 2 3 _____ 4 _____ 4.5 _____ 6 _____ Other _____

CASING ELEVATION: (feet/MSL): _____	VOLUME IN CASING (gal): <u>1.3</u>
DEPTH TO WATER (feet): <u>7.15</u>	CALCULATED PURGE (gal): <u>3.9</u>
DEPTH OF WELL (feet): <u>14.73</u>	ACTUAL PURGE VOL (gal): <u>4.0</u>

DATE PURGED: 10/8/96 Start (2400 Hr) 1112 End (2400 Hr) 1128
DATE SAMPLED: 10/8/96 Start (2400 Hr) _____ End (2400 Hr) 1135

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): _____

FIELD MEASUREMENTS						
TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR (Pt-Co)	TURBIDITY (NTU) visual
<u>1118</u>	<u>1.3</u>	<u>8.08</u>	<u>1889</u>	<u>79.1</u>	<u>Gray</u>	<u>High</u>
<u>1123</u>	<u>2.6</u>	<u>7.70</u>	<u>1795</u>	<u>76.6</u>	<u>✓</u>	<u>✓</u>
<u>1128</u>	<u>4.0</u>	<u>7.58</u>	<u>1820</u>	<u>76.0</u>	<u>✓</u>	<u>✓</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

D.O. (ppm): _____ COLOR, COBALT (0-100): _____
ODOR: Strong chemical odor
Clear
Cloudy
Yellow
Brown

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
_____ 2" Bladder Pump	_____ Bailor (Teflon®)	_____ 2" Bladder Pump	_____ Bailor (Teflon®)
_____ Centrifugal Pump	_____ Bailor (PVC)	_____ DDL Sampler <input checked="" type="checkbox"/>	_____ Bailor (PVC (disposable))
_____ Submersible Pump	_____ Bailor (Stainless Steel)	_____ Submersible Pump	_____ Bailor (Stainless Steel)
_____ Well Wizard™	_____ Dedicated	_____ Well Wizard™	_____ Dedicated
Other: <u>Disposable Bailor</u>		Other: _____	

WELL INTEGRITY: Good LOCK #: 0909
REMARKS: _____

SIGNATURE: [Signature] Page 1 of 1

SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70074-001-02
 PURGED BY: LB
 SAMPLED BY: LB

WELL ID: MW-3
 SAMPLE ID: MW-3
 CLIENT NAME: David D. Babanien
 LOCATION: San Lorenzo, CA

TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____
 CASING DIAMETER (inches): 2 3 _____ 4 _____ 4.5 _____ 6 _____ Other _____

CASING ELEVATION: (feet/MSL): _____	VOLUME IN CASING (gal) <u>1.0</u>
DEPTH TO WATER (feet): <u>6.82</u>	CALCULATED PURGE (gal) <u>3.0</u>
DEPTH OF WELL (feet): <u>12.69</u>	ACTUAL PURGE VOL (gal) <u>3.0</u>

DATE PURGED: 10/8/96 Start (2400 Hr) 1016 End (2400 Hr) 1041
 DATE SAMPLED: 10/8/96 Start (2400 Hr) _____ End (2400 Hr) 1041

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): _____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (unit)	EC (micro/cm @ 25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NEU) visual
<u>1020</u>	<u>1.0</u>	<u>8.17</u>	<u>1436</u>	<u>76.7</u>	<u>Dark Gray</u>	<u>High</u>
<u>1032</u>	<u>2.0</u>	<u>7.66</u>	<u>1405</u>	<u>75.5</u>	<u>✓</u>	<u>✓</u>
<u>1041</u>	<u>3.0</u>	<u>7.65</u>	<u>1403</u>	<u>75.0</u>	<u>✓</u>	<u>✓</u>
_____	_____	_____	_____	_____	_____	_____

D.O. (ppm): _____ COLOR, COBALT (0-100): _____
 ODOR: Strong Chemical Odor
 Clear _____
 Cloudy _____
 Yellow _____
 Brown _____

PURGING EQUIPMENT

SAMPLING EQUIPMENT

_____ 2" Bladder Pump _____ Bailor (Teflon®)
 _____ Centrifugal Pump _____ Bailor (PVC)
 _____ Submersible Pump _____ Bailor (Stainless Steel)
 _____ Well Wizard™ _____ Dedicated

_____ 2" Bladder Pump _____ Bailor (Teflon®)
 _____ DDL Sampler Bailor (PVC) (Disposable)
 _____ Submersible Pump _____ Bailor (Stainless Steel)
 _____ Well Wizard™ _____ Dedicated

Other: Disposable Bailor

Other: _____

WELL INTEGRITY: Good LOCK #: 0909

REMARKS: _____

Shine on water surface

SIGNATURE: [Signature] Page 1 of 1

SECOR Chain-of Custody Record

Field Office: Concord
 Address: 1390 Willow Pass Road Suite 360
Concord, CA 94520

Additional documents are attached, and are a part of this Record.
 Job Name: David D. Bohannon Organization
 Location: San Lorenzo, CA

Project # 70074-00/-02 Task # _____
 Project Manager Steve McCabe
 Laboratory Curtis Thompson
 Turnaround Time Standard

Sampler's Name Liping Zhang
 Sampler's Signature [Signature]

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPH/6TEX/WTPH-G 8015 (modified)/8020	TPH/8/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 802/8020	Volatile Organics 824/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Hydrocarbon Scan EPA Method 8010 Total Dissolved Solids	Comments/ Instructions	Number of Containers
MW-1	10/8	1005	Water		X					X	X					X		9
MW-2	↓	1135	↓		X					X	X					X	X	9
MW-3	↓	1045	↓		X					X	X					X		9

Special Instructions/Comments:

Relinquished by: _____
 Sign [Signature]
 Print Liping Zhang
 Company SECOR
 Time _____ Date _____

Relinquished by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Received by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Received by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Sample Receipt

Total no. of containers:	27
Chain of custody seals:	
Rec'd. in good condition/cold:	
Conforms to record:	
Client:	<u>SECOR</u>
Client Contact:	<u>Steve McCabe</u>
Client Phone:	<u>(510) 686-9780</u>

10/08/96 TUE 15:33 FAX 1 415 882 1673

CONCORD



TVH-Total Volatile Hydrocarbons

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127091-001	MW-1	30325	10/08/96	10/12/96	10/12/96	
127091-002	MW-2	30325	10/08/96	10/12/96	10/12/96	
127091-003	MW-3	30356	10/08/96	10/15/96	10/15/96	

Matrix: Water

Analyte	Units	127091-001	127091-002	127091-003
Diln Fac:		1	100	15
Gasoline	ug/L	120	8400	1800
Surrogate				
Trifluorotoluene	%REC	91	91	95
Bromobenzene	%REC	80	79	92



BTXE

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127091-001	MW-1	30325	10/08/96	10/12/96	10/12/96	
127091-002	MW-2	30325	10/08/96	10/12/96	10/12/96	
127091-003	MW-3	30356	10/08/96	10/15/96	10/15/96	

Matrix: Water

Analyte	Units	127091-001	127091-002	127091-003
Diln Fac:		1	100	15
Benzene	ug/L	<0.5	530	2700
Toluene	ug/L	<0.5	<50	240
Ethylbenzene	ug/L	2.7	400	910
m,p-Xylenes	ug/L	<0.5	360	860
o-Xylene	ug/L	<0.5	<50	110
Surrogate				
Trifluorotoluene	%REC	98	99	106
Bromobenzene	%REC	95	95	102



Lab #: 127091

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 30325
Units: ug/L
Diln Fac: 1

Prep Date: 10/12/96
Analysis Date: 10/12/96

MB Lab ID: QC32391

Analyte	Result		
Gasoline	<50		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	83	69-120	
Bromobenzene	70	70-122	



Lab #: 127091

BATCH QC REPORT

BTXE

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 30325
Units: ug/L
Diln Fac: 1

Prep Date: 10/12/96
Analysis Date: 10/12/96

MB Lab ID: QC32391

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	90	58-130
Bromobenzene	83	62-131



Lab #: 127091

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 30356
Units: ug/L
Diln Fac: 1

Prep Date: 10/15/96
Analysis Date: 10/15/96

MB Lab ID: QC32517

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	86	69-120
Bromobenzene	70	70-122



Lab #: 127091

BATCH QC REPORT

BTXE			
Client: Secor		Analysis Method: EPA 8020	
Project#: 70074-001-02		Prep Method: EPA 5030	
Location: Bohannon Development			
METHOD BLANK			
Matrix: Water		Prep Date: 10/15/96	
Batch#: 30356		Analysis Date: 10/15/96	
Units: ug/L			
Diln Fac: 1			

MB Lab ID: QC32517

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	96	58-130
Bromobenzene	88	62-131



Lab #: 127091

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 30325
Units: ug/L
Diln Fac: 1

Prep Date: 10/11/96
Analysis Date: 10/11/96

LCS Lab ID: QC32392

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2041	2000	102	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	89	69-120		
Bromobenzene	97	70-122		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

BTXE	
Client: Secor	Analysis Method: EPA 8020
Project#: 70074-001-02	Prep Method: EPA 5030
Location: Bohannon Development	
LABORATORY CONTROL SAMPLE	
Matrix: Water	Prep Date: 10/11/96
Batch#: 30325	Analysis Date: 10/11/96
Units: ug/L	
Diln Fac: 1	

LCS Lab ID: QC32393

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	16.5	20	83	80-120
Toluene	17.9	20	90	80-120
Ethylbenzene	18	20	90	80-120
m,p-Xylenes	36.4	40	91	80-120
o-Xylene	18	20	90	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	92	58-130		
Bromobenzene	85	62-131		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 127091

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client: Secor	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 70074-001-02	Prep Method: EPA 5030		
Location: Bohannon Development			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 10/15/96		
Batch#: 30356	Analysis Date: 10/15/96		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC32518

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2062	2000	103	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	79	69-120		
Bromobenzene	84	70-122		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

BTXE

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 30356
Units: ug/L
Diln Fac: 1

Prep Date: 10/15/96
Analysis Date: 10/15/96

LCS Lab ID: QC32519

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.9	20	95	80-120
Toluene	20.2	20	101	80-120
Ethylbenzene	19.8	20	99	80-120
m,p-Xylenes	41	40	103	80-120
o-Xylene	20.3	20	102	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	98	58-130		
Bromobenzene	91	62-131		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 127091

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Secor	Analysis Method: CA LUFT (EPA 8015M)
Project#: 70074-001-02	Prep Method: EPA 5030
Location: Bohannon Development	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: MW-1	Sample Date: 10/08/96
Lab ID: 127091-001	Received Date: 10/09/96
Matrix: Water	Prep Date: 10/12/96
Batch#: 30325	Analysis Date: 10/12/96
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC32394

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	122.1	2128	106	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	96	69-120			
Bromobenzene	91	70-122			

MSD Lab ID: QC32395

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2200	110	75-125	3	20
Surrogate	%Rec	Limits				
Trifluorotoluene	98	69-120				
Bromobenzene	94	70-122				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits



Lab #: 127091

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Secor
 Project#: 70074-001-02
 Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 127058-012
 Matrix: Water
 Batch#: 30356
 Units: ug/L
 Diln Fac: 1

Sample Date: 10/04/96
 Received Date: 10/04/96
 Prep Date: 10/15/96
 Analysis Date: 10/15/96

MS Lab ID: QC32520

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	1403	3136	87	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	88	69-120			
Bromobenzene	90	70-122			

MSD Lab ID: QC32521

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	3142	87	75-125	0	20
Surrogate	%Rec	Limits				
Trifluorotoluene	90	69-120				
Bromobenzene	93	70-122				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits



Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-1
Lab ID: 127091-001
Matrix: Water
Batch#: 30333
Units: ug/L
Diln Fac: 1

Sampled: 10/08/96
Received: 10/09/96
Extracted: 10/15/96
Analyzed: 10/15/96

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	1.9	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	3.8	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	2.2	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Recovery	Recovery Limits
Toluene-d8	109	87-125
Bromofluorobenzene	84	79-122
1,2-Dichloroethane-d4	101	68-126

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-2
Lab ID: 127091-002
Matrix: Water
Batch#: 30333
Units: ug/L
Diln Fac: 5

Sampled: 10/08/96
Received: 10/09/96
Extracted: 10/15/96
Analyzed: 10/15/96

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	100
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
Bromoform	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Surrogate	%Recovery	Recovery Limits
Toluene-d8	102	87-125
Bromofluorobenzene	82	79-122
1,2-Dichloroethane-d4	92	68-126



Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-3
Lab ID: 127091-003
Matrix: Water
Batch#: 30357
Units: ug/L
Diln Fac: 10

Sampled: 10/08/96
Received: 10/09/96
Extracted: 10/15/96
Analyzed: 10/15/96

Analyte	Result	Reporting Limit
Chloromethane	ND	20
Bromomethane	ND	20
Vinyl Chloride	ND	20
Chloroethane	ND	20
Methylene Chloride	ND	200
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
cis-1,2-Dichloroethene	ND	10
trans-1,2-Dichloroethene	ND	10
Chloroform	ND	10
Freon 113	ND	10
1,2-Dichloroethane	ND	10
1,1,1-Trichloroethane	ND	10
Carbon Tetrachloride	ND	10
Bromodichloromethane	ND	10
1,2-Dichloropropane	ND	10
cis-1,3-Dichloropropene	ND	10
Trichloroethene	ND	10
1,1,2-Trichloroethane	ND	10
trans-1,3-Dichloropropene	ND	10
Dibromochloromethane	ND	10
Bromoform	ND	20
Tetrachloroethene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
Chlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1,2-Dichlorobenzene	ND	10

Surrogate	%Recovery	Recovery Limits
Toluene-d8	100	87-125
Bromofluorobenzene	85	79-122
1,2-Dichloroethane-d4	90	68-126



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics
EPA 8010 Analyte ListClient: Secor
Project#: 70074-001-02
Location: Bohannon DevelopmentAnalysis Method: EPA 8240
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 30333
Units: ug/L
Diln Fac: 1Prep Date: 10/14/96
Analysis Date: 10/14/96

MB Lab ID: QC32433

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
Toluene-d8	100	87-125
Bromofluorobenzene	91	79-122
1,2-Dichloroethane-d4	91	68-126



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics
EPA 8010 Analyte ListClient: Secor
Project#: 70074-001-02
Location: Bohannon DevelopmentAnalysis Method: EPA 8240
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 30357
Units: ug/L
Diln Fac: 1Prep Date: 10/15/96
Analysis Date: 10/15/96

MB Lab ID: QC32524

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Rec	Recovery Limits
Toluene-d8	99	87-125
Bromofluorobenzene	87	79-122
1,2-Dichloroethane-d4	93	68-126



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8240
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 30333
Units: ug/L
Diln Fac: 1

Prep Date: 10/14/96
Analysis Date: 10/14/96

LCS Lab ID: QC32432

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	42.88	50	86	51-180
Trichloroethene	49.24	50	99	73-141
Chlorobenzene	49.95	50	100	83-129
Surrogate	%Rec	Limits		
Toluene-d8	101	87-125		
Bromofluorobenzene	91	79-122		
1,2-Dichloroethane-d4	91	68-126		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8240
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 30357
Units: ug/L
Diln Fac: 1

Prep Date: 10/15/96
Analysis Date: 10/15/96

LCS Lab ID: QC32523

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	41.63	50	83	51-180
Trichloroethene	49.73	50	100	73-141
Chlorobenzene	49.62	50	99	83-129
Surrogate	%Rec	Limits		
Toluene-d8	101	87-125		
Bromofluorobenzene	89	79-122		
1,2-Dichloroethane-d4	91	68-126		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics

Client: Secor
 Project#: 70074-001-02
 Location: Bohannon Development

Analysis Method: EPA 8240
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 127114-001
 Matrix: Water
 Batch#: 30333
 Units: ug/L
 Diln Fac: 1

Sample Date: 10/10/96
 Received Date: 10/11/96
 Prep Date: 10/14/96
 Analysis Date: 10/14/96

MS Lab ID: QC32474

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	0	44.28	89	51-180
Trichloroethene	50	0.2661	45.35	90	73-141
Chlorobenzene	50	0	46.75	94	83-129
Surrogate	%Rec	Limits			
Toluene-d8	101	87-125			
Bromofluorobenzene	89	79-122			
1,2-Dichloroethane-d4	92	68-126			

MSD Lab ID: QC32475

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	44.46	89	51-180	0	22
Trichloroethene	50	44.86	89	73-141	1	24
Chlorobenzene	50	46.75	94	83-129	0	21
Surrogate	%Rec	Limits				
Toluene-d8	102	87-125				
Bromofluorobenzene	89	79-122				
1,2-Dichloroethane-d4	93	68-126				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 3 outside limits

Spike Recovery: 0 out of 6 outside limits



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics

Client: Secor
 Project#: 70074-001-02
 Location: Bohannon Development

Analysis Method: EPA 8240
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 127093-026
 Matrix: Water
 Batch#: 30357
 Units: ug/L
 Diln Fac: 1

Sample Date: 10/08/96
 Received Date: 10/09/96
 Prep Date: 10/15/96
 Analysis Date: 10/15/96

MS Lab ID: QC32528

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<1	45.28	91	51-180
Trichloroethene	50	270.7	>LR	NM	73-141
Chlorobenzene	50	<1	46.77	94	83-129
Surrogate	%Rec	Limits			
Toluene-d8	101	87-125			
Bromofluorobenzene	85	79-122			
1,2-Dichloroethane-d4	93	68-126			

MSD Lab ID: QC32529

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	42.77	86	51-180	6	22
Trichloroethene	50	>LR	NM	73-141	NM	24
Chlorobenzene	50	47.04	94	83-129	1	21
Surrogate	%Rec	Limits				
Toluene-d8	103	87-125				
Bromofluorobenzene	86	79-122				
1,2-Dichloroethane-d4	93	68-126				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 3 outside limits

Spike Recovery: 0 out of 6 outside limits

NM: Not meaningful

LR: Over linear range

DO: Surrogate diluted out



TEH-Tot Ext Hydrocarbons

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127091-001	MW-1	30324	10/08/96	10/11/96	10/14/96	
127091-002	MW-2	30324	10/08/96	10/11/96	10/14/96	
127091-003	MW-3	30324	10/08/96	10/11/96	10/15/96	

Matrix: Water

Analyte	Units	127091-001	127091-002	127091-003
Diln Fac:		1	1	3
Kerosene C10-C16	ug/L	<50	6400 L	14000 L
Diesel C12-C22	ug/L	<50	840 YL	2800 YL
Motor Oil C22-C50	ug/L	<300	<300	<900
Surrogate				
Hexacosane	%REC	97	97	92

Y: Sample exhibits fuel pattern which does not resemble standard

L: Lighter hydrocarbons than indicated standard



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 30324
Units: ug/L
Diln Fac: 1

Prep Date: 10/11/96
Analysis Date: 10/14/96

MB Lab ID: QC32388

Analyte	Result
Kerosene C10-C16	<50
Diesel C12-C22	<50
Motor Oil C22-C50	<300

Surrogate	%Rec	Recovery Limits
Hexacosane	102	60-140



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Secor
 Project#: 70074-001-02
 Location: Bohannon Development

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 30324
 Units: ug/L
 Diln Fac: 1

Prep Date: 10/11/96
 Analysis Date: 10/13/96

BS Lab ID: QC32389

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	1742	70	60-140
Surrogate	%Rec	Limits		
Hexacosane	95	60-140		

BSD Lab ID: QC32390

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	1780	72	60-140	2	35
Surrogate	%Rec	Limits				
Hexacosane	94	60-140				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

LABORATORY NUMBER: 127091
CLIENT: SECOR
PROJECT #: 70074-001-02
LOCATION: Bohannon Development



Curtis & Tompkins, Ltd.

DATE SAMPLED: 10/08/96
DATE RECEIVED: 10/09/96
DATE ANALYZED: 10/15/96
QC Batch: 30359

=====
ANALYSIS: TOTAL DISSOLVED SOLIDS
ANALYSIS METHOD: EPA 160.1
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
127091-001	MW-1	940	mg/L	10
127091-METHOD	BLANK	ND	mg/L	10.0

ND = Not detected at or above reporting limit.

QA/QC Summary: Sample Duplicate of 127091-001

=====
RPD, %

1
=====

OCT 22 1996



Semivolatile Organics by GC/MS

Client: Secor	Analysis Method: EPA 8270
Project#: 70074-001-02	Prep Method: EPA 3520
Location: Bohannon Development	

Field ID: MW-1	Sampled: 10/08/96
Lab ID: 127091-001	Received: 10/09/96
Matrix: Water	Extracted: 10/12/96
Batch#: 30328	Analyzed: 10/15/96
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: MW-1	Sampled: 10/08/96
Lab ID: 127091-001	Received: 10/09/96
Matrix: Water	Extracted: 10/12/96
Batch#: 30328	Analyzed: 10/15/96
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	86	21-110
Phenol-d5	99	10-110
2,4,6-Tribromophenol	88	10-123
Nitrobenzene-d5	93	35-114
2-Fluorobiphenyl	94	43-116
Terphenyl-d14	44	33-141



Semivolatile Organics by GC/MS

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-2
Lab ID: 127091-002
Matrix: Water
Batch#: 30328
Units: ug/L
Diln Fac: 1

Sampled: 10/08/96
Received: 10/09/96
Extracted: 10/12/96
Analyzed: 10/15/96

Analyte	Result	Reporting Limit
Phenol	ND	10
2-Chlorophenol	ND	10
Benzyl alcohol	ND	10
2-Methylphenol	ND	10
4-Methylphenol	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
2,4-Dichlorophenol	ND	10
4-Chloro-3-methylphenol	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	50
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
4,6-Dinitro-2-methylphenol	ND	50
Pentachlorophenol	ND	50
N-Nitrosodimethylamine	ND	10
Aniline	ND	10
bis(2-Chloroethyl)ether	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1,2-Dichlorobenzene	ND	10
bis(2-Chloroisopropyl) ether	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
bis(2-Chloroethoxy)methane	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	190	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
2-Methylnaphthalene	26	10
Hexachlorocyclopentadiene	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10



Semivolatile Organics by GC/MS

Field ID: MW-2	Sampled: 10/08/96
Lab ID: 127091-002	Received: 10/09/96
Matrix: Water	Extracted: 10/12/96
Batch#: 30328	Analyzed: 10/15/96
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	83	21-110
Phenol-d5	97	10-110
2,4,6-Tribromophenol	88	10-123
Nitrobenzene-d5	101	35-114
2-Fluorobiphenyl	73	43-116
Terphenyl-d14	51	33-141



Semivolatile Organics by GC/MS

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-3
Lab ID: 127091-003
Matrix: Water
Batch#: 30328
Units: ug/L
Diln Fac: 1

Sampled: 10/08/96
Received: 10/09/96
Extracted: 10/12/96
Analyzed: 10/15/96

Analyte	Result	Reporting Limit
Phenol	17	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	9.7	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	110	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: MW-3	Sampled: 10/08/96
Lab ID: 127091-003	Received: 10/09/96
Matrix: Water	Extracted: 10/12/96
Batch#: 30328	Analyzed: 10/15/96
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	83	21-110
Phenol-d5	83	10-110
2,4,6-Tribromophenol	70	10-123
Nitrobenzene-d5	109	35-114
2-Fluorobiphenyl	34*	43-116
Terphenyl-d14	22*	33-141

* Values outside of QC limits



Lab #: 127091

BATCH QC REPORT

Page 1 of 2

EPA 8270 Semi-Volatile Organics

Client: Secor
Project#: 70074-001-02
Location: Bohannon Development

Analysis Method: EPA 8270
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 30328
Units: ug/L
Diln Fac: 1

Prep Date: 10/12/96
Analysis Date: 10/14/96

MB Lab ID: QC32406

Analyte	Result	Reporting Limit
Phenol	ND	10
2-Chlorophenol	ND	10
Benzyl alcohol	ND	10
2-Methylphenol	ND	10
4-Methylphenol	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
2,4-Dichlorophenol	ND	10
4-Chloro-3-methylphenol	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	50
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
4,6-Dinitro-2-methylphenol	ND	50
Pentachlorophenol	ND	10
N-Nitrosodimethylamine	ND	10
Aniline	ND	10
bis(2-Chloroethyl)ether	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1,2-Dichlorobenzene	ND	10
bis(2-Chloroisopropyl) ether	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
bis(2-Chloroethoxy)methane	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50



Lab #: 127091

BATCH QC REPORT

Page 2 of 2

EPA 8270 Semi-Volatile Organics

Client: Secor
 Project#: 70074-001-02
 Location: Bohannon Development

Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
 Batch#: 30328
 Units: ug/L
 Diln Fac: 1

Prep Date: 10/12/96
 Analysis Date: 10/14/96

MB Lab ID: QC32406

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	7.8J	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Surrogate	%Rec	Recovery Limits
2-Fluorophenol	91	21-110
Phenol-d5	99	10-110
2,4,6-Tribromophenol	84	10-123
Nitrobenzene-d5	91	35-114
2-Fluorobiphenyl	102	43-116
Terphenyl-d14	93	33-141



Lab #: 127091

BATCH QC REPORT

Page 1 of 1

EPA 8270 Semi-Volatile Organics

Client: Secor
 Project#: 70074-001-02
 Location: Bohannon Development

Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 30328
 Units: ug/L
 Diln Fac: 1

Prep Date: 10/12/96
 Analysis Date: 10/15/96

BS Lab ID: QC32407

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	86.62	86	12-110
2-Chlorophenol	100	88.6	89	27-123
4-Chloro-3-methylphenol	100	82.76	83	23-97
4-Nitrophenol	100	59.78	60	10-80
Pentachlorophenol	100	57.2	57	9-103
1,4-Dichlorobenzene	50	33.67	67	36-97
N-Nitroso-di-n-propylamine	50	40.87	82	41-116
1,2,4-Trichlorobenzene	50	34.49	69	39-98
Acenaphthene	50	40.49	81	46-118
2,4-Dinitrotoluene	50	36.34	73	24-96
Pyrene	50	38.55	77	26-127
Surrogate	%Rec	Limits		
2-Fluorophenol	91	21-110		
Phenol-d5	101	10-110		
2,4,6-Tribromophenol	98	10-123		
Nitrobenzene-d5	93	35-114		
2-Fluorobiphenyl	95	43-116		
Terphenyl-d14	94	33-141		

BSD Lab ID: QC32408

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	87.28	86	12-110	0	42
2-Chlorophenol	100	90.15	90	27-123	1	40
4-Chloro-3-methylphenol	100	86.48	86	23-97	4	42
4-Nitrophenol	100	63.56	64	10-80	6	50
Pentachlorophenol	100	57.82	58	9-103	2	50
1,4-Dichlorobenzene	50	33.73	67	36-97	0	28
N-Nitroso-di-n-propylamine	50	43.29	87	41-116	6	38
1,2,4-Trichlorobenzene	50	34.61	69	39-98	0	28
Acenaphthene	50	41.62	83	46-118	2	31
2,4-Dinitrotoluene	50	37.54	75	24-96	3	38
Pyrene	50	39.29	79	26-127	3	31
Surrogate	%Rec	Limits				
2-Fluorophenol	85	21-110				
Phenol-d5	100	10-110				
2,4,6-Tribromophenol	100	10-123				
Nitrobenzene-d5	93	35-114				
2-Fluorobiphenyl	90	43-116				
Terphenyl-d14	94	33-141				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

DO: Surrogate diluted out



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

RECEIVED
OCT 21 1996

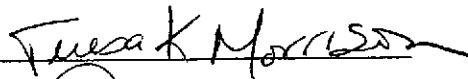
A N A L Y T I C A L R E P O R T

Prepared for:

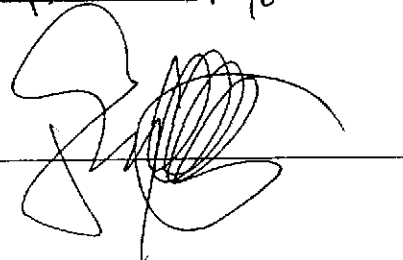
Secor
1390 Willow Pass Road
Concord, CA 94520

Date: 17-OCT-96
Lab Job Number: 127091
Project ID: 70074-001-02
Location: Bohannon Development

Reviewed by:



Reviewed by:



This package may be reproduced only in its entirety.

SECOR Chain-of Custody Record

Field Office: Concord
 Address: 1390 Willow Pass Road Suite 360
Concord, CA 94520

Additional documents are attached, and are a part of this Record.
 Job Name: David D. Bohannon Organization
 Location: San Lorenzo, CA

Project # 70074-001-02 Task # _____
 Project Manager Steve McCabe
 Laboratory Curtis Thompson
 Turnaround Time Standard

Sampler's Name Liping Zhang
 Sampler's Signature [Signature]

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPH ₉ /BTEX/WTPH-G 8015 (modified)/8020	TPH ₄ /WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Hydrocarbon Scan EPA Method 8015 Total Dissolved Solids	Comments/ Instructions	Number of Containers
-1 MW-1	10/8	1005	Water		X					X	X					X		9
-2 MW-2	↓	1135	↓		X					X	X					X	X	9
-3 MW-3	↓	1045	↓		X					X	X					X	X	9

* Special Instructions/Comments:
 3 liters ambient arrived @ lab w/out labels.
 This is due to melted ice.
 Therefore MW-2 has only one liter available
 for analysis
 → MW-3 only 2 liters available for analysis.
 There is no way to distinguish the unlabeled
 liters. We'll do 500ml extract for
 TEH 8270 for MW-2 ? cancel RDS

Relinquished by: _____
 Sign [Signature]
 Print Liping Zhang
 Company SECOR
 Time 2:05 Date 10/9/96

Relinquished by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Received by: _____
 Sign [Signature]
 Print JOSE DELGADO
 Company CGT
 Time 2:05 Date 10/9/96

Received by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Sample Receipt

Total no. of containers:	27
Chain of custody seals:	
Rec'd. in good condition/cold:	
Conforms to record:	

Client: SECOR
 Client Contact: Steve McCabe
 Client Phone: (510) 686-9750

Jan 10/9/96



Superior

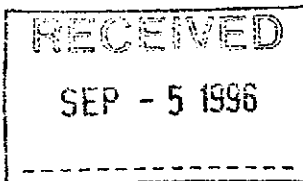
Analytical Laboratory

SECOR

1390 WILLOW PASS RD, STE. 360
CONCORD, CA 94520

Attn: STEVE McCABE

Date: September 4, 1996



Laboratory Number : 21789

Project Number/Name : 70074-001-02 T
Facility/Site : BOHONNON
SAN LEANDRO, CA

Dear STEVE McCABE:

Attached is Superior Analytical Laboratory report for the samples received on August 2, 1929. This report has been reviewed and approved for release. Following the cover letter is the Case Narrative detailing sample receipt and analysis. Also enclosed is a copy of the original Chain-of-Custody record confirming receipt of samples.

Please note that any unused portion of the sample will be discarded after September 1, 1929, unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please contact our Laboratory at (510) 313-0850.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Afsaneh Salimpour'. The signature is written in black ink and is positioned above the typed name and title.

Afsaneh Salimpour
Project Manager



Superior

Analytical Laboratory

CASE NARRATIVE

SECOR

Project Number/Name: 70074-001-02 TASK#003

Laboratory Number: 21789

Sample Receipt

Thirty soil samples were received by
Superior Analytical Laboratory on August 2, 1929.

Cooler temperature was 0.3°C

No abnormalities were noted with sample receiving.

Sample Analysis

The samples were analysed for methods 8015M and 8020.

I / I

Customer Service: (800) 521-6109 . Laboratory: (510) 313-0850 . Facsimile: (510) 229-0916
Post Office Box 2648 . 835 Arnold Drive . Suite #106 . Martinez, California 94553
1555 Burke Street . Suite A . San Francisco, California 94124



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Analytical Laboratory

SECOR
Attn: STEVE McCABE

Project 70074-001-02 TASK#003
Reported on September 4, 1996

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Chronology

Laboratory Number 21789

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
S-1	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	01
S-2	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	02
S-3	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	03
S-4	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	04
S-5	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	05
S-6	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	06
S-7	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	07
S-8	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	08
S-9	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	09
S-10	08/22/96	08/02/29	08/27/96	08/27/96	CH271.37	10
S-11	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	11
S-12	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	12
S-13	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	13
S-14	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	14
S-15	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	15
S-16	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	16
S-17	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	17
S-18	08/22/96	08/02/29	09/04/96	09/04/96	CI031.37	18
S-19	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	19
S-20	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	20
S-21	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	21
S-22	08/22/96	08/02/29	08/29/96	08/29/96	CH291.37	22
S-23	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	23
S-24	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	24
S-25	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	25
S-26	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	26
S-27	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	27
S-28	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	28
S-29	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	29
S-30	08/22/96	08/02/29	09/03/96	09/03/96	CI031.37	30

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
CH271.37-02	Laboratory Spike	LS	Soil	08/27/96	08/27/96



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QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
CH271.37-06	S-1	MS 21789-01	Soil	08/27/96	08/27/96
CH271.37-07	S-1	MSD 21789-01	Soil	08/27/96	08/27/96
CH291.37-02	Laboratory Spike	LS	Soil	08/29/96	08/29/96
CH291.37-05	S-11	MS 21789-11	Soil	08/29/96	08/29/96
CH291.37-06	S-11	MSD 21789-11	Soil	08/29/96	08/29/96
CI031.37-02	Laboratory Spike	LS	Soil	09/03/96	09/03/96
CI031.37-10	S-23	MS 21789-23	Soil	09/03/96	09/03/96
CI031.37-12	S-23	MSD 21789-23	Soil	09/03/96	09/03/96
CH271.37-01	Method Blank	MB	Soil	08/27/96	08/27/96
CH291.37-40	Method Blank	MB	Soil	08/29/96	08/29/96
CI031.37-01	Method Blank	MB	Soil	09/03/96	09/03/96
CH271.37-03	Laboratory Spike	LS	Soil	08/27/96	08/27/96
CH271.37-08	S-1	MS 21789-01	Soil	08/27/96	08/27/96
CH271.37-09	S-1	MSD 21789-01	Soil	08/27/96	08/27/96
CH291.37-03	Laboratory Spike	LS	Soil	08/29/96	08/29/96
CH291.37-07	S-11	MS 21789-11	Soil	08/29/96	08/29/96
CH291.37-08	S-11	MSD 21789-11	Soil	08/29/96	08/29/96
CI031.37-03	Laboratory Spike	LS	Soil	09/03/96	09/03/96
CI031.37-13	S-23	MS 21789-23	Soil	09/03/96	09/03/96
CI031.37-14	S-23	MSD 21789-23	Soil	09/03/96	09/03/96



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Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-01	S-1	Soil	1.0	-
21789-02	S-2	Soil	1.0	-
21789-03	S-3	Soil	1.0	-
21789-04	S-4	Soil	1.0	-

RESULTS OF ANALYSIS

Compound	21789-01		21789-02		21789-03		21789-04	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<
Trifluorotoluene (SS)

91 80 85 81



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Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-05	S-5	Soil	1.0	-
21789-06	S-6	Soil	1.0	-
21789-07	S-7	Soil	1.0	-
21789-08	S-8	Soil	1.0	-

RESULTS OF ANALYSIS

Compound	21789-05		21789-06		21789-07		21789-08	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005
>> Surrogate Recoveries (%) <<								
Trifluorotoluene (SS)	88		81		91		91	



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Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-09	S-9	Soil	1.0	-
21789-10	S-10	Soil	1.0	-
21789-11	S-11	Soil	1.0	-
21789-12	S-12	Soil	1.0	-

RESULTS OF ANALYSIS

Compound	21789-09		21789-10		21789-11		21789-12	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<
Trifluorotoluene (SS)

85 81 88 85



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Reported on September 4, 1996

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Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-13	S-13	Soil	1.0	-
21789-14	S-14	Soil	1.0	-
21789-15	S-15	Soil	1.0	-
21789-16	S-16	Soil	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	21789-13		21789-14		21789-15		21789-16	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<
Trifluorotoluene (SS)

88 94 87 86



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LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-17	S-17	Soil	1.0	-
21789-18	S-18	Soil	1.0	-
21789-19	S-19	Soil	1.0	-
21789-20	S-20	Soil	1.0	-

RESULTS OF ANALYSIS

Compound	21789-17		21789-18		21789-19		21789-20	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)	88	100	84	87
-----------------------	----	-----	----	----



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Project 70074-001-02 TASK#003
Reported on September 4, 1996

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil. Factor	Moisture
21789-21	S-21	Soil	1.0	-
21789-22	S-22	Soil	1.0	-
21789-23	S-23	Soil	1.0	-
21789-24	S-24	Soil	1.0	-

RESULTS OF ANALYSIS

Compound	21789-21		21789-22		21789-23		21789-24	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)	93	87	85	90
-----------------------	----	----	----	----



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Project 70074-001-02 TASK#003
Reported on September 4, 1996

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by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-25	S-25	Soil	1.0	-
21789-26	S-26	Soil	1.0	-
21789-27	S-27	Soil	1.0	-
21789-28	S-28	Soil	1.0	-

RESULTS OF ANALYSIS

Compound	21789-25		21789-26		21789-27		21789-28	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	mg/kg		mg/kg		mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)	86	89	84	85
-----------------------	----	----	----	----



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Project 70074-001-02 TASK#003
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Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
21789-29	S-29	Soil	1.0	-
21789-30	S-30	Soil	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	21789-29		21789-30	
	Conc.	RL	Conc.	RL
	mg/kg		mg/kg	
Gasoline_Range	ND	1	ND	1
Benzene	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)	88	87
-----------------------	----	----



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Analytical Laboratory

Gasoline Range Petroleum Hydrocarbons and BTXE
 by EPA SW-846 5030/8015M/8020
 Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 21789
 Method Blank(s)

	CH271.37-01		CH291.37-40		CI031.37-01	
	Conc. mg/kg	RL	Conc. mg/kg	RL	Conc. mg/kg	RL
Gasoline_Range	ND	1	ND	1	ND	1
Benzene	ND	0.005	ND	0.005	ND	0.005
Toluene	ND	0.005	ND	0.005	ND	0.005
Ethyl Benzene	ND	0.005	ND	0.005	ND	0.005
Xylenes	ND	0.005	ND	0.005	ND	0.005
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)	105		93		102	



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Analytical Laboratory

Gasoline Range Petroleum Hydrocarbons and BTXE
 by EPA SW-846 5030/8015M/8020
 Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 21789

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Soil Matrix (mg/kg)						
CH271.37 02 / - Laboratory Control Spikes						
Benzene		0.100	0.12	120	65-125	
Toluene		0.100	0.097	97	65-125	
Ethyl Benzene		0.100	0.10	100	65-125	
Xylenes		0.300	0.29	97	65-125	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				107	50-150	
For Soil Matrix (mg/kg)						
CH291.37 02 / - Laboratory Control Spikes						
Benzene		0.100	0.077	77	65-125	
Toluene		0.100	0.079	79	65-125	
Ethyl Benzene		0.100	0.081	81	65-125	
Xylenes		0.300	0.25	83	65-125	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				82	50-150	
For Soil Matrix (mg/kg)						
CI031.37 02 / - Laboratory Control Spikes						
Benzene		0.100	0.082	82	65-125	
Toluene		0.100	0.088	88	65-125	
Ethyl Benzene		0.100	0.088	88	65-125	
Xylenes		0.300	0.27	90	65-125	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				99	50-150	



Gasoline Range Petroleum Hydrocarbons and BTXE
 by EPA SW-846 5030/8015M/8020
 Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 21789

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Soil Matrix (mg/kg)						
	CH271.37 03 /		- Laboratory Control Spikes			
Gasoline_Range		10	10	100	65-135	
For Soil Matrix (mg/kg)						
	CH291.37 03 /		- Laboratory Control Spikes			
Gasoline_Range		10	10	100	65-135	
For Soil Matrix (mg/kg)						
	CI031.37 03 /		- Laboratory Control Spikes			
Gasoline_Range		10	9	90	65-135	
For Soil Matrix (mg/kg)						
	CH271.37 06 / 07		- Sample Spiked: 21789 - 01			
Benzene	ND	0.100	0.081/0.077	81/77	65-125	5
Toluene	ND	0.100	0.084/0.079	84/79	65-125	6
Ethyl Benzene	ND	0.100	0.080/0.074	80/74	65-125	8
Xylenes	ND	0.300	0.24/0.23	80/77	65-125	4
>> Surrogate Recoveries (%) <<						
	Trifluorotoluene (SS)			89/87	50-150	
For Soil Matrix (mg/kg)						
	CH291.37 05 / 06		- Sample Spiked: 21789 - 11			
Benzene	ND	0.100	0.081/0.079	81/79	65-125	3



Superior

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Gasoline Range Petroleum Hydrocarbons and BTXE
 by EPA SW-846 5030/8015M/8020
 Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 21789

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
Toluene	ND	0.100	0.082/0.080	82/80	65-125	2
Ethyl Benzene	ND	0.100	0.082/0.079	82/79	65-125	4
Xylenes	ND	0.300	0.25/0.24	83/80	65-125	4

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)				88/91	50-150	
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For Soil Matrix (mg/kg)

CI031.37 10 / 12 - Sample Spiked: 21789 - 23

Benzene	ND	0.100	0.073/0.077	73/77	65-125	5
Toluene	ND	0.100	0.076/0.084	76/84	65-125	10
Ethyl Benzene	ND	0.100	0.072/0.080	72/80	65-125	11
Xylenes	ND	0.300	0.22/0.25	73/83	65-125	13

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)				85/88	50-150	
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For Soil Matrix (mg/kg)

CH271.37 08 / 09 - Sample Spiked: 21789 - 01

Gasoline_Range	ND	10	7/8	70/80	65-135	1
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For Soil Matrix (mg/kg)

CH291.37 07 / 08 - Sample Spiked: 21789 - 11

Gasoline_Range	ND	10	7/8	70/80	65-135	1
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For Soil Matrix (mg/kg)

CI031.37 13 / 14 - Sample Spiked: 21789 - 23

Gasoline_Range	ND	10	7/7	70/70	65-135	4
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Narrative:

Definitions:

ND = Not Detected

RL = Reporting Limit

NA = Not Analysed

RPD = Relative Percent Difference

ug/L = parts per billion (ppb)

mg/L = parts per million (ppm)

ug/kg = parts per billion (ppb)

mg/kg = parts per million (ppm)

21789

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SECOR Chain-of Custody Record

Field Office: CONCORD
 Address: 1390 WILLOW PASS RD.
CONCORD, CA

Additional documents are attached, and are a part of this Record.
 Job Name: BOHANNON
 Location: SAN LEANDRO, CA

Project # 70054-001-02 Task # 003
 Project Manager STEVE MEADE
 Laboratory SUPSON
 Turnaround Time SPANOANO

Analysis Request

Sampler's Name R. ANSERO
 Sampler's Signature [Signature]

Sample ID	Date	Time	Matrix	HCID	TPH/g/BTEX/WTPH-G 8015 (modified)/8020	TPH/d/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Comments/ Instructions	Number of Containers
S-1	8/22/96	-	SOIL		X												1
S-2	"	-	"		X												1
S-3	"	-	"		X												1
S-4	"	-	"		X												1
S-5	"	-	"		X												1
S-6	"	-	"		X												1
S-7	"	-	"		X												1
S-8	"	-	"		X												1
S-9	"	-	"		X												1
S-10	"	-	"		X												1

Special Instructions/Comments:

Relinquished by: SEAN
 Sign [Signature]
 Print R. ANSERO
 Company SEAN
 Time 1:35 Date 8/22/96

Relinquished by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Relinquished by: [Signature]
 Sign [Signature]
 Print _____
 Company SAC
 Time 1:35 Date 8/22/96

Relinquished by: _____
 Sign _____
 Print _____
 Company _____
 Time _____ Date _____

Sample Receipt
 Total no. of containers: _____
 Chain of custody seals: _____
 Rec'd. in good condition/cold: _____
 Conforms to record: _____

Client: SEAN
 Client Contact: STEVE MEADE
 Client Phone: (510) 686-9780

21789

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SECOR Chain-of Custody Record

Field Office: CONCORD

Additional documents are attached, and are a part of this Record.

Address: 1390 WINDY PASS RD.
CONCORD, CA

Job Name: BOHANNON

Location: SAN LEANERO, CA

Project # 70074-001-02 Task # 003
Project Manager SYBIE MCLANE
Laboratory SEPSON
Turnaround Time STANDARD

Analysis Request

Sampler's Name R. Navarro
Sampler's Signature [Signature]

Sample ID	Date	Time	Matrix	HCID	TPH ₉ /BTEX/WTPH-G 8015 (modified)/8020	TPH ₉ /WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Comments/ Instructions	Number of Containers
S-11	8/22/90	-	SOIL		X											Store in ice. ✓ 0.3°C	1
S-12	u	-	u		X											Store in ice. ✓	1
S-13	u	-	u		X											Store in ice. ✓	1
S-14	u	-	u		X											Store in ice. ✓	1
S-15	u	-	u		X											Store in ice. ✓	1
S-16	u	-	u		X											Store in ice. ✓	1
S-17	u	-	u		X											Store in ice. ✓	1
S-18	u	-	u		X											Store in ice. ✓	1
S-19	u	-	u		X											Store in ice. ✓	1
S-20	u	-	u		X											Store in ice. ✓	1

Special Instructions/Comments:

Relinquished by: SECON
Sign [Signature]
Print R. Navarro
Company SECON
Time 1355 Date 8/22/90

Relinquished by: Zeli
Sign [Signature]
Print Ally Zalkov
Company SAL
Time 1355 Date 8/22/90

Sample Receipt
Total no. of containers: _____
Chain of custody seals: _____
Rec'd. in good condition/cold: _____
Conforms to record: _____

Relinquished by: _____
Sign _____
Print _____
Company _____
Time _____ Date _____

Relinquished by: _____
Sign _____
Print _____
Company _____
Time _____ Date _____

Client: SECON
Client Contact: SYBIE MCLANE
Client Phone: (510) 626-9780

Standard Density: _____

RELATIVE COMPACTION TEST DATA

Job No. 04200222

Standard Moisture: _____

Project: RSE - SAN LORONZO

General Location: _____

Nuclear Density Method

AK
AVE

Date: OCT. 25-1996

FRIDAY

Test No.	Location	Depth Below Final Grade	Density Count	Wet Density (p.c.f.)	Moisture Count	Moisture Content (p.c.f.)	Moisture Content (percent)	Maximum Dry Density (p.c.f.)	Dry Density (p.c.f.)	Relative Compaction (percent)	Required Compaction (percent)
A	VACANT LOT	0		127.0		15.9	14.3	120.5	111.1	92	90
B	" "	0		118.2		10.4	9.7		107.8	90	
C	" "	0		122.7		13.5	12.4		109.2	91	

The work described above DOES / DOES NOT conform to the Compaction Specification.

Mileage Bill 4

Travel Time: 1.0 Start Time at Site 3:30 End Time at Site 4:30 Reg Hours at Site 1.0 OT Hours _____ Total Hours 2.0

Technician JULIUS G. O. (BSK) Field Representative JEFF DEAKIN (Client)

Remarks: PERFORMED NUCLEAR FIELD DENSITY TEST ON EXISTING SOIL OF VACANT LOT AT PASEO GRANDE AND HESPERIAN

11-07-1996 03:27PM FROM REMEDIAL SOLUTIONS INC TO 6863099 P.02