August 16, 2000
Project Number 1124 SC01
Via Facsimile & US Mail

McMorgan & Company
One Bush Street, Suite 800
San Francisco, CA 94104

ATTN: Mr. Patrick G. Murray
SUBJECT: **QUARTERLY GROUNDWATER MONITORING SECOND QUARTER 2000**
444 Hegenberger Road
Oakland, California

Dear Mr. Murray:

E_2C, Inc. presents herein the results of the second quarter groundwater monitoring performed at 444 Hegenberger Road, Oakland, California (Site). (See Figure 1.) The work was performed in accordance with the Alameda County Health Care Services' (ACHCS) approved Groundwater Monitoring Workplan for the Site prepared by Northwest Envirocon, Inc. (NWE, 1999). The Scope of Work consisted of the following:

- Measurement of groundwater levels
- Purging and subsequent sampling of groundwater from groundwater monitoring wells MW-2, MW-3, MW-4, MW-5, and MW-6 (See Figure 2 for locations.)
- Chemical analyses of the groundwater samples
- Analysis of the data, and
- Preparation of this report.

CURRENT GROUNDWATER MONITORING

Five shallow groundwater monitoring wells (MW-2 through MW-6) are located on the Site. Figure 2 depicts the locations of the wells. (Well MW-1 was destroyed in accordance with ACHCS guidelines in December 1999, as reported in E_2C's fourth quarter 1999 monitoring report.) The five wells are used specifically for monitoring the physical and chemical conditions of groundwater in the uppermost groundwater-bearing zone beneath the Site. The physical characteristics of the wells are summarized in Table 1.

On June 9, 2000, the second quarter monitoring round was performed. Prior to the collection of groundwater samples, the water level in each well was measured using a Solinst water level meter. These water levels were then used to calculate the groundwater elevation at each well.

After groundwater levels were measured and recorded, three to five well volumes were purged using a disposable bailer. Indicator parameters (temperature, pH, and electrical conductivity) of the purged groundwater were measured as the well was being bailed. When the parameters stabilized, a groundwater sample was collected.

The groundwater samples were collected using a dedicated disposable bailer. Groundwater was dispensed into containers appropriate for the required analyses. The containers were then secured, labeled, and placed on ice in a cooler for transport to Entech Analytical Labs, Inc., of Sunnyvale, California, a State-certified analytical laboratory. The field data sheets are included in Appendix A, and the complete laboratory reports are included as Appendix B.

DISCUSSION OF GROUNDWATER FLOW CONDITIONS

Groundwater level measurements were used to calculate groundwater elevations, groundwater flow direction, and groundwater gradient at the Site. Table 2 compares groundwater elevation data over time for each well. Table 3 summarizes historical and current groundwater flow conditions.

Groundwater elevations were slightly higher (a maximum of 0.43 foot in Well MW-5) than last quarter with the exception of Well MW-6, which decreased 0.38 foot. (See Table 2.) Overall, groundwater levels at the Site are still decreasing. Figure 3 depicts groundwater elevation changes from the first sampling round in December 1998 until the present. The water level in MW-2 was not measured this quarter because floating product was present.

DISCUSSION OF GROUNDWATER GRADIENT PLOT

The second quarter groundwater elevation data were used to construct a contour map plotted on the Site base map (Figure 4). This plot was compared with the plot prepared for previous reporting period. The construction of the contour maps and their comparison are discussed below.

The groundwater contours for June 2000 were constructed with Surfer® software, using the kriging method of interpolation. Kriging is considered the best linear unbiased estimator because (1) the estimated values are weighted linear combinations of the available data, (2) the error mean is zero, and (3) the variance of the errors is minimized. The difference between kriging and other linear estimation methods is in minimizing the error variance. E_2C used the Surfer® program to replot the March 2000 contour map, thus allowing an equitable comparison of the interpretation of the two data sets.

Several features are prominent on the June groundwater gradient plot (Figure 4). The general slope of the groundwater gradient at the Site has flattened slightly since last quarter (Figure 4a). Between wells MW-2 and MW-4 the highest gradient magnitude occurs: approximately 0.04 foot (vertical) per foot (horizontal) (ft/ft), in a northerly direction. Last quarter the gradient between these same two wells was approximately 0.05 ft/ft. There is also a flow component between Well MW-6 and wells MW-5 and MW-3. The gradient between these wells decreased from 0.013 ft/ft last quarter to 0.0011 ft/ft this quarter.

Steep gradients are suggestive of lower permeability materials (discussed in the Fourth Quarter 1999 report), e.g., between Wells MW-2 and MW-4. An area of a flat gradient would contain materials of a higher permeability. A flatter gradient is evident between wells MW-2/MW-6 and Wells MW-5 and MW-3. An alternative explanation for the steep gradient could be groundwater extraction downgradient from MW-4.

Although the general groundwater flow directions and gradients are similar to those of the First Quarter 2000, additional long-term data would be needed to assess significant trends resulting from seasonal changes.

GROUNDWATER ANALYSES

The groundwater samples were analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) and gasoline (TPHg) by EPA Method 8015 Modified, and for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) using EPA Method 8020. The results of the sample analyses are presented in Table 4. Copies of the laboratory report and the corresponding chain-of-custody form are included as Appendix B.

Discussion of Analytical Results

Benzene in Groundwater

Benzene in groundwater is the primary concern because it is a known carcinogen and, therefore, it has the lowest action limit of the compounds found at the Site. Benzene concentrations detected in groundwater samples ranged from a low of 91 micrograms per liter (µg/L) (MW-4) to a high of 1,100 µg/L (MW-3). The Maximum Contaminant Limit (MCL) for Benzene in drinking water is 1 µg/L. No groundwater sample from MW-2 was collected because floating product was present.

Concentrations of Benzene in groundwater decreased in three of the four wells sampled (MW-3, MW-4 and MW-6), whereas there was a slight increase in MW-5 and an assumed large increase at MW-2 as evidenced by the floating product. Figure 5 charts Benzene concentrations over time for the existing wells.

Figure 6 depicts an isoconcentration plot of Benzene in groundwater. Groundwater at Well MW-4, which has always had the lowest groundwater elevation, shows significantly less Benzene than at Well MW-3. The Benzene concentrations in groundwater at these two wells have been relatively similar until March 2000. Benzene in Well MW-5 is showing an increasing trend. Well MW-2 had demonstrated a decline in Benzene levels from September 1999 to March 2000. The free product found in Well MW-2 in June is not readily explainable. The September 2000 sampling and analysis should provide information to aid an interpretation.

If the interpreted low-permeability zone between wells MW-2 and MW-4 is correct, the clay component may be inhibiting the spread of the Benzene-impacted groundwater in that area. The flatter gradient between wells MW-2 and MW-3 suggests that higher permeability materials occur in that area, and that the potential for Benzene-impacted groundwater to spread to the area of MW-3 (west) is greater.

TPHg in Groundwater

Between March and June, the concentrations of TPHg decreased in Wells MW-3, MW-4 and MW-6, and remained approximately the same in MW-5. The presence of product indicates a significant increase of TPHg in MW-2. (Refer to Table 4.) An isoconcentration plot of TPHg concentrations (Figure 7) shows the TPHg groundwater plume to be similar to the Benzene groundwater plume.

TPHd in Groundwater

TPHd decreased in concentration in groundwater at all wells except Well MW-2 where there was floating product. Samples from Wells MW-4 and MW-6 showed no detectable levels of TPHd. (See Table 4.)

Dissolved Oxygen and Oxidation-Reduction Potentials

The fate of pollutants in the subsurface frequently depends on the oxidation-reduction environment into which they have been introduced. Redox reactions can indicate how conditions could be modified to encourage desirable transformations or prevent undesirable transformations. The measurement accuracy of the oxidation-reduction potential (ORP or Eh) is difficult to assure and its sensitivity is low. Therefore, fairly large differences in casing water and formation water must be present to obtain a definitive result. While the dissolved oxygen (DO) measurement can serve as a backup for ORP to identify an oxidizing environment, DO measurements are generally more reliable and reproducible than ORP. Both tests require careful sampling procedures. Bailing introduces air into the sample and vacuum pumping may promote degassing of the groundwater. The yield of the well also influences the measurements.

Starting in the fourth quarter of 1999, dissolved oxygen (DO) and oxidation-reduction potentials (ORP) were measured. The past and current quarter measurements are summarized in Table 5. (Data from second quarter field measurements are recorded in Appendix A.) The three quarters of DO and ORP data are insufficient to establish relationships among the chemical species present.

Conclusions Regarding the Analytical Data

TPHg, TPHd, and Benzene generally decreased in concentrations throughout the Site with the notable exception of MW-2 where floating product was encountered. Data are thus far insufficient to establish a long-term trend. The potential remains, however, for the migration of Benzene-impaired groundwater off Site.

RECOMMENDATIONS

Based on the data collected and the requirements of ACHCS, E_2C, Inc., recommends that groundwater monitoring be continued in accordance with the approved sampling schedule.

The groundwater gradient plots suggest that groundwater extraction is taking place nearby at a site downgradient from MW-4, or that low-permeability materials exist in the area of MW-4. There appears to be a potential for off-site migration downgradient from Wells MW-3 and MW-4. As recommended in the 1999 fourth quarter report, a database review needs to be performed to determine if there is an off-site groundwater extractor. The possibility of cross contamination or commingling plumes, enlarging the on-Site contaminant plume, and unknowingly contributing contaminants to an extraction point should be thoroughly researched.

E_2C, Inc. appreciates the opportunity to be of service to you on this project and looks forward to working with McMorgan & Company in the future. If you have any questions or would like any further information, please call us at your convenience.

Sincerely,

Jane O. Baron, P.E.
Project Manager

Kendall W. Price, CEG/REA
President

cc: Barney M. Chan/Alameda County Health Care Service

REFERENCES

Alameda County Health Care Services, September 22, 1999, Quarterly Monitoring Report for 444 Hegenberger Loop, Oakland, CA 94621 (ACHCS, 1999).

Alameda County Health Care Services, 444 Hegenberger Loop, Oakland, CA 94621 (ACHCS, 2000).

E_2C, Inc., January 21, 2000, Quarterly Groundwater Monitoring, Fourth Quarter 1999 (E_2C, 1999)

E_2C, Inc., May 11, 2000, Quarterly Groundwater Monitoring, First Quarter 2000 (E_2C, 2000)
Northwest Envirocon, Inc., December 18, 1998, Supplemental Soil and Groundwater Assessment, 444 Hegenberger Road, Oakland, CA; NWE Project No. 05-001594 (NWE, 1998)

Northwest Envirocon, Inc., February 19, 1999, Groundwater Monitoring Work Plan for 444 Hegenberger Loop, Oakland 94621 (NWE, 1999)

FIGURES

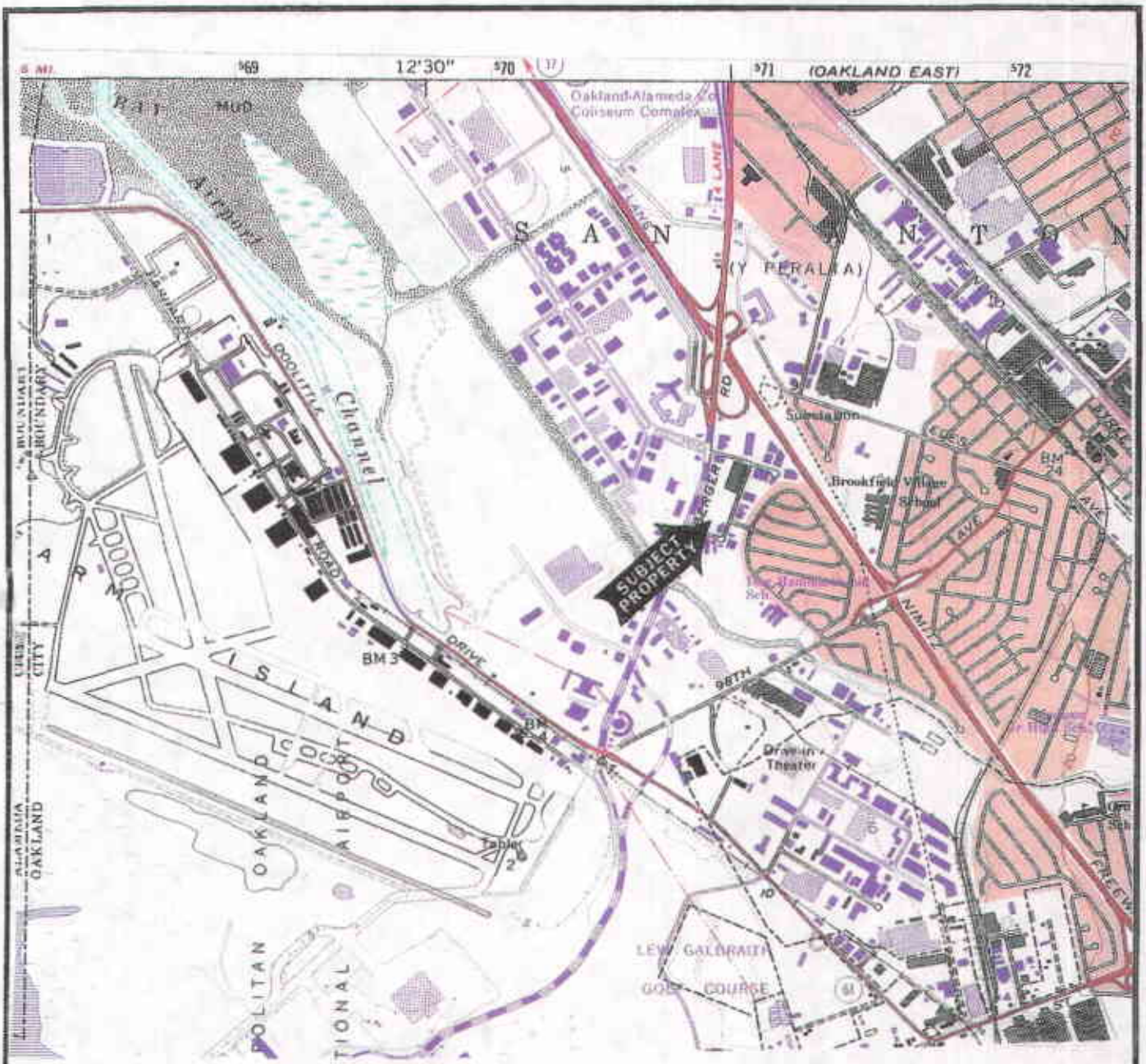

FIGURE 1 - SITE LOCATION MAP

444 Hegenberger Road	Client Name: McMorgan & Company
City, State: Oakland, California	E_2C Project Number: 1124SC01

E_2C INC.

Environmental/Engineering Consultants

382 Martin Avenue . Santa Clara, CA 95050

Source:
USGS Topo Map, San Leandro Quadrangle, California 7.5 Minute Series Topographic Map
1959, photorevised in 1980
1961 Photorevised 1980

HEGENBERGER ROAD

HEGENBERGER LOOP

MW-3

MW-4

FORMER PUMP ISLANDS

MW-2

MW-6

CONCRETE SLAB

MW-5

CONCRETE SLAB

FORMER WASTE
OIL TANK

GATE

MW-1
(DESTROYED 12.27.99)

SCALE IN FEET
0' 10' 20' 30'

EXPLANATION

MW-5 GROUNDWATER MONITORING WELL LOCATION

Figure 2 - SITE PLAN

Environmental/Engineering Consultants
382 Martin Avenue
Santa Clara, California 95050-3112
Tel: 408.327.5700 Fax: 408.327.5707

444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FILENAME: 1124SC01
DATE: MAY 2000
REVISION:
DRAWN: L.JUSTUS

Job Number:
1124SC01

Comparison of Groundwater Elevations

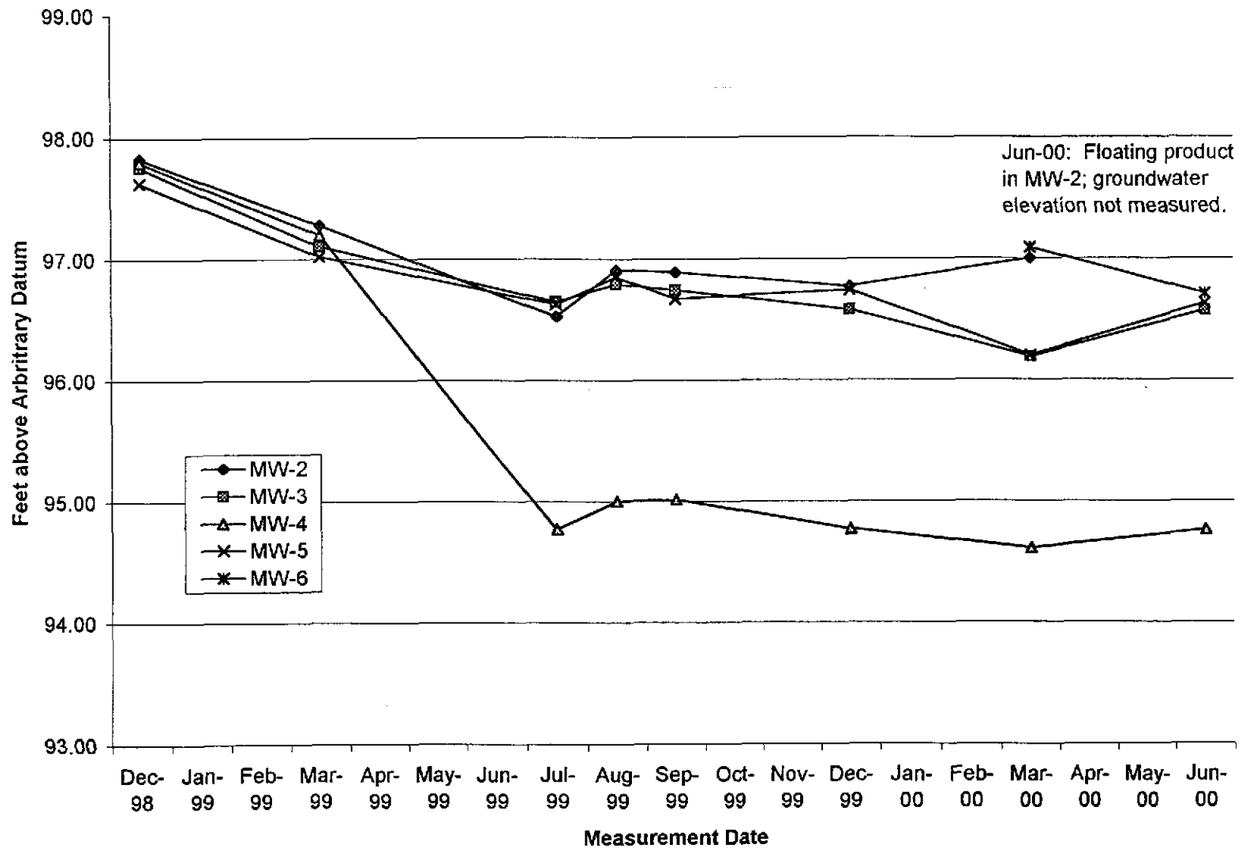

FIGURE 3 - COMPARISON OF GROUNDWATER ELEVATIONS

ENVIRONMENTAL / ENGINEERING CONSULTANTS
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SANTA CLARA, CALIFORNIA 95050-3112
TEL: 408.327.5700 FAX: 408.327.5707

444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

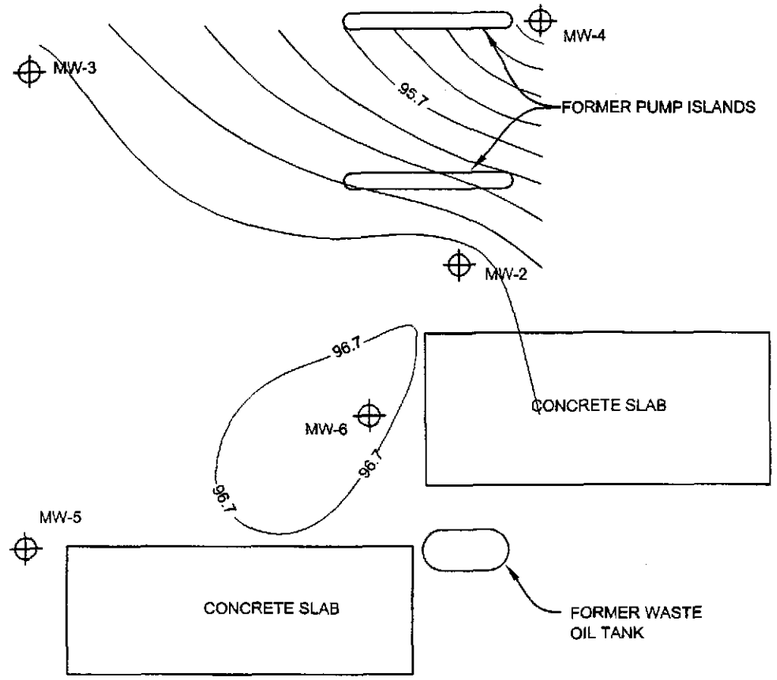
FILENAME:	1124SC01
DATE:	AUGUST 2000
REVISION:	**
DRAWN:	JL

JOB NUMBER:
1124SC01

HEGENBERGER ROAD

HEGENBERGER LOOP

GATE



MW-1
(DESTROYED 12.27.99)

SCALE IN FEET
0' 10' 20' 30'

EXPLANATION

MW-5 GROUNDWATER MONITORING WELL LOCATION

direction wrong? ?

FIGURE 4 - GROUNDWATER GRADIENT PLOT (JUNE 2000)

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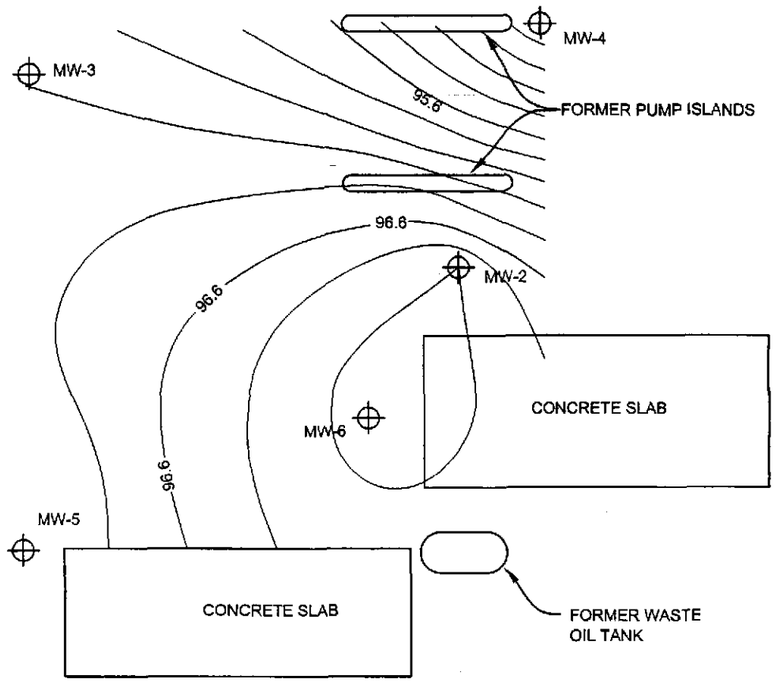
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FILENAME: 1124SC01
DATE: JUNE 2000
REVISION:
DRAWN:

Job Number:
1124SC01

HEGENBERGER ROAD

HEGENBERGER LOOP



GATE

MW-1
(DESTROYED 12.27.99)

SCALE IN FEET
0' 10' 20' 30'

EXPLANATION

MW-6 GROUNDWATER MONITORING WELL LOCATION

FIGURE 4a - REVISED GROUNDWATER GRADIENT PLOT (MARCH 2000)

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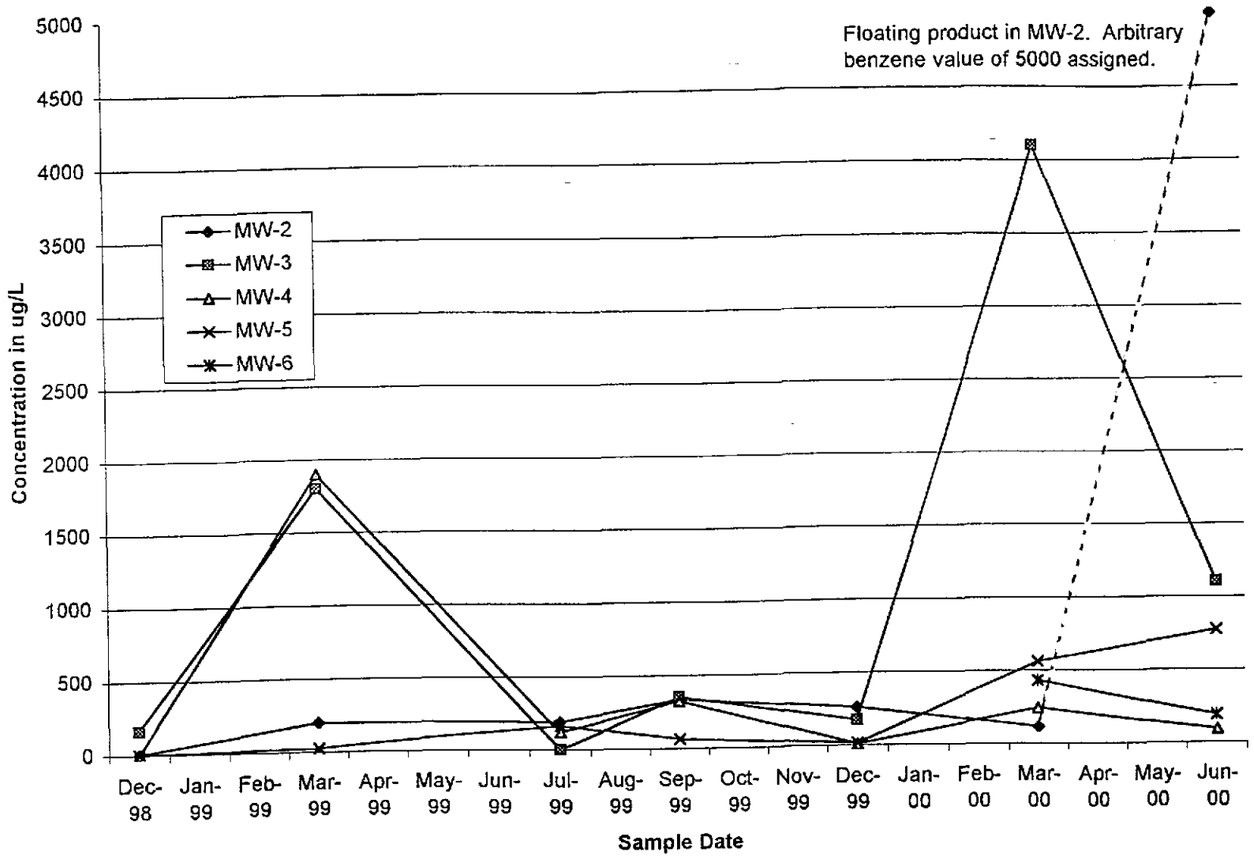
FILENAME: 1124SC01
DATE: JUNE 2000
REVISION:
DRAWN:

Job Number:
1124SC01

Comparison of Benzene Levels



should be Apr 2?

FIGURE 5 - COMPARISON OF BENZENE LEVELS

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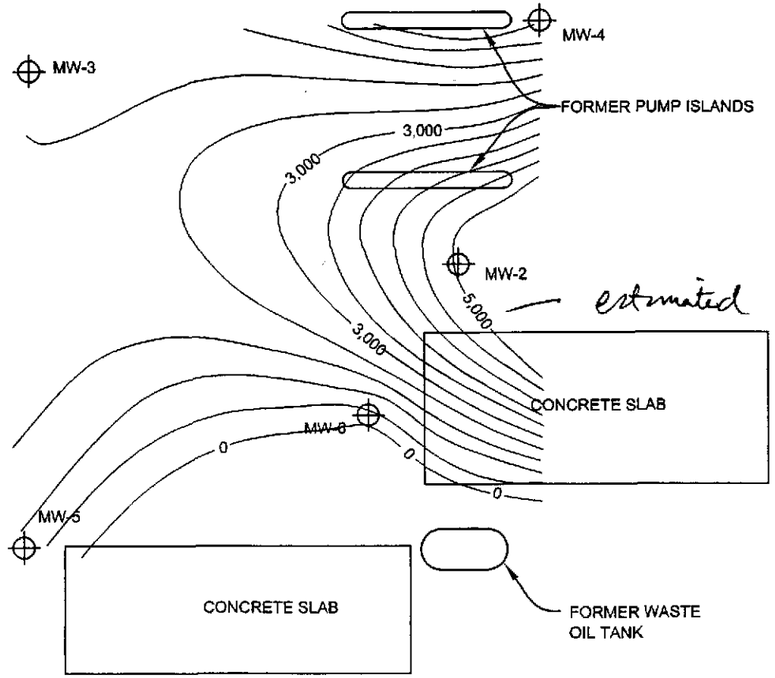
REVISION:	**
DRAWN:	JL

JOB NUMBER:

1124SC01

HEGENBERGER ROAD

HEGENBERGER LOOP



GATE

MW-1
(DESTROYED 12.27.99)

SCALE IN FEET
0' 10' 20' 30'

EXPLANATION

MW-5 GROUNDWATER MONITORING WELL LOCATION

FIGURE 6 - BENZENE ISOCONCENTRATION PLOT

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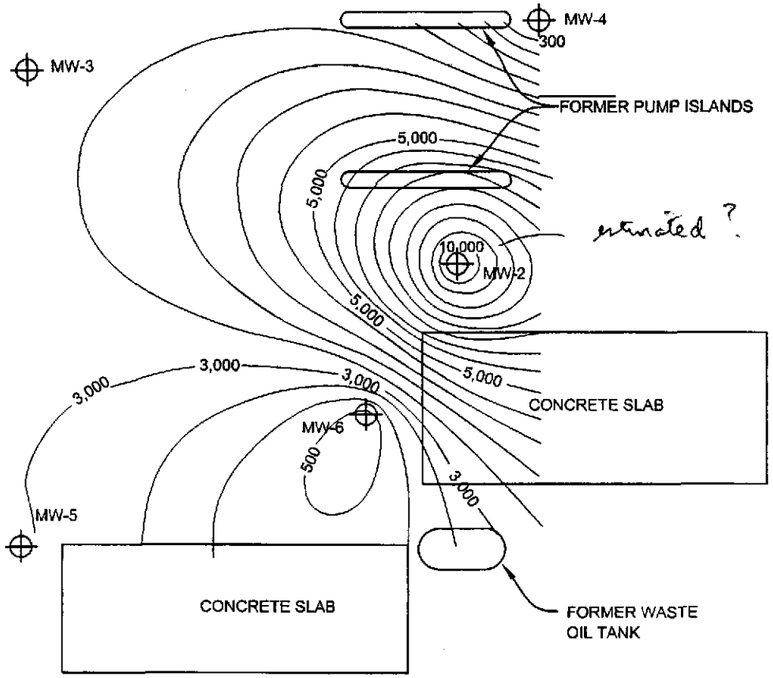
REVISION:
DRAWN:

Job Number:
1124SC01

HEGENBERGER ROAD

HEGENBERGER LOOP



GATE

MW-1
(DESTROYED 12.27.99)

SCALE IN FEET
0' 10' 20' 30'

EXPLANATION

MW-5 GROUNDWATER MONITORING WELL LOCATION

FIGURE 7 - TPHg ISOCONCENTRATION PLOT (JUNE 2000)

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444 HEGENBERGER ROAD
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FILENAME: 1124SC01
DATE: JUNE 2000
REVISION:
DRAWN:

Job Number:
1124SC01

TABLES

TABLE 1 - PHYSICAL CHARACTERISTICS OF GROUNDWATER MONITORING WELLS

WELL I.D.	DATE	INSTALLED WELL DEPTH (feet bgs)	SCREEN INTERVAL (feet bgs)	DEPTH TO BOW (feet bgs)	TOC ELEVATION (feet)	DEPTH TO GROUNDWATER (feet bTOC)	GROUNDWATER EL. -- RELATIVE (feet)	COMMENTS
MW-1	12/02/98	20'	5'-20'	19.60	100.74	2.90	97.84	hard bottom
	03/08/99			19.35		3.43	97.31	soft bottom
	07/01/99			19.53		3.81	96.93	
	08/18/99			19.53		3.62	97.12	
	09/15/99			19.30		3.69	97.05	
	12/27/99			19.45		3.81	96.93	
	12/27/99	well destroyed						
MW-2	12/02/98	20'	5'-20'	19.79	102.44	4.61	97.83	soft bottom
	03/08/99			19.32		5.16	97.28	soft bottom
	07/01/99			19.43		5.91	96.53	
	08/18/99			19.43		5.53	96.91	
	09/15/99			19.43		5.55	96.89	
	12/27/99			19.52		5.55	96.89	
	03/29/00			19.57		5.44	97.00	
	06/09/00			?		?	?	NM -- FP
MW-3	12/02/98	20'	5'-20'	19.85	102.00	4.24	97.76	soft bottom
	03/08/99			19.24		4.90	97.10	soft bottom
	07/01/99			19.54		5.35	96.65	
	08/18/99			19.54		5.21	96.79	
	09/15/99			19.56		5.26	96.74	
	12/27/99			19.60		5.42	96.58	
	03/24/00			19.63		5.81	96.19	
	06/09/00			19.59		5.43	96.57	
MW-4	12/02/98	20'	5'-20'	19.15	100.00	2.20	97.80	soft bottom
	03/08/99			19.44		2.80	97.20	hard bottom
	07/01/99			19.48		5.23	94.77	
	08/18/99			19.48		5.00	95.00	
	09/15/99			19.42		4.99	95.01	
	12/27/99			19.58		5.23	94.77	
	03/24/00			19.63		5.39	94.61	
	06/09/00			19.67		5.24	94.76	
MW-5	12/02/98	20'	5'-20'	19.72	102.22	4.59	97.63	soft bottom
	03/08/99			19.72		5.20	97.02	hard bottom
	07/01/99			19.61		5.59	96.63	
	08/18/99			19.61		5.37	96.85	
	09/15/99			19.55		5.55	96.67	
	12/27/99			19.54		5.48	96.74	
	03/24/00			19.57		6.02	96.20	
	06/09/00			19.52		5.59	96.63	
MW-6	03/24/00	20'	10'-20'	18.39	102.58	5.49	97.09	
	06/09/00			18.44		5.87	96.71	

bgs = below ground surface

BOW = Bottom of well

TOC = Top of casing. Elevation relative to an arbitary datum of 100 feet MSL

NM = not measured FP = floating product

TABLE 2 - COMPARISON OF GROUNDWATER ELEVATIONS

WELL I.D.	DATE	GROUNDWATER EL. -- RELATIVE (feet)	DIFFERENTIAL (feet)	OVERALL DIFFERENTIAL (feet)
MW-1	12/02/98	97.84	na	na
	03/08/99	97.31	0.53	0.53
	07/01/99	96.93	0.38	0.91
	08/18/99	97.12	-0.19	0.72
	09/15/99	97.05	0.07	0.79
	12/27/99	96.93	0.12	0.91
	03/24/00	na	destroyed 12/27/99	
MW-2	12/02/98	97.83	na	na
	03/08/99	97.28	0.55	0.55
	07/01/99	96.53	0.75	1.30
	08/18/99	96.91	-0.38	0.92
	09/15/99	96.89	0.02	0.94
	12/27/99	96.77	0.12	1.06
	03/29/00	97.00	-0.23	0.83
	06/09/00	NM	floating product	
MW-3	12/02/98	97.76	na	na
	03/08/99	97.10	0.66	0.66
	07/01/99	96.65	0.45	1.11
	08/18/99	96.79	-0.14	0.97
	09/15/99	96.74	0.05	1.02
	12/27/99	96.58	0.16	1.18
	03/24/00	96.19	0.39	1.57
	06/09/00	96.57	-0.38	1.19
MW-4	12/02/98	97.80	na	na
	03/08/99	97.20	0.60	0.60
	07/01/99	94.77	2.43	3.03
	08/18/99	95.00	-0.23	2.80
	09/15/99	95.01	-0.01	2.79
	12/27/99	94.77	0.24	3.03
	03/24/00	94.61	0.16	3.19
	06/09/00	94.76	-0.15	3.04
MW-5	12/02/98	97.63	na	na
	03/08/99	97.02	0.61	0.61
	07/01/99	96.63	0.39	1.00
	08/18/99	96.85	-0.22	0.78
	09/15/99	96.67	0.18	0.96
	12/27/99	96.74	-0.07	0.89
	03/24/00	96.20	0.54	1.43
	06/09/00	96.63	-0.43	1.00
MW-6	03/24/00	97.09	na	na
	06/09/00	96.71	0.38	0.38

Figure 3 illustrates the comparison of groundwater elevations.

TABLE 3 - SUMMARY OF HISTORICAL GROUNDWATER FLOW CONDITIONS

DATE	WELL I.D.	GROUNDWATER EL. -- RELATIVE (feet)	GROUNDWATER FLOW DIRECTION	GROUNDWATER GRADIENT (feet/feet)
12/02/98	MW-1	97.84	W	0.00091
	MW-2	97.83		
	MW-3	97.76		
	MW-4	97.80		
	MW-5	97.63		
03/08/99	MW-1	97.31	SW	0.00086
	MW-2	97.28		
	MW-3	97.10		
	MW-4	97.20		
	MW-5	97.02		
07/01/99	MW-1	96.93	SW	0.0011
	MW-2	96.53		
	MW-3	96.65		
	MW-4	94.77		
	MW-5	96.63		
08/18/99	MW-1	96.93	W	0.0013
	MW-2	96.91		
	MW-3	96.65		
	MW-4	94.77		
	MW-5	96.63		
09/15/99	MW-1	97.05	N*	0.04089*
	MW-2	96.89		
	MW-3	96.74		
	MW-4	95.01	W	0.00125**
	MW-5	96.81		
12/27/99	MW-1	96.93	W**	0.0010**
	MW-2	96.77		
	MW-3	96.58		
	MW-4	94.77	N*	0.0489*
	MW-5	96.74		

* = Flow component between Wells MW-2 and MW-4
** = Flow component between Wells MW-2, MW-3, and MW-5
*** = Measurement taken 3/29/00
Figure 2 presents groundwater gradient plot
Well MW-1 destroyed 12/27/99
Well MW-6 installed 3/20/00

Table 3 is continued on next page.

TABLE 3 - SUMMARY OF HISTORICAL GROUNDWATER FLOW CONDITIONS				
DATE	WELL I.D.	GROUNDWATER EL. -- RELATIVE (feet)	GROUNDWATER FLOW DIRECTION	GROUNDWATER GRADIENT (feet/feet)
03/24/00	MW-2	97.00***	NW	0.0469 (from MW-2 to MW-4)
	MW-3	96.19		
	MW-4	94.61		
	MW-5	96.20	WSW	0.0131 (from MW-6 to area of MW-5)
	MW-6	97.09		
06/09/00	MW-2	NM	N	0.03 (average) (at MW-2, -3 & -4; from MW-6 to MW-4)
	MW-3	96.57		
	MW-4	94.76		
	MW-5	96.63	SSW	0.0011 (average) (from MW-6 to area of MW-5)
	MW-6	96.71		
* = Flow component between Wells MW-2 and MW-4				
** = Flow component between Wells MW-2, MW-3, and MW-5				
*** = Measurement taken 3/29/00				
Figure 2 presents groundwater gradient plot				
Well MW-1 destroyed 12/27/99				
Well MW-6 installed 3/20/00				

TABLE 4 - HISTORICAL GROUNDWATER ANALYTICAL DATA
(concentrations in µg/L or ppb)

Well ID	Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
MW-1	12/2/98(a)	<50	<50	<0.05	<0.05	<0.05	<0.05
	03/08/99	190	<50	<0.3	<0.3	<0.3	<0.3
	07/01/99	<50	<50	<0.5	<0.5	<0.5	<0.5D
	09/15/99	<50	3100	<0.5	9.6	7.8	12
	12/27/99	<50	<50	< 0.5	< 0.5	< 0.5	< 0.5
	12/27/99	well destroyed					
MW-2	12/2/98(a)	99	<50	4.6	0.85	0.57	5
	03/08/99	210	180	200(a)	0.74	1.3	2.3
	07/01/99	<50	1100	190	13	33	36
	09/15/99	100*	990	330	9.7	11	19
	12/27/99	<50	1000	260	7.2	1.3	10
	03/29/00	31000	1900	110	4.8	9.5	12
	06/09/00	not sampled: well contained floating product					
MW-3	12/2/98(a)	300	970	160	6.5	16	9
	03/08/99	1400	2600	1800(b)	30(c)	67(c)	26(c)
	07/01/99	150*	3000	1	<0.5	32	36
	09/15/99	110*	1100	350	8.3	5.4	10
	12/27/99	70	560	170	2.1	7.6	3.1
	03/24/00	1000	8400	4100	71	190	75
	06/09/00	320	2700	1100	17	18	ND
MW-4	12/2/98(a)	620	<50	1.1	0.37	<0.3	2
	03/08/99	<50	1300	1900(b)	9.4	1.2	11
	07/01/99	<50	610**	120	<0.5	<0.5	<0.5
	09/15/99	59*	830	320	6.5	1.7	<2.0
	12/27/99	<50	55	5.8	< 0.5	< 0.5	< 0.5
	03/24/00	77	430	240	3.3	0.98	1.5
	06/09/00	ND	220	91	0.93	ND	ND
MW-5	12/2/98(a)	620	<50	1.1	0.37	<0.3	2
	03/08/99	<50	58	23	0.31	<0.3	1.8
	07/01/99	64*	1900	160	10	13	22
	09/15/99	<50	410	64	2.1	1.3	2.7
	12/27/99	<50	130	15	0.73	< 0.5	< 0.5
	03/24/00	460	2500	560	57	18	87
	06/09/00	140	2600	770	63	15	71
MW-6	03/24/00	470	2400	430	16	340	73
	06/09/00	ND	540	190	1.2	3.7	4.5
	MCLs	NE	NE	1	100	680	1750

Notes: Shaded values exceed MCLs. MCLs = Maximum Contaminant Levels per State Office of Drinking Water Standards. NE = No MCL or Action Level has been established. TPHd = Total Petroleum Hydrocarbons as Diesel. TPHg = Total Petroleum Hydrocarbons as Gasoline. * = Analytical results within quantitation range for diesel; however, chromatographic pattern not typical of fuel. ** = Analytical results within quantitation range for gasoline; however, chromatographic pattern not typical of fuel. (a) = Reporting limit for this monitoring event are elevated 10 times due to matrix interference. (b) = Reporting limit is elevated 100 times due to matrix interference. (c) = Reporting limit is elevated 5 times due to matrix interference.

TABLE 5 - COMPARISON OF DO AND ORP DATA

WELL I.D.	DATE	Dissolved Oxygen (mg/L)		ORP (mV)	
		pre-purge	post-purge		
MW-1	12/27/98	1.9	2	171	239
MW-2	12/27/98	1	1.8	221	219
	03/24/00	0.1	0.7	-16	-14
	06/09/00	NOT MEASURED: FLOATING PRODUCT IN WELL			
MW-3	12/27/98	1	1.3	162	-24
	03/24/00	1.1	3.6	112	61
	06/09/00	0.9	2.7	194	195
MW-4	12/27/98	1	2.1	257	nr
	03/24/00	0.7	2.1	144	158
	06/09/00	0.6	1.7	99	94
MW-5	12/27/98	1.8	1.6	189	186
	03/24/00	0.9	2.4	227	211
	06/09/00	0.4	0.8	186	179
MW-6	03/24/00	1.2	3.8	-11	-48
	06/09/00	0.9	2.6	24	27

Notes:
DO measurements are downhole nr = not reported
ORP = Oxidation-reduction potential (millivolts)

APPENDIX A
WELL MONITORING FIELD DATA SHEETS

DUGAN ASSOCIATES
SAMPLING
SERVICES
Subsurface Environmental Sampling

1180 DELMAS AVE.
SAN JOSE, CA 95125

Tel. (408) 287-2175
Fax. (408) 287-2176

Groundwater Monitoring & Sampling Record

Site Name E2C Project 1124SC01 [Hengenber Road]

Date 06/09/00 **Well I.D.** MW-3

Field Crew Dave Nitzberg

Task ▩ Well Gauging ▩ Well Sampling ☐ Pump Test

Wellhead Inspection

yes no
☒ ☐ Well locked?
☐ ☒ Well Cap need replacement?

Purge Method ☐ Disposable Bailer ☐ Grundfos ☒ PVC Bailer ☐ 2"-Whaler

Purge Volume Calculations

Total Depth of well 19.59 ft
Depth to water 5.43 ft
Height of Water in well 14.16 ft

14.16 ft (*Height of Water in well*) x (*2-inch Casing = 0.16 gal/ft; 4-inch casing = 0.667 gal/ft; 5-inch casing = 1.02 gal/ft; 6-inch casing = 1.47 gal/ft*) = 2.27 gal (*One Well Volume*)

2.27 gal (*One Well Volume*) x 3 (*Number of Target Well Volumes*) = 6.81 gal *Purge Volume*

Decon Log

Pump I.D. N/A
yes no
☐ ☐ Steam-cleaned?
☐ ☐ Alconox rinse?

Bailer I.D. _____
yes no
☐ ☒ Steam-cleaned?
☒ ☐ Alconox rinse?

yes no **Drum Log**
☒ ☐ 55-gallon drum
Drum I.D. Existing Drum

Sample Containers:

▩ 40 ml VOA vials 6
▩ 1-liter amber glass 2
☐ 16-oz plastic bottle ____

Field Observation/Notes: Water Color: Clear
No odor

TIME	GALLONS	Purge Status	D.O. [ppm]	O.R.P. [uS] mV	pH	EH [uS]	TEMP. F	DTW (ft) BTOC
	0 - Initial	Pre-Purge	—	—	—	—	—	
3:17pm	0 - Static	Pre-Purge	8.9	—	—	—	—	5.43
3:21pm	2	Purging	—	194	6.99	589	64.1°	—
3:24pm	4.5	Purging	—	187	7.07	571	64.40	—
3:28pm	6.5	Purging	—	195	7.05	562	64.5°	—
	—	Post-Purge		—	—	—	—	
3:37pm	—	Post-Purge	2.7	—	—	—	—	6.78
	—	Collect Sample		—	—	—	—	

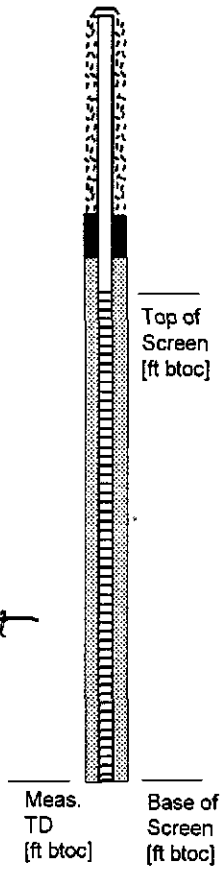
Recovery Data: Post Purge / Static x 100 = 5.43 / 6.78 = 80 % recovery in 6 min.

Sample Collection: ☒ Disposable Bailer ☐ PVC Bailer ☐ Stainless-Steel Bailer ☒ No Product Odor ☐ Product Odor

Sample Depth: 7.25 feet [ft btoc]

Sample Handing: Place in iced-storage.

Groundwater Stratigraphy [Screened Interval]:



DUGAN ASSOCIATES
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Subsurface Environmental Sampling

1180 DELMAS AVE.
SAN JOSE, CA 95125

Tel. (408) 287-2175
Fax. (408) 287-2176

Groundwater Monitoring & Sampling Record

Site Name E2C Project 1124SC01 [Hengenber Road]

Date 06/09/00 **Well I.D.** MW-4

Field Crew Dave Nitzberg

Task ▩ Well Gauging ▩ Well Sampling ☐ Pump Test

Wellhead Inspection

yes	no	
☒	☐	Well locked?
☐	☒	Well Cap need replacement?

Purge Method ☐ Disposable Bailer ☐ Grundfos ☒ PVC Bailer ☐ 2"-Whaler

Purge Volume Calculations

Total Depth of well 19.67 ft
Depth to water 5.24 ft
Height of Water in well 14.43 ft

14.43 ft (*Height of Water in well*) x (*2-inch Casing = 0.16 gal/ft; 4-inch casing = 0.667 gal/ft; 5-inch casing = 1.02 gal/ft; 6-inch casing = 1.47 gal/ft*) = 2.3 gal (*One Well Volume*)

2.3 gal (*One Well Volume*) x 3 (*Number of Target Well Volumes*) = 6.9 gal *Purge Volume*

Decon Log

Pump I.D. N/A

yes	no	
☐	☐	Steam-cleaned?
☐	☐	Alconox rinse?

Bailer I.D. _____

yes	no	
☐	☒	Steam-cleaned?
☒	☐	Alconox rinse?

Drum Log

yes	no	
☒	☐	55-gallon drum

Drum I.D. Existing Drum

Sample Containers:

▩ 40 ml VOA vials	6
▩ 1-liter amber glass	2
☐ 16-oz plastic bottle	____

Field Observation/Notes: Water Color: Clear
Slight odor.

TIME	GALLONS	Purge Status	D.O. [ppm]	O.R.P. [uS]	pH	EH [uS]	TEMP. F	DTW (ft) BTOC
	0 - Initial	Pre-Purge	—	—	—	—	—	
2:59p	0 - Static	Pre-Purge	2.6	—	—	—	—	5.24
3:02p	2.0	Purging	—	099	7.02	616	66.1°	—
3:06p	4.5	Purging	—	094	7.05	607	66.4°	—
3:08p	6.0	Purging	—	094	7.01	617	65.9°	—
	—	Post-Purge		—	—	—	—	
3:14p	—	Post-Purge	1.7	—	—	—	—	6.34
	—	Collect Sample		—	—	—	—	

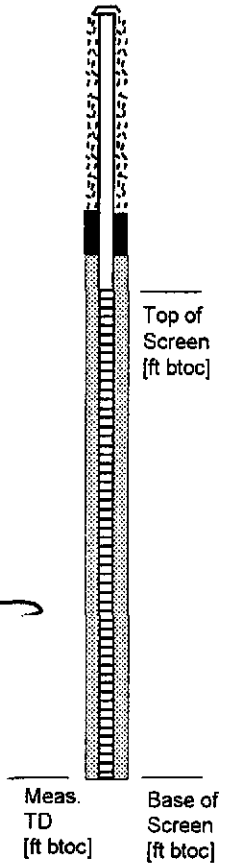
Recovery Data: Post Purge / Static x 100 = 5.24 / 6.34 = 83 %

Sample Collection: ☒ Disposable Bailer ☐ PVC Bailer ☐ Stainless-Steel Bailer ☐ No Product Odor ☒ Product Odor

Sample Depth: 7 feet [ft btoc]

Sample Handing: Place in iced-storage.

Groundwater Stratigraphy [Screened Interval]:



DUGAN ASSOCIATES
SAMPLING
SERVICES
Subsurface Environmental Sampling

1180 DELMAS AVE.
SAN JOSE, CA 95125

Tel. (408) 287-2175
Fax. (408) 287-2176

Groundwater Monitoring & Sampling Record

Site Name E2C Project 1124SC01 [Hengenber Road]

Date 06/09/00 **Well I.D.** MW-5

Field Crew Dave Nitzberg

Task ▩ Well Gauging ▩ Well Sampling ☐ Pump Test

Wellhead Inspection

yes	no	
☒	☐	Well locked?
☐	☒	Well Cap need replacement?

Purge Method ☐ Disposable Bailer ☐ Grundfos ☒ PVC Bailer ☐ 2"-Whaler

Purge Volume Calculations

Total Depth of well	19.52 ft
Depth to water	5.59 ft
Height of Water in well	13.93 ft

13.93 ft (*Height of Water in well*) x (*2-inch Casing = 0.16 gal/ft; 4-inch casing = 0.667 gal/ft; 5-inch casing = 1.02 gal/ft; 6-inch casing = 1.47 gal/ft*) = 2.22 gal (*One Well Volume*)

2.22 gal (*One Well Volume*) x 3 (*Number of Target Well Volumes*) = 6.67 gal *Purge Volume*

Decon Log

Pump I.D. N/A

yes	no	
☐	☐	Steam-cleaned?
☐	☐	Alconox rinse?

Bailer I.D. _____

yes	no	
☐	☒	Steam-cleaned?
☒	☐	Alconox rinse?

Drum Log

yes	no	
☒	☐	55-gallon drum

Drum I.D. Existing Drum

Sample Containers:

▩ 40 ml VOA vials	6
▩ 1-liter amber glass	2
☐ 16-oz plastic bottle	____

Field Observation/Notes: Water Color: Clear No Odor

TIME	GALLONS	Purge Status	D.O. [ppm]	O.R.P. [uS]	pH	EH [uS]	TEMP. F	DTW (ft) BTOC
	0 - Initial	Pre-Purge	—	—	—	—	—	
2:40pm	0 - Static	Pre-Purge	.4	—	—	—	—	5.59
2:41pm	2	Purging	—	186	7.36	519	65.1°	—
2:44pm	4	Purging	—	177	7.31	539	65.2°	—
2:47pm	6.5	Purging	—	179	7.32	532	65.5°	—
	—	Post-Purge		—	—	—	—	
2:56pm	—	Post-Purge	.8	—	—	—	—	6.64
	—	Collect Sample		—	—	—	—	

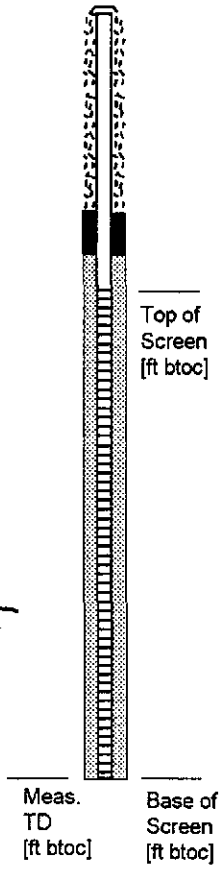
Recovery Data: Post Purge / Static x 100 = 5.59 / 6.64 = 84% recovery in 9 min

Sample Collection: ☒ Disposable Bailer ☐ PVC Bailer ☐ Stainless-Steel Bailer ☒ No Product Odor ☐ Product Odor

Sample Depth: 7 feet [ft btoc]

Sample Handing: Place in iced-storage.

Groundwater Stratigraphy [Screened Interval]:



DUGAN ASSOCIATES
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SERVICES
Subsurface Environmental Sampling

1180 DELMAS AVE.
SAN JOSE, CA 95125

Tel. (408) 287-2175
Fax. (408) 287-2176

Groundwater Monitoring & Sampling Record

Site Name E2C Project 1124SC01 [Hengenber Road]

Date 06/09/00 **Well I.D.** MW-6

Field Crew Dave Nitzberg

Task ▩ Well Gauging ▩ Well Sampling ☐ Pump Test

Wellhead Inspection

yes no
☒ ☐ Well locked?
☐ ☒ Well Cap need replacement?

Purge Method ☐ Disposable Bailer ☐ Grundfos ☒ PVC Bailer ☐ 2"-Whaler

Purge Volume Calculations

Total Depth of well	18.44 ft
Depth to water	5.87 ft
Height of Water in well	12.57 ft

12.57 ft (Height of Water in well) x (2-inch Casing = 0.16 gal/ft; 4-inch casing = 0.667 gal/ft; 5-inch casing = 1.02 gal/ft; 6-inch casing = 1.47 gal/ft) = 2.01 gal (One Well Volume)

2.01 gal (One Well Volume) x 3 (Number of Target Well Volumes) = 6.03 gal *Purge Volume*

Decon Log

Pump I.D. N/A

yes no
☐ ☐ Steam-cleaned?
☐ ☐ Alconox rinse?

Bailer I.D. _____

yes no
☐ ☒ Steam-cleaned?
☒ ☐ Alconox rinse?

Drum Log

yes no
☒ ☐ 55-gallon drum

Drum I.D. Existing Drum

Sample Containers:

▩ 40 ml VOA vials	6
▩ 1-liter amber glass	2
☐ 16-oz plastic bottle	—

Field Observation/Notes: Water Color: milky brown - No odor

TIME	GALLONS	Purge Status	D.O. [ppm]	O.R.P. [uS]	pH	EH [uS]	TEMP. F	DTW (ft) BTOC
	0 - Initial	Pre-Purge	—	—	—	—	—	
2:25pm	0 - Static	Pre-Purge	.7	—	—	—	—	5.87
2:26pm	2.0	Purging	—	024	7.07	816	64.8°	—
2:29pm	4.0	Purging	—	037	7.11	832	64.4°	—
2:31pm	6.0	Purging	—	027	7.07	840	64.1°	—
2:35	—	Post-Purge	2.6	—	—	—	—	7.07
	—	Post-Purge		—	—	—	—	
	—	Collect Sample		—	—	—	—	

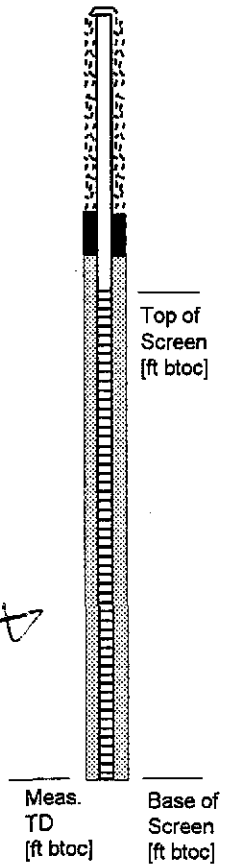
Recovery Data: Post Purge / Static x 100 = 5.87 / 7.07 = 83 % recovery in 7 min.

Sample Collection: ☒ Disposable Bailer ☐ PVC Bailer ☐ Stainless-Steel Bailer ☒ No Product Odor ☐ Product Odor

Sample Depth: 7.5 feet [ft btoc]

Sample Handing: Place in iced-storage.

Groundwater Stratigraphy [Screened Interval]:



APPENDIX B
QMR LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

June 22, 2000

Bill Lawson
E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050

Order: 20975
Project Name: McMorgan
Project Number: 1124SC01
Project Notes:

Date Collected: 6/9/00
Date Received: 6/15/00
P.O. Number:

On June 15, 2000, samples were received under documentented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method
Liquid	Gas/BTEX	EPA 8015 MOD. (Purgeable)
		EPA 8020
	TPH as Diesel	EPA 8015 MOD. (Extractable)

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,

Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050
Attn: Bill Lawson

Date: 6/22/00
Date Received: 6/15/00
Project Name: McMorgan
Project Number: 1124SC01
P.O. Number:
Sampled By: Bill Dugan

Certified Analytical Report

Order ID: 20975 **Lab Sample ID:** 20975-001 **Client Sample ID:** W-MW-3

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	1100		20	0.5	10	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Toluene	17		20	0.5	10	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Ethyl Benzene	18		20	0.5	10	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Xylenes, Total	ND		20	0.5	10	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	97	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	2700		20	50	1000	µg/L	N/A	6/16/00	WGC4000616A	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	98	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Michelle P. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050
Attn: Bill Lawson

Date: 6/22/00
Date Received: 6/15/00
Project Name: McMorgan
Project Number: 1124SC01
P.O. Number:
Sampled By: Bill Dugan

Certified Analytical Report

Order ID: 20975 **Lab Sample ID:** 20975-002 **Client Sample ID:** W-MW-4

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	91		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Toluene	0.93		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	94	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	220		1	50	50	µg/L	N/A	6/16/00	WGC4000616A	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	97	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050
Attn: Bill Lawson

Date: 6/22/00
Date Received: 6/15/00
Project Name: McMorgan
Project Number: 1124SC01
P.O. Number:
Sampled By: Bill Dugan

Certified Analytical Report

Order ID: 20975 **Lab Sample ID:** 20975-003 **Client Sample ID:** W-MW-5

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	770		10	0.5	5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Toluene	63		10	0.5	5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Ethyl Benzene	15		10	0.5	5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Xylenes, Total	71		10	0.5	5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	99	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	2600		10	50	500	µg/L	N/A	6/16/00	WGC4000616A	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	94	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

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E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050
Attn: Bill Lawson

Date: 6/22/00
Date Received: 6/15/00
Project Name: McMorgan
Project Number: 1124SC01
P.O. Number:
Sampled By: Bill Dugan

Certified Analytical Report

Order ID: 20975 **Lab Sample ID:** 20975-004 **Client Sample ID:** W-MW-6

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	190		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Toluene	1.2		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Ethyl Benzene	3.7		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020
Xylenes, Total	4.5		1	0.5	0.5	µg/L	N/A	6/16/00	WGC4000616A	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	90	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	540		1	50	50	µg/L	N/A	6/16/00	WGC4000616A	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	84	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050
Attn: Bill Lawson

Date: 6/22/00
Date Received: 6/15/00
Project Name: McMorgan
Project Number: 1124SC01
P.O. Number:
Sampled By: Bill Dugan

Certified Analytical Report

Order ID: 20975 **Lab Sample ID:** 20975-001 **Client Sample ID:** W-MW-3

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	320	x	1	50	50	µg/L	6/16/00	6/17/00	DS000607	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
Hexacosane	90	65 - 135

Order ID: 20975 **Lab Sample ID:** 20975-002 **Client Sample ID:** W-MW-4

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	6/16/00	6/17/00	DS000607	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
Hexacosane	90	65 - 135

Order ID: 20975 **Lab Sample ID:** 20975-003 **Client Sample ID:** W-MW-5

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	140	x	1	50	50	µg/L	6/16/00	6/17/00	DS000607	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
Hexacosane	93	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Michelle D. Anderson, Laboratory Director

Environmental Analysis Since 1983

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E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050
Attn: Bill Lawson

Date: 6/22/00
Date Received: 6/15/00
Project Name: McMorgan
Project Number: 1124SC01
P.O. Number:
Sampled By: Bill Dugan

Certified Analytical Report

Order ID: 20975 **Lab Sample ID:** 20975-004 **Client Sample ID:** W-MW-6

Sample Time: **Sample Date:** 6/9/00 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	6/19/00	6/19/00	DW000609	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
Hexacosane	87	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

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CA ELAP# 2346

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STANDARD LAB QUALIFIERS (FLAGS)

All Entech lab reports now reference standard lab qualifiers. These qualifiers are noted in the adjacent column to the analytical result and are adapted from the U.S. EPA CLP program. The current qualifier list is as follows:

Qualifier (Flag)	Description
U	Compound was analyzed for but not detected
J	Estimated value for tentatively identified compounds or if result is below PQL but above MDL
N	Presumptive evidence of a compound (for Tentatively Identified Compounds)
B	Analyte is found in the associated Method Blank
E	Compounds whose concentrations exceed the upper level of the calibration range
D	Multiple dilutions reported for analysis; discrepancies between analytes may be due to dilution
X	Results within quantitation range; chromatographic pattern not typical of fuel

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Sample

QC Batch #: WGC4000616A
Matrix: Liquid
Units: µg/Liter

Date Analyzed: 06/16/00
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/Liter	SA µg/Liter	SR µg/Liter	SP µg/Liter	**SP % R**	SPD µg/Liter	**SPD %R**	% RPD	QC LIMITS RPD	QC LIMITS %R
Benzene	8020	<0.50	4.7	ND	5.0	**106**	4.5	**96**	10.1	25	70-130
Toluene	8020	<0.50	29	ND	32	**109**	33	**114**	4.7	25	70-130
Ethyl Benzene	8020	<0.50	5.6	ND	6.4	**114**	6.4	**114**	0.6	25	70-130
Xylenes	8020	<0.50	32	ND	35	**109**	36	**113**	3.1	25	70-130
Gasoline	8015	<50.0	469	ND	480	**102**	469	**100**	2.4	25	70-130
aaa-TFT(S.S.)-FID	8020			109%	106%		104%				65-135
aaa-TFT(S.S.)-PID	8015			101%	100%		93%				65-135

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike % Recovery
- nc: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

QC Batch #: DS000609
Matrix: Solid
Units: mg/Kg

Date analyzed: 06/15/00
Date extracted: 06/14/00
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/Kg	SA mg/Kg	SR mg/Kg	SP mg/Kg	**SP %R**	SPD mg/Kg	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<1.0	25	ND	17	**69**	19	**74**	7.5	30	50-150
Hexocosane				104%	97%		104%				65-135

Calculated Recovery Outside of Control Limits:

Definition of Terms:

- MB: Method Blank
- na: Not Analyzed in QC batch
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike Duplicate % Recovery
- NC: Not Calculated

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Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

QC Batch #: DS000607
Matrix: Solid
Units: mg/Kg

Date analyzed: 06/10/00
Date extracted: 06/09/00
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/Kg	SA mg/Kg	SR mg/Kg	SP mg/Kg	**SP %R**	SPD mg/Kg	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<1.0	25	ND	21	**84**	20	**80**	5.2	30	50-150
Hexocosane				100%	110%		105%				65-135

Calculated Recovery Outside of Control Limits:

Definition of Terms:

MB: Method Blank
na: Not Analyzed in QC batch
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike Duplicate % Recovery
NC: Not Calculated

DUGAN ASSOCIATES
SAMPLING
SERVICES
Subsurface Environmental Sampling

1180 DELMAS AVE.
SAN JOSE, CA 95125

Tel. (408) 287-2175
Fax. (408) 287-2176

Chain of Custody Record

UST FUND PROJECT SITE ?
yes no
☒ ☐

SUPERVISING SAMPLING PROFESSIONAL: BILL DUGAN
PROFESSIONAL REGISTRATION NO.: R.G. #6253

CERTIFIED ANALYTICAL LABORATORY: Entech
CALIFORNIA STATE-CERTIFIED LABORATORY NO.: D.O.H.

PROJECT NAME: E2C, Inc. [Project #1124SC01]
SITE ADDRESS: 444 Hegenberger Road, Oakland, CA
TURNAROUND TIME: STANDARD

SAMPLED BY (PRINT): Dave Nitzberg
DATE (S): 06/09/00

20975

SAMPLE I.D.#:	SAMPLED DATE	SAMPLED TIME	NUMBER OF CONTAINERS	SAMPLE MATRIX (SOIL OR WATER)	TPHg (LUFT)	TPHg / BTEX	TPHd (LUFT)	EPA 8260 for MTBE/TAME/ETBE DIPE/TBA	TOTAL LEAD	5 METALS (Cd, Cr, Pb, Ni, Zn)	EPA METHOD 8270	EPA METHOD 8240	EPA METHOD 8010	T.O.G 5520 E&F	ACIDIFIED
-001 W-MW-3	06/09/00	7:35	6	Water		X	X								Yes
-002 W-MW-4	06/09/00	9:15	6	Water		X	X								Yes
-003 W-MW-5	06/09/00	8:55	6	Water		X	X								Yes
-004 W-MW-6	06/09/00	8:35	6	Water		X	X								Yes

COMMENTS / SPECIAL INSTRUCTIONS TO LABORATORY:

Invoice E2C, Inc.

COMMENTS / SPECIAL NOTATIONS BY LABORATORY:

CONDITION OF EVIDENCE TAPE (IF APPLICABLE):

RELINQUESTED BY (SIGNATURE): DUGAN ASSOCIATES (Dave Nitzberg)	RECEIVED BY (SIGNATURE): AFFILIATION: Maria Gruss	DATE 6/15/00	TIME 10:00
RELINQUESTED BY (SIGNATURE): AFFILIATION:	RECEIVED BY (SIGNATURE): AFFILIATION:	DATE	TIME
RECEIVED BY (SIGNATURE): AFFILIATION:	RECEIVED BY (SIGNATURE): AFFILIATION:	DATE	TIME

6-15-00

Environmental Sampling Since 1986

00 JUN 15 10:00