

CONNER • BAK LLP

Tommy A. Conner
J. Timothy Bak *

* Also admitted to practice in Nevada

SIRIUS ENVIRONMENTAL
PROTECTION

99 APR 22 PM 2: 05

444 De Haro Street, Suite 121
San Francisco, CA 94107
tel 415•621•3939
fax 415•621•3999

email: conbak@sirius.com

4610

April 21, 1999

Alameda County Health Care Services
Environmental Health Services
ATTN : Mr. Barney Chan
1131 Harbor Bay Parkway, Suite 250
Alameda, California 95402-6577

**Re: First Quarter 1999 Groundwater Monitoring Report
3927 East 14th Street
Oakland, California**

Dear Mr. Chan:

Enclosed is a copy of the *First Quarter 1999 Groundwater Monitoring Report* prepared for Ruben Hausauer's 3927 East 14th Street, Oakland, California site. This report documents the results of the first quarter of groundwater monitoring performed in 1999 at the site. Groundwater monitoring was performed on 16 March 1999 by Kleinfelder Inc. personnel. This report was prepared by Kleinfelder Inc. at the request of Ruben Hausauer.

If you have any questions or comments, please call either Kleinfelder Inc. at (408) 436-1155 or me at (415) 621-3939. Thank you for your time and attention.

Very truly yours,



Tommy A. Conner

:syr/Enclosure

cc: State Water Resources Control Board (w/encl)
P. O. Box 944212
Sacramento, California 94244-2120

Gary Rogers, Ph.D. (w encl)
Aquatic & Environmental Applications
38053 Day Court
Fremont, CA 94536

- Bio indicators esp D.O.
not very conducive to aerobic bio. - may need to add socks to wells.
- need to check status of HRA

**FIRST QUARTER 1999
GROUNDWATER MONITORING REPORT
NEW GENICO FACILITY
OAKLAND, CALIFORNIA**

PREPARED FOR: Conner-Bak, LLP
444 De Haro Street, Suite 121
San Francisco, California

ATTENTION: Mr. Tommy A. Conner

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April 15, 1999



KLEINFELDER

An employee owned company

April 15, 1999
File No. 12-3047-61

Conner-Bak, LLP
444 De Haro Street, Suite 121
San Francisco, California 94107

ATTENTION: Mr. Tommy A. Conner

**SUBJECT: First Quarter 1999 Groundwater Monitoring Report, New Genico Facility,
3927 East 14th Street, Oakland, California**

Dear Mr. Conner:

Kleinfelder, Inc. (Kleinfelder) is pleased to provide you with the First Quarter 1999 Groundwater Monitoring Report for the New Genico facility (New Genico) located at 3927 East 14th Street, Oakland, California (site; Plate 1). Note that 14th Street has been renamed "International Boulevard." However, we will continue to refer to the site as 3927 East 14th Street for consistency with previous reports. This report discusses field procedures, observations, and results of the first quarter 1999 groundwater monitoring event. Work was conducted in accordance with Kleinfelder's proposal dated February 11, 1999.

Kleinfelder performed groundwater monitoring on March 16, 1999, measuring water levels and collecting groundwater samples from four groundwater monitoring wells at the site (HMW-1 through HMW-4). Monitoring well locations are shown on Plate 2.

BRIEF BACKGROUND

A release from an underground storage tank (UST) previously located on-site resulted in impacts to soil and groundwater. The UST was removed previously, along with some of the impacted soils. In accordance with Alameda County Health Care Services Agency (ACHCS) and California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), requirements monitoring activities have been performed since August 1996 and are continuing at the site. A release from USTs formerly located across the street at the Motor Partners facility has also impacted soil and groundwater, and it appears that there is some co-mingling of plumes.

All of the wells are completed in the first continuous water-bearing zone encountered beneath the site. Wells HMW-1 through HMW-3 are constructed with 2-inch diameter polyvinyl chloride

(PVC) casing. HMW-4 was a "pre-constructed" well using 0.6-inch inner diameter (I.D.) PVC casing that was installed using direct push technology on November 18, 1998.

FIELD WORK

Kleinfelder performed the monitoring concurrently with Motor Partners' monitoring event on March 16, 1999. Kleinfelder measured depths to water (Table 1) and collected groundwater samples on March 16, 1999, from three of the four monitoring wells in accordance with the protocol presented in Appendix A. Measurements of "redox" potential (reduction/oxidation potential) and dissolved oxygen (D.O.) were made immediately prior to sampling.

Prior to purging the wells, Kleinfelder remeasured water levels in all four wells using an electronic measuring device. A translucent bailer was used to monitor for the presence of floating product or sheen. Kleinfelder noted a sheen on the HMW-1; but no measurable thickness of floating product was noted. Neither a sheen nor floating product was observed in the remaining monitoring wells. An odor was noted in the groundwater in HMW-1, HMW-2 and HMW-4. Due to the small diameter of HMW-4, it was not possible to insert a bailer and monitor for a sheen or floating product in this manner. Due to its small diameter, well HMW-4 had to be purged with a peristaltic pump. The other wells were purged with a bailer.

Purging was performed until a minimum of three casing volumes of water was removed from each well. Purge logs and field observation sheets are included in Appendix B.

LABORATORY ANALYSES

Groundwater samples collected during the first quarter 1999 were analyzed for total petroleum hydrocarbons (TPH) quantified as diesel (TPHd), TPH as motor oil (TPHmo), and TPH as gasoline (TPHg) by modified United States Environmental Protection Agency (EPA) Method 8015; benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tert-butyl ether (MtBE). The four samples were also analyzed by the laboratory for the bioremediation indicator parameters that were specifically requested by ACHCS. These analyses include:

- ferrous iron;
- nitrate-nitrogen; and
- sulfate.

Samples were collected in laboratory supplied containers. The groundwater samples were submitted to Entech Analytical Labs, Inc. of Sunnyvale, California, for chemical analysis. Entech is a laboratory certified by the State of California to perform the above-mentioned analyses.

RESULTS

Groundwater Gradient

Table 1 presents the water-level data for March 1999 for the New Genico facility. Depth-to-water data as measured and provided by Rogers Environmental Services on March 16, 1999 is presented on Table 2. Plate 2 presents the groundwater piezometric contours for March 16, 1999 using the data collected by Kleinfelder.

As illustrated in Plate 2, the groundwater flow direction beneath the site was southerly on March 16, 1999. The magnitude of the hydraulic gradient was approximately 0.013 foot per foot. This flow direction and hydraulic gradient are generally consistent with previous findings. Groundwater levels rose an average of 2.20 feet since last quarter in three of the site's four groundwater monitoring wells (a change could not be calculated for HMW-4 due to a lack of data for the last quarter).

Floating product

A slight sheen was observed in HMW-1 this quarter, but there was no measurable quantity of floating product. Neither a sheen nor floating product was observed in the other site wells. In the previous quarter, no sheen was noted in HMW-1.

Groundwater Analyses

This quarter's groundwater chemistry data for the site are presented in Table 3. Historical data, also presented on Table 3, were obtained from ATC Associates, Inc.'s *Fourth Quarter 1997 Groundwater Monitoring Report* (January 8, 1998), Artesian Environmental's *Groundwater Sampling Point Installation and Sampling Report* (January 30, 1998), Groundworks Environmental, Inc.'s *First Quarter 1998 Groundwater Monitoring Report* (April 10, 1998), Kleinfelder's *Second Quarter 1998 Groundwater Monitoring Report* (July 29, 1998), Kleinfelder's *Third Quarter 1998 Groundwater Monitoring Report* (October 22, 1998). Kleinfelder's revised *Fourth Quarter 1998 Groundwater Monitoring Report* (March 15, 1999).

Laboratory reports from Entech are included in Appendix C. The values of the groundwater parameters measured prior to sampling (pH, temperature and specific conductivity) are presented on Table 4.

The following summarizes the March 1999 analytical results for the 3927 East 14th Street facility.

- TPHd was reported in all four of the wells this quarter. Relatively low concentrations were reported in HMW-3 and HMW-4. (Please refer to the discussion of TPHd analytical reporting methods below.)

upgradient wells and wells located proximate to the former UST location were compared to wells located downgradient of the former UST location to see if any general trends were discernible.

Available data indicates the hydrogeologic regime beneath the site is relatively consistent from well to well. This would suggest that all other things being equal, groundwater characteristics should be relatively uniform proximate to the site. During the March 16, 1999 monitoring event, relatively high concentrations of D.O. were indicated in well HMW-1 which is the New Genico well that is located closest to the former UST location. The D.O. concentration increased in HMW-1 since the last measurement on February 19, 1999. HMW-2 also reported relatively high concentrations of D.O., with concentrations considerably higher than measured on December 16, 1998 and somewhat higher than measured on February 19, 1999. ~~The increase in D.O. concentration in these two wells is likely a result of the introduction of Oxygen Releasing Compounds (ORCs) into the area proximate to the former UST. ORCs were injected proximate to the former UST locations by ATC Associates, Inc., in November 1998.~~

A relatively high concentration of D.O. was reported in HMW-4, located a significant distance downgradient of the former UST location. The high concentration of D.O. in HMW-4 may be partially due to the fact that the D.O. was measured in a container at the ground surface (the D.O. probe does not fit down the 0.6-inch inner diameter well). The exposure to air at the surface would likely result in a higher reading than would be indicated if the measurement was made in the well. It is judged unlikely that the ORCs would affect the D.O. readings in HMW-4 due to the distance of HMW-4 from the area in which ORCs were injected. The concentration in HMW-3 is within historic levels and is judged likely to be representative of "background" concentrations.

you need to set a probe that measures down hole

The concentrations of D.O. in Motor Partners' well MW-4, which is located approximately ten feet downgradient from the former New Genico UST location, was reported by Aquatic and Environmental Applications (April 1, 1999) to be 10.5 mg/L on March 16, 1999. Concentrations of 9.2 mg/L and 2.9 mg/L had been reported on September 24 and December 16, 1998, respectively. This suggests that the D.O. concentration has increased significantly and continues to increase in this well since the ORC installation in November 1998, likely due to its proximity and downgradient location with respect to the ORC injection points.

When bioremediation occurs in relatively anaerobic environments, the following trends may be observed across the dissolved contaminant plume:

- A decrease in nitrate concentrations;
- A decrease in sulfate concentrations.
- An increase in ferrous iron and
- Redox potentials become increasingly negative

The following presents our findings with respect to the selected bioremediation indicator parameters during this quarter

- Nitrate concentrations were slightly lower than previously reported in HMW-1 and HMW-3 and were ND in the remaining wells. This may suggest anaerobic bioremediation is occurring.
- Sulfate concentrations decreased notably in wells HMW-1, HMW-3 and HMW-4. Sulfate concentrations remained ND in well HMW-2 for the fourth consecutive quarter. This may suggest anaerobic bioremediation is occurring.
- Ferrous iron decreased in wells HMW-1, HMW-2 (to ND) and HMW-4 (to ND) and remained ND for well HMW-3. This does not suggest the occurrence of anaerobic bioremediation.
- The redox potential in well HMW-2 and HMW-3 was positive, which does not suggest anaerobic conditions. Redox potentials in the remaining wells were negative, which may suggest the localized occurrence of anaerobic bioremediation.
- Despite indications that aerobic and anaerobic bioremediations may be occurring, concentrations of hydrocarbons increased in HMW-1. This is judged likely to be partially related to the significant rise in water levels, and partially related to McCampbell's reporting procedures. It is judged likely that petroleum hydrocarbons previously "perched" above groundwater have been contacted by the rising water table, resulting in their partial dissolution and remobilization, and hence higher concentrations in groundwater.

Quality Control Results

Laboratory quality control (QC) data were evaluated to assess the acceptability of the analytical results. QC results are included with the Certified Analytical Reports (CARs) in Appendix C. Laboratory QC consisted of checking adherence to holding times and evaluating method blanks and blank spikes (BS). All analyses were performed within the required holding times. No compounds were detected in any of the method blanks. BS recoveries were within the laboratory acceptance limits.

The laboratory QC results indicate the data are of acceptable quality.

CONCLUSIONS

Data suggests that D.O. concentrations are increasing proximate to, and to a lesser extent downgradient of, the ORC injection points. The general trend indicates that concentrations of TPHd, TPHmo, and BTEX, and in HMW-1 and HMW-3, TPHg, have tended to increase since last quarter, although the increase in TPHd and TPHmo reported is at least partially attributable to McCampbell's reporting procedures. The majority of the observed increase may be related to a postulated formerly perched stratum of contaminants that have now been partially dissolved as a result of the rise in the groundwater table. Note the similar pattern (general rise in petroleum hydrocarbons) from March 17, 1998. Groundwater at this time was also high and appears to be reflected in the reported data.

A notable exception to this general trend is reported in the Motor Partners well MW-4, which is located approximately 10 feet downgradient of New Genico's former UST location. Only benzene (2.1 µg/L) was reported in the sample collected from this well (Aquatic & Environmental Applications). Elevated D.O. concentrations were also reported in this well (10.5 mg/L) which appears to indicate that significant aerobic bioremediation is occurring in close proximity, downgradient, from the former UST.

A preliminary review of general trends in concentrations of petroleum hydrocarbons in wells HMW 1-4 and in Motor Partners well MW-4 indicates that, based on the subject well data, the plume is relatively stable, with the exception of the apparent seasonal spike observed during this round.

Consideration should be given to analyzing for additional parameters so that the monitoring for the Motor Partners' site and the New Genico site can be more fully integrated.

LIMITATIONS

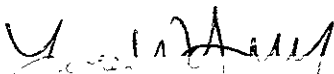
Kleinfelder prepared this report in accordance with generally accepted standards of care, which exist in Northern California at this time. Conclusions are based on field observations made by Kleinfelder personnel and quantitative chemical analysis of four groundwater samples and a trip blank provided by Entech laboratory.

It should be recognized that definition and evaluation of geologic and environmental conditions is a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the present subsurface conditions. More extensive studies, including additional subsurface investigations, may be performed to reduce uncertainties. If the Client wishes to reduce the uncertainties of this investigation, Kleinfelder should be notified for additional consultation. No warranty, express or implied, is made.

If you have any questions about the enclosed report or any other aspect of the work, please contact Bill Theyskens at (408) 436-1155.

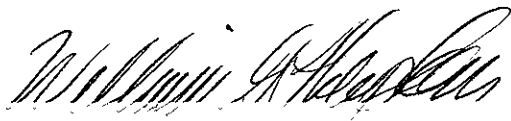
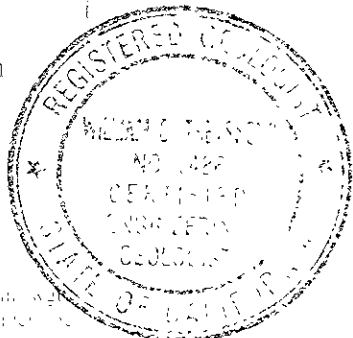
Sincerely,

KLEINFELDER, INC.



Lars Wahlgren
Staff Technician

Attachments



William G. Theyskens, C.F., C.G., C.H.G.
Environmental Group Manager

Table 1
Groundwater Elevations (1)
New Genco Facility
1397 East 14th Street Oakland, California

Well	Date	Casing Elevation (feet, MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet, MSL)	Floating Product (2) (feet)	Corrected Elevation (3) (feet, MSL)		
HMW-1	08/22/96	31.25	8.01	23.24	----	23.24		
	02/25/97		5.95	25.30	----	25.30		
	05/28/97		7.65	23.60	----	23.60		
	09/02/97		8.56	22.69	----	22.69		
	11/26/97		7.50	23.75	----	23.75		
	02/09/98		3.35	27.90	----	27.90		
	03/17/98		5.29	25.96	0.01	25.97		
	06/30/98		6.63	24.62	0.00	24.62		
	09/24/98		8.22	23.03	0.00	23.03		
	12/16/98		6.66	24.59	0.00	24.59		
	03/16/99		4.71	26.54	0.00	26.54		
	HMW-2		08/22/96	29.43	8.71	20.72	----	20.72
			02/25/97		6.00	23.43	----	23.43
05/28/97		7.65	21.78		----	21.78		
09/02/97		8.59	20.84		----	20.84		
11/26/97		6.82	22.61		----	22.61		
02/09/98		3.24	26.19		----	26.19		
03/17/98		4.44	24.99		0.00	24.99		
06/30/98		6.30	23.13		0.00	23.13		
09/24/98		8.20	21.23		0.00	21.23		
12/16/98		6.64	22.79		0.00	22.79		
03/16/99		4.08	25.35		0.00	25.35		
HMW-3		08/22/96	31.48		8.10	23.38	----	23.38
		02/25/97			6.00	25.48	----	25.48
	05/28/97	7.74		23.74	----	23.74		
	09/02/97	8.60		22.88	----	22.88		
	11/26/97	7.50		23.98	----	23.98		
	02/09/98	2.34		29.14	----	29.14		
	03/17/98	5.23		26.25	0.00	26.25		
	06/30/98	6.60		24.88	0.00	24.88		
	09/24/98	8.32		23.16	0.00	23.16		
	12/16/98	6.71		24.77	0.00	24.77		
	03/16/99	4.61		26.87	0.00	26.87		
	HMW-4	11/26/97		28.80	7.42	21.38	----	21.38
		02/09/98			2.96	25.84	----	25.84
03/17/98		5.72	23.08		0.00	23.08		
06/30/98		7.40	21.40		0.00	21.40		
09/24/98		9.80	19.00		0.00	19.00		
12/16/98		N/A	N/A		0.00	N/A		
03/16/99		4.95	23.85		0.00	23.85		

feet, MSL = feet, relative to Mean Sea Level

"----" = not measured, or data not readily available

(1) Data prior to 3/17/98 was obtained from reports prepared by ATC Associates Inc. (1/8/98) and Artesian Environmental (1/30/98), and a Field Report/Data Sheet (ATC, 2/9/98)

(2) Data for floating product was obtained from reports prepared by ATC Associates Inc. (1/8/98) and Artesian Environmental (1/30/98), and a Field Report/Data Sheet (ATC, 2/9/98)

Table 2
 Groundwater Elevations (1)
 Motor Partners Facility
 1234 40th Avenue
 Oakland, California

Well	Date	Casing Elevation (feet, MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet, MSL)	Floating Product (2) (feet)	Corrected Elevation (3) (feet, MSL)
MW-1	11/26/97	31.44	7.98	23.46	----	23.46
	03/17/98		5.84	25.60	----	25.60
	06/30/98		----	----	----	----
	09/24/98		8.74	22.70	----	22.70
	12/16/98		7.11	24.33	----	24.33
	03/16/99		5.26	26.18	----	26.18
MW-2	11/26/97	31.06	7.24	23.82	----	23.82
	03/17/98		5.05	26.01	----	26.01
	06/30/98		6.35	24.71	----	24.71
	09/24/98		7.94	23.12	----	23.12
	12/16/98		6.42	24.64	----	24.64
	03/16/99		4.54	26.52	----	26.52
MW-3	11/26/97	30.43	7.06	23.37	----	23.37
	03/17/98		5.11	25.32	----	25.32
	06/30/98		6.62	23.81	----	23.81
	09/24/98		8.13	22.30	----	22.30
	12/16/98		6.52	23.91	----	23.91
	03/16/99		4.36	26.07	----	26.07
MW-4	11/26/97	30.37	6.64	23.73	----	23.73
	03/17/98		4.52	25.85	----	25.85
	06/30/98		5.86	24.51	----	24.51
	09/24/98		7.23	23.14	----	23.14
	12/16/98		5.92	24.45	----	24.45
	03/16/99		4.12	26.25	----	26.25
MW-5	11/26/97	30.37	----	----	----	----
	03/17/98		5.80	24.57	----	24.57
	06/30/98		----	----	----	----
	09/24/98		8.76	22.39	----	22.39
	12/16/98		7.19	23.96	----	23.96
	03/16/99		5.14	26.01	----	26.01

What well is this?
 →

Table 2
Groundwater Elevations (1)
Motor Partners Facility
1234 40th Avenue
Oakland, California

feet, MSL = feet, relative to Mean Sea Level

"----" = Not measured, or data not readily available

- (1) Data prior to 3/17/98 was obtained from a report prepared by ATC Associates Inc. (1/8/98);
3/17/98 data was obtained from Gary Rogers of Aquatic & Environmental Applications.
- (2) Data regarding the presence/absence of floating product prior to March 1998 was not available at the time of preparation of this report.
- (3) Corrected elevation is equal to groundwater elevation plus the estimated specific gravity of the floating product (0.83) multiplied by the floating product thickness:
Corrected Elevation = Groundwater Elevation + (0.83 x Floating Product Thickness).

Table 3
Groundwater Analytical Results ¹
New Genco Facility
3927 E. 14th Street Oakland, California

W. ID No.	Sample Date	TPH as Diesel (µg/L)	TPH as motor oil (µg/L)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Methyl tert Butyl Ether (µg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	
HMW	08-12-96	ND	ND	7,400	1,200	170	530	490	----	----	----	----	----	----	
	02-25-97	2,000	ND	5,400	760	110	260	260	ND	----	----	----	----	----	
	05-28-97	2,000	600	6,600	1,100	100	290	340	130	----	----	----	----	----	
	09-02-97	8,700	3,700	4,000	460	40	200	100	ND ²	2.0	12	4.20	0.24	-14.4	
	11-26-97	4,700	3,000	7,500	1,000	120	270	320	ND ²	0.6	ND	<0.01	2.0	+105	
	03-17-98	ND	16,000	11,000	2,100	290	600	760	1,200	ND	0.8	0.16	0.8 ³	-60.4	
	06-30-98	ND	5,900	10,000	1,300	160	390	390	160	0.4	2.0	0.96	0.77	-46.70	
	09-24-98	ND	6,600	7,100	890	89	230	180	430/ND ²	1.4	ND	ND	0.4	-17	
	12-16-98	ND	1,400	1,900	290	39	85	100	NR	5.1	33.0	0.17	NR	-40	
	02-19-99	----	----	----	----	----	----	----	----	----	----	----	----	1.00	107
	03-16-99	5,100	8,100	7,700	1,100	120	250	240	100	4.8	12.0	0.14	1.25	-84	
	HMW 1	08-12-96	7,400 ⁴	2,100	6,300	170	57	370	120	----	2100	2100	----	----	----
		02-25-97	90	ND	8,400	150	35	280	70	ND ²	ND	ND	----	----	----
05-28-97		130	200	6,000	170	35	170	67	150	200	200	----	----	----	
09-02-97		4,502	ND ⁵	8,000	210	30	160	90	ND ²	ND	0.5	1.37	0.38	+25.2	
11-26-97		180	ND	1,600	41	7.5	40	10	31	ND	ND	0.03	2.5	+52	
03-17-98		ND	ND	8,600	200	96	410	120	330	ND	0.8	0.01	0.48 ³	-50.28	
06-30-98		ND	ND	7,300	180	52	240	88	170	ND	ND	0.01	0.43	-45.50	
09-24-98		ND	ND	2,900	32	1.5	38	16	ND	ND	ND	ND	0.32	+67	
12-16-98		ND	ND	5,300	93	25.0	160	53	NR	ND	ND	1.1	0.38	-73	
02-19-99		----	----	----	----	----	----	----	----	----	----	----	1.10	101	
03-16-99		1,500	730	5,200	83	31	150	45	140 ²	ND	ND	ND	1.20	125	
HMW 3		08-12-96	ND	ND	1,300	3	6	8	12	----	ND	ND	----	----	----
		02-25-97	70	ND	150	ND	ND	ND	ND	ND	ND	ND	----	----	----
	05-28-97	ND	ND	80	ND	ND	0.60	ND	ND	ND	ND	----	----	----	
	09-02-97	ND ⁵	ND ⁵	140	ND	ND	2.1	ND	ND	2	53	0.03	0.88	+98.6	
	11-26-97	50	ND	70	0.6	0.8	0.8	ND	ND	3.5	50	0.01	1.4	+102	
	03-17-98	ND	200	ND	ND	ND	ND	ND	ND	1.1	43	ND	0.63 ³	91.90	
	06-30-98	ND	ND	ND	ND	ND	ND	ND	ND	4.0	51	ND	0.25	95.70	
	09-24-98	ND	ND	58	ND	ND	ND	0.76	ND	4.9	95	ND	0.63	-16	
	12-16-98	ND	ND	ND	ND	ND	ND	ND	NR	4.0	55	ND	0.71	138	
	02-19-99	----	----	----	----	----	----	----	----	----	----	----	0.95	89	
	03-16-99	70	ND	98	ND	ND	ND	ND	ND	3.1	11	ND	0.75	104	
	HMW 4	11-26-97	400	ND	1,600	4.2	3.1	1.7	5.9	ND	----	----	----	----	----
		03-17-98	ND	ND	1,300	20	1.4	6.8	3.0	19	ND	8.6	0.12	2.4 ³	-26.67
06-30-98		ND	ND	940	17	1.5	18	2	10	ND	18.0	ND	3.7	-21.7	
09-24-98		ND	ND	370	7.2	ND	0.75	1.3	11	ND	11	ND	0.58	-17	
12-16-98		ND	ND	830	11.0	ND	2.70	5.0	NR	ND	12	1.20	1.2	-34	
03-16-99		200	ND	660	6.1	ND	1.0	2.8	7.3	ND	2.3	ND	1.15	-45	
URIP BLANK	03-17-98	----	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----	
	06-30-98	----	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----	
	09-24-98	----	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----	

Table 3
 Groundwater Analytical Results ¹
 New Genico Facility
 3927 E. 14th Street Oakland, California

Well ID No.	Sample Date	TPH as Diesel (µg/L)	TPH as motor oil (µg/L)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Methyl tert Butyl Ether (µg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	12/16/98	----	----	----	----	----	----	----	----	----	----	----	----	----
	03/26/99	----	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----
MCL					1.0	150	700	1,750	35 ⁷					

NOTES

- 1 Well ID No. 1, 2 and 3 are New Genico wells MW-1, MW-2, and MW-3, respectively
- 2 TPH Total petroleum hydrocarbons
- 3 ND Not detected above reporting limit
- 4 NR Not Reported due to laboratory instrument conditions
- 5 Not analyzed
- 6 Measured in the field
- 7 Data prior to 3/1/98 was obtained from a report prepared by ATC Associates Inc. (1/8/98)
- 8 By analytical manual USEPA Method 8020 analysis/confirmation performed by USEPA Method 8260 reports ND
- 9 Dissolved oxygen measured prior to purging
- 10 If both is reported concentration for diesel is estimated due to overlapping fuel patterns
- 11 Samples collected on 10/3/97
- 12 Maximum Contaminant Level
- 13 California Drinking Water Advisory Level

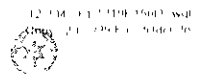
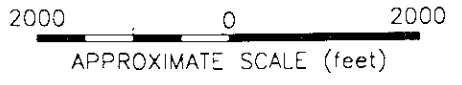
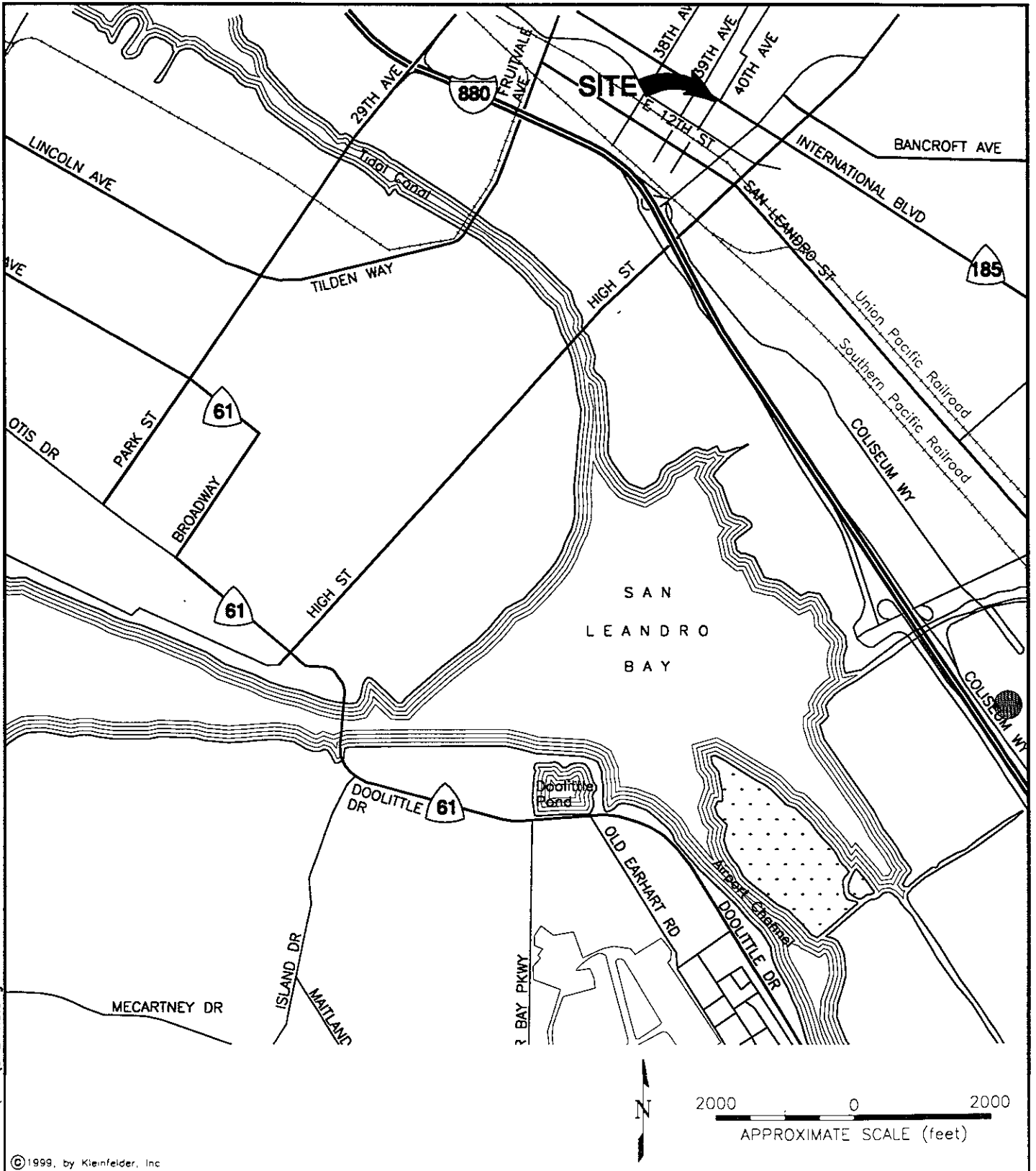


Table 4
Groundwater Parameters Measured Prior to Sampling
New Genico Facility
3927 E. 14th Street Oakland, California

Well I.D. No.	Sample Date	pH	Specific Conductivity (μ mhos/cm)	Temperature ($^{\circ}$ F)
HMW-1	08/22/96	----	----	----
	02/25/97	4.55	680	75.0
	05/28/97	7.70	810	70.4
	09/02/97	6.73	1074	73.4
	11/26/97	6.93	966	70.0
	03/17/98	6.16	1,163	67.6
	06/30/98	6.80	1,006	71.6
	09/24/98	6.69	1,080	70.3
	12/16/98	6.70	830	70.2
	03/16/99	6.49	600	63.5
HMW-2	08/22/96	----	----	----
	02/25/97	4.65	450	72.1
	05/28/97	7.80	480	69.4
	09/02/97	6.82	762	74.8
	11/26/97	6.99	731	69.8
	03/17/98	6.62	741	66.0
	06/30/98	6.88	610	71.6
	09/24/98	6.81	650	71.9
	12/16/98	6.02	590	69.9
	03/16/99	6.44	610	63.1
HMW-3	08/22/96	----	----	----
	02/25/97	5.87	390	63.3
	05/28/97	8.00	400	67.6
	09/02/97	6.97	669	70.9
	11/26/97	6.87	665	67.8
	03/17/98	6.43	734	65.9
	06/30/98	6.96	640	71.6
	09/24/98	6.93	650	69.8
	12/16/98	6.94	610	67.7
	03/16/99	6.87	610	62.8
HMW-4	11/26/97	----	----	----
	03/17/98	6.66	769	66.3
	06/30/98	6.98	690	73.4
	09/24/98	7.05	620	70.9
	12/16/98	7.12	620	71.0
	03/16/99	6.68	650	63.5

NOTES

-- Not Measured



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CAD FILE C:_KA-PROJ\SU\12304760\003\SITE-VIC.dwg



SITE VICINITY MAP

PLATE

NEW GENICO FACILITY
 3927 INTERNATIONAL BOULEVARD
 OAKLAND, CALIFORNIA





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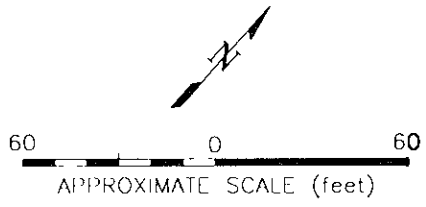
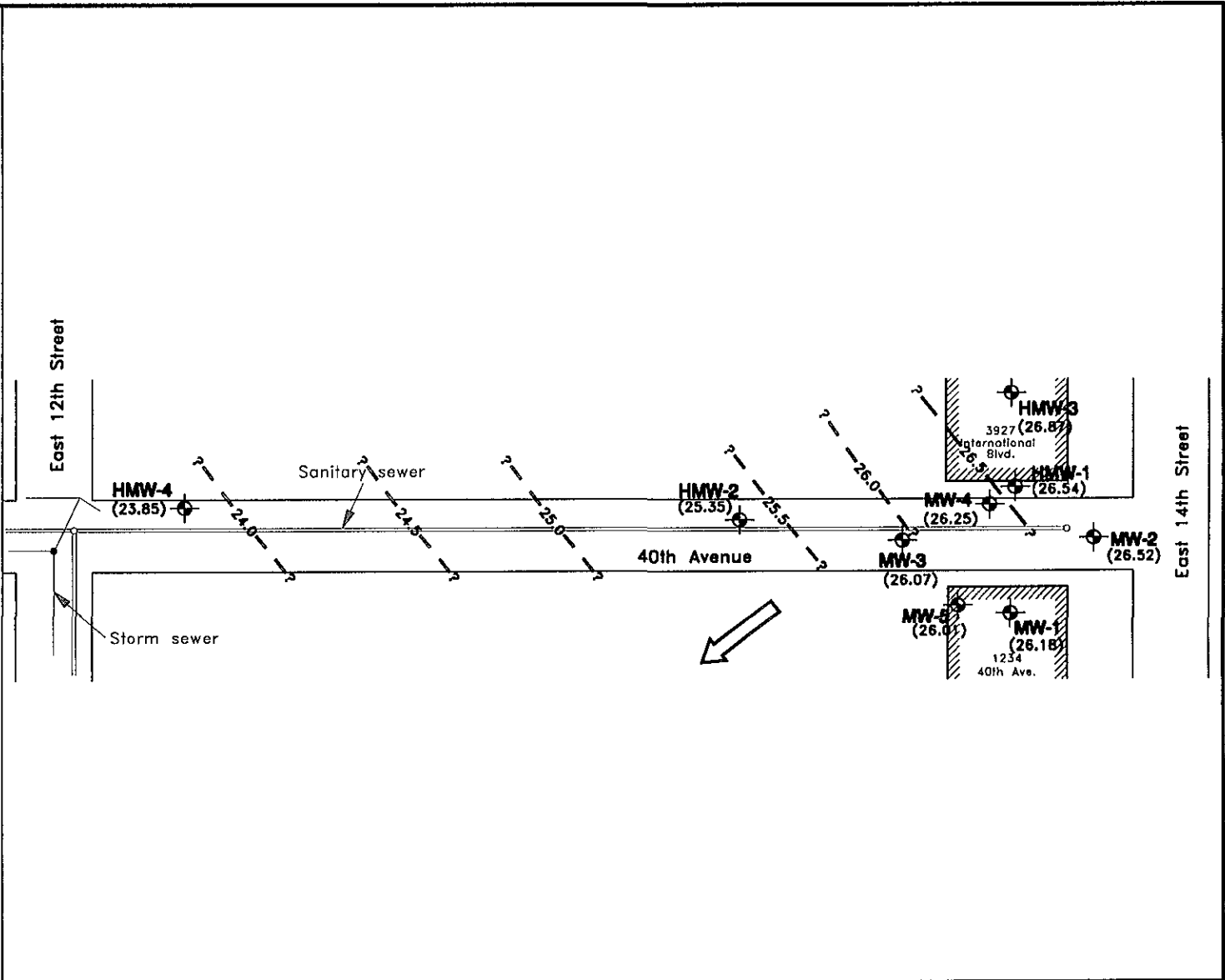
DRAFTED BY: L Wahlgren DATE 3-30-99

CHECKED BY: B Theyskens DATE 3-30-99

PROJECT NO 12-3047-61


LEGEND

-  PERMANENT GROUNDWATER MONITORING WELL
-  GROUNDWATER CONTOUR (feet, mean sea level)
-  GROUNDWATER ELEVATION (feet, mean sea level) MEASURED ON MARCH 16, 1999
-  APPROXIMATE DIRECTION OF GROUNDWATER FLOW



REFERENCE
Groundworks Environmental, "Figure 2. Groundwater Elevation Contours - March 1998," dated 4/9/98

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 KLEINFELDER	SITE PLAN	PLATE
	NEW GENICO FACILITY 3927 EAST 14TH STREET OAKLAND, CALIFORNIA	2
DRAFTED BY: L. Wahlgren DATE: 3-30-99	PROJECT NO. 12-3047-61	
CHECKED BY: B. Theyskens DATE: 3-30-99		

APPENDIX A KLEINFELDER FIELD PROTOCOL

A-1 FIELD PREPARATION

Before performing work in the field, environmental staff review the scope of work, prepare a health and safety plan, coordinate the work to be done with their supervisor, assemble the necessary sample containers, and check, calibrate and clean equipment to be used in the field. When underground utilities may exist at a site where subsurface soil samples are being collected, USA Underground is contacted with the boring locations and the scheduled date of drilling, or a utility locating firm is employed to check the boring locations.

A-2 DEPTH-TO-WATER MEASUREMENTS

Depth-to-water measurements are made in all the wells at the site prior to initiating purging and sampling, including wells that are not to be sampled. The depth-to-water measurements are made consecutively in as short a time as possible to reduce potential errors due to daily variations in the water table.

Depth-to-water (DTW) is measured in the well to within 1/100 of a foot using a conductivity-based water level indicator. Measurements are taken from the north or marked side of the top of casing of each well. These marks on the casings have been surveyed by a licensed survey relative to mean sea level (MSL). The conductivity probe and cable are rinsed in deionized water before and after measuring the first well, and after each subsequent well. The same water level indicator is used in each well.

A-3 BIODEGRADATION INDICATOR PARAMETERS

- Bioremediation indicator parameters are measured using a YSI Model 55 to measure dissolved oxygen and an Orion Quikchek™ meter to measure reduction/oxidation potential (“redox”). The dissolved oxygen meter is calibrated in the field by entering the elevation of the site in terms of feet above sea level and by entering the salinity of the existing groundwater in ppm. The attached probe is then placed at the surface of the groundwater within the well immediately upon its opening. The probe is then lowered and raised repeatedly until a stable reading is attained. The Orion Quikchek™ meter is self-calibrating. “Redox” measurements are made during well purging approximately after each purging of one casing volume.

A-4 WELL SAMPLING

The Kleinfelder sampling protocol for wells is as follows:

The depth-to-water is measured using a conductivity-based water level indicator.

- The volume of water standing in each well is calculated by subtracting the depth-to-water measurement from the total depth of the well and multiplying by the appropriate volume conversion factor
- A minimum of three well volumes of water is purged from each well using a submersible pump. The pump is decontaminated prior to use in each well by washing with liquimox™ and rinsing with distilled water. Pump tubing is replaced prior to purging each well. Purgewater is placed in 55-gallon drums.

- Physical parameters of pH and temperature are monitored for stability during purging.
- Sample bottles, provided by the analytical laboratory are filled from a new sterile disposable bailer at each well.
- Samples are immediately labeled and placed in an iced sample container. At the end of each day, the samples are delivered to the analytical laboratory, under chain-of-custody control.

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-1

Date: 3/16/99 Weather: overcast

Sheet 1 of 1

Project: Hausbauer Submitted By: L. Wahlgren

Date: 3/16/99

Project No.: 12-304760 Reviewed By: _____

Date: _____

Purpose of Log Development Sampling

Equipment & Decontamination	Purging Equipment	<u>Bailer</u>	Disposable	Suction	Submersible Pump	Dedicated Pump	Other:	
	Sampling Equipment	<u>Bailer</u>	Disposable	Suction	Submersible Pump	Dedicated Pump	Other:	
	Test Equipment	<u>Water Level</u>		<u>pH</u>		<u>Conductivity</u>		
	Meter No.							
	Calibration Date/Time	<u>NA</u>						
	Decontamination Methods	<u>Wash</u>		<u>Rinse I</u>		<u>Rinse II</u>		<u>Rinse III</u>
		DI	Steam	DI	Steam	DI	Steam	DI
	TSP	Tap	Hot	Tap	Hot	Tap	Hot	Tap
	Alconox	Other	Cool	Other	Cool	Other	Cool	Other
	Other:							
Vol. (gal):								
Source:								
Decon. Notes:								

Well Security:	good	<u>fair</u>	poor	Well Integrity:	<u>good</u>	fair	poor	Locked:	yes	<u>no</u>
Purge Volume (CV)	T.D.	-	DTW	x	Factor	x	1 CV	=	<u>2.57 gal</u>	
Well Diam.: <u>2" □ 4"</u>	<u>19.42 ft.</u>	-	<u>4.71 ft.</u>	x	$\frac{2 \times 0.175}{2 \times 0.663}$	x	<u>3</u>	=	<u>7.71 gal</u>	
Free Product?:	Odor:	<u>no</u>	<u>yes</u>	Floating Product:	none	<u>slight</u>	<u>film</u>		feet thick	
Time (24-hr)									Replicate Goals	
Gallons Purged	0	2.0	4.0	6.0	8.0				(dev. only)	
Surged (minutes)	↑								±0.10	
pH	S	<u>6.65</u>	<u>6.63</u>	<u>6.55</u>	<u>6.49</u>				±1°C	
Temperature (°C)	T	<u>63.7</u>	<u>64.1</u>	<u>63.9</u>	<u>63.5</u>				±10%	
Cond. (µmhos/cm)	A	<u>590</u>	<u>600</u>	<u>600</u>	<u>600</u>				±10%	
Salinity (%)	R								<50 NTUs	
Turbidity (NTUs)	T	<u>med</u>							Colorless	
Color	↓	<u>brn</u>							±0.01'	
Depth to Water										
Reference Point:	<u>TOC</u>		Other:							

Sample Log	Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
	<u>MW-1</u>		<u>3</u>		<u>VOA</u>	<u>HCl</u>			<u>Entech</u>
	<u>MW-1</u>		<u>1</u>	<u>500 ml</u>	<u>Plasti</u>	<u>-</u>			<u>↓</u>
	<u>MW-1</u>		<u>1</u>		<u>Amber</u>	<u>-</u>			

Other Observations: Redox = @ 74 N.O. @ 4.71' = 1.25
6.5 = 1.25
8.5 = 1.20

Final Check: VOAs free of bubbles? yes / no / NA Well Locked? yes / no / NA

WELL DEVELOPMENT & SAMPLING LOG WELL NO. MW-2
 Date: 3/16/99 Weather: Overcast Sheet 1 of 1
 Project: Haushaver Submitted By: L. Wahlgren Date: 3/16/99
 Project No.: 12-304760 Reviewed By: _____ Date: _____
 Purpose of Log Development Sampling

Equipment & Decontamination	Purging Equipment	<input checked="" type="checkbox"/> Bailer	<input type="checkbox"/> Disposable Bailer	<input type="checkbox"/> Suction Pump	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Dedicated Pump	<input type="checkbox"/> Other:	
	Sampling Equipment	<input checked="" type="checkbox"/> Bailer	<input type="checkbox"/> Disposable Bailer	<input type="checkbox"/> Suction Pump	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Dedicated Pump	<input type="checkbox"/> Other:	
	Test Equipment	Water Level		pH		Conductivity		Turbidity
	Meter No.							
	Calibration Date/Time	NA						
	Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III
	DI	DI	DI	DI	DI	DI	DI	
	Steam	Steam	Steam	Steam	Steam	Steam	Steam	
	Tap	Tap	Tap	Tap	Tap	Tap	Tap	
	Hot	Hot	Hot	Hot	Hot	Hot	Hot	
Other	Other	Other	Other	Other	Other	Other		
Vol. (gal):								
Source:								
Decon. Notes:								

Development / Purge Record	Well Security:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor	Well Integrity:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor	Locked:	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	Purge Volume (CV)	T.D.	-	DTW	x	Factor	x	1 C.V.	=	2.39 gal	
	Well Diam.: 2" D 4"	17.72 ft.	-	4.08 ft.	x	r=0.175 r=0.663	x	3	=	7.12 gal	
	Free Product?:	Odor: no <input checked="" type="checkbox"/> yes	Floating Product: <input checked="" type="checkbox"/> none		sheen		film		feet thick		
	Time (24-hr)		11:12	11:17	11:21	11:26				Replicate Goals	
	Gallons Purged	0	2.0	4.0	6.0	8.0				(dev. only)	
	Surged (minutes)	↑								±0.10	
	pH	S	5.93	6.25	6.38	6.44				±1°C	
	Temperature (°C)	T	63.1	62.9	63.3	62.1				±10%	
	Cond. (µmhos/cm)	A	660	620	620	610				±10%	
Salinity (%)	R								<50 NTUs		
Turbidity (NTU's)	T	light							Colorless		
Color	↓	clr/gry							±0.01'		
Depth to Water											
Reference Point:	TOC		Other:								

Sample Log	Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
	MW-2	11:40	3		Voa	HCl			Enter
	MW-2	11:40	1		SO ₄ Ni plastic	-			↓
	MW-2	11:40	1		Amber	-			

Other Observations: Redox = 212.5 D.O 4.08 ft = 1.20 mg/l
6.00 ft = 1.10
8.00 ft = 1.05
 Final Check: VOAs free of bubbles? yes / no / NA Well Locked? yes / no / NA

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-3

Date: 3/16/99 Weather: overcast

Sheet 1 of 1

Project: Haushever Submitted By: L. Wahlgren

Date: 3/16/99

Project No.: 12-364760 Reviewed By: _____

Date: _____

Purpose of Log Development Sampling

Equipment & Decontamination	Purging Equipment	<u>Bailer</u>	Disposable Bailer	Suction Pump	Submersible Pump	Dedicated Pump	Other:		
	Sampling Equipment	<u>Bailer</u>	Disposable Bailer	Suction Pump	Submersible Pump	Dedicated Pump	Other:		
	Test Equipment	<u>Water Level</u>		<u>pH</u>		<u>Conductivity</u>		<u>Turbidity</u>	
	Meter No.								
	Calibration Date/Time	<u>NA</u>							
	Decontamination Methods	<u>Wash</u>		<u>Rinse I</u>		<u>Rinse II</u>		<u>Rinse III</u>	
		DI	Steam	DI	Steam	DI	Steam	DI	Steam
	TSP	Tap	Hot	Tap	Hot	Tap	Hot	Tap	Hot
	Alconox	Other	Cool	Other	Cool	Other	Cool	Other	Cool
	Other:								
Vol. (gal):									
Source:									
Decon. Notes:									

Development / Purge Record	Well Security: <u>good</u> fair poor	Well Integrity: <u>good</u> fair poor	Locked: <u>yes</u> no	
	Purge Volume (CV) T.D. - DTW	x Factor	x I.C.V.	=
	Well Diam.: <u>2" x 4"</u> <u>17.54 ft.</u>	- <u>4.61 ft.</u>	x <u>3</u>	= <u>2.26 gal</u>
	Free Product?: Odor <u>no</u> yes	Floating Product: <u>none</u>	sheen	film
	Time (24-hr)			
	Gallons Purged	0	2.0	4.0
	Surged (minutes)	↑		
	pH	S	6.99	6.89
	Temperature (°C)	T	63.4	63.2
	Cond. (µmhos/cm)	A	610	610
Salinity (‰)	R			
Turbidity (NTU's)	T	trace		
Color	↓	colorless		
Depth to Water				
Reference Point:	TOC	Other:		

Sample Log	Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
	MW-3	12:35	3		VOA	Hel			Entech
	MW-3	12:35	1		500 mL Plastic				↓
	MW-3	12:35	1		Amber				

MIX	Other Observations:	<u>Perox = 104A</u>	<u>D.O. @ 4.61 = 0.90</u>
			<u>6.5 = 0.80</u>
			<u>8.5 = 0.75</u>
Final Check:	VOAs free of bubbles? <u>yes</u> / no / NA	Well Locked? <u>yes</u> / no / NA	

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-4

Date: 3/16/99 Weather: overcast

Sheet 1 of 1

Project: Hausauer Submitted By: L. Waldner

Date: 3/16/99

Project No.: 12-304760 Reviewed By: _____

Date: _____

Purpose of Log Development Sampling

Equipment & Decontamination	Purging Equipment	Bailer	Disposable Bailer	Suction Pump	Submersible Pump	Dedicated Pump	Other: peristaltic pump	
	Sampling Equipment	Bailer	Disposable Bailer	Suction Pump	Submersible Pump	Dedicated Pump	Other: peristaltic pump	
	Test Equipment	Water Level		pH		Conductivity		Turbidity
	Meter No.							
	Calibration Date/Time	NA						
	Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III
	TSP	DI Tap	Steam Hot	DI Tap	Steam Hot	DI Tap	Steam Hot	DI Tap
	Alconox	Other	Cool	Other	Cool	Other	Cool	Other
	Other:							
	Vol. (gal):							
Source:								
Decon. Notes:								

Development / Purge Record	Well Security:	good	fair	poor	Well Integrity:	good	fair	poor	Locked:	yes	no
	Purge Volume (CV)	T.D.	-	DTW	x	Factor	x	1 C.V	=	gal	
	Well Diam.: $\frac{3}{4}$ " \square 4"	<u>14.44 ft.</u>	-	<u>4.95 ft.</u>	x	$\frac{2}{3} = 0.67$ $\frac{4}{5} = 0.80$	x	<u>3</u>	=	gal	
	Free Product?:	Odor: no <u>yes</u>	Floating Product: <u>none</u>		sheen	film			feet thick		
	Time (24-hr)		<u>14:05</u>	<u>14:12</u>	<u>14:19</u>	<u>14:26</u>				Replicate	Goals
	Gallons Purged	0	<u>0.5</u>	<u>1.0</u>	<u>1.5</u>	<u>2.0</u>				(dev. only)	
	Surged (minutes)	\uparrow									
	pH	S	<u>6.75</u>	<u>6.70</u>	<u>6.68</u>	<u>6.68</u>				± 0.10	
	Temperature (°C)	T	<u>64.1</u>	<u>63.7</u>	<u>63.5</u>	<u>63.5</u>				$\pm 1^\circ\text{C}$	
	Cond. ($\mu\text{mhos/cm}$)	A	<u>660</u>	<u>650</u>	<u>650</u>	<u>650</u>				$\pm 10\%$	
Salinity (‰)	R								$\pm 10\%$		
Turbidity (NTU's)	T	<u>trace</u>							<50 NTUs		
Color	\downarrow	<u>colorless</u>							Colorless		
Depth to Water									$\pm 0.01'$		
Reference Point:	TOC	Other:									

Sample Log	Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
	MW-4		<u>3</u>		Voa	HCl			Entech
	MW-4		<u>1</u>	<u>500 ml</u>	Plastic	-			\downarrow
	MW-4		<u>1</u>		Amber	-			

Misc	Other Observations: <u>Redox = -45</u> <u>0.0 @ = 1.15 mg/L</u>
	Final Check: VOAs free of bubbles? <u>yes</u> / no / NA Well Locked? yes / no / NA

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/21/99-03/22/99

Matrix: WATER

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample (#05050)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	109.9	117.8	100.0	109.9	117.8	7.0
Benzene	0.0	10.8	10.8	10.0	108.0	108.0	0.0
Toluene	0.0	11.1	11.3	10.0	111.0	113.0	1.8
Ethyl Benzene	0.0	11.0	11.0	10.0	110.0	110.0	0.0
Xylenes	0.0	31.9	32.2	30.0	106.3	107.3	0.9
TPH(diesel)	0.0	7777	7904	7500	104	105	1.6
TRPH (oil & grease)	0	25400	25000	23700	107	105	1.6

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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

March 24, 1999

Lars Wahlgren/Bill Theyskens
Kleinfelder
1362 Ridder Park Drive
San Jose, CA 95131

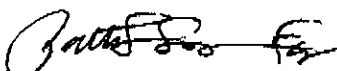
Subject: 4 Water Samples
Lab #'s: G6799-G6802
Project Name:
Project Number: 12-304760
P.O. Number:
Method(s): EPA 8015M
Subcontract lab: McCambell Analytical

Dear Lars Wahlgren/Bill Theyskens,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#I-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# I-2346

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

Kleinfelder
1362 Ridder Park Drive
San Jose, CA 95131
Attn: Lars Wahlgren/Bill Theyskens

Date: 3/24/99
 Date Received: 3/17/99
 Project: 12-304760
 PO #:
 Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	3/16/99			3/16/99			3/16/99				
Sample Time	13:27			11:40			12:35				
Lab #	G6799			G6800			G6801				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	3/23/99			3/22/99			3/22/99				
TPH-Gas	7,700	10	500	5,200	10	500	ND	1.0	50	50	8015M
MTBE	100	10	50	140	10	50	ND	1.0	5.0	5.0	8020
Benzene	1,100	10	5.0	83	10	5.0	ND	1.0	0.50	0.50	8020
Toluene	120	10	5.0	31	10	5.0	ND	1.0	0.50	0.50	8020
Ethyl Benzene	250	10	5.0	150	10	5.0	ND	1.0	0.50	0.50	8020
Xylenes (total)	240	10	5.0	45	10	5.0	ND	1.0	0.50	0.50	8020


DF=Dilution Factor

ND= None Detected above DLR

PQL=Practical Quantitation Limit

DLR=Detection Reporting Limit

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


 Michelle L. Anderson, Lab Director

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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Kleinfelder
1362 Ridder Park Drive
San Jose, CA 95131
Attn: Lars Wahlgren/Bill Theyskens

Date: 3/24/99
 Date Received: 3/17/99
 Project: 12-304760
 PO #:
 Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-4			Trip Blank					
Sample Date	3/16/99			3/16/99					
Sample Time	14:43								
Lab #	G6802			G6803					
	Result	DF	DLR	Result	DF	DLR			PQL Method
Results in µg/Liter:									
Analysis Date	3/22/99			3/22/99					
TPH-Gas	660	1.0	50	ND	1.0	50			50 8015M
MTBE	7.3	1.0	5.0	ND	1.0	5.0			5.0 8020
Benzene	6.1	1.0	0.50	ND	1.0	0.50			0.50 8020
Toluene	ND	1.0	0.50	ND	1.0	0.50			0.50 8020
Ethyl Benzene	1.0	1.0	0.50	ND	1.0	0.50			0.50 8020
Xylenes (total)	2.8	1.0	0.50	ND	1.0	0.50			0.50 8020

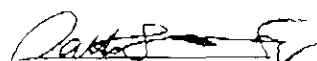
DF=Dilution Factor

ND= None Detected above DLR

PQL=Practical Quantitation Limit

DLR=Detection Reporting Limit

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


 Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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Kleinfelder
1362 Ridder Park Drive
San Jose, CA 95131
Attn: Lars Wahlgren/Bill Theyskens


Date: 3/24/99
 Date Received: 3/17/99
 Project: 12-304760
 PO #:
 Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	3/16/99			3/16/99			3/16/99				
Sample Time	13:27			11:40			12:35				
Lab #	G6799			G6800			G6801				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
SM 3500 Analysis Date	3/18/99			3/18/99			3/18/99				
353.3 Analysis Date	3/18/99			3/18/99			3/18/99				
375.4 Analysis Date	3/19/99			3/19/99			3/19/99				
Results in mg/Liter:											
Ferrous Iron	0.14	1.0	0.010	ND	1.0	0.010	ND	1.0	0.010	0.010	SM 3500
Nitrate-Nitrogen	4.8	10	1.0	ND	1.0	0.10	3.1	10	1.0	0.10	353.3
Sulfate	12	1.0	0.10	ND	1.0	0.10	11	5.0	0.50	0.10	375.4

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


 Michelle L. Anderson, Lab Director

DF=Dilution Factor
 PQL= Practical Quantitation Limit

ND=None Detected above DLR
 DLR=Detection Reporting Limit

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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

Kleinfelder
1362 Ridder Park Drive
San Jose, CA 95131
Attn: Lars Wahlgren/Bill Theyskens

Date: 3/24/99
 Date Received: 3/17/99
 Project: 12-304760
 PO #:
 Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-4									
Sample Date	3/16/99									
Sample Time	14:43									
Lab #	G6802									
	Result	DF	DLR						PQL	Method
SM 3500 Analysis Date	3/18/99									
353.3 Analysis Date	3/18/99									
375.4 Analysis Date	3/19/99									
Results in mg/Liter:										
Ferrous Iron	ND	1.0	0.010						0.010	SM 3500
Nitrate-Nitrogen	ND	1.0	0.10						0.10	353.3
Sulfate	23	2.0	0.20						0.10	375.4

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


 Michelle L. Anderson, Lab Director

DF=Dilution Factor
 PQL= Practical Quantitation Limit

ND=None Detected above DLR
 DLR=Detection Reporting Limit

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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Kleinfelder
1362 Ridder Park Drive
San Jose, CA 95131
Attn: Lars Wahlgren/Bill Theyskens

Date: 4/5/99
 Date Received: 3/17/99
 Project: 12-304760
 PO #:
 Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-2									
Sample Date	3/16/99									
Sample Time	11:40									
Lab #	G6800									
	Result	DF	DLR						PQL	Method
Results in µg/Liter:										
Analysis Date	3/30/99									
MTBE	ND ¹	5.0	25						5.0	8260

DF=Dilution Factor ND= None Detected above DLR PQL=Practical Quantitation Limit DLR=Detection Reporting Limit

1. Sample diluted due to high levels of non-target hydrocarbons.
2. Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)



Michelle L. Anderson, Lab Director

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

Chain of Custody/Analysis Work Order

Client: Kleinfelder
 Address: 1362 Ridder Park Dr.
San Jose, CA
 Contact: Lars Wahlgren/Bill Theyskens
 Telephone #: (408) 436-1155
 Date Received: _____
 Turn Around: normal

Project ID: 12-304760

Purchase Order #: _____

Sampler/Company: <u>L. Wahlgren Kleinfelder</u>	Telephone #: <u>(408) 436-1155</u>
Special Instructions/Comments <u>Please reanalyze <u>only</u> highest M+BE result using 8260</u>	

LAB USE ONLY

Samples arrived chilled and intact:
 Yes No

Notes: _____

Sample Information								Requested Analysis								
Lab #	Sample ID	Grab/ Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPH 9	TPH 20	TPH 4	BTEX	M+BE	Nitrate	Sulfate	Petrol	Iron
	MW-1	↓	H ₂ O	3/16/99	13:27	HCl	VOA	X			X					
	MW-1	↓			↓	-	500 ml Plastic						X		X	
	MW-1	↓			↓	-	Amber			X						
	MW-2	↓			11:40	HCl	VOA	X			X					
	MW-2	↓			↓	-	500 ml Plastic						X		X	
	MW-2	↓			↓	-	Amber			X						
	MW-3	↓			12:35	HCl	VOA	X			X					
	MW-3	↓			↓	-	500 ml Plastic						X		X	
Relinquished By:	<u>Lars Wahlgren</u>			Received By:	<u>L. Wahlgren</u>			Date:	<u>3/17/99</u>			Time:	<u>8:55 am</u>			
Relinquished By:	<u>L. Wahlgren</u>			Received By:	<u>#661-6K</u>			Date:	<u>3/17/99</u>			Time:	<u>1240</u>			
Relinquished By:				Received By:				Date:				Time:				

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

Chain of Custody/Analysis Work Order

Client Kleinholder

Project ID: 12-304760

Address: 1362 Ridder Park Dr

Purchase Order #: _____

San Jose, CA

Sampler/Company: L. Wahlgren Telephone #: 408.436.1155

Contact Lars Wahlgren Bill Thompson

Telephone # (408) 436-1155

Special Instructions/Comments
Please reanalyze only highest M+BE result using 8260

Date Received: _____

Turn Around normal

LAB USE ONLY

Samples arrived chilled and intact:

Yes No

Notes: _____

Sample Information								Requested Analysis										
Lab #	Sample ID	Grab Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPH	TPH 2	TPH 3	BTEX M+BE	n-hex sulfide	pestos	VOA				
	MW-3	↓	H ₂ O	3/16/99	12:35	-	amber	X	X	X								
	MW-4	↓	↓	↓	14:43	HCl	VOA	X	X	X	X	X	X					
	MW-4	↓	↓	↓	↓	-	500 ml Plastic	X	X	X								
	MW-4	↓	↓	↓	↓	-	amber	X	X	X								
	trip blank	↓	↓	↓	↓			X	X	X								
Relinquished By: <u>Jane Wahlgren</u>				Received By: <u>D. Walden</u>				Date: <u>3/17/99</u>				Time: <u>8:55 am</u>						
Relinquished By: <u>[Signature]</u>				Received By: <u>#661 GIC</u>				Date: <u>3/17/99</u>				Time: <u>1240</u>						
Relinquished By: _____				Received By: _____				Date: _____				Time: _____						