KLEINFELDER
An employee owned company

February 19, 1999
File No. 12-3047-60

Mr. Tommy A. Conner
Conner-Bak, LLP
444 De Haro Street, Suite 121
San Francisco, California 94107

SUBJECT: Confirmation of Discussions Regarding Fourth Quarter 1998 Groundwater Monitoring Report, New Genico Facility, 3927 East 14th Street, Oakland, California

Dear Mr. Conner:

Kleinfelder, Inc. (Kleinfelder) is pleased to provide you with this confirmation of our discussions regarding the subject report, specifically with respect to the letter dated February 21, 1999, from Barney Chan of Alameda County Health Care Services.

In light of the fact that Kleinfelder did not obtain dissolved oxygen readings from monitoring well HMW-1, we will, at no additional charge to the project, measure dissolved oxygen in this well and in wells HMW-2 and HMW-3. Readings will not be taken from HMW-4, due to the fact that HMW-4 is a 0.6-inch inner diameter well, special equipment is required to collect a sample, and the resulting oxygen readings are suspect due to exposure to air.

Kleinfelder will also use a bailer to observe HMW-3 for the presence of floating product, and for odor. The observations made previously are suspect as the sample collected was non-detect for all constituents for which analyses were performed, also at no additional charge to the project.

The results of this additional effort will be reported in the Revised Fourth Quarter 1998 Groundwater Monitoring Report, which will contain corrections to Table 3 that were previously brought to your attention and to the attention of ACHCSA by Kleinfelder; it is anticipated that the subject draft report will be to your offices by Friday, February 26, 1999. Time required for report corrections and time required to respond to the subject ACHCSA letter have not, and will not, be charged to the project

If you have any questions about this confirmation letter, or your understanding of our discussions and agreement differ from that presented herein, please contact me immediately.

Sincerely,

KLEINFELDER, INC.

William G. Theyskens, C.E.G., C.HG.
Environmental Group Manager

cc: Barney Chan, Alameda County Health Care Services Agency

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 24, 1999
StID # 4610

Mr. Tommy Conner
444 De Haro St., Suite 121
San Francisco, CA 94107

Re: Review of Reports for 3927 E. 14th St., Oakland CA 94601

Dear Mr. Conner:

I have completed my review of **the Errata for Third Quarter 1998 Groundwater Monitoring Report and the Revised Fourth Quarter 1998 Groundwater Monitoring Report** for the above site. It appears that the items mentioned in my prior February 11, 1999 letter to Mr. Hausauer have been addressed, namely:

- The dissolved oxygen readings reflect concentrations in parts per million (ppm)
- A slight sheen was observed on HMW-3 as previously reported, even though, the petroleum concentrations were ND. This is unusual, but apparently indicates the presence of a non-petroleum material.
- The concentration of petroleum contaminants in HMW-1 has decreased since the addition of the Oxygen Releasing Compound even though the dissolved oxygen concentration has not increased significantly. This may be the case that the dissolved oxygen is being consumed in a rate that is comparable to that being released by the ORC.

I would anticipate the need to continue monitor the wells and later provide evidence that the concentration of petroleum has equilibrated or is decreasing. This may be done by plotting the data over time and/or evaluating the data statistically. Our office will entertain your consultant's proposal to do such an evaluation when deemed appropriate.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C. B Chan, file
Mr R Hausauer, 6017 E 14th St , Oakland CA 94621
Mr. W Theyskins, Kleinfelder, 1362 Ridder Park Drive, San Jose, CA 95131
Ms D Sheldon, ATC Associates, 6666 Owens Dr , Pleasanton, CA 94566

Updt3927E14th

CONNER • BAK LLP
Tommy A. Conner
J. Timothy Bak *
* Also admitted to practice in Nevada

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99 MAR -9 PM 3:13

March 5, 1999

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

Re: Revised Fourth Quarter 1998 Groundwater Monitoring Report
3927 East 14th Street
Oakland, California

Dear Mr. Chan:

Enclosed is a copy of the *Revised Fourth Quarter 1998 Groundwater Monitoring Report* prepared for Ruben Hausauer's 3927 East 14th Street, Oakland, California site. This revised report is responsive to your February 11, 1999 letter to Mr. Hausauer. Groundwater monitoring was performed on 16 December 1998 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 Davy Court
Fremont, CA 94536

REVISED FOURTH QUARTER 1998 GROUNDWATER MONITORING REPORT NEW GENICO FACILITY OAKLAND, CALIFORNIA

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

ATTENTION: Mr. Tommy Conner

March 3, 1999

KLEINFELDER

An employee owned company

March 3, 1999
File No. 12-3047-60

Mr. Tommy A. Conner
Conner-Bak, LLP
444 De Haro Street, Suite 121
San Francisco, California 94107

SUBJECT: **Revised Fourth Quarter 1998 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 Revised Fourth Quarter 1998 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" for consistency with previous reports; however, we will continue to refer to the site as 3927 East 14th Street. This report discusses field procedures, observations, and results of the fourth quarter 1998 groundwater monitoring event. Work was conducted in accordance with Kleinfelder's proposal dated June 18, 1998.

Kleinfelder performed groundwater monitoring and sampling on December 16, 1998, collecting groundwater samples from four groundwater monitoring wells at the site (HMW-1 through HMW-4). Monitoring well locations are shown on Plate 2. This report revision includes the results of observations and measurements of dissolved oxygen and oxidation-reduction potential (redox potential) performed on February 19, 1999, within wells HMW-1 through HMW-3.

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 commingling 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 December 16, 1998. Kleinfelder measured depths to water (Table 1) and collected groundwater samples on December 16, 1998, from three of the four monitoring wells in accordance with the protocol presented in Appendix A. Measurements of redox potential and dissolved oxygen were made immediately prior to sampling. Groundwater depth could not be measured this quarter in HMW-4 as the sounder was too large for this 0.6-inch I.D. well.

Prior to purging the wells on December 16, 1998, Kleinfelder remeasured water levels in three of the four wells using an electronic measuring device, and in three of the four wells, a translucent bailer was used to monitor for the presence of floating product or a sheen. Kleinfelder noted a slight sheen on HMW-3; no measurable thickness of floating product was noted. Neither a sheen nor floating product was observed in the remaining monitoring wells on December 16, 1998. An odor was noted in the groundwater in HMW-1 and HMW-3. 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 were removed from each well. Purge logs and field observation sheets are included in Appendix B.

During the February 19, 1999 monitoring, no sheen and no odor were noted in well HMW-3. No sheen was noted in either HMW-1 or HMW-2. A slight odor and a strong odor were, however, noted in wells HMW-1 and HMW-2, respectively.

LABORATORY ANALYSES

Groundwater samples collected during the fourth quarter 1998 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
- 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 December 1998 for the New Genico facility. Depth-to-water data as measured and provided by Rogers Environmental Services on December 16, 1998, is presented on Table 2. Plate 2 presents the groundwater piezometric contours for September 24, 1998, using the data collected by Kleinfelder.

As illustrated in Plate 2, the groundwater flow direction beneath the site was southerly on December 16, 1998. The magnitude of the hydraulic gradient was approximately 0.015 foot per foot. This flow direction and hydraulic gradient are generally consistent with previous findings. Groundwater levels declined an average of 1.6 feet since last quarter in three of the site's four groundwater monitoring wells.

Floating product

A slight sheen was observed in HMW-3 on December 16, 1998, but there was no measurable quantity of floating product. Neither a sheen nor floating product was observed in the other site wells. Historical data with respect to the presence/absence of floating product or a sheen indicates that in the previous quarter, a sheen was noted in HMW-1 and HMW-2. Floating product was not observed in the wells in the previous quarter.

During the February 19, 1999 monitoring, no sheen and no odor were noted in well HMW-3. No sheen was noted in either HMW-1 or HMW-2. A slight odor and a strong odor were, however, noted in wells HMW-1 and HMW-2, respectively.

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 AEC 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); and Kleinfelder's *Third Quarter 1998 Groundwater Monitoring Report* (October 22, 1998).

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 December 1998 analytical results for the 3927 East 14th Street facility.

- TPHd was not reported in any of the wells this quarter.
- TPHmo was reported in well HMW-1, its concentration decreasing significantly from last quarter. TPHmo was not detected in the other on-site wells.
- TPHg concentrations decreased in wells HMW-1 and HMW-3 (TPHg concentrations were ND in HMW-3.) TPHg concentrations increased in HMW-2 and HMW-4.
- Benzene concentrations decreased in well HMW-1. Benzene concentrations increased slightly in HMW-2 and HMW-4. Benzene remained non-detect (ND) in HMW-3 for the fourth consecutive quarter. Benzene concentrations are in excess of its Maximum Contaminent Level (MCL) of 1 microgram per liter (μg/L) in HMW-1, HMW-2 and HMW-4.
- Toluene, ethylbenzene and total xylenes concentrations decreased in well HMW-1. Toluene and ethylbenzene remained ND in HMW-3 for the fourth consecutive quarter. Total Xylenes were reported to be ND in HMW-3. Toluene, ethylbenzene, and total xylenes concentrations increased slightly in HMW-2. Ethylbenzene and total xylenes concentrations increased slightly in HMW-4. All three constituents that were reported were below their respective MCLs.
- MtBE concentrations were not reported due to the malfunctioning of laboratory instrumentation.

<u>Bioremediation Indicator Parameters</u>

Selected bioremediation indicator parameters were either measured in the field (dissolved oxygen and redox potential) or analyzed by the analytical laboratory (nitrate, sulfate, and ferrous iron). Results for 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 December 16, 1998 monitoring

event, relatively high concentrations of dissolved oxygen were indicated in cross- to upgradient well HMW-3. The lowest dissolved oxygen content was measured in well HMW-2 which is, with the exception of HMW-1, the New Genico well that is located closest to, and downgradient of, the former UST location (dissolved oxygen was not measured in HMW-1 during the December 16, 1998 event due to a technical oversight). Note, however, that HMW-2 is located approximately 100 feet downgradient of the former UST location. This reduced concentration may be a result of the use of oxygen as biodegradation occurs within the petroleum hydrocarbon plume.

Oxygen releasing compounds (ORCs) were "injected" proximate to the former UST locations by ATC Associates, Inc., in November 1998. A significant increase in dissolved oxygen concentrations was not noticed in HMW-2 in December 1998, likely due to its distance from the ORC injection points.

The highest concentration of dissolved oxygen in site (New Genico) wells in December 1998 was indicated in HMW-4, located a significant distance downgradient of the former UST location. The high concentration of dissolved oxygen in HMW-4 may be partially due to the fact that the dissolved oxygen was measured in a container at the ground surface (the dissolved oxygen 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 dissolved oxygen readings in HMW-4 would be affected by the ORCs due to its distance from them.

Concentrations of dissolved oxygen in Motor Partners' well MW-4, which is located approximately ten feet downgradient from the former New Genico UST location, were reported by Aquatic and Environmental Applications (January 4, 1999) to be 9.2 mg/L on December 16, 1999. Concentrations of 2.9 mg/L had been reported on September 24, 1998. This suggests that the dissolved oxygen concentration has increased significantly in this well since the ORC installation in November 1998, likely due to its proximity and downgradient location with respect to the ORCs.

Kleinfelder measured dissolved oxygen concentrations and redox potential in three of the New Genico site's wells (HMW-1, HMW-2 and HMW-3) on February 19, 1999. Kleinfelder also used dedicated bailers to observe for the presence of a sheen or floating product, and to make observations with respect to odor. Dissolved oxygen concentrations and redox potential measurements from this event are indicated on Table 3. Dissolved oxygen concentrations increased in all three wells with respect to the previously measured values (December 1998 for HMW-2 and HMW-3, and September 1998 for HMW-1). Increased concentrations of dissolved oxygen in HMW-1 and HMW-2 appear to be attributable to the oxygen releasing compounds injected proximate to the former UST at the New Genico site. Redox potentials in HMW-1 and HMW-3 were positive, and the redox potential in HMW-2 was increasingly negative, as measured on February 19, 1999 (this may suggest anaerobic biodegradation is still occurring in HMW-2).

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 the December 1998 quarter:

(aerobic)

- Nitrate concentrations were higher than previously reported in HMW-1 (not suggestive of anaerobic biodegradation), decreased slightly over the previous quarter in HMW-3, and were "ND" in the remaining wells, suggesting anaerobic biodegradation may be occurring.
- Sulfate concentrations increased from ND in the previous quarter to 33.0 mg/L in well HMW-1 (not suggestive of anaerobic biodegradation). Sulfate concentrations decreased in well HMW-3, remained ND in well HMW-2, and increased only slightly in well HMW-4. No discernible pattern was observed.
- Ferrous iron was reported ND for well HMW-3 and increased from ND last quarter to 0.17 mg/L to 1.2 mg/L in the remaining wells. These concentrations indicate increases from the previous quarter, and may suggest the occurrence of anaerobic bioremediation.
- The redox potential in well HMW-3 was positive, which is consistent with historical readings, with the exception of last quarter, which was negative. Redox potentials in the remaining wells were negative, suggestive of the occurrence of anaerobic bioremediation.
- The increase in nitrate and sulfate concentrations in HMW-1 may be related to the recent injection of oxygen releasing compound (ORC) proximate to the former UST location and may indicate an increasingly aerobic environment proximate to HMW-1.

The following presents our findings with respect to the observations made, and dissolved oxygen and redox potential measurements performed, on February 19, 1999:

- Concentrations of dissolved oxygen in Motor Partners' well MW-4, which is located approximately ten feet downgradient from the former New Genico UST location, suggest that the dissolved oxygen concentration has increased significantly in this well since the ORC installation in November 1998

- Increased concentrations of dissolved oxygen in HMW-1 and HMW-2 appear to be attributable to the oxygen releasing compounds injected proximate to the former UST at the New Genico site.

- The redox potential in HMW-2 was increasingly negative, as measured on February 19, 1999 (this may suggest anaerobic biodegradation is still occurring in HMW-2).

- No sheen and no odor were noted in well HMW-3. No sheen was noted in either HMW-1 or HMW-2. A slight odor and a strong odor were, however, noted in wells HMW-1 and HMW-2, respectively.

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 dissolved oxygen concentrations are increasing proximate to, and to a lesser extent, downgradient of the ORC injection points. Concentrations of TPHg, TPHmo, and BTEX have decreased significantly proximate to the former UST since last quarter. This decrease may be related to an increased rate of biodegradation due to the presence of more oxygen, as aerobic biodegradation occurs at a faster rate than does anaerobic biodegradation. 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.

Cristina Goulart
Staff Scientist

William G. Theyskens, C.E.G., C.HG.
Environmental Group Manager

Attachments

REGISTERED GEOLOGIST
WILLIAM G. THEYSKENS
NO. 1486
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Table 1
Groundwater Elevations (1)
New Genico 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	8/22/96	31.25	8.01	23.24	----	23 24
	2/25/97		5.95	25.30	----	25.30
	5/28/97		7.65	23.60	----	23.60
	9/2/97		8.56	22.69	----	22.69
	11/26/97		7.50	23.75	----	23.75
	2/9/98		3.35	27.90	----	27.90
	3/17/98		5.29	25.96	0.01	25.97
	6/30/98		6.63	24.62	0.00	24.62
	9/24/98		8.22	23.03	0.00	23.03
	12/16/98		6.66	24 59	0.00	24.59
HMW-2	8/22/96	29.43	8.71	20.72	----	20.72
	2/25/97		6.00	23.43	----	23.43
	5/28/97		7.65	21.78	----	21.78
	9/2/97		8.59	20.84	----	20.84
	11/26/97		6.82	22.61	----	22.61
	2/9/98		3.24	26.19	----	26.19
	3/17/98		4.44	24.99	0.00	24.99
	6/30/98		6.30	23.13	0.00	23.13
	9/24/98		8.20	21.23	0.00	21.23
	12/16/98		6.64	22.79	0.00	22.79
HMW-3	8/22/96	31.48	8 10	23.38	----	23.38
	2/25/97		6.00	25.48	----	25.48
	5/28/97		7.74	23.74	----	23.74
	9/2/97		8.60	22.88	----	22.88
	11/26/97		7.50	23.98	----	23.98
	2/9/98		2.34	29.14	----	29.14
	3/17/98		5 23	26.25	0.00	26.25
	6/30/98		6.60	24.88	0.00	24.88
	9/24/98		8.32	23.16	0.00	23.16
	12/16/98		6.71	24.77	0 00	24.77
HMW-4	11/26/97	28.80	7.42	21.38	----	21 38
	2/9/98		2.96	25.84	----	25.84
	3/17/98		5.72	23.08	0.00	23.08
	6/30/98		7.40	21.40	0.00	21.40
	9/24/98		9.80	19.00	0.00	19.00
	12/16/98		N/A	N/A	0 00	N/A

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 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 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
	3/17/98		5.84	25.60	----	25.60
	6/30/98		----	----	----	----
	9/24/98		8.74	22.70	----	22.70
	12/16/98		7.11	24.33	----	24.33
MW-2	11/26/97	31.06	7.24	23.82	----	23.82
	3/17/98		5.05	26.01	----	26.01
	6/30/98		6.35	24.71	----	24.71
	9/24/98		7.94	23.12	----	23.12
	12/16/98		6.42	24.64	----	24.64
MW-3	11/26/97	30.43	7.06	23.37	----	23.37
	3/17/98		5.11	25.32	----	25.32
	6/30/98		6.62	23.81	----	23.81
	9/24/98		8.13	22.30	----	22.30
	12/16/98		6.52	23.91	----	23.91
MW-4	11/26/97	30.37	6.64	23.73	----	23.73
	3/17/98		4.52	25.85	----	25.85
	6/30/98		5.86	24.51	----	24.51
	9/24/98		7.23	23.14	----	23.14
	12/16/98		5.92	24.45	----	24.45
MW-5	11/26/97	30.37	-----	-----	-----	-----
	3/17/98		5.80	24.57	-----	24.57
	6/30/98		----	----	----	----
	9/24/98		8.76	22.39	----	22.39
	12/16/98		7.19	23.96	----	23.96

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 AEC Associates Inc. (1/8/98)
3/17/98 data was obtained from Gary Rogers of Aquatic & Environmental Applications

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)

(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 Genico Facility
3927 E. 14th Street Oakland, California

Well I.D. 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-1	8/22/96	ND	ND	7,400	1,200	170	530	490	-----	-----	-----	-----	-----	-----
	2/25/97	2,000	ND	5,400	760	110	260	260	ND	-----	-----	-----	-----	-----
	5/28/97	2,000	600	6,600	1,100	100	290	340	130	-----	-----	-----	-----	-----
	9/2/97	8,700	3,700	4,000	460	40	200	100	ND [2]	2.0	12	4.20	0.24	-14.4
	11/26/97	1,700	3,000	7,500	1,000	120	270	320	ND [2]	0.6	ND	<0.01	2.0	+105
	3/17/98	ND	16,000	11,000	2,100	290	600	760	1,200	ND	0.8	0.16	0.8 [3]	-60.4
	6/30/98	ND	5,900	10,000	1,300	160	390	390	160	0.4	2.0	0.96	0.77	-46.70
	9/24/98	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
	2/19/99	--	--	--	--	--	--	--	--	--	--	--	1.00	+107
HMW-2	8/22/96	7,400 [4]	2,100	6,300	170	57	370	120	-----	2100	2100	-----	-----	-----
	2/25/97	90	ND	8,400	150	35	280	70	ND [2]	ND	ND	-----	-----	-----
	5/28/97	130	200	6,000	170	35	170	67	150	200	200	-----	-----	-----
	9/2/97	1,502	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
	3/17/98	ND	ND	8,600	200	96	410	120	330	ND	0.8	0.01	0.48 [3]	-50.28
	6/30/98	ND	ND	7,300	180	52	240	88	170	ND	ND	0.01	0.43	-45.50
	9/24/98	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
	2/19/99	--	--	--	--	--	--	--	--	--	--	--	1.10	-101
HMW-3	8/22/96	ND	ND	1,300	3	6	8	12	----	ND	ND	-----	-----	-----
	2/25/97	70	ND	150	ND	ND	ND	ND	ND	ND	ND	-----	-----	-----
	5/28/97	ND	ND	80	ND	ND	0.60	ND	ND	ND	ND	-----	-----	-----
	9/2/97	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
	3/17/98	ND	200	ND	ND	ND	ND	ND	ND	1.1	43	ND	0.63 [3]	91 90
	6/30/98	ND	ND	ND	ND	ND	ND	ND	ND	4.0	51	ND	0.25	95.70
	9/24/98	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
	2/19/99	--	--	--	--	--	--	--	--	--	--	--	0.95	+89
HMW-4	11/26/97	400	ND	1,600	4.2	3.1	1.7	5.9	ND	----	----	----	----	----
	3/17/98	ND	ND	1,300	20	1.4	6.8	3.0	19	ND	8.6	0.12	2.4 [3]	-26.67
	6/30/98	ND	ND	940	17	1.5	18	2	10	ND	18.0	ND	3.7	-21.7
	9/24/98	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

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[4] (mg/L)	Redox Potential[5] (mV)
TRIP BLANK	3/17/98	--	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----
	6/30/98	--	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----
	9/21/98	--	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----
	12/16/98													
MCL [6]					1.0	150	700	1,750	35 [7]					

NOTES

Well ID No	HMW-1, HMW-2, and HMW-3 are New Genico wells MW-1, MW-2, and MW-3, respectively
TPH	Total petroleum hydrocarbons
ND	Not detected above reporting limit
NR	Not Reported due to laboratory instrument conditions
	Not analyzed
	Measured in the field
1	Data prior to 3/17/98 was obtained from a report prepared by ATC Associates Inc. (1/8/98)
2	Positive result by initial USEPA Method 8020 analysis/confirmation performed by USEPA Method 8260 reports ND
3	Dissolved oxygen measured prior to purging
4	Laboratory reported concentration for diesel is estimated due to overlapping fuel patterns
5	Samples collected on 10/3/97
6	Maximum Contaminant Level
	California Drinking Water Advisory Level

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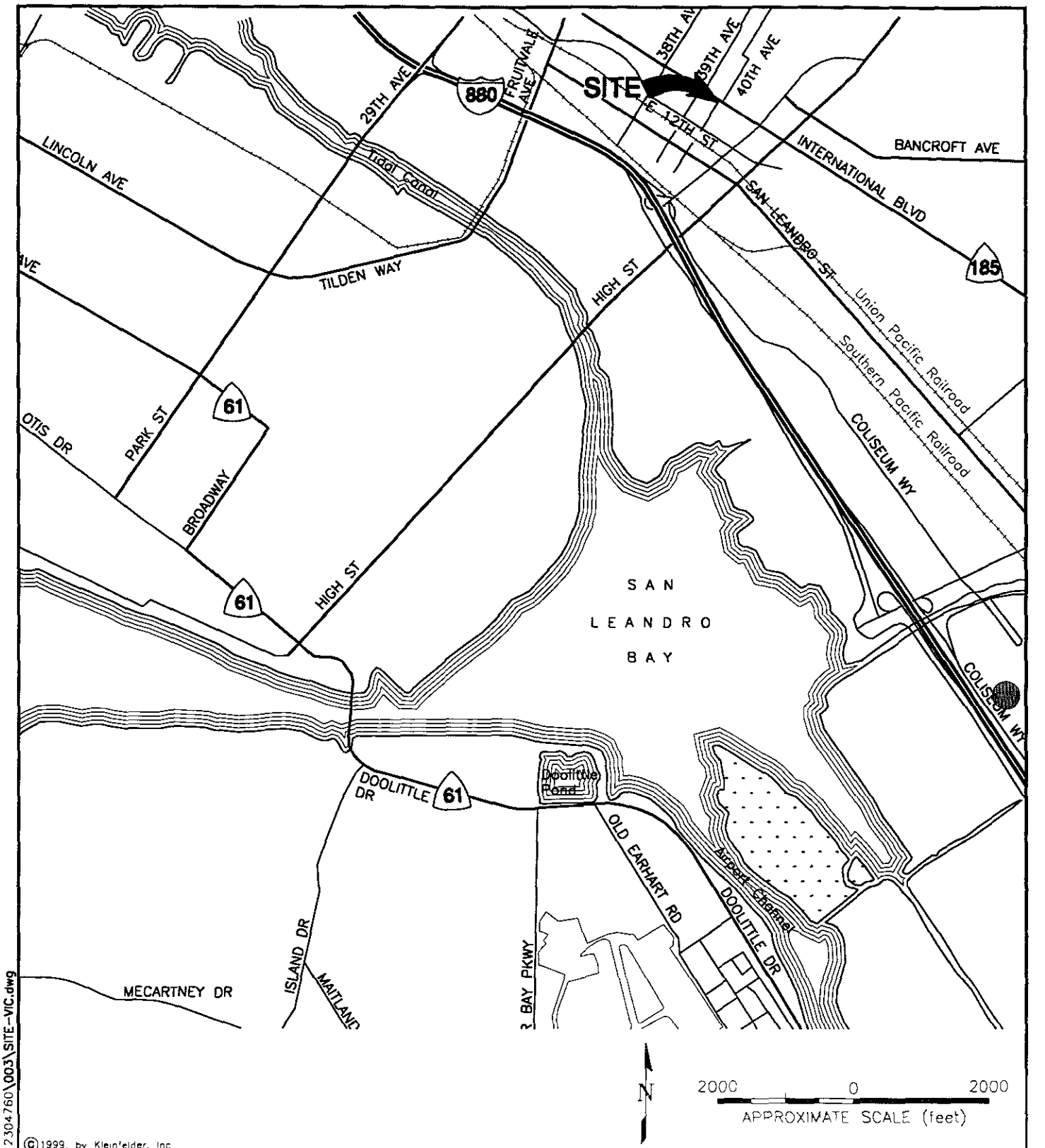
Table 4
Groundwater Parameters Measured Prior to Sampling
New Genico Facility
3927 E. 14th Street Oakland, California

Well I.D. No.	Sample Date	pH	Specific Conductivity (μmhos/cm)	Temperature (°F)
HMW-1	8/22/96	-----	-----	-----
	2/25/97	4.55	680	75.0
	5/28/97	7.70	810	70.4
	9/2/97	6.73	1074	73.4
	11/26/97	6.93	966	70.0
	3/17/98	6.16	1,163	67.6
	6/30/98	6.80	1,006	71.6
	9/24/98	6.69	1,080	70.3
	12/16/98	6.70	830	70.2
HMW-2	8/22/96	-----	-----	-----
	2/25/97	4.65	450	72.1
	5/28/97	7.80	480	69.4
	9/2/97	6.82	762	74.8
	11/26/97	6.99	731	69.8
	3/17/98	6.62	741	66.0
	6/30/98	6.88	610	71.6
	9/24/98	6.81	650	71.9
	12/16/98	6.02	590	69.9
HMW-3	8/22/96	-----	-----	-----
	2/25/97	5.87	390	63.3
	5/28/97	8.00	400	67.6
	9/2/97	6.97	669	70.9
	11/26/97	6.87	665	67.8
	3/17/98	6.43	734	65.9
	6/30/98	6.96	640	71.6
	9/24/98	6.93	650	69.8
	12/16/98	6.94	610	67.7
HMW-4	11/26/97	-----	-----	-----
	3/17/98	6.66	769	66.3
	6/30/98	6.98	690	73.4
	9/24/98	7.05	620	70.9
	12/16/98	7.12	620	71.0

NOTES

"----" = Not Measured



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KLEINFELDER

DRAFTED BY L. Sue	DATE 1-8-99
CHECKED BY B. Theyskens	DATE 1-8-99

SITE VICINITY MAP

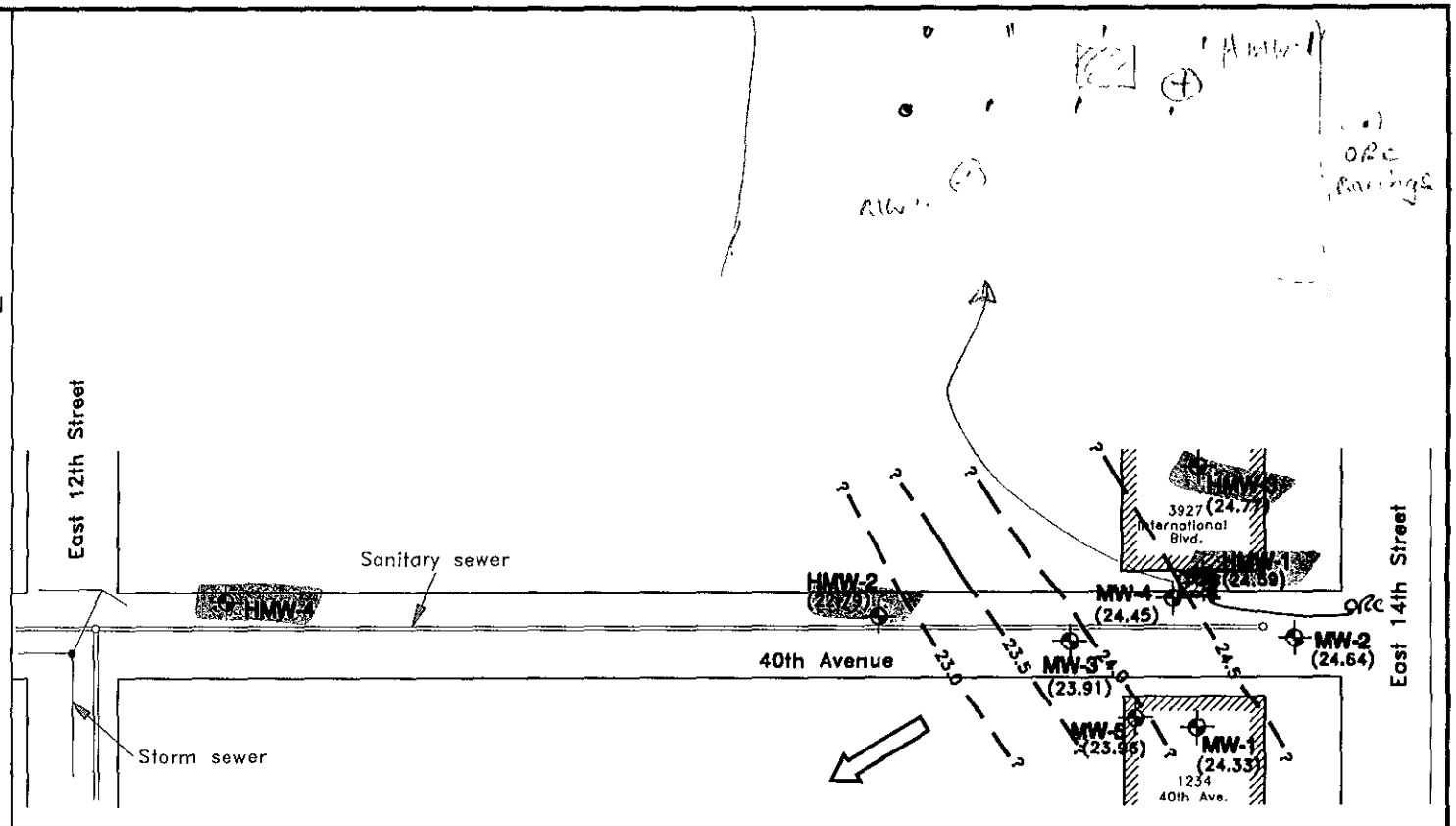
NEW GENICO FACILITY
3927 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO 12-3047-60

PLATE 1

LEGEND

- PERMANENT GROUNDWATER MONITORING WELL
- (24.77) GROUNDWATER CONTOUR (feet, mean sea level)
- 23.5 GROUNDWATER ELEVATION (feet, mean sea level) MEASURED DECEMBER 1998
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW



N

60 0 60

APPROXIMATE SCALE (feet)

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

KLEINFELDER

DRAFTED BY: L. Wahlgren	DATE: 3-3-99
CHECKED BY: B. Theyskens	DATE: 3-3-99

SITE PLAN

NEW GENICO FACILITY
3927 EAST 14TH STREET
OAKLAND, CALIFORNIA

PROJECT NO. 12-3047-60

PLATE

2

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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 mater 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 liquinox™ 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.

KA KLEINFELDER

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. HMW-3

Sheet 1 of 1

Date: 12/16/98 Weather: Sunny

Project: Hawsawer Submitted By: L. Wahlgren Date: 12/16/98

Project No.: Reviewed By: Date:

Purpose of Log ☐ Development ☒ Sampling

Equipment & Decontamination

Purging Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submers-able Pump	Dedicated Pump	Other:
Sampling Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submers-able Pump	Dedicated Pump	Other:

Test Equipment	Water Level	pH	Conductivity	Turbidity
Meter No.				
Calibration Date/Time	NA			

Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III	
TSP	DI	Steam	DI	Steam	DI	Steam	DI	Steam
Alconox	Tap	Hot	Tap	Hot	Tap	Hot	Tap	Hot
Other:	Other	Cool	Other	Cool	Other	Cool	Other	Cool
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 × Factor × 1 C.V = 1.90 gal

Well Diam.: ☐ 2" ☐ 4" 17.54 ft. − 6.71 ft. × (2"=0.175, 4"=0.663) × 3 = 5.70 gal

Free Product?: Odor: no (yes) Floating Product: none (sheen) film ____ feet thick

								Replicate Goals
Time (24-hr)	12:45	12:49	12:54	12:59	13:05			
Gallons Purged	0	1.5	3.0	4.5	6.0			(dev. only)
Surged (minutes)	↑	[illegible]						
pH	S	7.04	7.09	7.00	6.94			±0.10
Temperature (°C)	T	70.1	68.4	68.0	67.7			±1°C
Cond. (µmhos/cm)	A	630	620	670	610			±10%
Salinity (‰)	R							±10%
Turbidity (NTU's)	T							<50 NTUs
Color	↓							Colorless
Depth to Water								±0.01'

Reference Point: TOC Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
HMW-3	13:22	3		VOA	HCL			Enviro
"	"	2		VOA	—			"
"	"	2		amber	—			"
"	"	1	500ML	plastic	—			"

Misc

Other Observations: D.O. = 7.8% Redox = 138

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

KA KLEINFELDER

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. HMW-4

Date: 12/16/98 Weather: Sunny

Sheet 1 of 1

Project: Haushaver Submitted By: L. Wahlgren

Date: 12/16/98

Project No.: Reviewed By:

Date:

Purpose of Log ☐ Development ☒ Sampling

Equipment & Decontamination

Purging Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submersable Pump	Dedicated Pump	Other: peristaltic pump
Sampling Equipment	Bailer	Disposable Bailer	Suction Pump	Submersable 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 / Alconox / Other:	DI / Tap / Other	Steam / Hot / Cool	DI / Tap / Other	Steam / Hot / Cool	DI / Tap / Other	Steam / Hot / Cool	DI / Tap / Other	Steam / Hot / Cool
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 × Factor × 1 C.V = gal

Well Diam.: ☐ 2" ☐ 4" ft. – ft. × (2"=0.175, 4"=0.663) × = gal

Free Product?: Odor: (no) yes Floating Product: (none) sheen no film feet thick

								Replicate Goals
Time (24-hr)	2:02	2:08	2:14	2:20	14:27			
Gallons Purged	0	0.5	1.0	1.5	2.0			(dev. only)
Surged (minutes)	↑							
pH	S	6.89	7.08	7.10	7.12			±0.10
Temperature (°C)	T	70.6	71.5	71.4	71.0			±1°C
Cond. (µmhos/cm)	A	630	610	610	620			±10%
Salinity (‰)	R							±10%
Turbidity (NTU's)	T	trace			→			<50 NTUs
Color	↓	colorless			→			Colorless
Depth to Water								±0.01'

Reference Point: TOC Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
HMW-4	17:31	3		VOA	HCl			Eatab
↓	↓	2		VOA	—			↓
		2		amber	—			
↓	↓	1	500 mL	plastic	—			↓

Misc

Other Observations: Redox - 34 D.O. - 3.8%

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

KA KLEINFELDER

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. AMW-1

Date: 12/16/98 Weather: Sunny Sheet 1 of 1

Project: Hanshaw Submitted By: L. Wahlgren Date: 12/16/98

Project No.: Reviewed By: Date:

Purpose of Log ☐ Development ☒ Sampling

Equipment & Decontamination

Purging Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submers-able Pump	Dedicated Pump	Other:
Sampling Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submers-able Pump	Dedicated Pump	Other:

Test Equipment	Water Level	pH	Conductivity	Turbidity
Meter No.				
Calibration Date/Time	NA			

Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III	
TSP	DI	Steam	DI	Steam	DI	Steam	DI	Steam
Alconox	Tap	Hot	Tap	Hot	Tap	Hot	Tap	Hot
Other:	Other	Cool	Other	Cool	Other	Cool	Other	Cool
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 × Factor × 1 C.V = 2.23 gal

Well Diam.: ☐ 2" ☐ 4" 19.42 ft − 6.66 ft × (2"=0.175, 4"=0.663) × 3 = 6.69 gal

Free Product?: Odor: no (yes) Floating Product: (none) sheen ND film ____ feet thick

								Replicate Goals
Time (24-hr)	11:45	11:50	11:56	12:01	12:05			
Gallons Purged	0	2	4	6	7			
Surged (minutes)	↑			LW				(dev. only)
pH	S	6.29	6.62	~~6.65~~	6.70			±0.10
Temperature (°C)	T	69.7	70.5	70.3	70.2			±1°C
Cond. (µmhos/cm)	A	840	840	830	830			±10%
Salinity (‰)	R							±10%
Turbidity (NTU's)	T	heavy	—	—	0			<50 NTUs
Color	↓	brn	—	—	0			Colorless
Depth to Water								±0.01'

Reference Point: TOC Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
AMW-1	12:28	3		VOA	HCl			Enfec
↓	↓	2		VOA	—			↓
		2		amber	—			
▽	▽	1	500 ml	plastic	—			

Misc

Other Observations: D.O. Redox -40

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

KA KLEINFELDER

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. HMW-2

Date: 12/16/98 Weather: Sunny — Sheet 1 of 1

Project: Hunters — Submitted By: L. Wong — Date: 12/16/98

Project No.: — Reviewed By: — Date:

Purpose of Log ☐ Development ☒ Sampling

Equipment & Decontamination

Purging Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submers-able Pump	Dedicated Pump	Other:
Sampling Equipment	(Bailer)	Disposable Bailer	Suction Pump	Submers-able Pump	Dedicated Pump	Other:

Test Equipment	Water Level	pH	Conductivity	Turbidity
Meter No.				
Calibration Date/Time	NA			

Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III	
TSP / Alconox / Other:	DI / Tap / Other	Steam / Hot / Cool	DI / Tap / Other	Steam / Hot / Cool	DI / Tap / Other	Steam / Hot / Cool	DI / Tap / Other	Steam / Hot / Cool
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 × Factor × 1 C.V = 1.94 gal

Well Diam.: ☒ 2" ☐ 4" — 17.72 ft. − 6.69 ft. × (2"=0.175, 4"=0.663) × 3 = 5.82 gal

Free Product?: Odor: (no) yes — Floating Product: (none) — sheen NO film ____ feet thick

									Replicate Goals
Time (24-hr)		10:42	10:50	10:56	11:00				
Gallons Purged	0	1.5	3.0	4.5	6.0				(dev. only)
Surged (minutes)	↑								
pH	S	6.03	5.97	6.07	6.02				±0.10
Temperature (°C)	T	68.7	69.3	69.6	69.9				±1°C
Cond. (µmhos/cm)	A	670	640	610	590				±10%
Salinity (‰)	R								±10%
Turbidity (NTU's)	T	trace	—	—	→				<50 NTUs
Color	↓	colorless	—	—	→				Colorless
Depth to Water									±0.01'

Reference Point: TOC Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
HMW-2	11:15	3		VOA	HCl			Entech
↓		2		VOA	—			↓
		2		amber	—			
↓		1	500 mL	plastic	—			

Misc

Other Observations: D.O. = 4.3% — Redox = +173

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

KA KLEINFELDER

RECORD OF WATER LEVEL MEASUREMENTS

Date: 12/16/98 Weather: Sunny Sheet 1 of 1

Project: Haushauer Submitted By: Lars Wahlgren Date: 12/16/98

Project No.: 12-304760 Reviewed By: Date:

Instrument Number:

Well Number	Time (opened/measured)	Sensitivity Setting	Measuring Point	Measurement	Replicate Measurements (if requested)		DTB	Notes		Locked? (Y)
	(24-hr)	(est. %)	(M.P.)	1	2	3				
HMW-1	10:25			6.66	6.66		19.42			
HMW-2	10:16			6.64	6.64		17.72			
HMW-3	10:21			6.71	6.71		13.54			
HMW-4										

M P TOC, GS, Cover ring, Other

All Wells Locked -- YES / NO

KLEINFELDER

Daily Field Report (DFR)

Project Name Haushaver Project No. 12304760 Date 2/19/99

Project Location Time Arrived

Contractor Technician Time Departed

Weather Sunny Travel Time

Earthwork Equipment Observed Mileage

DFR Given to (or left at) DFR No.

Reviewed by Date Reviewed

Observations/Remarks:

HMW-1 D.O. = 1.00 mg/L 12:45
no sheen, slight odor
Redox = +107

HMW-2 D.O = 1.10 mg/L 12:31
no sheen, strong odor
Redox = -101

HMW-3 D.O = 0.95 mg/L 12:02
no sheen, no odor
Redox = 89

1 drum on site ~ 1/2 full

NOTE: Observations, pass/fail evaluations, and/or recommendations (if applicable) provided herein have not been reviewed by an engineer and therefore should be considered preliminary and subject to change.

Kleinfelder Representative Signature

Kleinfelder Representative Print Name

Entech Analytical Labs, Inc.

CA ELAP# 2224

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: 12/30/98
Date Received: 12/17/98
Project: 12-304760
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	12/16/98			12/16/98			12/16/98				
Sample Time	12:28			11:15			13:22				
Lab #	E22572			E22573			E22574				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	12/23/98			12/23/98			12/23/98				
TPH-Diesel	**ND**	1.0	50	**ND**	1.0	50	**ND**	1.0	50	50	8015M
TPH-Motor Oil	**1,400**	1.0	50	**ND**	1.0	50	**ND**	1.0	50	50	8015M
Analysis Date	12/23/98			12/23/98			12/23/98				
TPH-Gas	**4,500**	4.0	200	**5,300**	10	500	**ND**	1.0	50	50	8015M
MTBE	**NR** [1]			**NR** [1]			**NR** [1]			5.0	8020
Benzene	**290**	4.0	2.0	**93**	10	5.0	**ND**	1.0	0.50	0.50	8020
Toluene	**39**	4.0	2.0	**25**	10	5.0	**ND**	1.0	0.50	0.50	8020
Ethyl Benzene	**85**	4.0	2.0	**160**	10	5.0	**ND**	1.0	0.50	0.50	8020
Xylenes	**100**	4.0	2 0	**53**	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

1. NR: MTBE not reported due to instrument conditions
2. Report amended 12/30/98
3. Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2224)

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KLEINFELDER SAN JOSE

Michele Anderson, Lab Director

Entech Analytical Labs, Inc.

CA ELAP# 2224

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: 12/30/98
Date Received: 12/17/98
Project: 12-304760
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-4										
Sample Date	12/16/98										
Sample Time	14:31										
Lab #	E22575										
	Result	DF	DLR							PQL	Method
Results in µg/Liter:											
Analysis Date	12/24/98										
TPH-Diesel	**ND**	1.0	50							50	8015M
TPH-Motor Oil	**ND**	1.0	50							50	8015M
Analysis Date	12/24/98										
TPH-Gas	**830**	1.0	50							50	8015M
MTBE	**NR** [1]									5.0	8020
Benzene	**11**	1 0	0.50							0.50	8020
Toluene	**ND**	1.0	0.50							0.50	8020
Ethyl Benzene	**2.7**	1.0	0.50							0.50	8020
Xylenes	**5.0**	1.0	0.50							0.50	8020

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

1. NR: MTBE not reported due to instrument conditions
2. Report amended 12/30/98
3. Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2224)

Michelle Anderson Lab Director

Entech Analytical Labs, Inc.

CA ELAP# 2224

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

Date: 12/30/98
Date Received: 12/17/98
Project: 12-304760
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	12/16/98			12/16/98			12/16/98				
Sample Time	12:28			11:15			13:22				
Lab #	E22572			E22573			E22574				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Analysis Date	12/17-12/30/98			12/17-12/30/98			12/17-12/30/98				
Results in mg/Liter:											
Alkalinity	**400**	1.0	0.10	**360**	1.0	0 10	**280**	1.0	0.10	0.10	310.1
Ferrous Iron	**0.17**	1.0	0.010	**1.1**	1.0	0.010	**ND**	1.0	0.010	0.010	SM3500
Nitrate-Nitrogen	**5.1**	1.0	0.10	**ND**	1.0	0.10	**4.0**	1.0	0.10	0.10	353.3
Sulfate	**33**	1.0	0.10	**ND**	1.0	0.10	**55**	1.0	0.10	0.10	375.4

· Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2224)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2224

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: 12/30/98
Date Received: 12/17/98
Project: 12-304760
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-4										
Sample Date	12/16/98										
Sample Time	14:31										
Lab #	E22575										
	Result	DF	DLR							PQL	Method
Analysis Date	12/17-12/30/98										
Results in mg/Liter:											
Alkalinity	**340**	1.0	0.10							0.10	310.1
Ferrous Iron	**1.2**	1.0	0.010							0.010	SM3500
Nitrate-Nitrogen	**ND**	1.0	0.10							0.10	353.3
Sulfate	**12**	1.0	0.10							0.10	375.4

- Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2224)

Michael D. Anderson, Lab Director

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2981223
Matrix: Water
Units: µg/L

Date Analyzed: 12/23/98
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	**SP % R**	SPD µg/L	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Benzene	8020	<0.50	40	ND	39	**98**	37	**94**	4.1	25	76-112
Toluene	8020	<0.50	40	ND	40	**101**	38	**94**	6.9	25	78-112
Ethyl Benzene	8020	<0.50	40	ND	41	**104**	41	**102**	1.9	25	77-114
Xylenes	8020	<0.50	120	ND	120	**100**	118	**98**	1.9	25	78-115
Gasoline	8015	<50.0	500	ND	450	**90**	431	**86**	4.2	25	71-114

Note: LCS and LCSD results reported for the following Parameters.
All

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

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.

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QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Spikes

QC Batch #: DW981207
Matrix: Water
Units: µg/L

Date analyzed: 12/22/98
Date extracted: 12/22/98
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	**SP %R**	SPD µg/L	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<50.0	950	ND	776	**82**	764	**80**	1.6	25	62-131

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 Duplicate % Recovery
- NC: Not Calculated

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Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Spikes

QC Batch #: DW981206
Matrix: Water
Units: µg/L

Date analyzed: 12/11/98
Date extracted: 12/11/98
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	**SP %R**	SPD µg/L	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<50.0	950	ND	862	**91**	808	**85**	6.5	25	62-131

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 Duplicate % Recovery
- NC: Not Calculated

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: 12-17-98
Turn Around: normal

Project ID: 12-304760
Purchase Order #:

Sampler/Company:	Telephone #:
Lars Wahlgren Kleinfelder	408 436-1155

Special Instructions/Comments:

LAB USE ONLY

Samples arrived chilled and intact:

Yes No

Notes: No Si Clean on TPHd or TPHmo per Bill (initials) 12/18/98

Sample Information / **Requested Analysis**

Lab #	Sample ID	Grab/Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPHg	TPHd TPHmo	Ferrous Iron	Nitrate Sulfate Alkalinity	MTBE BTEX	added per Bill Theyskens 12/30/98		
E22572	MW-1	Grab	H_2O	12/16/98	12:28	HCl	voa w/HCl	X				X			
↓	↓	↓	↓	↓	↓	—	1 liter amber		X						
						—	voa no pres			X					
						—	500 ml plastic				X				
E22573	MW-2				11:15	HCl	VOA	X				X			
						—	1 liter amb		X						
						—	VOA			X					
						—	500 ml plastic				X				

Relinq By	Received By	Date	Time
SAMPLE REFRIGERATOR [signature]	Jeremiah Malin	12-17-98	10:30
Jeremiah Malin		12-17-98	11:10
	[signature]	12/17/98	11:30 Am

Entech Analytical Labs, Inc.

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Chain of Custody/Analysis Work Order

Client: Kleinfelder
Address: 1362 Ridder Park Dr.
SJ, CA
Contact: Lars Wahlgren / Bill Theyskens
Telephone #: (408) 436-1155
Date Received: 12-17-98
Turn Around: normal

Project ID: 12-304760
Purchase Order #:

Sampler/Company: Lars Wahlgren Kleinfelder
Telephone #: (408) 436-1155

Special Instructions/Comments

LAB USE ONLY

Samples arrived chilled and intact:

Yes No

Notes:

Lab #	Sample ID	Grab/Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPHg	TPHd TPHmo	Ferrous Iron	Nitrate Sulfate Alkalinity	MTBE Ether	added per Bill Theyskens 12/30/98		
E22574	MW-3	Grab	H_2O	12/16/98	13:22	HCl	VOA	X				X			
	↓					—	1 liter amber		X						
						—	VOA			X					
	↓				↓	—	500 ml plastic				X				
E22575	MW-4				14:31	HCl	VOA	X				X			
						—	1 liter amber		X						
						—	VOA			X					
	↓	↓	↓	↓	↓	—	500 ml plastic				X				

Relinq By	Received By	Date	Time
SAMPLE REFRIGERATOR [signature]	Jeremiah Matias	12-17-98	10:30
Jeremiah Matias		12-17-98	11:10
	[signature]	12/17/98	11:30 pm