SECOND QUARTER 1999
GROUNDWATER MONITORING REPORT
NEW GENICO FACILITY
3927 EAST 14TH STREET
OAKLAND, CALIFORNIA

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

ATTENTION: Mr. Tommy A. Conner

July 22, 1999

KLEINFELDER
An employee owned company

July 22, 1999
File No. 12-3047-61

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

SUBJECT: Second 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 Second 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 second quarter 1999 groundwater monitoring event. Work was conducted in accordance with Kleinfelder's proposal dated February 11, 1999.

Kleinfelder performed groundwater monitoring on June 23, 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 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 June 23, 1999. Kleinfelder measured depths to water (Table 1) and collected groundwater samples on June 23, 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 in three wells. Kleinfelder noted a sheen on 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 and HMW-2. 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.

LABORATORY ANALYSES

Groundwater samples collected during the second 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. The diesel analyses were subcontracted to Kiff Analytical in Davis, California.

RESULTS

Groundwater Gradient

Table 1 presents the water-level data for June 1999 for the New Genico facility. Depth-to-water data as measured and provided by Rogers Environmental Services on June 23, 1999 is presented on Table 2. Plate 2 presents the groundwater piezometric contours for June 23, 1999 using the data collected by Kleinfelder.

As illustrated in Plate 2, the groundwater flow direction beneath the site was southerly on June 23, 1999. The magnitude of the hydraulic gradient was approximately 0.0096 foot per foot. This flow direction and hydraulic gradient are generally consistent with previous findings. Groundwater levels decreased an average 2.4 feet since last quarter in the site's groundwater monitoring wells.

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.

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), and Kleinfelder's subsequent quarterly reports, starting with the second quarter of 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 June 23, 1999 analytical results for the 3927 East 14th Street facility.

- TPH-d was not reported in any of the four wells this quarter.
- TPH-mo was reported only in well HMW-1. Concentrations of TPH-mo increased in HMW-1 since last quarter. HMW-2 reported non-detect (ND) for TPH-mo, decreasing from last quarter's results (730 micrograms per liter [µg/L]).
- TPH-g concentrations decreased significantly in wells HMW-1 and HMW-2, and less so in HMW-3. TPH-g concentrations increased in HMW-4 but were within historical limits of previous findings for this well.
- Benzene concentrations decreased by more than half in wells HMW-1 and HMW-2, decreased less so in HMW-4, and remained ND in HMW-3 for the sixth consecutive quarter. Benzene concentrations remain 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 xylene concentrations decreased by more than half in well HMW-1 and HMW-2. Ethylbenzene remained ND in HMW-3 for the sixth consecutive quarter; however, Toluene and Total Xylenes were reported for the first time in six and three quarters, respectively. Toluene, Ethylbenzene and Total Xylenes increased slightly in HMW-4. All three constituents that were reported were below their respective MCLs for all four wells.
- MtBE was reported in HMW-1, HMW-2 and HMW-4 using EPA Method 8020. "Confirmation" analysis by GCMS (EPA Method 8260) was performed for HMW-1, the sample with the highest reported MtBE concentration. MtBE was reported as ND by EPA Method 8260, indicating the EPA 8020 result was likely a "false positive."

Historically, when site samples reported to contain MtBE were re-analyzed using GCMS, the result was also ND. Reports of detected MtBE using USEPA Method 8020 analyses are therefore suspected to be, and to have been, "false positives."

Bioremediation Indicator Parameters

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.

Kleinfelder measured dissolved oxygen concentrations and redox potential in all four of New Genico's wells (HMW-1, HMW-2, HMW-3 and HMW-4) on June 23, 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

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 June 23, 1999 monitoring event, concentrations of D.O. increased in all 4 new Genico wells. Relatively high concentrations of dissolved oxygen were indicated in well HMW-1 which is the New Genico well that is located closest to the former UST location. The sample from HMW-2, located downgradient of the former UST location, was also reported to have relatively high concentrations of dissolved oxygen. This increase in D.O. concentrations 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. Dissolved oxygen concentrations were relatively consistent with those previously reported for HMW-3 and HMW-4.

A relatively high concentration of dissolved oxygen was again reported in HMW-4, located a significant distance downgradient of the former UST location. The relatively 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 (April 1, 1999) to be 5.7 milligrams per liter (mg/L) on June 23, 1999. Concentrations of 10.5 mg/L had been reported on March 16, 1999. 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.

Redox potentials in HMW-3 (upgradient well) and HMW-4 (far downgradient well) were positive, and the redox potentials in HMW-1 and HMW-2 (within the apparent plume) were negative, as measured on June 23, 1999 (this would appear to suggest intrinsic biodegradation is still occurring in these latter two wells).

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 higher than previously reported in HMW-1 and HMW-3 and were "ND" in the downgradient wells, including Motor Partner's well MW-4, suggesting intrinsic biodegradation is occurring within a short distance of the former UST location.
- Sulfate concentrations increased notably in wells HMW-3 and HMW-4. Sulfate increased slightly in well HMW-2 and was reported ND in well HMW-1. No discernible pattern was observed.
- Ferrous iron increased in wells HMW-1, HMW-2 and HMW-4 and remained ND for well HMW-3. These concentrations indicate increases from the previous quarter, and may suggest increased intrinsic bioremediation.
- Dissolved oxygen concentrations increased in all four of wells with respect to the previously measured values. 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.
- The redox potential in well HMW-3 and HMW-4 were positive. Redox potentials in the remaining wells were negative, suggestive of the occurrence of intrinsic bioremediation.

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 have increased proximate to, and downgradient of, the ORC injection points. TPHd was not reported in any of New Genico's wells this quarter, suggesting the reported TPHd concentrations last quarter were an anomaly. Concentrations of TPHmo and BTEX have decreased since last quarter. Concentrations of TPHg decreased in all wells with the exception of the relatively far downgradient well MW-4. Benzene remained ND in well HMW-3, and decreased in the remaining wells. The general trend appears to suggest that intrinsic bioremediation is occurring. While dissolved oxygen concentrations

continue to increase and remain elevated, the observed rates of intrinsic bioremediation can be anticipated to continue.

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,

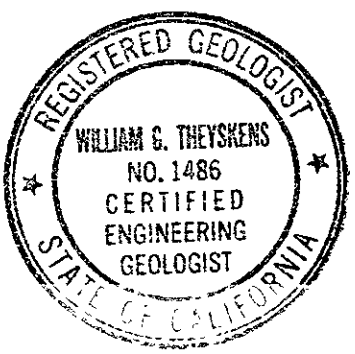
KLEINFELDER, INC.

for

Lars Wahlgren
Associate Technician

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

Attachments



TABLES

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	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
	6/23/99		7.25	24.00	0.00	24.00
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
	6/23/99		7.02	22.41	0.00	22.41
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
	6/23/99		7.12	24.36	0.00	24.36
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
	6/23/99		7.43	21.37	0.00	21.37

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
	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
	06/23/99		7.62	23.82	----	23.82
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
	06/23/99		6.87	24.19	----	24.19
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
	06/23/99		7.06	23.37	----	23.37
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
	06/23/99		6.42	23.95	----	23.95

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-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
	06/23/99		7.66	23.49	----	23.49

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 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	08/22/96	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
	06/23/99	ND	12,000	3,300	510	52	110	110	70	5.8	ND	0.19	1.60	-78
HMW-2	08/22/96	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
	06/23/99	ND	ND	1,200	31	11	36	12	5.2	ND	0.93	0.43	1.45	-81
HMW-3	08/22/96	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
	06/23/99	ND	ND	71	ND	0.70	ND	1.6	ND	6.2	46	ND	1.00	128

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-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
	06/23/99	ND	ND	1,100	5.3	1.1	2.0	3.9	27	ND	30	1.3	1.20	82
TRIP 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	----	----	----	----	----
	12/16/98	----	----	----	----	----	----	----	----	----	----	----	----	----
	03/16/99	----	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----
	06/23/99	----	----	ND	ND	ND	ND	ND	ND	----	----	----	----	----
MCL [6]					1.0	150	700	1,750	35 [7]					

NOTES

Well I D 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
7 California Drinking Water Advisory Level

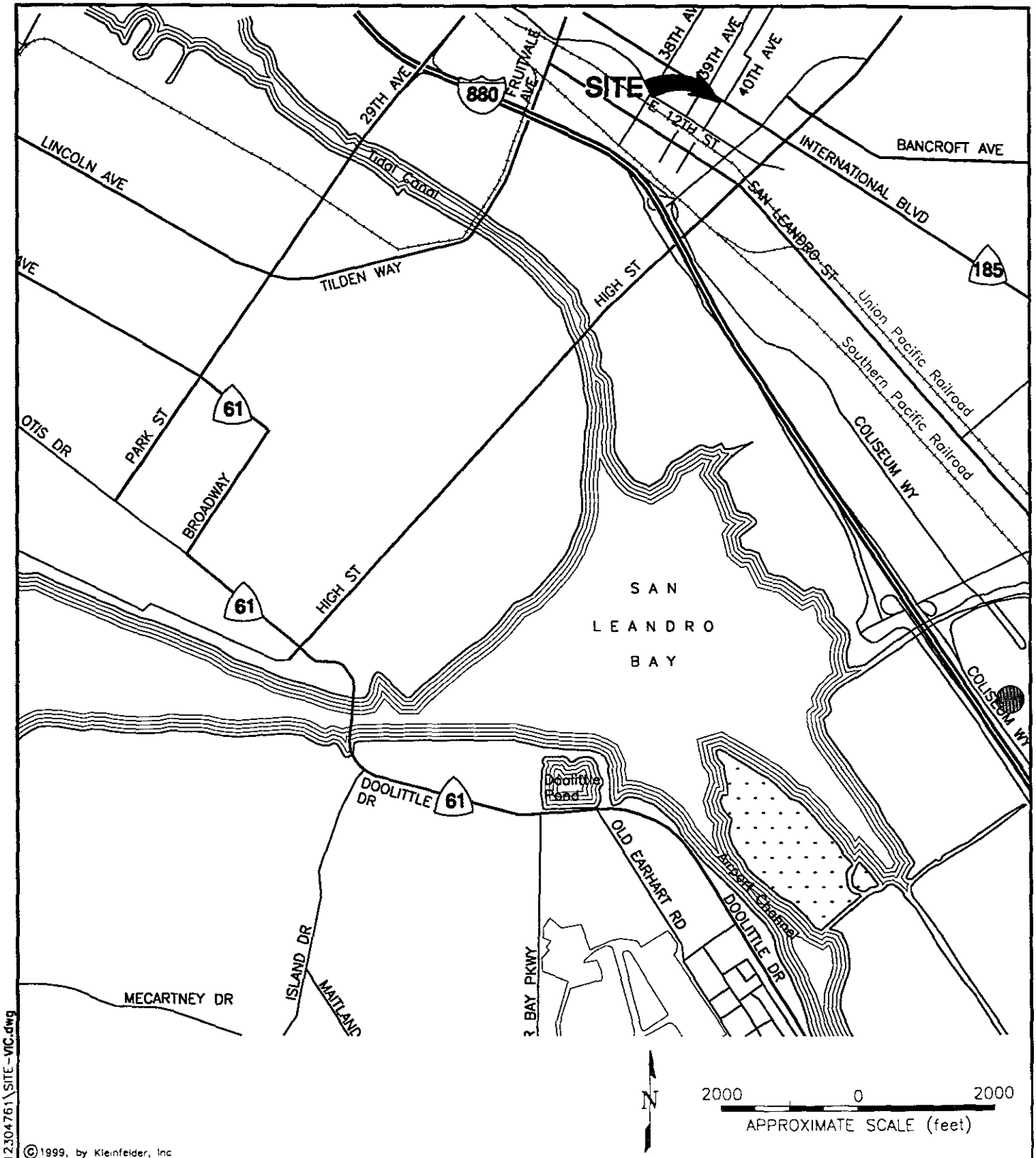
Table 4
Groundwater Parameters Measured Prior to Sampling
New Genico Facility
3927 E. 14th Street Oakland, California

Well I.D. No.	Sample Date	pH	Specific Conductivity (μmhos/cm)	Temperature (°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
	06/23/99	6.86	910	69.5
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
	06/23/99	6.31	940	70.7
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
	06/23/99	7.42	710	68.5
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
	06/23/99	6 77	740	72.0

NOTES

"----" = Not Measured

PLATES



KLEINFELDER

SITE VICINITY MAP

NEW GENICO FACILITY
3927 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

PLATE 1

DRAFTED BY: L. Wahlgren	DATE: 7-8-98
CHECKED BY: B. Theyskens	DATE: 7-8-98
PROJECT NO. 12-3047-61	

CAD FILE: C:_KA-PROJ\SJ\12304761\SITE-VIC.dwg

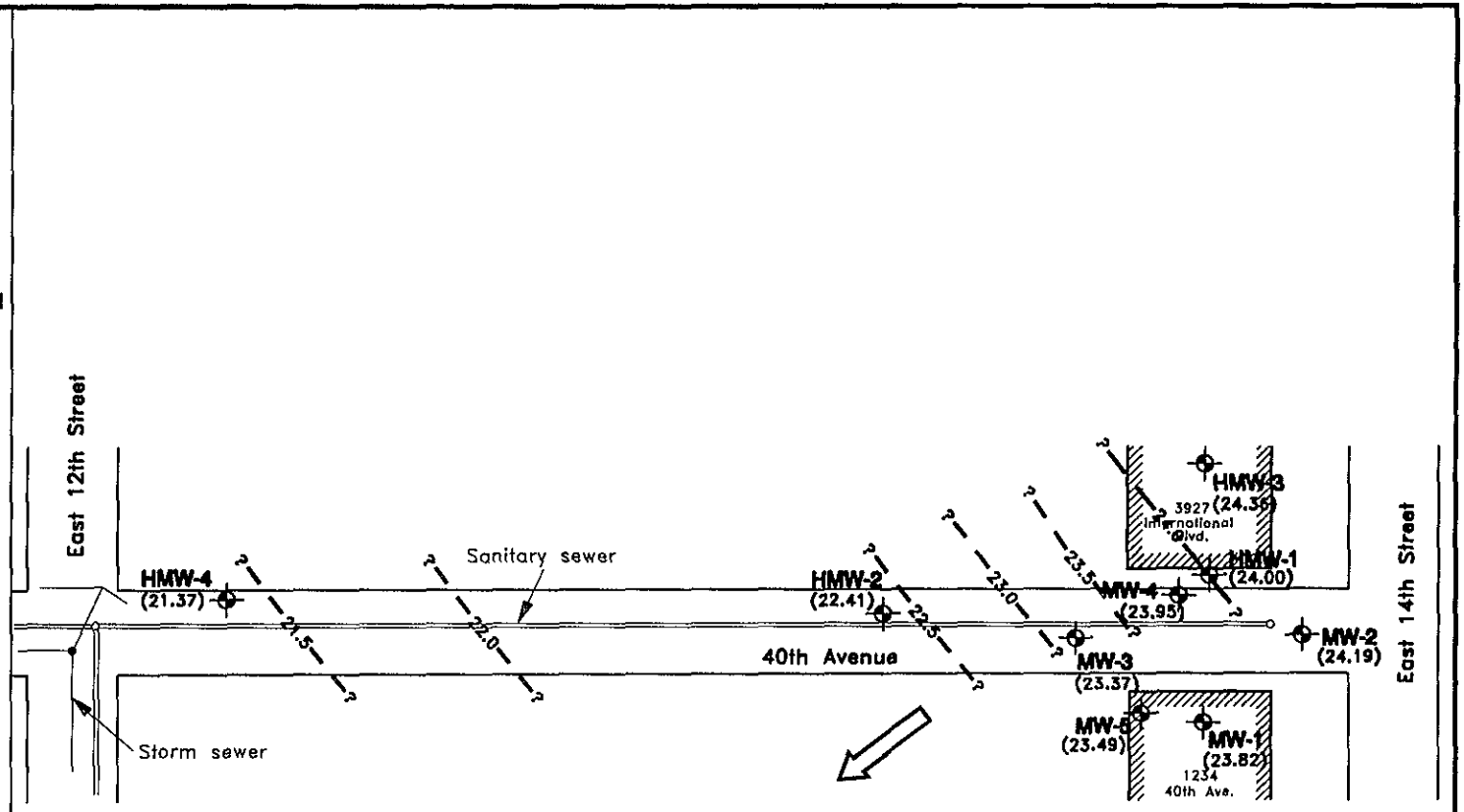
LEGEND

PERMANENT GROUNDWATER MONITORING WELL

GROUNDWATER CONTOUR (feet, mean sea level)

(26.54) GROUNDWATER ELEVATION (feet, mean sea level) MEASURED ON JUNE 23, 1999

APPROXIMATE DIRECTION OF GROUNDWATER FLOW



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: 7-8-99
CHECKED BY: B. Theyskens	DATE: 7-8-99

SITE PLAN

NEW GENICO FACILITY
3927 EAST 14TH STREET
OAKLAND, CALIFORNIA

PROJECT NO. 12-3047-61

PLATE 2

CAD FILE C:_KA-PROJ\SJ\12304761\SITE_PLAN.dwg

APPENDIX A

Kleinfelder Field Protocol

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 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

APPENDIX B

Field Data Sheets

RA KLEINFELDER

RECORD OF WATER LEVEL MEASUREMENTS

Date: 6/23/99 Weather: sunny Sheet 1 of 1

Project: Hausauer Submitted By: Lars Wahlgren Date: 6/23/99

Project No.: 12-3047-61 Reviewed By: Date:

Instrument Number:

Well Number	Time (opened/measured) (24-hr)	Sensitivity Setting (est. %)	Measuring Point (M.P.)	Measurement 1	Replicate Measurements (if requested) 2	3	Notes			Locked? (Y)
							TOC			
MW-1				7.25	7.25		19.40			
MW-2				7.02	7.02		17.77			
MW-3				7.12	7.12		16.58			
MW-4				7.43	7.43	HS	14.43			

M P: TOC GS, Cover ring, Other: All Wells Locked -- YES / NO

KLEINFELDER

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-1

Date: 6/23/99 Weather: sunny Sheet 1 of 1

Project: Hausbeer Submitted By: L. Wahlgren Date: 6/23/99

Project No.: 12-3047-61 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	6/23/99 10:45		

Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III	
	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: good (fair) poor Well Integrity: (good) fair poor Locked: yes (no)

Purge Volume (CV) T.D. – DTW × Factor × 1 C.V = 2.13 gal

Well Diam.: (2)" ☐ 4" 12.40 ft. – 7.25 ft. × (2"=0.175 4"=0.653) × 3 = 6.39 gal

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

Time (24-hr)		12:16	12:21	12:26	12:30	12:33			Replicate Goals
Gallons Purged	0	2.0	4.0	6.0	7.0				(dev. only)
Surged (minutes)	↑								
pH	S	6.63	6.92	6.74	6.86				±0.10
Temperature (°C)	T	70.1	69.3	69.4	69.5				±1°C
Cond. (µmhos/cm)	A	1060	860	940	910				±10%
Salinity (‰)	R								±10%
Turbidity (NTU's)	T	med							<50 NTUs
Color	↓	brn/gry							Colorless
Depth to Water									±0.01'

Reference Point: (TOC) Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
MW-1	12:55	3	40 ML	VOA	HCl			Entech
		2	1 Liter	Amber	—			
		1	125 ML	Plastic	HNO_3			
		1	100 ML	Amber	—			

Misc

Other Observations: Redox = -78 D.O = 1.60 mg/L

needs new bull cap

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

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-2

Date: 6/23/99 Weather: sunny
Project: Haushaver Submitted By: L. Wahlgren
Project No.: 12-3047-61 Reviewed By:
Purpose of Log ☐ Development ☒ Sampling

Sheet 1 of 1
Date: 6/23/99
Date:

Equipment & Decontamination

Purging Equipment	Bailer	~~Disposable~~ Bailer	Suction Pump	Submersable Pump	Dedicated Pump	Other:
Sampling Equipment	Bailer	~~Disposable~~ Bailer	Suction Pump	Submersable Pump	Dedicated Pump	Other:

Test Equipment	Water Level	pH	Conductivity	Turbidity
Meter No.				
Calibration Date/Time	NA	6/23 99 10:45		

Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III	
	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: good (fair) poor Well Integrity: (good) fair poor Locked: yes (no)

Purge Volume (CV) T.D. – DTW × Factor × 1 C.V = 1.88 gal
Well Diam.: ~~□~~ 2" □ 4" 17.77 ft. – 7.02 ft. × 2"=0.175 4"=0.663 × 3 = 5.64 gal
Free Product?: Odor: no (yes) Floating Product: (none) sheen film feet thick

								Replicate Goals
Time (24-hr)	11:15	11:19	11:23	11:27	11:31			
Gallons Purged	0	1.5	3.0	4.5	6.0			(dev. only)
Surged (minutes)	↑							±0.10
pH	S	5.94	6.35	6.29	6.31			±1°C
Temperature (°C)	T	71.6	70.2	70.8	70.7			±10%
Cond. (µmhos/cm)	A	700	680	980	940			±10%
Salinity (‰)	R							<50 NTUs
Turbidity (NTU's)	T	light	→	→	→			Colorless
Color	↓	loss	→	→	→			±0.01'
Depth to Water								

Reference Point: (TOC) Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
MW-2	11:46	3	40ml	VOA	HCl			Entech
↓	↓	2	8 Liter	Amber	—			↓
		1	125ml	Plastic	HNO_3			
↓	↓	1	1000ml	Amber	—			

Misc

Other Observations: Redox = -81 D.O. = 1.45 mg/L
needs new well cap

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

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-3

Date: 6/23/99 Weather: Sunny — Sheet 1 of 1

Project: Hausbauer — Submitted By: L. Wahlgren — Date: 6/23/99

Project No.: 12-3047-61 — Reviewed By: — Date:

Purpose of Log ☐ Development ☒ Sampling

Equipment & Decontamination

Purging Equipment	Bailer	(Disposable Bailer)	Suction Pump	Submersable Pump	Dedicated Pump	Other:
Sampling Equipment	Bailer	(Disposable Bailer)	Suction Pump	Submersable Pump	Dedicated Pump	Other:

Test Equipment	Water Level	pH	Conductivity	Turbidity
Meter No.				
Calibration Date/Time	NA	6/23/99 10:45	—	—

Decontamination Methods	Wash		Rinse I		Rinse II		Rinse III	
	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: good fair (poor) — Well Integrity: good (fair) poor — Locked: yes (no)

Purge Volume (CV): T.D. – DTW × Factor × 1 C.V = 1.66 gal

Well Diam.: ☒2" ☐4" 6.58 ft. – 7.12 ft. × (2"=0.175, 4"=0.663) × 3 = 4.98 gal

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

								Replicate Goals
Time (24-hr)	13:35	13:40	13:46	13:50	13:55			
Gallons Purged	0	1.5	3.0	4.5	6.0			
Surged (minutes)	↑							(dev. only)
pH	S	7.26	7.08	7.31	7.42			±0.10
Temperature (°C)	T	69.4	68.5	68.5	68.5			±1°C
Cond. (µmhos/cm)	A	740	700	700	710			±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
MW-3		3	40 ml	VOA	HCl			Entech
↓		2	1 Liter	Amber	—			↓
		1	125 ml	Plastic	HNO_3			
		1	100 ml	Amber	—			

Misc

Other Observations: Redox = 128 D.O = 1.00 mg/L

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

WELL DEVELOPMENT & SAMPLING LOG

WELL NO. MW-4

Date: 6/23/99 Weather: Sunny — Sheet 1 of 1

Project: 12-304761 Submitted By: L. Wichlacz — Date: 6/23/99

Project No.: 12-304761 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	6/23/99 10:45		

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 = .16 gal

Well Diam.: ☐ 2" ☐ 4" ☒ 3/4" — 14.44 ft. − 7.43 ft. × (2"=0.175, 4"=0.663) × 3 = .48 gal

Free Product?: Odor: (no) yes — Floating Product: (none) sheen film -0- feet thick

Time (24-hr)	15:11	15:14	15:18	15:22	15:26			Replicate Goals
Gallons Purged	0	0.5	1.0	1.5	2.0			(dev. only)
Surged (minutes)	↑							
pH	S	6.92	6.91	6.81	6.77			±0.10
Temperature (°C)	T	73.8	73.1	72.1	72.0			±1°C
Cond. (µmhos/cm)	A	720	720	730	740			±10%
Salinity (‰)	R							±10%
Turbidity (NTU's)	T	trace			-0-			<50 NTUs
Color	↓	colorless			-0-			Colorless
Depth to Water								±0.01'

Reference Point: TOC Other:

Sample Log

Sample #	Time	Quantity	Volume	Type	Preserv.	Filtration	Analysis	Lab
MW-4	15:45	3	40 ml	VOA	HCl			Entech
"	15:45	2	1 Liter	Amber	—			
"	15:45	1	125 ml	~~Plastic~~ HNO3	HNO3			
"	15:45	1	100 ml	Amber	—			

Misc

Other Observations: Redox = 82 D.O. 1.20 mg/L

Note: Dissolved Oxygen not taken in well

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

APPENDIX C

Certified Analytical Reports

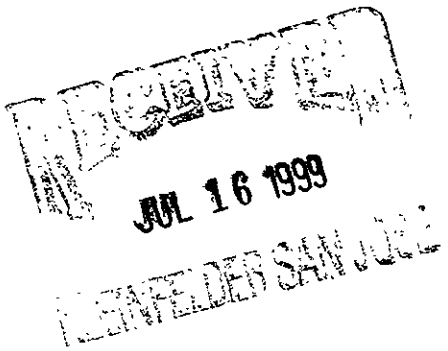
Entech Analytical Labs, Inc.

CA ELAP# I-2346

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

July 2, 1999

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



Subject:	4 Water Samples
Lab #'s:	G13928-G13931
Project Name:	
Project Number:	12-3047-61
P.O. Number:	
Method(s):	EPA 8015M
Subcontract lab:	Kiff Analytical (CAELAP #2236)

Dear Lars Wahlgren/Bill Theyskins,

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 Theyskins

Date: 6/30/99
Date Received: 6/23/99
Project: 12-3047-61
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	6/23/99			6/23/99			6/23/99				
Sample Time	12:55			11:46			14:21				
Lab #	G13928			G13929			G13930				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
SM 3500Analysis Date	6/24/99			6/24/99			6/24/99				
353.3 Analysis Date	6/24/99			6/24/99			6/24/99				
375.4 Analysis Date	6/30/99			6/30/99			6/30/99				
Results in mg/Liter:											
Ferrous Iron	**0.19**	1.0	0.05	**0.43**	1.0	0.05	**ND**	1 0	0.05	0.05	SM 3500
Nitrate-Nitrogen	**5.8**	1.0	0.10	**ND**	1.0	0.10	**6.2**	1.0	0.10	0.10	353.3
Sulfate	**ND**	25	2.5	**0.93**	1.0	0.10	**46**	10	1 0	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 Theyskins

Date: 6/30/99
Date Received: 6/23/99
Project: 12-3047-61
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	**MW-4**										
Sample Date	6/23/99										
Sample Time	15:45										
Lab #	**G13931**										
	Result	DF	DLR							PQL	Method
SM 3500Analysis Date	6/24/99										
353.3 Analysis Date	6/24/99										
375.4 Analysis Date	6/30/99										
Results in mg/Liter:											
Ferrous Iron	**1.3**	1.0	0.05							0.05	SM 3500
Nitrate-Nitrogen	**ND**	1.0	0.10							0.10	353.3
Sulfate	**30**	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 Theyskins

Date: 6/30/99
Date Received: 6/23/99
Project: 12-3047-61
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	6/23/99			6/23/99			6/23/99				
Sample Time	12:55			11:46			14:21				
Lab #	G13928			G13929			G13930				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	6/28/99			6/28/99			6/25/99				
TPH-Gas	**3,300**	10	500	**1,200**	1.0	50	**71**	1.0	50	50	8015M
MTBE	**70**	10	50	**5.2**	1.0	5.0	**ND**	1.0	5.0	5.0	8020
Benzene	**510**	10	5.0	**31**	1.0	0.50	**ND**	1.0	0.50	0.50	8020
Toluene	**52**	10	5.0	**11**	1.0	0.50	**0.70**	1.0	0.50	0.50	8020
Ethyl Benzene	**110**	10	5.0	**36**	1.0	0.50	**ND**	1.0	0.50	0.50	8020
Xylenes (total)	**110**	10	5.0	**12**	1.0	0.50	**1.6**	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 Theyskins

Date: 6/30/99
Date Received: 6/23/99
Project: 12-3047-61
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW-4			Trip Blank							
Sample Date	6/23/99										
Sample Time	15:45										
Lab #	G13931			G13932							
	Result	DF	DLR	Result	DF	DLR				PQL	Method
Results in µg/Liter:											
Analysis Date	6/25/99			6/26/99							
TPH-Gas	**1,100**	1.0	50	**ND**	1.0	50				50	8015M
MTBE	**27**	1.0	5.0	**ND**	1.0	5.0				5.0	8020
Benzene	**5.3**	1.0	0.50	**ND**	1.0	0.50				0.50	8020
Toluene	**1.1**	1.0	0.50	**ND**	1.0	0.50				0.50	8020
Ethyl Benzene	**2.0**	1.0	0.50	**ND**	1.0	0.50				0.50	8020
Xylenes (total)	**3.9**	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

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2990625
Matrix: Water
Units: µg/L

Date Analyzed: 06/25/99
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	5.0	ND	4.9	**98**	4.1	**81**	18.8	25	70-118
Toluene	8020	<0.50	25.0	ND	29	**116**	27	**107**	8.6	25	79-122
Ethyl Benzene	8020	<0.50	5.0	ND	5.8	**115**	5.3	**105**	9.1	25	81-121
Xylenes	8020	<0.50	25.0	ND	31	**122**	28	**113**	7.6	25	79-127
Gasoline	8015	<50.0	500	ND	484	**97**	462	**92**	4.6	25	75-125
aaa-TFT(S.S.)-PID	8020			102%	100%		100%				65-135
aaa-TFT(S.S.)-FID	8015			106%	101%		103%				65-135

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

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

KIFF ANALYTICAL LLC

Report Number : 14425
Date : 07/02/99

Michelle Anderson
Entech Analytical Labs
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

Subject : 4 Water Samples
Project Name : Kleinfelder
Project Number :

Dear Ms. Anderson,

Chemical analysis of 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. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 14425
Date : 07/02/99

Subject : 4 Water Samples
Project Name : Kleinfelder
Project Number :

Case Narrative

Method Reporting Limits are increased due to interference from gasoline-range hydrocarbons for the following samples:

G13928 (MW-1)
G13929 (MW-2)
G13931 (MW-4)

Approved By Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800

KIFF ANALYTICAL LLC

Report Number : 14425

Date : 07/02/99

Project Name : **Kleinfelder**

Project Number :

Sample : **G13928 (MW-1)** Matrix : Water

Sample Date :06/23/99

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	**< 1000**	1000	ug/L	M EPA 8015	06/29/99
TPH as Motor Oil	**12000**	100	ug/L	M EPA 8015	06/29/99

Sample : **G13929 (MW-2)** Matrix : Water

Sample Date :06/23/99

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	**< 1000**	1000	ug/L	M EPA 8015	06/29/99
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	06/29/99

Sample : **G13930 (MW-3)** Matrix : Water

Sample Date :06/23/99

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	06/29/99
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	06/29/99

Approved By Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 14425

Date : 07/02/99

Project Name : **Kleinfelder**

Project Number :

Sample : **G13931 (MW-4)** Matrix : Water

Sample Date :06/23/99

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	**< 200**	200	ug/L	M EPA 8015	06/29/99
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	06/29/99

Approved By Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2990628
Matrix: Water
Units: µg/L

Date Analyzed: 06/28/99
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	5.0	ND	4.6	**92**	4.1	**81**	12.7	25	73-117
Toluene	8020	<0.50	25.0	ND	28	**111**	27	**107**	4.0	25	78-122
Ethyl Benzene	8020	<0.50	5.0	ND	5.4	**107**	5.3	**105**	2.1	25	77-114
Xylenes	8020	<0.50	25.0	ND	29	**116**	28	**113**	2.7	25	79-120
Gasoline	8015	<50.0	500	ND	479	**96**	462	**92**	3.7	25	75-125
aaa-TFT(S.S.)-PID	8020			102%	102%		101%				65-135
aaa-TFT(S.S.)-FID	8015			106%	104%		103%				65-135

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

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.

14425

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Subcontract Chain of Custody

Subcontract Lab: Kiff		Date Sent: 6/25/99	Project Name: Kleinfelder		Due Date: 7/1/99	
Sample ID and Source	Matrix	Required Analysis	Date Taken	Time Taken	Containers	Pres?
G13928 (MW-1)	W	DIESEL + MO	6/23/99		1x1 LAG	NO
G13929 (MW-2)	↓	+MO	↓		↓	↓
G13930 (MW-3)		+MO				
G13931 (MW-4)	↓	+MO	↓		↓	↓

QC 10/25/99

RUN

Relinquished By:	Received By:	Date:	Time:
Jennifer Durkin	via CA Overnight	6/25/99	18:00
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: Please note amended required analysis, motor oil.
Thank you! Sanay (6.30.99)

Entech Analytical Labs, Inc.

14425

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Subcontract Chain of Custody

Subcontract Lab: Kiff		Date Sent: 6/25/99	Project Name: Kleinfelder		Due Date: 7/1/99	
Sample ID and Source	Matrix	Required Analysis	Date Taken	Time Taken	Containers	Pres?
G13928 (MW-1)	W	D1652	6/23/99		1x1 L AG	NO
G13929 (MW-2)	↓	↓	↓		↓	↓
G13930 (MW-3)						
G13931 (MW-4)						

-01
-02
-03
-04

6/25/99

Relinquished By:	Received By:	Date:	Time:
Jennifer Durken	via CA Overnight	6/25/99	18:00
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date	Time
	Mary Cobet	062699	2019

Notes: Samples received via CA overnight, cooler temperature was @ 15°C upon receipt. - mc 062699 2019

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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: 6/23/99
Turn Around: normal

Project ID: 12-3047-G1
Purchase Order #:

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

Special Instructions/Comments: Please Analyze trip Blank G13932 for TPHg, BTEX, mtbe. Reconfirm highest MTBE hit by 8260

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	TPHg BTEX MTBE	TPHd TPHmo	Ferrous iron	Nitrate Sulfate				
G13928	MW-1	Grab	H_2O	6/23/99	12:55	HCl	VOA	X							
↓	↓	↓	↓	↓	↓	—	Amber		X						
						HNO_3	Plastic			X					
						—	Amber				X				
G13929	MW-2				11:46	HCl	VOA	X	X						
↓	↓	↓	↓	↓	↓	—	Amber		X						
						HNO_3	Plastic			X					
						—	Amber				X				

Relinq By	Received By	Date	Time
Lars Wahlgren	Sonny	6/23/99	16:30
[signature]	[signature]	6/23/99	16:55

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: 6/23/99
Turn Around: normal

Project ID: 12-3047-61
Purchase Order #:

Sampler/Company: L. Wahlgren Kleinfelder
Telephone #: 436-1155

Special Instructions/Comments:
Reconfirm highest MtBE hit by 8260

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-G BTEX MtBE	TPH-D TPH-MO	Chlorinated VOA	Nitrate Sulfate				
G13930	MW-3		H_2O	6/23/99	14:21	HCl	VOA	X							
						—	Amber		X						
						HNO_3	Plastic			X					
						—	Amber				X				
G13931	MW-4				15:45	HCl	VOA	X							
						—	Amber		X						
						HNO_3	Plastic			X	X				
						—	Amber								

Relinq By	Received By:	Date	Time
		6/23/99	16:30
Relinq By	Received By:	Date	Time
		6/23/99	16:50
Relinq By	Received By:	Date	Time