KLEINFELDER

January 7, 1993
File No: 10-2300-23/001

Mr. Ravi Arulanantham
Alameda County Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, California 94621

SUBJECT: Summary of Findings of Site Investigation Activities and Work Plan for Soil Remediation, Former California Rock Plant, Pleasanton, California.

Dear Mr. Arulanantham:

This letter report provides findings of activities conducted to address concerns that arose out of earlier investigational work conducted by Kleinfelder at the former California Rock Plant. The investigations were prompted by a preliminary site assessment requested by CalMat Co. for the Pleasanton Gravel Co. (formerly Jamieson Co.). property. It should be noted that on December 8, 1992, CalMat Co. purchased the majority of assets of Pleasanton Gravel Co. The recent investigations conducted in October and November of 1992 are described below. In addition to reporting findings of recent investigation activities, this letter report shall serve as a work plan for soil remediation of the affected soil at the site.

Because ground water has not been affected, it is our understanding that approval of this work plan by the the Alameda County Department of Environmental Health (ACDEH), Hazardous Materials Program and/or Regional Water Quality Control Board (RWQCB) is not necessary to proceed with the soil remediation. However, in accordance with the ACDEH and RWQCB guidelines, following completion of the remediation activities described herein, a site closure report must be submitted to the ACDEH and RWQCB for approval, prior to the ACDEH and/or RWQCB closing the site.

BACKGROUND

The former California Rock Plant property sits within a parcel of land owned by Pleasanton Gravel Co. (Plate 1). Pleasanton Gravel Co. is located at 501 E. El Charro Road, Pleasanton, California. Portions of the site have been used for sand and gravel extraction since the 1930s. Prior to extraction, the land was used for agriculture.

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A preliminary site assessment of this site revealed a shallow waste pit located southwest of an abandoned maintenance shop. The pit appeared to be approximately 3 feet in depth with a perimeter of 10 feet by 15 feet. It is believed the pit was used to store retired maintenance equipment and used motor vehicle oil filters prior to their disposal. Further investigation of the pit was performed on October 13, 1992. A Kleinfelder hydrogeogolist observed trenching of the abandoned waste pit. One trench was excavated across the pit to a depth of approximately 15 feet (this was the limit of the backhoe). Soil samples were analyzed for Oil and Grease, total petroleum hydrocarbons as diesel (TPH-d), and (BTEX). The analytical results suggested that soil contamination continues to a depth greater than 15 feet. Ground water was not encountered in the excavation.

To further investigate the lateral and vertical extent of the soil contamination, Kleinfelder (on behalf of the owner) coordinated the drilling of four soil borings (B-1 through B-4) in and around the abandoned waste pit (Plate 2). B-1 was drilled in the approximate center of the pit, B-2 was drilled just south of the pit, and B-3 and B-4 were drilled just north of the pit. On November 5, 1992 a Kleinfelder hydrogeologist, a drilling crew from Water Development Company, and a representative of CalMat met at the site to commence the boring operation. The borings ranged in depth from 42 feet to 80 feet (boring logs are included in Appendix A). Drive samples were collected at intervals for chemical analysis. Once the sample was collected, it was sealed, labelled and placed on ice for later transport under chain of custody control to a state certified laboratory. The quantity and depths of the soil samples are identified in Table 1.

Nearby ground water monitoring programs have shown the ground water gradient to be in a consistent southerly direction: Therefore, monitoring wells were installed in borings B-3 and B-4 (B-3/MW-1 and B-4/MW-2) just north of the pit. The depths of MW-1 and MW-2 are 42 feet and 80 feet, respectively. Ground water samples were taken from MW-2 only (MW-1 was dry). The ground water samples were collected into laboratory supplied volatile organic analysis (VOA) glass vials capped with Teflon-lined septums. Once filled, the VOA vials were labelled and immediately placed on ice for preservation pending transport to a State-certified analytical laboratory. Water samples were transported under chain of custody control to a state certified laboratory.

The laboratory analysis performed on the soil and ground water samples included:

- Oil and Grease (EPA Method 5520, d & f)
- TPH-d &TPH-g (EPA Method 8015)
- BTEX (EPA Method 8020)
- Metals (Cr, Cd, Pb, Ni, Zn)
- Semi-Volatiles (EPA Method 8270)
- Halogenated Volatile Organics (EPA Method 8010)
- PCBs (EPA Method 8080)

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Summaries of the laboratory analyses are presented in Tables 2 through Table 4. The concentration levels of contaminants in the soil and ground water, and their significance, are discussed below under remediation recommendations. Laboratory analysis results for soil and ground water are included in Appendix B and Appendix C, respectively.

GROUND WATER REMEDIATION RECOMMENDATIONS

After reviewing the data compiled from the remedial investigations at the site, it appears that ground water has not been affected. It appears that the perched ground water encountered during drilling operations contained only 0.42 parts per billion (ppb) total VOCs. This is well below the 1 ppm total VOCs standard required by the RWQCB prior to considering a site closure for contaminated ground water. The volatiles encountered were benzene, toluene, xylenes and bis-(2-ethylhexyl)phalate. As shown on Table 2 (and Plate 3) of the attached tables, it appears the concentrations of the contaminants encountered are below their corresponding MCLs (maximum contaminant level for drinking water). Considering the low concentration levels of contaminants found in the perched ground water at the site, this workplan recommends to ACDEH and the RWQCB, that no further action is required for ground water remediation or ground water monitoring at the site.

SOIL REMEDIATION RECOMMENDATIONS

It appears that soil at the site, to a depth of approximately 13 to 15 feet, has been significantly affected with petroleum hydrocarbons (approximately 840 parts per million (ppm) TPH-d and 6200 ppm oil & grease). The affected soil appears to be within an area of approximately 30 feet square. Laboratory analyses of the soil samples indicated the concentrations of TPH-d and Oil and Grease decline significantly at a depth of 22 feet (64 ppm TPH-d and 120 ppm Oil and Grease). The analyses further indicate BTEX at the 22 foot level (and below) is well below 1 ppm total VOCS. TPH-d, Oil and Grease, and BTEX were the only contaminants detected in the laboratory analysis. A summary of the laboratory analyses is shown in Table 3, Table 4 and Plate 4.

Considering the relatively low levels of contamination found at depths of 22 feet below grade (and below), excavation of the affected soil will be recommended as the most appropriate remediation technology for this site. It will be recommended that excavation take place until concentrations of TPH-d and Oil and Grease are at levels below 100 ppm. From the results of the investigations described above, it appears this will require excavation of a pit approximately 30 feet square by 25 feet deep. If the excavation is made with vertical side slopes, approximately 850 cubic yards of soil will have to be excavated and disposed of.

Prior to (or upon) submittal of the workplan (not necessarily approval of the workplan), the soil remediation may begin. At the beginning of the excavation, a Kleinfelder hydrogeologist will be onsite to define the preliminary limits of excavation, at and near the location of the shallow soil pit where hydrocarbon contamination was found. The extent of excavation will be confined to the area identified to be where hydrocarbon concentrations exceeded 100 ppm Oil & Grease. As described above, the hydrocarbon concentrations exceeding 100 ppm appear to be within an affected area of approximately 30 feet square by 25 feet in depth. Assuming this to be the maximum quantity of affected soil to be excavated, the total volume of affected soil to be remediated would be approximately 850 cubic yards. The 850 cubic yards of affected soil will be excavated by CalMat Co. The

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affected soil will be used in an asphalt cement process at the Industrial Asphalt Plant located on contiguous CalMat property; then used as asphalt pavement on the CalMat property.

A minimum of six soil samples will be collected after the preliminary excavation activities are complete. One soil sample will be collected from each excavation sidewall and two samples will be collected from the excavation bottom. Once the samples are collected they will be sealed, labelled and placed on ice for later transport under chain of custody control to a state certified laboratory for analyses. Soils will be analyzed for Oil and Grease (EPA Method 5520, d & f), total petroleum hydrocarbons as diesel (by modified EPA Method 8015), and benzene, toluene, ethylbenzene and total xylenes (by EPA Method 8020). Upon receipt of favorable analytical results for the soil samples, a closure report for the site will be submitted to ACDEH and the RWQCB.

Soil sample analytical results will be provided and discussed in the closure letter report prepared for submittal to the ACDEH and RWQCB. Approval of the closure report by the ACDEH and RWQCB is necessary prior to final closure of the site. Upon approval of the closure report by the agencies, MW-1 and MW-2 will be abandoned in accordance with Alameda County requirements.

SCHEDULE

CalMat will begin soil excavation when weather is permitting. ACDEH will be contacted by telephone, a minimum of 24 hours in advance of commencing of the project. The excavation should be completed within two weeks. Upon completion of the work and favorable results from the soil sample analytical data, a closure letter report will prepared and submitted to ACDEH and the RWQCB. The closure letter report may be submitted as early as mid-January, 1993.

LIMITATIONS

This report was prepared in general accordance with the accepted standard of practice which exists in Northern California at the time the investigation was performed. It should be recognized that definition and evaluation of environmental conditions is a difficult and inexact art. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the conditions present. More extensive studies, including additional environmental investigations, can tend to reduce the inherent uncertainties associated with such studies. If the Client wishes to reduce the uncertainty beyond the level associated with this study, Kleinfelder should be notified for additional consultation.

Our firm has prepared this report for the Client's exclusive use for this particular project and in accordance with generally accepted engineering practices within the area at the time of our investigation. No other representations, expressed or implied, and no warranty or guarantee is included or intended.

This report may be used only by the client and only for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both onsite and offsite) or other factors may change over time, and additional work may be required with the passage of time. Any party other than the client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of the report, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-

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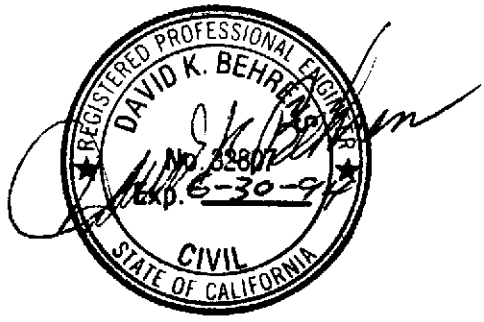
compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party.If you have any questions or comments pertaining to this work plan please call this office at (510) 938-5610 or Mr. Tom Davis of CalMat Co. at (213)258-2777. As requested by ACDEH, a check for $1,500.00 (made payable to ACDEH) is enclosed to pay for ACDEH's report processing fee.

Sincerely,

KLEINFELDER, INC.



David K. Behrens, P.E.
RCE 32807
Environmental Engineering Manager

N. Fred Schafer
Regional Manager

cc: Mr. John Jang, RWQCB
Mr. Tom Davis, CalMat, Los Angeles
Mr. Don Kahler, CalMat, Pleasanton
Mr. Richard Kelly, CalMat, Pleasanton

DKB/NFS:rgc

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TABLE 1
ANALYSES REQUESTED
SOIL AND GROUND WATER SAMPLES
CALMAT CO.
PLEASANTON, CALIFORNIA

Boring Nos.	Depth	Sample #	5030/8015	5030/8020	SW-846/8015	5520F	8270	8080	8010
	Soil Samples								
B1	21.5-22	60138	X	X	X	X	X	X	X
	40.5-41	60117	X	X	X	X			
	61.5-62	55992	X	X	X	X			
B2	21-21.5	48112	X	X	X	X			
	31.5-32	55994	X	X	X	X			
	40.5-41	48111	X	X	X	X			
B-3/MW-1	21-21.5	48108	X	X	X	X			
	35-35.5	55996	X	X	X	X			
	41.5-42	55997	X	X	X	X			
B4/MW-2	21.5-22	55998	X	X	X	X			
	41-41.5	55962	X	X	X	X			
	71.5-72	45278	X	X	X	X			
	Water Sample								
MW-2		60114	X	X					
		60237			X				
		60242	X	X	X	X			
		60226						X	
		56000				X			
		60238				X			X

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TABLE 1
(Continued)
ANALYSES REQUESTED
SOIL AND GROUND WATER SAMPLES
CALMAT CO.
PLEASANTON, CALIFORNIA

Boring Nos.	Depth	Sample #	Chromium	Cadmium	Lead	Nickel	Zinc
	Soil Samples						
B1	21.5-22	60138	X	X	X	X	X
	40.5-41	60117	X	X	X	X	X
	61.5-62	55992	X	X	X	X	X
B2	21-21.5	48112	X	X	X	X	X
	31.5-32	55994	X	X	X	X	X
	40.5-41	48111	X	X	X	X	X
B-3/MW-1	21-21.5	48108	X	X	X	X	X
	35-35.5	55996	X	X	X	X	X
	41.5-42	55997	X	X	X	X	X
B4/MW-2	21.5-22	55998	X	X	X	X	X
	41-41.5	55962	X	X	X	X	X
	71.5-72	45278	X	X	X	X	X
	Water Sample						
MW-2		60114	X	X	X	X	X

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TABLE 2
ANALYTICAL RESULTS[1]
GROUND WATER SAMPLE
MONITORING WELL MW-2
CALMAT CO.
PLEASANTON, CALIFORNIA
Concentration µg/l (ppb)

Compound	Concentration	Detection Limit
TPH-g[2]	ND	<50
TPH-d[3]	ND	<1000
Benzene[4]	0.4	<0.3
Toluene	0.7	<0.3
Ethylbenzene	ND	<0.3
Xylenes	1.0	<0.3
Bis-(2-ethylhexyl)[5] phthalate	40	<10
Cadmium[6]	ND	<0.01
Chromium	ND	<0.05
Lead	ND	<0.1
Zinc	ND	<0.05
Total Nickel	ND	<0.2

Too high detection limits

Notes:

TPH-g = Total Petroleum Hydrocarbons as Gasoline
TPH-d = Total Petroleum Hydrocarbons as Diesel
ND = Not detected above the laboratory detection limit
(1) = Only the compounds detected in the analysis are listed
(2) = TPH-g analyzed according to EPA Method 8015
(3) = TPH-d analyzed according to EPA Method 8015
(4) = Benzene, Toluene, Ethylbenzene, Xylenes analyzed according to EPA Method 8020
(5) = Bis-(2-ethylhexyl) phthalate analyzed according to EPA Method 8010
(6) = Metals analyzed according to EPA Method 6010

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TABLE 3
ANALYTICAL RESULTS - ORGANIC COMPOUNDS[1]
SOIL SAMPLES
CALMAT CO.
PLEASANTON, CALIFORNIA
Concentrations mg/kg (ppm)

Boring No.	Depth (ft)	TPH-g[2]	Benzene[3]	Toluene	Ethylbenzene	Xylenes	TPH-d[4]	Oil & Grease[5]
B-1	21.5-22	ND	ND	ND	ND	0.010	64	120
	40.5-41	ND	ND	ND	0.011	0.041	ND	ND
	61.5-62	ND	ND	ND	ND	ND	ND	ND
B-2	21-21.5	ND	ND	ND	ND	ND	56	120
	31.5-32	ND	ND	ND	ND	0.005	ND	ND
	40.5-41	ND	ND	ND	ND	ND	ND	ND
B-3/MW-1	21-21.5	ND	0.011	ND	ND	0.005	ND	ND
	35-35.5	ND	ND	ND	ND	ND	ND	ND
	41.5-42	ND	ND	ND	ND	ND	ND	ND
B-4/MW-2	21.5-22	ND	ND	ND	0.005	0.017	ND	ND
	41-41.5	ND	ND	ND	ND	ND	ND	ND
	71.5-72	ND	ND	ND	ND	ND	ND	ND
Detection Limit		<1	<0.003	<0.003	<0.003	<0.003	<10	<50

Notes:

TPH-g = Total Petroleum Hydrocarbons as Gasoline
TPH-d = Total Petroleum Hydrocarbons as Diesel
ND = Not detected above the laboratory detection limit
(1) = Only the compounds detected in the analysis are listed
(2) = TPH-g analyzed according to EPA Method 8015
(3) = Benzene, Toulene, Ethylbenzene, and Xylenes analyzed according to EPA Method 8020
(4) = TPH-d analyzed according to EPA Method 8015
(5) = Oil and Greased analyzed according to EPA Method 5520

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TABLE 4
ANALYTICAL RESULTS - METALS
SOIL SAMPLES
CALMAT CO.
PLEASANTON, CALIFORNIA
Concentrations mg/kg (ppm)

Boring No.	Depth (ft)	Cadmium[1]	Chromium[2]	Lead	Zinc	Total Nickel
B-1	21.5-22	ND	35	6	50	50
	40.5-41	ND	47	6	50	80
	61.5-62	1	39	ND	30	60
B-2	21-21.5	ND	56	ND	30	100
	31.5-32	ND	38	ND	40	50
	40.5-41	ND	34	ND	40	50
B-3/MW-1	21-21.5	ND	44	5	40	100
	35-35.5	ND	25	ND	30	50
	41.5-42	ND	37	ND	40	60
B-4/MW-2	21.5-22	ND	34	ND	30	50
	41-41.5	ND	49	6	50	80
	71.5-72	ND	48	ND	40	90
Detection Limit		<1	<5	<5	<20	<10

Notes:

(1) = All soil samples collected in clean stainless steel tubes
(2) = Metals analyzed according to EPA Method 6010
ND = Not detected above the laboratory detection limit

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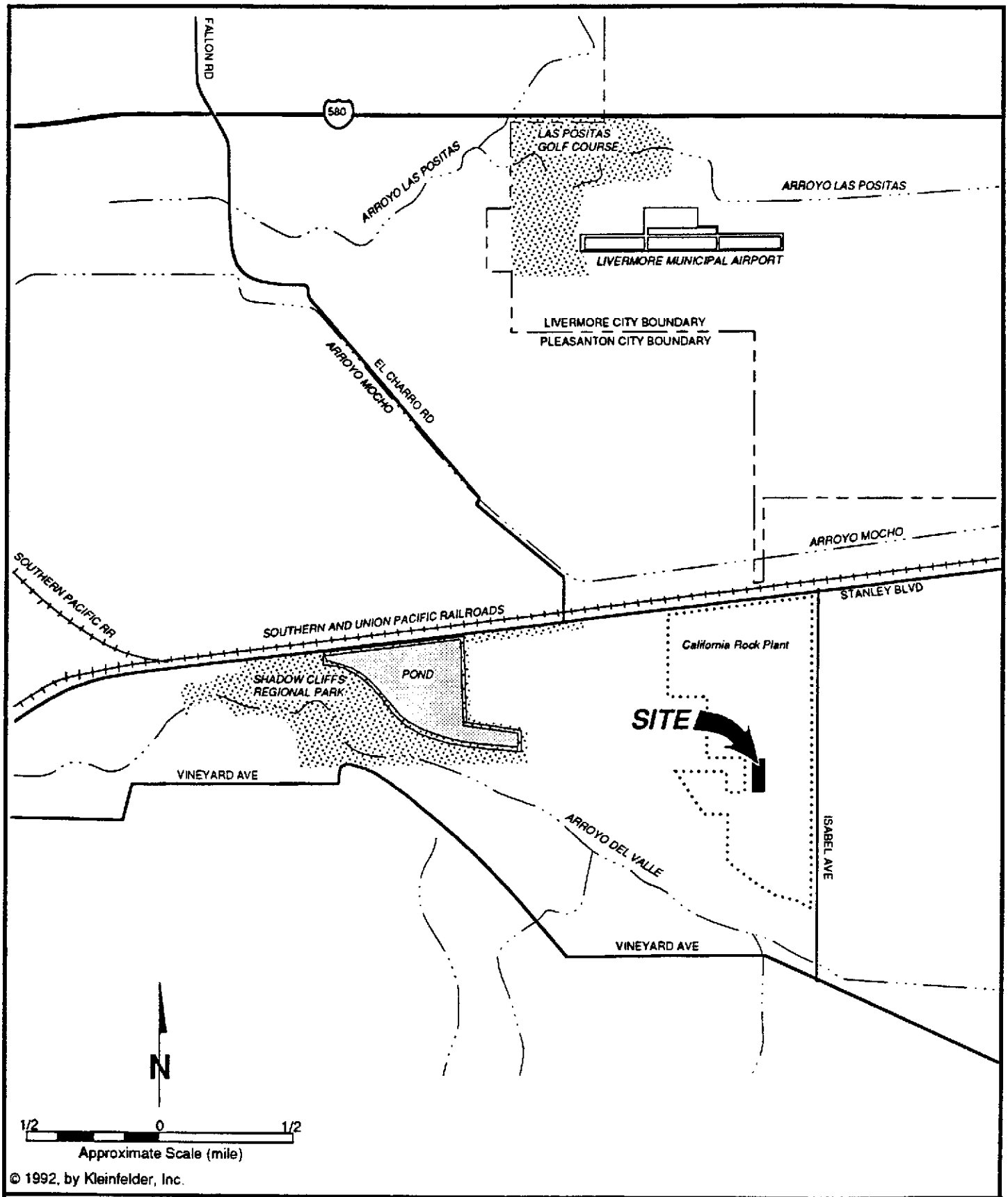

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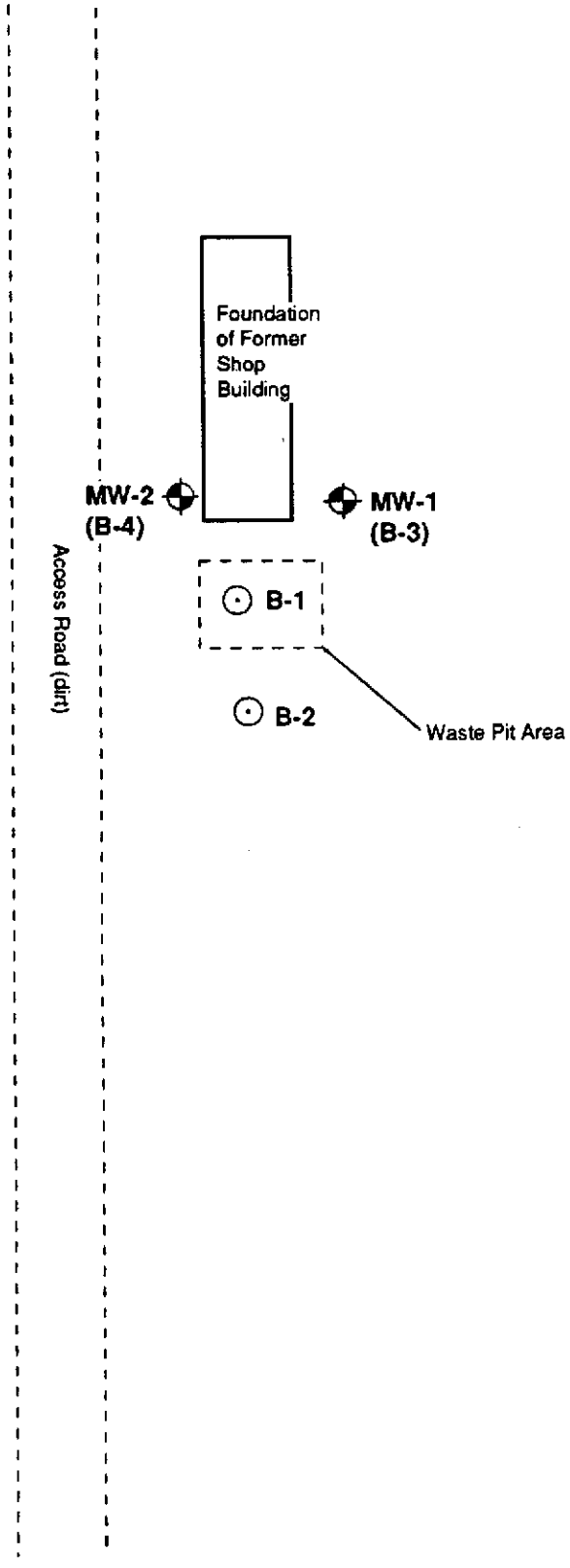
DRAFTED BY:	L. Sue	DATE:	12-3-92
CHECKED BY:	S. Russell	DATE:	12-4-92

SITE LOCATION MAP

CAL MAT COMPANY
PLEASANTON, CALIFORNIA

PROJECT NUMBER 10-2300-23

PLATE 1



LEGEND

- MONITORING WELL
- SOIL BORING

NOTE: All locations are approximate.

N

50 0 50

Approximate Scale (feet)

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DRAFTED BY:	L. Sue	DATE: 12-3-92	
CHECKED BY:	S. Russell	DATE: 12-9-92	

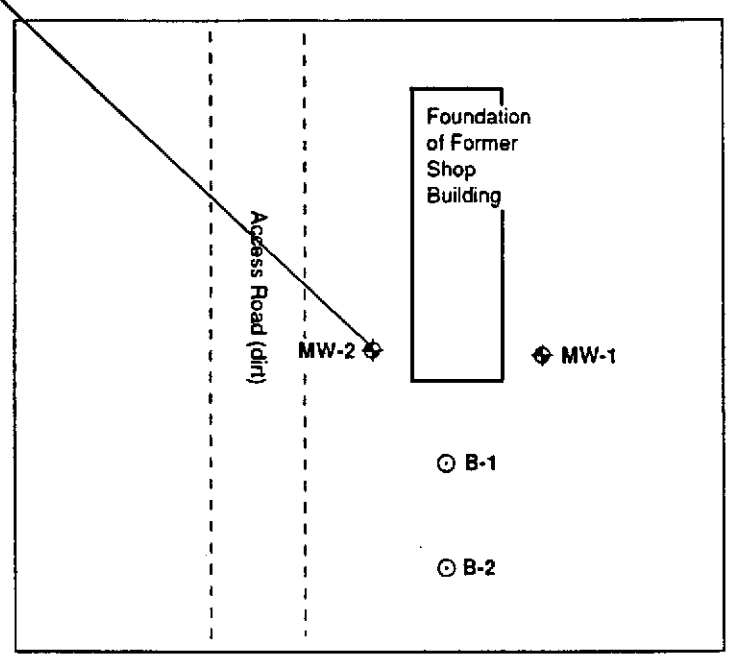
SITE PLAN

CAL MAT COMPANY
PLEASANTON, CALIFORNIA

PROJECT NUMBER 10-2300-23

PLATE 2

MW-2	
ORGANIC COMPOUNDS	
B	0.4
T	0.7
X	<0.3
E	<10
TPH-d	<1000
TPH-g	<50
Bis-(2eh)p	40
METALS	
Cd	<0.01
Cr	<0.05
Pb	<01
Zn	<0.05
Ni	<0.2

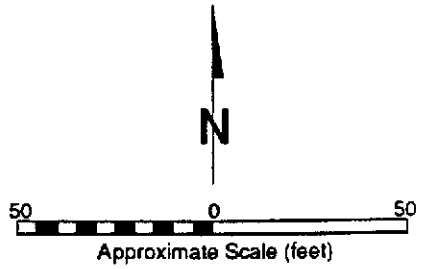


LEGEND

- ⊕ MONITORING WELL
- ⊙ SOIL BORING

NOTES:

1. All locations are approximate
2. All chemical concentrations are in µg/l, parts per billion (ppb).
3. Samples were analyzed according to EPA Methods 8015 and 8020 for organic compounds, except for Bis-(2-ethylhexyl) phthalate which was analyzed according to EPA Method 8010, EPA Method 6010 was used in the analysis for metals.
4. Organic compound abbreviations:
   - B = Benzene
   - T = Toluene
   - X = Xylenes, total
   - E = Ethylbenzene
   - TPH-d = Total Petroleum Hydrocarbons, as Diesel
   - TPH-g = Total Petroleum Hydrocarbons, as Gasoline
   - Bis-(2eh)p = Bis-(2-ethylhexyl) phthalate
5. Metal abbreviations:
   - Cd = Cadmium
   - Cr = Chromium
   - Pb = Lead
   - Zn = Zinc
   - Ni = Nickel, total



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DRAFTED BY:	L. Sue	DATE: 12-3-92	
CHECKED BY:	S. Russell	DATE: 12-9-92	

ANALYTICAL GROUND WATER SAMPLE RESULTS, ORGANIC COMPOUNDS AND METALS — NOVEMBER 1992

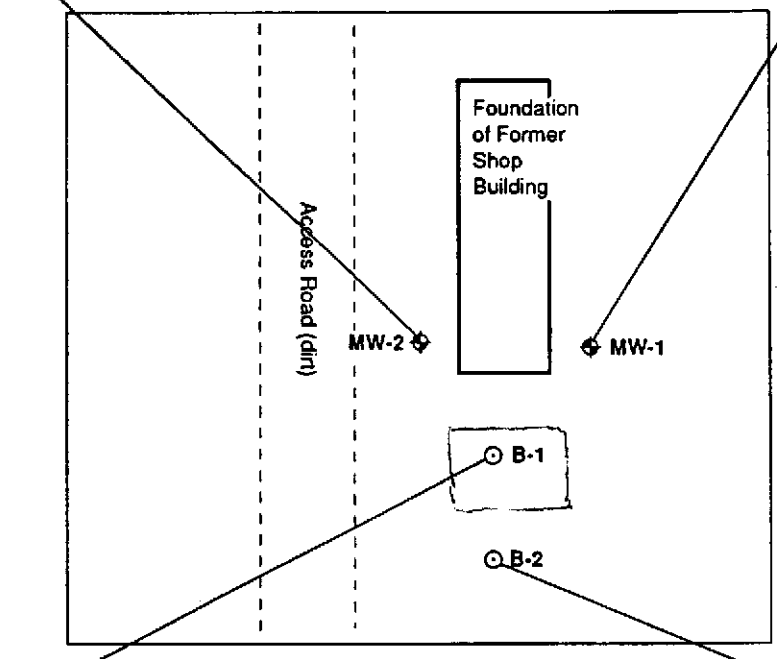
CAL MAT COMPANY
PLEASANTON, CALIFORNIA

PROJECT NUMBER 10-2300-23

PLATE 3

MW-2	SAMPLE DEPTH (feet) 21.5-22	41-41.5	71.5-72
ORGANIC COMPOUNDS			
B	<0.003	<0.003	<0.003
T	<0.003	<0.003	<0.003
X	0.017	<0.003	<0.003
E	0.005	<0.003	<0.003
TPH-d	<10	<10	<10
TPH-g	<1	<1	<1
OG	<50	<50	<50
METALS			
Cd	<1	<1	<1
Cr	34	49	48
Pb	<5	6	<5
Zn	30	50	40
Ni	50	80	90

MW-1	SAMPLE DEPTH (feet) 21-21.5	35-35.5	41-41.5
ORGANIC COMPOUNDS			
B	0.011	<0.003	<0.003
T	<0.003	<0.003	<0.003
X	0.005	<0.003	<0.003
E	<0.003	<0.003	<0.003
TPH-d	<10	<10	<10
TPH-g	<1	<1	<1
OG	<50	<50	<50
METALS			
Cd	<1	<1	<1
Cr	44	25	37
Pb	5	<5	<5
Zn	40	30	40
Ni	100	50	60



B-1	SAMPLE DEPTH (feet) 21.5-22	40.5-41	61.5-62
ORGANIC COMPOUNDS			
B	<0.003	<0.003	<0.003
T	<0.003	<0.003	<0.003
X	0.010	0.041	<0.003
E	<0.003	0.011	<0.003
TPH-d	64	<10	<10
TPH-g	<1	<1	<1
OG	120	<50	<50
METALS			
Cd	<1	<1	1
Cr	35	47	39
Pb	6	6	<5
Zn	50	50	30
Ni	50	80	60

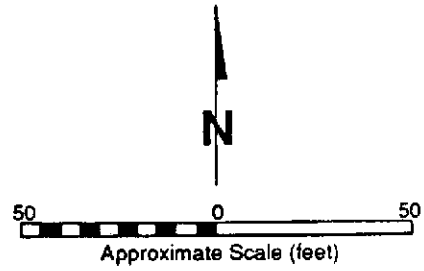
B-2	SAMPLE DEPTH (feet) 21-21.25	31.5-32	40.5-41
ORGANIC COMPOUNDS			
B	<0.003	<0.003	<0.003
T	<0.003	<0.003	<0.003
X	<0.003	0.005	<0.003
E	<0.003	<0.003	<0.003
TPH-d	56	<10	<10
TPH-g	<1	<1	<1
OG	<50	<50	<50
METALS			
Cd	<1	<1	<1
Cr	56	38	34
Pb	<5	<5	<5
Zn	30	40	40
Ni	100	50	50

LEGEND

- ⊕ MONITORING WELL
- ⊙ SOIL BORING

NOTES:

1. All locations are approximate
2. All chemical concentrations are in mg/kg, parts per million (ppm).
3. Samples were analyzed according to EPA Methods 8015 and 8020 for organic compounds, and EPA Method 6010 for metals.
4. Organic compound abbreviations:
   - B = Benzene
   - T = Toluene
   - X = Xylenes, total
   - E = Ethylbenzene
   - TPH-d = Total Petroleum Hydrocarbons, as Diesel
   - TPH-g = Total Petroleum Hydrocarbons, as Gasoline
   - OG = Oil and Grease
5. Metal abbreviations:
   - Cd = Cadmium
   - Cr = Chromium
   - Pb = Lead
   - Zn = Zinc
   - Ni = Nickel, total



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ANALYTICAL SOIL SAMPLE RESULTS, ORGANIC COMPOUNDS AND METALS — NOVEMBER 1992

CAL MAT COMPANY
PLEASANTON, CALIFORNIA

PLATE 4

DRAFTED BY: L. Sue DATE: 12-3-92

CHECKED BY: S. Russell DATE: 12-9-92

PROJECT NUMBER 10-2300-23

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		LTR	DESCRIPTION
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel sand mixtures, little or no fines.
		GP	Poorly-graded gravels or gravel sand mixture, little or no fines.
		GM	Silty gravels, gravel-sand-silt mixtures.
		GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	SW	Well-graded sands or gravelly sands, little or no fines.
		SP	Poorly-graded sands or gravelly sands, little or no fines.
		SM	Silty sands, sand, and silt mixtures.
		SC	Clayey sands, and clay mixtures.

MAJOR DIVISIONS		LTR	DESCRIPTION
FINE GRAINED SOILS	SILTS AND CLAYS LL < 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		OL	Organic silts and organic silt-clays of low plasticity.
	SILTS AND CLAYS LL > 50	MH	Inorganic silts, micaceous or diatomaceous fine or silty soils, elastic silts.
		CH	Inorganic clays of high plasticity, fat clays.
		OH	Organic clays of medium to high plasticity.
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils.


Standard penetration split spoon sample


Modified California (Porter) sample


Shelby tube sample


Water level observed in boring


Stabilized water level

NFWE — No free water encountered

OVA — Organic Vapor Analyzer

PID — Total organic vapors (parts per million) measured by a photoionization device


Blank casing


Screened casing


Cement grout


Bentonite


Sand pack or gravel pack


Gradational Contact

NOTES: Blow counts represent the number of blows of a 140-pound hammer falling 30 inches required to drive a sampler through the last 12 inches of an 18-inch penetration.

The lines separating strata on the logs represent approximate boundaries only. The actual transition may be gradual. No warranty is provided as to the continuity of soil strata between borings. Logs represent the soil section observed at the boring location on the date of drilling only.

References to plasticity of cohesive soils are based on qualitative field observations and not on quantitative field or laboratory tests. Qualitative soil plasticity is noted solely to aid in stratigraphic correlation and is not intended for geotechnical characterization of soils.

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KLEINFELDER

PROJECT NO. 24-220193-C00

BORING LOG LEGEND

CALIFORNIA ROCK PLANT
PLEASANTON, CALIFORNIA

PLATE

KLEINFELDER

Project	Boring No.
California Rock Plant	B-1
Number 24-220193-C00	
Total Depth 62.0 feet / Sheet 1 of 4	

BORING AND MONITORING-WELL DATA SHEET

Location

Owner & Mailing Information	Township/Range/Section
California Rock Plant Pleasanton, CA	Other Identifiers
Site Location (if different)	

Well Location

Show coordinates or distances from surveyed reference point.

See Site Plan

Drilling Operations

Drilling Company	Driller/Crew
Water Development	RJ Vannucci/Kevin Colby, Mike Rohlfs
Rig Make/Model: Speedstar SS-152	
Bit & Size: 5-1/2 inch Tri-cone with drive casing	
Hammer Data: Wt. NA Drop NA	

Task	Start (Date, Time)	Finish (Date, Time)
Drilling	11-5-92, 10:10	11-5-92, 12:20
Completion	11-5-92, 12:20	11-5-92
Development	—	—

Well Development and Construction

Monumentation	Development Info.
Ref. Pt. Description	
Elevations Ref. Pt. Ground	
Datum	
Markings	

Well Design	Size & Type	Top	Bottom
Surface Casing	—	—	—
Casing	—	—	—
Well Screen	—	—	—
Gravel Pack	—	—	—
Bentonite	—	—	—
Cement	Bentonite Grout	0 feet	62.0 feet

Field Hydrologic Operations

Weather	Date	Time	Water Level	Other Observations
Recent Rainfall? Irrigation?	—	—	—	No first water encountered
Nearby Wells Pumping?				
Ditches? Utility Courses?				

Remarks

Plate

Date: 11-7-92 SEB

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KLEINFELDER

Project	Boring No.
California Rock Plant	B-1
Number: 24-220193-C00	
Total Depth: 62.0 feet	Sheet: 2 of 4

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
0				NA		SP	Fill - SAND - dry, coarse grained, well	Fill from stockpile adjacent to boring	
6						SW	SAND - yellow brown (10YR5/8), dry, coarse grained, well graded		
12						GW	SANDY GRAVEL - gray, damp, coarse sand, well graded, gravel clasts to 0.5 inch diameter, some broken clasts; estimate 70% gravel, 30% sand		
14					5.0/1.2				
20									
22	60138		50		8.2/3.6				
30									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-13-92	
Reviewed by	Date:	

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KLEINFELDER

Project	Boring No.
California Rock Plant	B-1
Number: 24-220193-C00	
Total Depth: 62.0 feet	Sheet: 3 of 4

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
32	55993		50	NA	3.8/2.6	GW	SANDY GRAVEL - as above		
34						GM	SANDY CLAYEY GRAVEL - gray (5Y4/1) with dark yellowish brown (10YR3/4) pieces, coarse sand. well graded, fine to coarse gravel, well graded; estimate 50% gravel, 40% sand, 10% clay	Discolored zone at 36 feet	
36					2.1/1.4				
38									
40	60117		100		1.4/1.4	ML	CLAYEY SILT - yellowish brown (10YR5/6), moist, medium stiff to soft; estimate 60% silt, 40% clay		
42									
44									
46					4.1/3.7				
48						GM	CLAYEY SANDY GRAVEL - damp, yellow brown, coarse sand, well graded, fine gravel, well rounded; estimate 50% gravel, 40% sand, 10% clay		
50									
52	55991		50		4.2/3.8				
54									
56									
58									
60									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by: S. Russell	Date: 11-5-92	Plate
Drafted by: L. Sue	Date: 11-13-92	
Reviewed by	Date:	

KLEINFELDER

Project	Boring No.
California Rock Plant	B-1
Number: 24-220193-C00	
Total Depth: 62.0 feet	Sheet: 4 of 4

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
				NA		GM	CLAYEY SANDY GRAVEL - as above		
62	55992		60		3.2/3.2			No first water encountered	
64									
66									
68									
70									
72									
74									
76									
78									
80									
82									
84									
86									
88									
90									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-13-92	
Reviewed by	Date:	

KLEINFELDER

Project	Boring No.
California Rock Plant	B-2
Number: 24-220193-C00	
Total Depth: 42.0 feet	Sheet: 1 of 3

BORING AND MONITORING-WELL DATA SHEET

Location

Owner & Mailing Information	Township/Range/Section
California Rock Plant Pleasanton, CA	Other Identifiers
Site Location (if different)	

Well Location

Show coordinates or distances from surveyed reference point.

See Site Plan

Drilling Operations

Drilling Company	Driller/Crew
Water Development	RJ Vannucci/Kevin Colby, Mike Rohlfs
Rig Make/Model: Speedstar SS-152	
Bit & Size: 5-1/2 inch Tri-cone with drive casing	
Hammer Data: Wt. NA Drop NA	

Task	Start (Date, Time)	Finish (Date, Time)
Drilling	11-5-92	11-5-92
Completion	11-5-92	11-5-92
Development	—	—

Well Development and Construction

Monumentation	Development Info.
Ref. Pt. Description	
Elevations Ref. Pt. Ground	
Datum	
Markings	

Well Design	Size & Type	Top	Bottom
Surface Casing	—	—	—
Casing	—	—	—
Well Screen	—	—	—
Gravel Pack	—	—	—
Bentonite	—	—	—
Cement	Bentonite Grout	0 feet	42.0 feet

Field Hydrologic Operations

Weather	Date	Time	Water Level	Other Observations
Recent Rainfall? Irrigation?	11-6-92	07:15	36 feet	First water encountered
Nearby Wells Pumping?				
Ditches? Utility Courses?				

Remarks

Plate

Date: 11-7-92 SER

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KLEINFELDER

Project	Boring No.
California Rock Plant	B-2
Number: 24-220193-C00	
Total Depth: 42.0 feet	Sheet: 2 of 3

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
0				NA		SP	SAND - light brown (6.5YR6/4), dry, loose, poorly graded		
2									
4									
6						SW	GRAVELLY SAND - light brown (6.5YR6/4), dry, fine to medium sand, well graded, some gravel to 0.75-inch diameter, clasts appear to be freshly broken; estimate 50% gravel, 50% sand		
8									
10	60153		50		3.3/0.9		color change to gray (2.5Y N4/)	apparent top of contaminant zone	
12									
14						GW/ GC	SANDY GRAVEL with CLAY - gray (2.5Y N4/), damp, coarse sand, well graded, fine gravel, many clasts appear freshly broken; estimate 60% gravel, 30% sand, 10% clay		
16									
18									
20	48112		60		3.9/0.8				
22									
24									
26						GC	CLAYEY SANDY GRAVEL - yellow brown (10YR5/8), damp, moderately stiff, well rounded to angular ravel to 2 inches diameter, well graded, medium to coarse sand, well rounded, well graded, trace silt; estimate 40% gravel, 30% sand, 20% clay, 10% silt		
28									
30									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

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KLEINFELDER

Project	Boring No.
California Rock Plant	B-2
Number: 24-220193-C00	
Total Depth: 42.0 feet	Sheet: 3 of 3

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
32	55994		50	NA	1.7/1.7	GC	CLAYEY SANDY GRAVEL - as above		
34									
36								11-6-92, 07:15.	
38						ML	CLAYEY SILT - yellow brown (10YR5/8), damp, moderately stiff to soft; estimate 80% silt, 20% clay		
40	48111		100		2.0/2.0			11-5-92 ▽	
42							wet		
44									
46									
48									
50									
52									
54									
56									
58									
60									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

KLEINFELDER

Project	Boring No.
California Rock Plant	
Number: 24-220193-C00	B-3/ [redacted]
Total Depth: 42.0 feet	Sheet: 1 of 3

BORING AND MONITORING-WELL DATA SHEET

Location

Owner & Mailing Information	Township/Range/Section
California Rock Plant Pleasanton, CA	Other Identifiers
Site Location (if different)	

Well Location

Show coordinates or distances from surveyed reference point.

See Site Plan

Drilling Operations

Drilling Company	Driller/Crew
Water Development	RJ Vannucci/Kevin Colby, Mike Rohlfs
Rig Make/Model: Speedstar SS-152	
Bit & Size: 5-1/2 inch Tri-cone with drive casing	
Hammer Data: Wt. NA Drop NA	

Task	Start (Date, Time)	Finish (Date, Time)
Drilling	11-6-92, 07:14	11-6-92, 11:16
Completion	11-6-92, 11:16	11-6-92, 13:15
Development	—	—

Well Development and Construction

Monumentation	Development Info.
Ref. Pt. Description	
Elevations Ref. Pt. Ground	
Datum	
Markings	

Well Design	Size & Type	Top	Bottom
Surface Casing	—	—	—
Casing	Sch. 40, PVC	0 feet	30 feet
[redacted]	.02 in., Sch.40, PVC	[redacted]	[redacted]
Gravel Pack	Lonestar #3 Sand	27 feet	42 feet
Bentonite	3/8-inch Pellets	25 feet	27 feet
Cement	Bentonite Grout	0 feet	25 feet

Field Hydrologic Operations

Weather	Date	Time	Water Level	Other Observations
Recent Rainfall? Irrigation?	11-6-92	10:00	35 feet	First encountered while drilling
Nearby Wells Pumping?				
Ditches? Utility Courses?				

Remarks

Plate

Date: 11-6-92 SER

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Project	Boring No.
California Rock Plant	B-3/ MW-1
Number: 24-220193-C00	
Total Depth: 42.0 feet	Sheet: 2 of 3

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
2				NA		GW	SANDY GRAVEL - light brown (7.5YR6/4), dry, loose, medium to coarse sand, moderately graded, coarse gravel, moderately graded, many pieces freshly broken, gravel and sand well rounded to subangular; estimate 60% gravel, 40% sand		
4									
6									
8									
10							as above, damp.		
12	55995		50		0.3/0.3				
14									
16									
18					112/ 0.3		color change to gray brown (5Y5/2), damp	Apparent top of contaminant zone	
20						GC	SANDY CLAYEY GRAVEL - olive (5Y4/4), moist, fine to coarse gravel, moderately graded, many angular clasts, fine to medium sand, moderately graded; estimate 50% gravel, 40% sand, 10% clay		
22	48108		100		12.8/ 0.8				
24							gravel and sand become well graded at approximately 25 feet		
26									
28					50/0.9				
30									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

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Project	Boring No.
California Rock Plant	B-3/ MW-1
Number: 24-220193-C00	
Total Depth: 42.0 feet	Sheet: 3 of 3

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
32	55996		75	NA	3.0/0.0	GC	SANDY CLAYEY GRAVEL - as above, very moist		
34								11-6-92, 10:00 ▼	
36	55964		100		2.6/1.2	ML	CLAYEY SILT - olive (5Y4/4), moist to wet, soft; estimate 80% silt, 20% clay		
38									
40									
42	55997		100						
44									
46									
48									
50									
52									
54									
56									
58									
60									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

KLEINFELDER

Project	Boring No.
California Rock Plant	
Number 24-220193-C00	B-4/
Total Depth 82.0 feet	Sheet 1 of 4

BORING AND MONITORING-WELL DATA SHEET

Location

Owner & Mailing Information	Township/Range/Section
California Rock Plant Pleasanton, CA	Other Identifiers
Site Location (if different)	

Well Location

Show coordinates or distances from surveyed reference point.

See Site Plan

Drilling Operations

Drilling Company	Driller/Crew
Water Development	RJ Vannucci/Kevin Colby, Mike Rohlfs
Rig Make/Model: Speedstar SS-152 Air Rotary	
Bit & Size: 5-1/2 inch Tri-cone with drive casing	
Hammer Data: Wt. NA Drop NA	

Task	Start (Date, Time)	Finish (Date, Time)
Drilling	11-6-92, 14:00	11-6-92
Completion	11-7-92, 10:10	11-7-92
Development	—	—

Well Development and Construction

Monumentation	Development Info.
Ref. Pt. Description	
Elevations Ref. Pt. Ground	
Datum	
Markings	

Well Design	Size & Type	Top	Bottom
Surface Casing	—	—	—
Casing	Sch. 40, PVC	0 feet	60 feet
[illegible]	.02 in., Sch.40, PVC	[illegible]	[illegible] feet
Gravel Pack	Lonestar #3 Sand	56.5 feet	82 feet
Bentonite	3/8-inch Pellets	53.5 feet	56.5 feet
Cement	Bentonite Grout	0 feet	53.5 feet

Field Hydrologic Operations

Weather	Date	Time	Water Level	Other Observations
Recent Rainfall? Irrigation?	11-6-92	15:00	38 feet	First encountered while drilling
Nearby Wells Pumping?	11-7-92	09:12	68 feet	Stabilized
Ditches? Utility Courses?				

Remarks

Plate

Date: 11-7-92 SER

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KLEINFELDER

Project	Boring No.
California Rock Plant	B-4/ MW-2
Number: 24-220193-C00	
Total Depth: 82.0 feet	Sheet: 2 of 4

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
2						GW	SANDY GRAVEL - light brown (7.5Y6/4), dry, coarse sand, well graded; estimate 40% gravel		
4									
6									
8									
10									
12	55990		50		0.0/0.0				
14							color change to gray (2.5YR N4/), damp	Apparent top of contaminant zone	
16									
18									
20									
22	55998		50		90/0.0				
24									
26						GC	CLAYEY SANDY GRAVEL - gray (2.5YR N4/), damp, medium to coarse sand, well graded, coarse gravel, well graded, many clasts appear to be freshly broken; estimate 60% gravel, 30% sand, 10% clay		
28					10.6/ 0.8				
30									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

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KLEINFELDER

Project	Boring No.
California Rock Plant	B-4/ MW-2
Number: 24-220193-C00	
Total Depth: 82.0 feet	Sheet: 3 of 4

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
32				NA		GC	CLAYEY SANDY GRAVEL - as above		
34						ML	CLAYEY SILT - olive brown (2.5Y4/2), damp; estimate 80% silt, 20% clay		
36	55963		100		26/0.0		color change to olive brown (2.5Y4/4), mottled (5Y4/4), damp to moist	11-6-92, 15:00	
38									
40							as above, wet	[illegible]	
42	55962		100		4.8/0.0				
44									
46									
48									
50						GM	SILTY SANDY GRAVEL - light brown (7.5YR6/4), wet, coarse gravel, moderately graded, many freshly broken chunks, rounded to subangular, medium to coarse sand, well graded, rounded grains; estimate 60% gravel, 30% sand, 10% silt	No sample recovery	
52									
54									
56					26/1.7				
58									
60							as above, wet		

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by: S. Russell	Date: 11-5-92	Plate
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

KLEINFELDER

Project	Boring No.
California Rock Plant	B-4/ MW-2
Number: 24-220193-C00	
Total Depth: 82.0 feet	Sheet: 4 of 4

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Recovery (%)	Blows/Foot	TIP (ppm) reading/background	USCS	Description	Remarks	Well Construction
62	55961		100	NA	20/0.0	GM	SILTY SANDY GRAVEL - light brown (7.5YR6/4), coarse gravel, moderately graded, many freshly broken chunks, rounded to subangular, medium to coarse sand, well graded, rounded grains; estimate 60% gravel, 30% sand, 10% silt	Water injected into casing	
64									
66					1.5/0.0	GW	SANDY GRAVEL - yellow brown (7.5YR5/8), wet, coarse gravel, well graded, rounded to subangular clasts, coarse sand, well graded, trace silt; estimate 70% gravel, 30% sand	11-7-92, 09:12 ▼	
68									
70									
72	45278		100		62/0.0	SP	SAND - light olive brown (2.5Y5/6), wet, medium to fine, rounded to subangular grains, poorly graded		
74						GW	SANDY GRAVEL - as above		
76									
78								Hard drilling	
80									
82	48090		70		0.0/0.0				
84									
86									
88									
90									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date:	Plate
S. Russell	11-5-92	
Drafted by: L. Sue	Date: 11-12-92	
Reviewed by	Date:	

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

WORKING COPY

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

LABORATORY NO.: 87123
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24-220193-C00

DATE RECEIVED: 11/06/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/05/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by MODIFIED EPA SW-846 METHOD 5030 and 8015

LAB #	Sample Identification	Concentration (mg/kg) Gasoline Range
1	48112	ND<1
4	60138	ND<1
6	60117	ND<1
7	48111	ND<1
8	55992	ND<1
9	55994	ND<1

mg/kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1 mg/kg

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 100 %: Duplicate RPD = 3%

Richard Srna, Ph.D.
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87123
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24-220193-C00

DATE RECEIVED: 11/06/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/05/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/kg) Benzene	Toluene	Ethyl Benzene	Xylenes
1	48112	ND<3	ND<3	ND<3	ND<3
4	60138	ND<3	ND<3	ND<3	10
6	60117	ND<3	ND<3	11	41
7	48111	ND<3	ND<3	ND<3	ND<3
8	55992	ND<3	ND<3	ND<3	ND<3
9	55994	ND<3	ND<3	ND<3	5

µg/kg - parts per billion (ppb)

Method Detection Limit in Soil: 3 µg/kg

QAQC Summary:

Daily Standard run at 20 µg/L: RPD = <15%
MS/MSD Average Recovery = 97 %: Duplicate RPD = < 2

Richard Srna, Ph.D.
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87123
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24-220193-C00

DATE RECEIVED: 11/06/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/05/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/kg) Diesel Range
1	48112	56*
4	60138	64*
6	60117	ND<10
7	48111	ND<10
8	55992	ND<10
9	55994	ND<10

* Diesel range concentration reported. The pattern of chromatogarms shows hydrocarbons heavier than diesel.

mg/kg - parts per million (ppm)

Method Detection Limit for Diesel in Soil: 10 mg/kg

QAQC Summary:

Daily Standard run at 200mg/L: RPD Gasoline = NA
RPD Diesel = 2
MS/MSD Average Recovery = 103 %: Duplicate RPD = 2 %

Richard Srna, Ph.D.
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87123
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24-220193-C00

DATE RECEIVED: 11/06/92
DATE REPORTED: 11/18/92
DATE SAMPLED :11/05/92

ANALYSIS FOR TOTAL OIL AND GREASE
by STANDARD METHODS 5520F

LAB #	Sample Identification	Concentration (mg/kg) Oil & Grease
1	48112	120
4	60138	120
6	60117	ND<50
7	48111	ND<50
8	55992	ND<50
9	55994	ND<50

mg/kg - parts per million (ppm)

Method Detection Limit for Oil and Grease in Soil: 50 mg/kg

QAQC Summary: MS/MSD Average Recovery: 87 %
Duplicate RPD : 2

Richard Srna, Ph.D.
for
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

KLEINFELDER
Attn: Peter Dellavalle

Project 24-220193-C00
Reported 18-November-1992

EPA METHOD 8010

Sample preparation by Purge and Trap (EPA SW-846 Method 5030) and Chromatographic analysis using an electrolytic conductivity detector (EPA SW-846 Method 8010).

Chronology

Laboratory Number 87123

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
60138	11/05/92	11/06/92	11/12/92	11/12/92		4

Certified Laboratories

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

KLEINFELDER
Attn: Peter Dellavalle

Project 24-220193-C00
Reported 18-November-1992

EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
87123- 4	60138	Soil

RESULTS OF ANALYSIS

Laboratory Number: 87123- 4

Chloromethane:	ND<5
Vinyl Chloride:	ND<5
Bromomethane:	ND<5
Chloroethane:	ND<5
Trichlorofluoromethane:	ND<5
1,1-Dichloroethene:	ND<5
Dichloromethane:	ND<5
c-1,2-Dichloroethene:	ND<5
1,1-Dichloroethane:	ND<5
t-1,2-Dichloroethene:	ND<5
Chloroform:	ND<5
1,1,1-Trichloroethane:	ND<5
Carbon tetrachloride:	ND<5
1,2-Dichloroethane:	ND<5
Trichloroethene:	ND<5
1,2-Dichloropropane:	ND<5
Bromodichloromethane:	ND<5
c-1,3-Dichloropropene:	ND<5
t-1,3-Dichloropropene:	ND<5
1,1,2-Trichloroethane:	ND<5
Tetrachloroethene:	ND<5
Dibromochloromethane:	ND<5
Chlorobenzene:	ND<5
Bromoform:	ND<5
1,1,2,2-Tetracl-ethane:	ND<5
1,3-Dichlorobenzene:	ND<5
1,4-Dichlorobenzene:	ND<5
1,2-Dichlorobenzene:	ND<5
4-Chlorotoluene :	92%
Concentration:	ug/kg

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

EPA METHOD 8010
Quality Assurance and Control Data - Soil
Laboratory Number 87123

Compound	Method Blank (ug/kg)	PQL (ug/kg)	Average Spike Recovery (%)	Limits (%)	RPD (%)	Spike Level (ng)
Chloromethane:	ND<5	5				
Vinyl Chloride:	ND<5	5				
Bromomethane:	ND<5	5				
Chloroethane:	ND<5	5				
Trichlorofluoromethane:	ND<5	5				
1,1-Dichloroethene:	ND<5	5	91		9	100
Dichloromethane:	ND<5	5				
c-1,2-Dichloroethene:	ND<5	5				
1,1-Dichloroethane:	ND<5	5				
t-1,2-Dichloroethene:	ND<5	5				
Chloroform:	ND<5	5				
1,1,1-Trichloroethane:	ND<5	5				
Carbon tetrachloride:	ND<5	5				
1,2-Dichloroethane:	ND<5	5				
Trichloroethene:	ND<5	5	80		12	100
1,2-Dichloropropane:	ND<5	5				
Bromodichloromethane:	ND<5	5				
c-1,3-Dichloropropene:	ND<5	5				
t-1,3-Dichloropropene:	ND<5	5				
1,1,2-Trichloroethane:	ND<5	5				
Tetrachloroethene:	ND<5	5				
Dibromochloromethane:	ND<5	5				
Chlorobenzene:	ND<5	5	94		13	100
Bromoform:	ND<5	5				
1,1,2,2-Tetracl-ethane:	ND<5	5				
1,3-Dichlorobenzene:	ND<5	5				
1,4-Dichlorobenzene:	ND<5	5				
1,2-Dichlorobenzene:	ND<5	5				
Spike Average Recovery:			88%	60%-140%	11	

Definitions:
ND = None Detected
PQL= Practical Quantitation Limit
QC File # = 87123

RPD = Relative Percent Recovery

Senior Chemist

Certified Laboratories

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87123
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24-220193-C00

DATE RECEIVED: 11/06/92
DATE REPORTED: 11/18/92
DATE SAMPLED: 11/05/92

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC
by EPA SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/kg) Cadmium	Chromium	Lead	Zinc
1	48112	ND<1	56	ND<5	30
4	60138	ND<1	35	6	50
6	60117	ND<1	47	6	50
7	48111	ND<1	34	ND<5	40
8	55992	1	39	ND<5	30
9	55994	ND<1	38	ND<5	40

mg/kg - parts per million (ppm)

Method Detection Limit for Cadmium in Soil: 1 mg/kg
Method Detection Limit for Chromium in Soil: 5 mg/kg
Method Detection Limit for Lead in Soil: 5 mg/kg
Method Detection Limit for Zinc in Soil: 20 mg/kg

QAQC Summary: MS/MSD Average Recovery : 96%
Duplicate RPD :2

Richard Srna, Ph.D.
for
Laboratory Manager

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87123
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24-220193-C00

DATE RECEIVED:11/06/92
DATE REPORTED:11/18/92
DATE SAMPLED :11/05/92

ANALYSIS FOR TOTAL NICKEL
by SW-846 METHOD 6010

LAB #	Sample Identification	Concentration(mg/kg) Total Nickel
1	48112	100
4	60138	50
6	60117	80
7	48111	50
8	55992	60
9	55994	50

mg/kg - parts per million (ppm)

Method Detection Limit for Nickel in Soil: 10 mg/kg

QAQC Summary: MS/MSD Average Recovery : 92 %
Duplicate RPD : 1

Richard Srna, Ph.D.

Laboratory Manager

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

November 18, 1992

Susan Russell
Kleinfelder
2121 N. California Blvd. # 570
Walnut Creek, Ca. 94596

Dear Ms. Russell:

Attached are the analytical results requested for samples received on November 6, 1992.

The cross reference sample identification numbers for the attached reports are as follows:

Kleinfelder Identification	Superior I. D.	Subcontractor I.D.
60138	87123-4	9211132-01A

If you have questions regarding these results please feel free to contact our Senior Chemists at (510) 229-1512.

Sincerely,

Senior Chemist

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

November 17, 1992

Ms. Kristen Carlyon
SUPERIOR ANALYTICAL LABORATORY
825 Arnold Drive, Suite 114
Martinez, CA 94553

Client Ref. 87123
Clayton Project No. 92111.32

Dear Ms. Carlyon:

Attached is our analytical laboratory report for the samples received on November 12, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tb
Attachments

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification:	87123-4	Date Sampled:	11/05/92
Lab Number:	9211132-01A	Date Received:	11/12/92
Sample Matrix/Media:	SOIL	Date Extracted:	11/13/92
Extraction Method:	EPA 3550	Date Analyzed:	11/13/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification:	87123-4	Date Sampled:	11/05/92
Lab Number:	9211132-01A	Date Received:	11/12/92
Sample Matrix/Media:	SOIL	Date Extracted:	11/13/92
Extraction Method:	EPA 3550	Date Analyzed:	11/13/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification:	87123-4	Date Sampled:	11/05/92
Lab Number:	9211132-01A	Date Received:	11/12/92
Sample Matrix/Media:	SOIL	Date Extracted:	11/13/92
Extraction Method:	EPA 3550	Date Analyzed:	11/13/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification:	87123-4	Date Sampled:	11/05/92
Lab Number:	9211132-01A	Date Received:	11/12/92
Sample Matrix/Media:	SOIL	Date Extracted:	11/13/92
Extraction Method:	EPA 3550	Date Analyzed:	11/13/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
2-Fluorophenol	367-12-4	49	25	121
Phenol-d6	13127-88-3	55	24	113
Nitrobenzene-d5	4165-60-0	66	23	120
2-Fluorobiphenyl	321-60-8	66	30	115
2,4,6-Tribromophenol	118-79-6	69	19	122
Terphenyl-d14	98904-43-9	99	18	137

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification: METHOD BLANK
Lab Number: 9211132-02A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 11/13/92
Date Analyzed: 11/13/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification: METHOD BLANK
Lab Number: 9211132-02A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 11/13/92
Date Analyzed: 11/13/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211132-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	11/13/92
Extraction Method:	EPA 3550	Date Analyzed:	11/13/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87123
Clayton Project No. 92111.32

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211132-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	11/13/92
Extraction Method:	EPA 3550	Date Analyzed:	11/13/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
2-Fluorophenol	367-12-4	57	25	121
Phenol-d6	13127-88-3	77	24	113
Nitrobenzene-d5	4165-60-0	81	23	120
2-Fluorobiphenyl	321-60-8	74	30	115
2,4,6-Tribromophenol	118-79-6	59	19	122
Terphenyl-d14	98904-43-9	67	18	137

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Quality Assurance Results Summary
for
Clayton Project No. 92111.32

Clayton Lab Number: 9211147-MB
Ext./Prep. Method: EPA3550
Date: 11/13/92
Analyst: SCB
Std. Source: M920821-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 05138
Date: 11/14/92
Time: 06:03
Analyst: AC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,2,4-Trichlorobenzene	ND	3.33	2.12	64	2.54	76	70	38	107	18	23
1,4-Dichlorobenzene	ND	3.33	2.07	62	2.00	60	61	28	104	3.4	27
2,4-Dinitrotoluene	ND	3.33	2.27	68	2.53	76	72	28	89	11	47
2-Chlorophenol	ND	3.33	2.49	75	2.37	71	73	25	102	4.9	50
4-Chloro-m-cresol	ND	3.33	2.50	75	2.65	80	77	26	103	5.8	33
4-Nitrophenol	ND	3.33	1.79	54	1.81	54	54	11	114	1.1	50
Acenaphthene	ND	3.33	2.13	64	2.31	69	67	31	137	8.1	19
N-Nitrosodipropylamine	ND	3.33	2.56	77	2.78	83	80	41	126	8.2	38
Pentachlorophenol	ND	3.33	1.79	54	1.91	57	56	17	109	6.5	47
Phenol	ND	3.33	2.29	69	2.29	69	69	26	90	0.0	35
Pyrene	ND	3.33	2.01	60	2.31	69	65	35	142	14	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

87123

Section I

Chain of Custody and Analysis Request

page 1 of 1

Consultant Kleinfelder
Address 2121 N. California Blvd Suite 570
Walnut Creek
Phone No. 938-5610 Fax No. 938 5419
Project Manager Pete DeWoody
Alternate Contact Susan Russell
Project No. 24-220193-000 P.O. No.

Turn Around Time (circle one)
Same Day 72 Hrs
24 Hrs 48 Hrs
Normal 5 Day

Superior Precision Analytical, Inc.
P.O. Box 1545
Martinez, California 94553
Martinez 1 (510) 229-1512 Martinez 2 (510) 229-0166
SanFrancisco (415) 647-2081

Sampler: Susan E Russell
Regulatory Agency:

Section II: Analysis Request

Laboratory Sample Identification	S = Soil A = Air W = Water Matrix	mod 8015 - Gas	mod 8015 - BTEX	mod 8015 - Diesel	8010	8240	CAM17	TCLP Metals:	Metals: Cd, Cr, Pb, Ni, Zn	418.1 - TPH by IR	O & G	PCBs	EPA 5520 d&f Oil+Grease	EPA Method 5030 Gas + BETX	Date Sampled	Time Sampled	Number of Containers	Preservative (yes or no)
1 48112	S			X					X				X	X				
2 48153	S			X					X				X	X				
3 55991	S			X					X				X	X				
4 6013X	S			X					X				X	X				
5 55993	S			X					X				X	X				
6 60117	S			X					X				X	X				
7 48111	S			X					X				X	X				
8 55992	S			X					X				X	X				
9 55994	S			X					X				X	X				
10																		
11																		
12																		

Sampling Remarks
- ☐ Bio-remediation
- ☐ Underground storage tank
- ☐ Monitoring
- ☐ Recent Contamination
- ☐ Unknown Compounds

Please Initial:
Samples Stored in ice.
Appropriate containers
Samples preserved N/A
VOA's without headspace N/A
Comments:

Relinquished by: Susan E Russell	Date/Time 11/5/92 1701	Received by: Carlton	Date/Time 11-5-92 1700	Lab please initial the following:	
Organization: Kleinfelder		Organization: Express ST		Samples Stored in Ice	
Relinquished by:	Date/Time 11/6 1015	Received by:	Date/Time	Appropriate Containers	
Organization: Express ST		Organization:		Samples Preserved	
Relinquished by:	Date/Time	Received by:	Date/Time 11-6 92 1200	VOAs without Headspace	
Organization:		Organization: Superior		Comments	

KLEINFELDER

87123

J. NO.	PROJECT NAME
4-220193	Coo California Rock Plant
L.P. NO. (P.O. NO.)	SAMPLERS: (Signature/Number) S. Russell

DATE MM/DD/YY	SAMPLE I.D. TIME HH:MM:SS	SAMPLE I.D.	NO. OF CON-TAINERS	ANALYSIS	REMARKS
11/5/92	4	60138	1	X X X X X X X X X	
	5	55993	1		hold
	6	60117	1	X X X X X	
	3	55991	1		hold
	8	55992	1	X X X X X	
11/5/92	2	60153	1		hold
	1	48112	1	X X X X X	
	9	55994	1	X X X X X	
	7	48111	1	X X X X X	

Susan Russel said She wanted 8080 PCB. 11/11/92 Robin as per telephone conversation.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Susan S Russell	11/10/92 11:16	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	11/10/92 1140	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Remarks: Change from previous Chain of custody. Standard turn around time

Send Results To
Susan Russell
KLEINFELDER
2121 N. CALIFORNIA BLVD.
SUITE 570
WALNUT CREEK, CA 94596
(415) 938-5610

M-60 White - Sampler Canary - Return Copy To Shipper Pink - Lab Copy

No. 1903

CHAIN OF CUSTODY

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / Fax (510) 229-1526

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RECEIVED
NOV 2

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 87130
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24220193/COO

DATE RECEIVED: 11/10/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/06/92

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC
by EPA SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/kg) Cadmium	Chromium	Lead	Zinc
2	48108	ND<1	44	5	40
3	55996	ND<1	25	ND<5	30
5	55997	ND<1	37	ND<5	40
7	55998	ND<1	34	ND<5	30
9	55962	ND<1	49	6	50
11	45278	ND<1	48	ND<5	40

mg/kg - parts per million (ppm)

Method Detection Limit for Cadmium in Soil: 1 mg/kg
Method Detection Limit for Chromium in Soil: 5 mg/kg
Method Detection Limit for Lead in Soil: 5 mg/kg
Method Detection Limit for Zinc in Soil: 20 mg/kg

QAQC Summary: MS/MSD Average Recovery : 94 %
Duplicate RPD :20%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Manager

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87130
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24220193/COO

DATE RECEIVED: 11/10/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/06/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by MODIFIED EPA SW-846 METHOD 5030 and 8015

LAB #	Sample Identification	Concentration (mg/Kg) Gasoline Range
2	48108	ND<1
3	55996	ND<1
5	55997	ND<1
7	55998	ND<1
9	55962	ND<1
11	45278	ND<1

mg/kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1 mg/kg

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 97 %: Duplicate RPD = 0%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87130
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24220193/COO

DATE RECEIVED: 11/10/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/06/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/Kg) Benzene	Toluene	Ethyl Benzene	Xylenes
2	48108	11	ND<3	ND<3	5
3	55996	ND<3	ND<3	ND<3	ND<3
5	55997	ND<3	ND<3	ND<3	ND<3
7	55998	ND<3	ND<3	5	17
9	55962	ND<3	ND<3	ND<3	ND<3
11	45278	ND<3	ND<3	ND<3	ND<3

µg/kg - parts per billion (ppb)

Method Detection Limit in Soil: 3 µg/kg

QAQC Summary:

Daily Standard run at 20 µg/L: RPD = <15%
MS/MSD Average Recovery = 97%: Duplicate RPD =<2%

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87130
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24220193/COO

DATE RECEIVED:11/10/92
DATE REPORTED:11/18/92
DATE SAMPLED : 11/06/92

ANALYSIS FOR TOTAL OIL AND GREASE
by STANDARD METHODS 5520F

LAB #	Sample Identification	Concentration(mg/kg) Oil & Grease
2	48108	ND<50
3	55996	ND<50
5	55997	ND<50
7	55998	ND<50
9	55962	ND<50
11	45278	ND<50

mg/kg - parts per million (ppm)

Method Detection Limit for Oil and Grease in Soil: 50 mg/kg

QAQC Summary: MS/MSD Average Recovery: 87%
Duplicate RPD :2%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87130
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24220193/COO

DATE RECEIVED:11/10/92
DATE REPORTED:11/18/92
DATE SAMPLED :11/06/92

ANALYSIS FOR TOTAL NICKEL
by SW-846 METHOD 6010

LAB #	Sample Identification	Concentration(mg/kg) Total Nickel
2	48108	100
3	55996	50
5	55997	60
7	55998	50
9	55962	80
11	45278	90

mg/kg - parts per million (ppm)

Method Detection Limit for Nickel in Soil: 10 mg/kg

QAQC Summary: MS/MSD Average Recovery : 96%
Duplicate RPD :2%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Manager

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87130
CLIENT: KLEINFELDER
CLIENT JOB NO.: 24220193/COO

DATE RECEIVED: 11/10/92
DATE REPORTED: 11/18/92
DATE SAMPLED : 11/06/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/kg) Diesel Range
2	48108	ND<10
3	55996	ND<10
5	55997	ND<10
7	55998	ND<10
9	55962	ND<10
11	45278	ND<10

mg/kg - parts per million (ppm)

Method Detection Limit for Diesel in Soil: 10 mg/kg

QAQC Summary:

MS/MSD Average Recovery = 106%: Duplicate RPD = 5%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director

KLEINFELDER

PROJ. NO.	PROJECT NAME
24/220193/600	California Rock Plant
L.P. NO. (P.O. NO.)	SAMPLERS: (Signature/Number) Susan Russell

87130

DATE MM/DD/YY	SAMPLE I.D. TIME HH:MM:SS	SAMPLE I.D.		NO. OF CONTAINERS	EPA 5520 d&f (Grav)	EPA 8015 (TPH-d)	EPA 5030 (Gas & BTEX)	Metals: Cr, Cd, Pb	Ni, Zn	REMARKS
11/6/92	9:01	55995 ✓	1	1						hold
↓	9:12	48108 ✓	2	1	X	X	X	X	X	
	9:35	55996 ✓	3	1	X	X	X	X	X	
	10:00	55964 ✓	4	1						hold
↓	11:05	55997 ✓	5	1	X	X	X	X	X	
11/6/92	1429	55990 ✓	6	1						hold
↓	1443	55998 ✓	7	1	X	X	X	X	X	
	1628	55963 ✓	8	1						hold
↓	1639	55962 ✓	9	1	X	X	X	X	X	
11/7/92	745	55961 ✓	10	1						hold
↓	9:20	45278 ✓	11	1	X	X	X	X	X	
↓	10:22	48090 ✓	12	1						hold

Please Initial: KC
Samples Stored in ice: ✓
Appropriate containers: ✓
Samples preserved: N/A
VOA's without headspace: N/A
Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Susan E Russell	11/6/92 1115	EA B Gomma
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
EA B Gomma	11/10/92 1140	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
		Kristin Carlyon 11-10-92 11:40

Remarks: Standard turn around time

Send Results To
KLEINFELDER
2121 N. CALIFORNIA BLVD.
SUITE 570
WALNUT CREEK, CA 94596
(415) 938-5610

Attn: Susan Russell

M-60 White - Sampler Canary - Return Copy To Shipper Pink - Lab Copy

№ 1921

CHAIN OF CUSTODY

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 55758
CLIENT: Kleinfelder
DATE EXTRACTED: 11/16/92

DATE RECEIVED: 11/10/92
DATE REPORTED: 11/18/92
JOB NO.: 24-220193

ANALYSIS FOR POLYCHLORINATED BIPHENYLS (PCB's)
by EPA SW-846 Method 8080
ANALYZED FOR AROCLORS 1016,1221,1232,1242,1248,1254,1260.

	Sample Identification	Concentration
1	60138	ND<0.1 mg/kg

Detection limit : 0.1 mg/kg
mg/kg = part per million (ppm)

QA/QC Summary:
Daily standards run at 0.20 mg/Kg; < 15 % DIFF
MS/MSD: Average Recovery =108%; Duplicate RPD = 3%

Richard Srna , Ph.D.
Laboratory Director

KLEINFELDER

87123

J. NO.	PROJECT NAME
L.P. NO. (P.O. NO.)	SAMPLERS (Signature/Number)

DATE MM/DD/YY	SAMPLE I.D. TIME HH:MM:SS	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS	REMARKS
	4			X X X X X X X X X	
	5				
	6			X X X X X	
	3				
	9		1	X X X X X	
11/5/92	2	60153	1		
	1	4X112	1	X X X X X	
	9	55994	1	X X X X X	
	7	49111	1	X X X X X	

Susan Russel said
She wanted 8080 PCB.
11/10/92 Robin as per
telephone conversation.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Susan Russell	11/10/92 1215	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	11/10/92 1440	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Remarks
Change from previous
Chain of custody
Standard turn around time

Send Results To
Susan Russell
KLEINFELDER
2121 N. CALIFORNIA BLVD.
SUITE 570
WALNUT CREEK, CA 94596
(415) 938-6810

M-60 White - Sampler Canary - Return Copy To Shipper

CHAIN OF CUSTODY

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

NOVEMBER 24,1992

Mr. PETE DELEVALE
KLEINFELDER
2121 N.CALIFORNIA BLVD#570
WALNUT CREEK CA 94596

Dear Mr. DELEVALLE:

Attached are the analytical results requested for samples received on NOVEMBER 17,1992

The cross reference sample identification numbers for the attached reports are as follows:

KLEINFELDER Identification	Superior I. D.	Subcontractor I.D.
60242	87184-2	9211227-01A

If you have questions regarding these results please feel free to contact our Senior Chemists at (510) 229-1512.

Sincerely,

Nancy A. Nelson

Senior Chemist

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification:	87184-2	Date Sampled:	11/17/92
Lab Number:	9211227-01A	Date Received:	11/18/92
Sample Matrix/Media:	WATER	Date Extracted:	11/19/92
Extraction Method:	EPA 3510	Date Analyzed:	11/20/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Acid Extractables			
Phenol	108-95-2	ND	5
2-chlorophenol	95-57-8	ND	5
2-methyl phenol	95-48-7	ND	5
4-methyl phenol	106-44-5	ND	5
2-nitrophenol	88-75-5	ND	5
2,4-dimethylphenol	105-67-9	ND	5
2,4-dichlorophenol	120-83-2	ND	5
4-chloro-3-methylphenol	59-50-7	ND	5
2,4,5-trichlorophenol	95-95-4	ND	5
2,4,6-trichlorophenol	88-06-2	ND	5
2,4-dinitrophenol	51-28-5	ND	20
4-nitrophenol	100-02-7	ND	20
2-methyl-4,6-dinitrophenol	534-52-1	ND	20
Pentachlorophenol	87-86-5	ND	20
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	5
1,3-dichlorobenzene	541-73-7	ND	5
1,4-dichlorobenzene	106-46-7	ND	5
Benzyl alcohol	100-51-6	ND	10
1,2-dichlorobenzene	95-50-1	ND	5
Bis-(2-chloroisopropyl)ether	108-60-1	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification: 87184-2
Lab Number: 9211227-01A
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Analytical Method: EPA 8270

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Extracted: 11/19/92
Date Analyzed: 11/20/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	5
Hexachloroethane	67-72-1	ND	5
Nitrobenzene	98-95-3	ND	5
Isophorone	78-59-1	ND	5
Benzoic acid	65-85-0	ND	20
Bis-(2-chloroethoxy)methane	111-91-1	ND	5
1,2,4-trichlorobenzene	120-82-1	ND	5
Naphthalene	91-20-3	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-chloronaphthalene	91-58-7	ND	5
2-methyl naphthalene	91-57-6	ND	5
4-chloroaniline	106-47-8	ND	20
2-nitroaniline	88-74-4	ND	20
3-nitroaniline	99-09-2	ND	20
4-nitroaniline	100-01-6	ND	20
Hexachlorocyclopentadiene	77-47-4	ND	5
Dimethyl phthalate	131-11-3	ND	10
Acenaphthylene	208-96-8	ND	5
Acenaphthene	83-32-9	ND	5
Dibenzofuran	132-64-9	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification:	87184-2	Date Sampled:	11/17/92
Lab Number:	9211227-01A	Date Received:	11/18/92
Sample Matrix/Media:	WATER	Date Extracted:	11/19/92
Extraction Method:	EPA 3510	Date Analyzed:	11/20/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	5
2,6-dinitrotoluene	606-20-2	ND	5
Diethyl phthalate	84-66-2	ND	5
4-chlorophenylphenylether	7005-72-3	ND	5
Fluorene	86-73-7	ND	5
N-nitrosodiphenylamine	86-30-6	ND	5
4-bromophenylphenylether	101-55-3	ND	5
Hexachlorobenzene	118-74-1	ND	5
Phenanthrene	85-01-8	ND	5
Anthracene	120-12-7	ND	5
Di-n-butylphthalate	84-74-2	ND	5
Fluoranthene	206-44-2	ND	5
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	5
Benzylbutylphthalate	85-68-7	ND	5
3,3'-dichlorobenzidine	91-94-1	ND	40
Benzo(a)anthracene	56-55-3	ND	5
Bis-(2-ethylhexyl)phthalate	117-81-7	40	10
Chrysene	218-01-9	ND	5
Di-n-octylphthalate	117-84-0	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification:	87184-2	Date Sampled:	11/17/92
Lab Number:	9211227-01A	Date Received:	11/18/92
Sample Matrix/Media:	WATER	Date Extracted:	11/19/92
Extraction Method:	EPA 3510	Date Analyzed:	11/20/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	5
Benzo(k)fluoranthene	207-08-9	ND	5
Benzo(a)pyrene	50-32-8	ND	5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5
Dibenzo(a,h)anthracene	53-70-3	ND	5
Benzo(ghi)perylene	191-24-2	ND	5

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
2-Fluorophenol	367-12-4	51	21 - 100
Phenol-d6	13127-88-3	51	10 - 94
Nitrobenzene-d5	4165-60-0	85	35 - 114
2-Fluorobiphenyl	321-60-8	81	43 - 116
2,4,6-Tribromophenol	118-79-6	98	10 - 123
Terphenyl-d14	--	82	33 - 141

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification: METHOD BLANK
Lab Number: 9211227-02A
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 11/19/92
Date Analyzed: 11/20/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Acid Extractables			
Phenol	108-95-2	ND	5
2-chlorophenol	95-57-8	ND	5
2-methyl phenol	95-48-7	ND	5
4-methyl phenol	106-44-5	ND	5
2-nitrophenol	88-75-5	ND	5
2,4-dimethylphenol	105-67-9	ND	5
2,4-dichlorophenol	120-83-2	ND	5
4-chloro-3-methylphenol	59-50-7	ND	5
2,4,5-trichlorophenol	95-95-4	ND	5
2,4,6-trichlorophenol	88-06-2	ND	5
2,4-dinitrophenol	51-28-5	ND	20
4-nitrophenol	100-02-7	ND	20
2-methyl-4,6-dinitrophenol	534-52-1	ND	20
Pentachlorophenol	87-86-5	ND	20
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	5
1,3-dichlorobenzene	541-73-7	ND	5
1,4-dichlorobenzene	106-46-7	ND	5
Benzyl alcohol	100-51-6	ND	10
1,2-dichlorobenzene	95-50-1	ND	5
Bis-(2-chloroisopropyl)ether	108-60-1	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211227-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	11/19/92
Extraction Method:	EPA 3510	Date Analyzed:	11/20/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	5
Hexachloroethane	67-72-1	ND	5
Nitrobenzene	98-95-3	ND	5
Isophorone	78-59-1	ND	5
Benzoic acid	65-85-0	ND	20
Bis-(2-chloroethoxy)methane	111-91-1	ND	5
1,2,4-trichlorobenzene	120-82-1	ND	5
Naphthalene	91-20-3	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-chloronaphthalene	91-58-7	ND	5
2-methyl naphthalene	91-57-6	ND	5
4-chloroaniline	106-47-8	ND	20
2-nitroaniline	88-74-4	ND	20
3-nitroaniline	99-09-2	ND	20
4-nitroaniline	100-01-6	ND	20
Hexachlorocyclopentadiene	77-47-4	ND	5
Dimethyl phthalate	131-11-3	ND	10
Acenaphthylene	208-96-8	ND	5
Acenaphthene	83-32-9	ND	5
Dibenzofuran	132-64-9	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification: METHOD BLANK
Lab Number: 9211227-02A
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 11/19/92
Date Analyzed: 11/20/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	5
2,6-dinitrotoluene	606-20-2	ND	5
Diethyl phthalate	84-66-2	ND	5
4-chlorophenylphenylether	7005-72-3	ND	5
Fluorene	86-73-7	ND	5
N-nitrosodiphenylamine	86-30-6	ND	5
4-bromophenylphenylether	101-55-3	ND	5
Hexachlorobenzene	118-74-1	ND	5
Phenanthrene	85-01-8	ND	5
Anthracene	120-12-7	ND	5
Di-n-butylphthalate	84-74-2	ND	5
Fluoranthene	206-44-2	ND	5
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	5
Benzylbutylphthalate	85-68-7	ND	5
3,3'-dichlorobenzidine	91-94-1	ND	40
Benzo(a)anthracene	56-55-3	ND	5
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	10
Chrysene	218-01-9	ND	5
Di-n-octylphthalate	117-84-0	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 87184
Clayton Project No. 92112.27

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211227-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	11/19/92
Extraction Method:	EPA 3510	Date Analyzed:	11/20/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	5
Benzo(k)fluoranthene	207-08-9	ND	5
Benzo(a)pyrene	50-32-8	ND	5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5
Dibenzo(a,h)anthracene	53-70-3	ND	5
Benzo(ghi)perylene	191-24-2	ND	5

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
2-Fluorophenol	367-12-4	55	21	100
Phenol-d6	13127-88-3	51	10	94
Nitrobenzene-d5	4165-60-0	78	35	114
2-Fluorobiphenyl	321-60-8	71	43	116
2,4,6-Tribromophenol	118-79-6	82	10	123
Terphenyl-d14	--	85	33	141

ND Not detected at or above limit of detection
-- Information not available or not applicable

Quality Assurance Results Summary
for
Clayton Project No. 92112.27

Clayton Lab Number: 9211138-MB
Ext./Prep. Method: EPA3510
Date: 11/19/92
Analyst: HYT
Std. Source: M920821-01W
Sample Matrix/Media: WATER

Analytical Method: EPA625 8270
Instrument ID: D5138
Date: 11/20/92
Time: 17:43
Analyst: AC
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,2,4-Trichlorobenzene	ND	100	61.0	61	62.0	62	62	39	98	1.6	28
1,4-Dichlorobenzene	ND	100	61.0	61	66.0	66	64	36	97	7.9	28
2,4-Dinitrotoluene	ND	100	64.0	64	65.0	65	65	24	96	1.6	38
2-Chlorophenol	ND	100	67.0	67	68.0	68	68	27	123	1.5	40
4-Chloro-m-cresol	ND	100	76.0	76	74.0	74	75	23	97	2.7	42
4-Nitrophenol	ND	100	43.0	43	43.0	43	43	10	80	0.0	50
Acenaphthene	ND	100	81.0	81	80.0	80	81	46	118	1.2	31
N-Nitrosodipropylamine	ND	100	61.0	61	69.0	69	65	41	116	12	38
Pentachlorophenol	ND	100	78.0	78	77.0	77	78	9	103	1.3	50
Phenol	ND	100	38.0	38	37.0	37	38	12	89	2.7	42
Pyrene	ND	100	87.0	87	94.0	94	91	26	127	7.7	31

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Superior Precision Analytical, Inc.
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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87184
CLIENT: KLEINFELDER
CLIENT JOB NO.: 10-2300-23

DATE RECEIVED: 11/17/92
DATE REPORTED: 11/24/92
DATE SAMPLED : 11/17/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/L) Diesel Range
5	60237	ND<1

ug/L - parts per billion (ppb)

Method Detection Limit for Diesel in Water: 1.00*mg/L
*40ML VOA VIAL EXTRACTION.
QAQC Summary:

MS/MSD Average Recovery = 118%: Duplicate RPD = 1%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director

Superior Precision Analytical, Inc.
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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 87184-4
CLIENT: KLEINFELDER
JOB NO.: 10-2300-23

DATE SAMPLED: 11/17/92
DATE RECEIVED: 11/17/92
DATE ANALYZED: 11/19/92

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE:60238

Compound	MDL (ug/L)	RESULTS (ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND

MDL = Method Detection Limit
ug/L = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =< 15%
MS/MSD average recovery = 88 % :MS/MSD RPD = 1 %

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 87184
CLIENT: KLEINFELDER
CLIENT JOB NO.: 10-2300-23

DATE RECEIVED:11/17/92
DATE REPORTED:11/24/92
DATE SAMPLED : 11/17/92

ANALYSIS FOR TOTAL OIL AND GREASE
by STANDARD METHODS 5520F

LAB #	Sample Identification	Concentration(mg/L) Oil & Grease
3	56000	ND<5

mg/L - parts per billion (ppm)

Method Detection Limit for Oil and Grease in Water: 5 mg/L

QAQC Summary: MS/MSD Average Recovery: 96%
Duplicate RPD : 0%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director

KLEINFELDER

#87784 55786

PROJ. NO.	PROJECT NAME
10-2300-23	
L.P. NO. (P.O. NO.)	SAMPLERS: (Signature/Number) Doug Head / 1282

DATE MM/DD/YY	SAMPLE I.D. TIME HH:MM:SS	SAMPLE I.D.	NO. OF CONTAINERS	8010	TPH as diesel	EPA 8080	EPA 8270	Oil & Grease (method 5520 d&f)		REMARKS
11/17/92	1320	60226	1			X				HOLD
↓	↓	60242	1				X			↓
		56000	1					X	X	
		60238	1	X						
		60237	1		X					USE HIGHER DL AS NEEDED

Please initial:
Samples Stored in ice. ______
Appropriate containers. ______
Samples preserved. ______
VOA's without headspace. ______
Comments: ______

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks	Send Results To:
Doug Head	11/17/92 1441		Att'n Susan Russel / Pete Delevulle STANDARD T.A.T.	KLEINFELDER 2121 N. CALIFORNIA BLVD. SUITE 570 WALNUT CREEK, CA 94596 (415) 938-5610 938-5419
Relinquished by: (Signature)	Date/Time	Received by: (Signature)		
Relinquished by: (Signature)	Date/Time 11/17/92 14:40	Received for Laboratory by: Nancy A. Nelson		

M-80 White - Sampler Canary - Return Copy To Shipper Pink - Lab Copy

CHAIN OF CUSTODY

№ 0063

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

LABORATORY NO.: 87219
CLIENT: KLEINFELDER
CLIENT JOB NO.: 10-2300-23

DATE RECEIVED: 11/19/92
DATE REPORTED: 12/01/92
DATE SAMPLED : 11/19/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration (ug/L) Benzene	Toluene	Ethyl Benzene	Xylenes
2	60116	0.4	0.7	ND<0.3	1.0

µg/L - parts per billion (ppb)

Method Detection Limit in Water: 0.3 µg/L

QAQC Summary:

Daily Standard run at 20 µg/L: RPD = <15%
MS/MSD Average Recovery = 92 %: Duplicate RPD = < 4

Richard Srna, Ph.D.

Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

LABORATORY NO.: 87219
CLIENT: KLEINFELDER
CLIENT JOB NO.: 10-2300-23

DATE RECEIVED: 11/19/92
DATE REPORTED: 12/01/92
DATE SAMPLED : 11/19/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by MODIFIED EPA SW-846 METHOD 5030 and 8015

LAB #	Sample Identification	Concentration (mg/L) Gasoline Range
2	60116	ND<0.05

mg/L - parts per million (ppm)

Method Detection Limit for Gasoline in Water: 0.05 mg/L

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 92 %: Duplicate RPD = 3

Richard Srna, Ph.D.

Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 87219
CLIENT: KLEINFELDER
CLIENT JOB NO.: 10-2300-23

DATE RECEIVED: 11/19/92
DATE REPORTED: 12/01/92
DATE SAMPLED :11/19/92

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC
by EPA SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/L) Cadmium	Chromium	Lead	Zinc
1	60114	ND<0.01	ND<0.05	ND<0.1	ND<0.05

mg/L - parts per million (ppm)

Method Detection Limit for Cadmium in Water: 0.01 mg/L
Method Detection Limit for Chromium in Water: 0.05 mg/L
Method Detection Limit for Lead in Water: 0.1 mg/L
Method Detection Limit for Zinc in Water: 0.05 mg/L

QAQC Summary: MS/MSD Average Recovery : 90 %
Duplicate RPD : 1

Richard Srna, Ph.D.

Laboratory Manager

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 87219
CLIENT: KLEINFELDER
CLIENT JOB NO.: 10-2300-23

DATE RECEIVED:11/19/92
DATE REPORTED:12/01/92
DATE SAMPLED :11/19/92

ANALYSIS FOR TOTAL NICKEL
by SW-846 METHOD 6010

LAB #	Sample Identification	Concentration (mg/L) Total Nickel
1	60114	ND<0.1

mg/L - parts per million (ppm)

Method Detection Limit for Nickel in Water: 0.1 mg/L

QAQC Summary: MS/MSD Average Recovery : 97 %
Duplicate RPD : 0

Richard Srna, Ph.D.

Laboratory Manager

KLEINFELDER

PROJ. NO.	PROJECT NAME
10-2300-23	
L.P. NO. (P.O. NO.)	SAMPLERS: (Signature/Number) Dary Heard 1282

DATE MM/DD/YY	SAMPLE I.D. TIME HH:MM:SS	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS: TPH as gas & with BTEX	Metals (Cr, Cd, Pb, Ni, Zn)	REMARKS
11/19/92		60114	1		X	Filtered IN THE FIELD & preserved
↓		60116	2	X		Preserved w/ HCl

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dary Heard	11/19/92 1617	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
		Flanzinis 11-19-92 4:15

Remarks

ATTN Susan Russel
or Pete Deltvalle
Standard T.A.T

Send Results To

KLEINFELDER
2121 N. CALIFORNIA BLVD.
SUITE 570
WALNUT CREEK, CA 94596
(415) 938-5610

M-60 White - Sampler Canary - Return Copy To Shipper Pink - Lab Copy

CHAIN OF CUSTODY

№ 1330