Tetra Tech EM Inc.
10670 White Rock Road, Suite 100 ◆ Rancho Cordova, CA 95670 ◆ (916) 852-8300 ◆ FAX (916) 852-0307

5814 / RO 184

December 4, 2001
Via Federal Express

Mr. Patrick G. Murray
McMorgan & Company
One Bush Street, Suite 800
San Francisco, California 94104

Subject: **Third Quarter Groundwater Monitoring Report, October 2001**
McMorgan & Company
444 Hegenberger Road, Oakland, California
Tetra Tech's Project No. P1389-0503

Dear Mr. Murray:

Tetra Tech EM Inc. (Tetra Tech) is pleased to submit to McMorgan & Company this letter report on the results of the third quarter of groundwater monitoring (the second sampling event in 2001) conducted at the subject site (see Figures 1 and 2) on October 4, 2001. The work was conducted in accordance with a letter to McMorgan & Company from the Alameda County Health Care Services Agency (ACHCSA), dated April 3, 2001. The scope of work consisted of the following:

- Measuring groundwater levels in the seven wells at the project site
- Purging and subsequent sampling of groundwater from monitoring wells MW-2 through MW-8
- Analyzing the groundwater samples for petroleum hydrocarbon constituents
- Preparing this report

SITE BACKGROUND

The subject site is located in northwest Alameda County, approximately ¼ mile south of the Interstate 880-Hegenberger Road interchange and approximately 1 mile northeast of the Oakland International Airport. The unpaved site occupies a rectangular-shaped parcel (Assessor's Parcel Number 044-5076-007-02) situated in the northeast corner of the intersection of Hegenberger Road and Hegenberger Loop. The southwest portion of the site was previously occupied by a retail gasoline service station.

The available data indicate that a series of soil and groundwater investigations have been conducted at the site since 1997. A site assessment in April 1997 ("Work Plan for Additional Environmental Investigation," Tetra Tech, July 21, 2000) indicated the presence of petroleum hydrocarbons in soils and

groundwater beneath the site. However, concentrations of methyl tertiary butyl ether (MTBE) were not detected at or above the laboratory reporting limits in the soil and grab groundwater samples collected during the assessment. A subsequent investigation, conducted in July and October 1997, indicated that none of the site's former underground storage tanks (USTs) remained (number of USTs and date of removal are not known). The investigation also confirmed the previous findings of petroleum hydrocarbons being present in soil and groundwater.

A supplemental assessment of soil and groundwater in November 1998 ("Work Plan for Additional Environmental Investigation," Tetra Tech, July 21, 2000) resulted in the installation of five, 2-inch-diameter groundwater monitoring wells (MW1, MW-2, MW-3, MW-4, and MW-5), each with perforated casing set between 5 and 20 feet below ground surface (bgs). Laboratory analysis of soil samples collected during the drilling for the wells indicated concentrations of total petroleum hydrocarbons as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The data appeared to indicate that concentrations of petroleum hydrocarbons in soil decreased with depth. Soil samples were not analyzed for MTBE. Analysis of groundwater samples collected from the five wells indicated concentrations of TPH-g in two wells (MW-3 and MW-4) and TPH as diesel (TPH-d) as well as BTEX in four wells (MW-2, MW-3, MW-4, and MW-5). Concentrations of MTBE were not detected at or above the laboratory reporting limit in the samples collected from the five wells.

As reported by E_2C, Inc., in the report "Quarterly Groundwater Monitoring First Quarter 2000," May 11, 2000, well MW-1 was destroyed in December 1999 in accordance with ACHCSA guidelines. In addition, well MW-6 was installed in accordance with an ACHCSA request that the portion of the site inferred to be downgradient of the former waste-oil tank be monitored. Well MW-6 was completed with perforations set between 10 and 20 feet bgs. One soil sample was collected at 11 feet bgs from the boring for MW-6. Although a "heavy odor" of suspected fuel was noted for the soil sample, laboratory analysis indicated that concentrations of volatile organic compounds, semivolatile organic compounds, TPH-g, TPH-d, TPH as motor oil (TPH-mo), and BTEX were not detected at or above the respective laboratory reporting limits. In addition, cadmium, chromium, lead, nickel, and zinc were not detected at concentrations at or above their respective regulatory action levels.

On December 12, 2000, Tetra Tech supervised the drilling and installation of off-site groundwater monitoring wells MW-7 and MW-8 (see Figure 2) by Weeks Drilling and Pump Company (C57-177681) of Sebastopol, California. The wells were installed and sampled in accordance with Tetra Tech standard operating procedures (SOP) and the approved Tetra Tech, July 21, 2000, workplan to assess the possible

extent of off-site migration of petroleum hydrocarbons. Monitoring wells MW-7 and MW-8 were completed with perforations set 5 to 20 feet bgs using 0.01-inch slotted casing.

Quarterly groundwater monitoring began at the subject site in December 1998, after the installation of wells MW-1 through MW-5. Monitoring has included collecting depth-to-groundwater (DTW) measurements and groundwater samples from each of the project site's active wells, now expanded to include off-site wells MW-7 and MW-8. However, the DTW measurement and groundwater sample were not collected from MW-2 during the June 2000 monitoring by E_2C, Inc., because floating liquid hydrocarbons were present within the well. Floating liquid hydrocarbons had not been observed within the site's wells before June 2000 and have not been observed since (see Table 1).

GROUNDWATER PURGING AND SAMPLING

On October 4, 2001, Tetra Tech personnel conducted groundwater purging and sampling at the subject project site. The seven wells were purged and sampled according to Tetra Tech's SOP, including sampling handling, preservation, identification, and chain-of-custody (COC) control.

Before the samples were collected, DTW measurements were made in each well using a Solinst water-level indicator (see Table 1). Following the DTW measurements, a minimum of three wetted-casing volumes were purged from each well using a pre-cleaned bailer that was cleaned between wells. The purged water was stored temporarily on site in Department of Transportation (DOT)-approved 55-gallon drums pending the results of laboratory analysis and a decision regarding appropriate disposal. Information regarding the purging and sampling of the seven wells is included on the monitoring well purging forms in Appendix A.

In addition, temperature, pH, and specific conductance of the purged groundwater were measured every two to three gallons for wells MW-2 through MW-8 using a Horiba U-10 water quality meter. Observations, including color, turbidity, and odor of the purged water, were noted at each monitoring well (Appendix A). When the measured parameters stabilized to within 10 percent, the wells were allowed to recharge to 80 percent of the initial volume. Groundwater samples were then collected using a new, disposable poly vinyl chloride (PVC) bailer at each well. The samples were dispensed into appropriate containers (40-milliliter glass vials), sealed, labeled, placed in a portable cooler with ice, recorded on COC forms, and submitted to California Laboratory Services (CLS) of Rancho Cordova, California, a state-certified analytical laboratory, for analysis of the following constituents:

- TPH-d by U.S. Environmental Protection Agency (EPA) Method 8015-modified
- TPH-g by EPA Method 5030 and BTEX by EPA Method 602

ANALYTICAL RESULTS

Analysis of the groundwater samples collected from the seven wells indicated that concentrations of TPH-d were detected in the sample collected from well MW-2 and TPH-g and/or BTEX were detected in the samples collected from wells MW-2, MW-3, MW-4, and MW-5. Neither TPH-g nor BTEX were detected in the samples from wells MW-6, MW-7 and MW-8. The groundwater sample analytical results are summarized in Table 2. Copies of the laboratory analytical reports and COC form are included as Appendix B.

Figures 4 and 5 are isoconcentration maps of benzene and TPH-g, respectively, in groundwater for October 4, 2001, based on the data summarized in Table 2. The maps suggest that benzene and TPH-g have not migrated appreciably since the previous monitoring on May 7, 2001 ("Second Quarter Groundwater Monitoring Report," May 2001, report dated June 8, 2001). The analytical data indicate that the concentration of benzene has decreased in wells MW-2, MW-3, MW-4, MW-5, and MW-6. In addition TPH-g has decreased in wells MW-2, MW-3, MW-4, and MW-5.

GROUNDWATER FLOW

Based on the interpretation shown on Figure 5, the inferred direction of groundwater flow beneath the subject site is primarily to the northwest under a shallow gradient of about 0.0013 foot per foot (ft/ft) when measured from wells MW-2 to MW-3 and about 0.0010 ft/ft when measured from wells MW-3 to MW-7. The data from the previous groundwater monitoring were interpreted as indicating that groundwater flowed primarily toward the northwest (see Table 3).

CONCLUSIONS

The analysis of groundwater samples from the two off-site wells indicate that petroleum hydrocarbons have not migrated to the locations of these wells, across Hegenberger Loop or Hegenberger Road.

The results of the third quarter of groundwater monitoring at the subject site also indicate the following:

- A plume of hydrocarbons, including TPH-d, TPH-g and BTEX, remains beneath the northwest corner of the site.
- The plume continues to impact wells MW-2, MW-3, MW-4, and MW-5. However, the impact to MW-5 appears limited to benzene.

- The concentration of benzene has decreased in wells MW-2, MW-3, MW-4, MW-5, and MW-6.
- The concentration of TPH-g has decreased in wells MW-2, MW-3, MW-4, and MW-5.

RECOMMENDATIONS

Based on the cumulative results of groundwater monitoring at the subject site and pursuant to the April 27, 2001, meeting with Mr. Barney Chan of the Alameda County, Health Care Agency (see Attachment 1), Tetra Tech recommends:

- Discontinuing quarterly groundwater monitoring of the seven wells
- Performing a Risk Based Corrective Action analysis using the American Society for Testing and Materials (ASTM) standards.

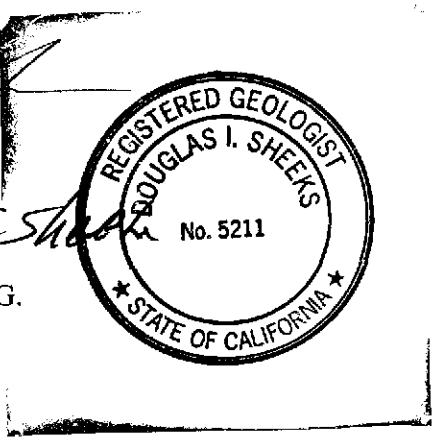
This report is based on available information and was prepared in accordance with currently accepted geologic, hydrogeologic, and engineering practices. No other warranty is implied or intended. This report has been prepared for the sole use of McMorgan & Company and applies only to the subject site. Use of this report by third parties shall be at their sole risk. This report was prepared under the direct supervision of the California Registered Geologist whose signature appears below.

We appreciate the opportunity to provide McMorgan & Company geologic, engineering, and environmental consulting services and trust that this letter report meets your needs. If you have any questions or concerns, please call Mr. Walter Kim at (916) 853-4505 or Mr. Doug Sheeks at (916) 853-4515.

Sincerely,

TETRA TECH EM INC.

Robert Schumann
Staff Geologist



Douglas I. Sheeks, R.G.
Senior Geologist
CRG No. 5211

Attachment
cc: B. M. Chan, Alameda County Health Care Services Agency
W. H. Kim, Tetra Tech

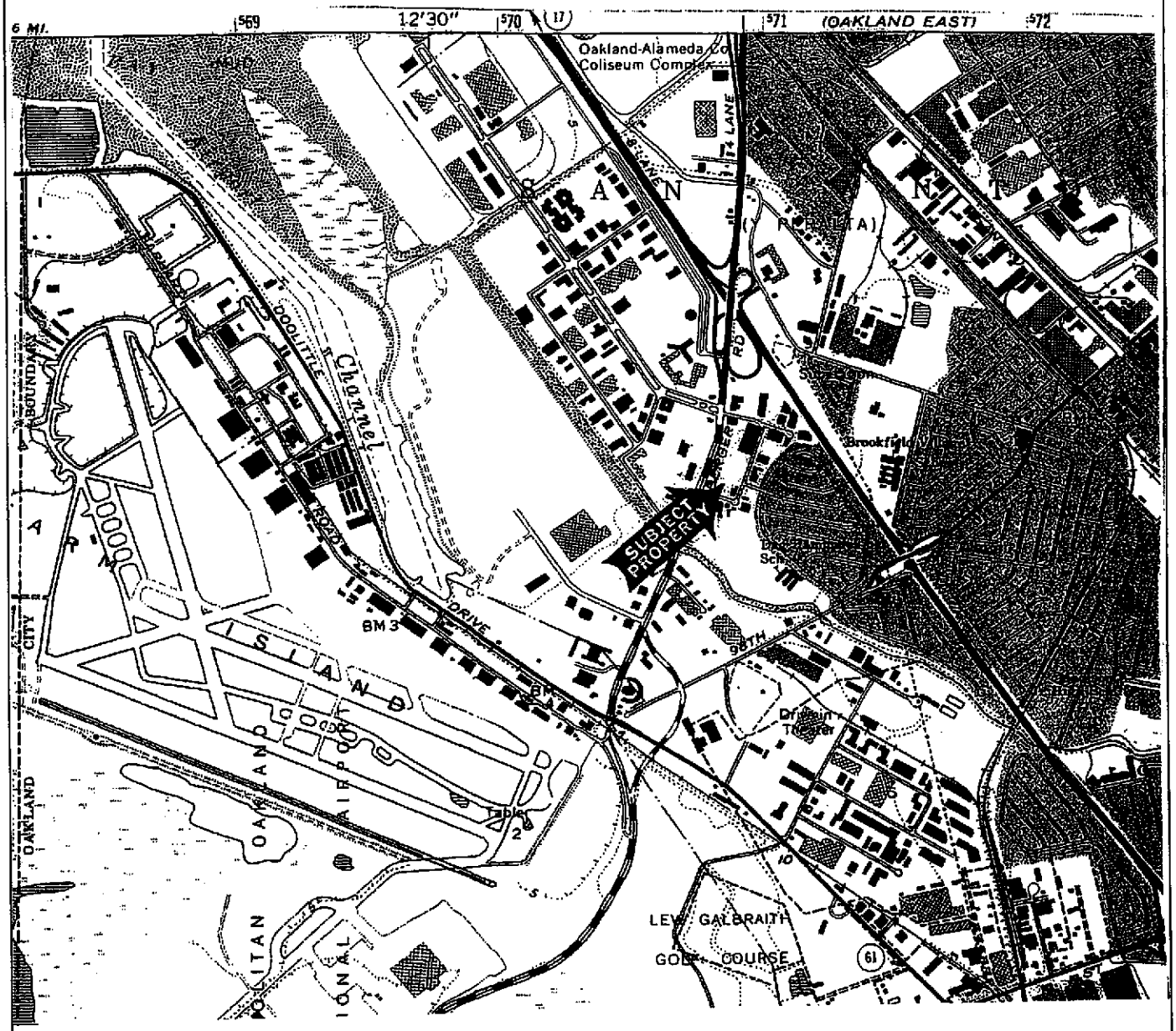


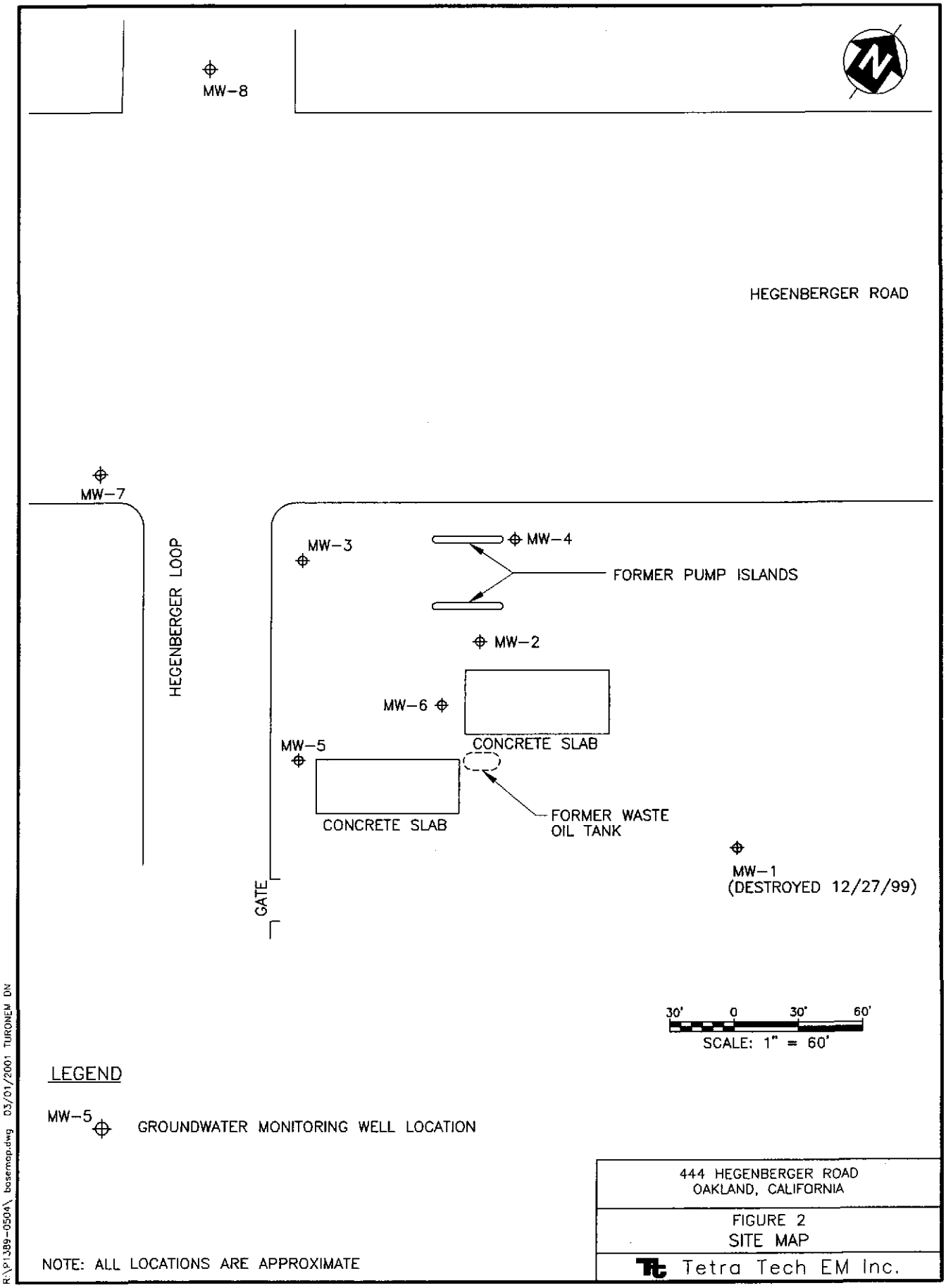
Figure 1 - SITE MAP

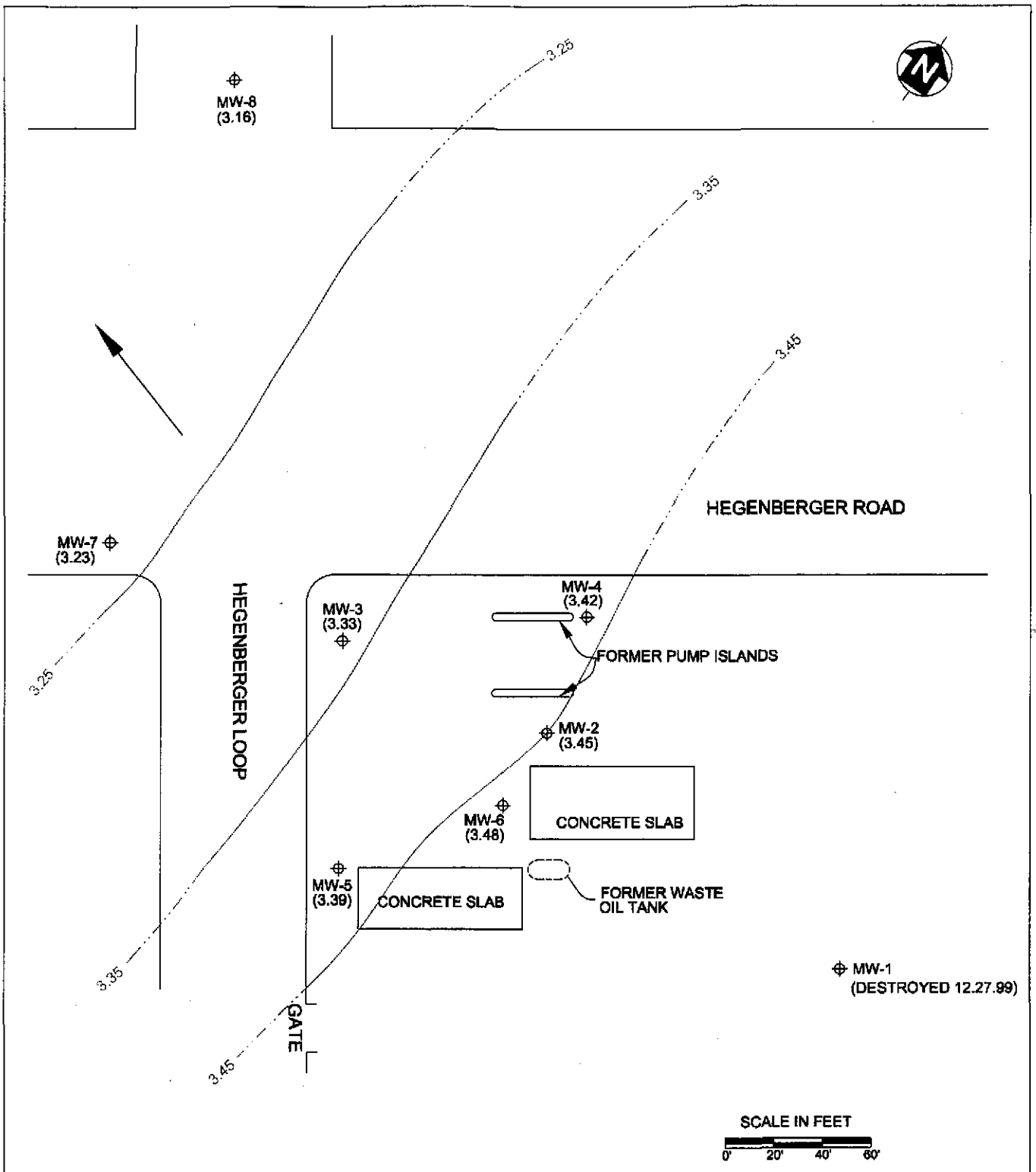
Tetra Tech EM Inc.
10870 White Rock Road, Suite 100
Rancho Cordova, California 95670
Tel: 916.853.4561

444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FILENAME:	1389SM01A
DATE:	JULY 2000
REVISION:	
DRAWN:SKM	

Job Number:
P1389.04


MW-8
HEGENBERGER ROAD
MW-7
HEGENBERGER LOOP
MW-3
MW-4
FORMER PUMP ISLANDS
MW-2
MW-6
CONCRETE SLAB
MW-5
CONCRETE SLAB
FORMER WASTE OIL TANK
MW-1
(DESTROYED 12/27/99)
GATE
30' 0 30' 60'
SCALE: 1" = 60'
LEGEND
MW-5 GROUNDWATER MONITORING WELL LOCATION
NOTE: ALL LOCATIONS ARE APPROXIMATE
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA
FIGURE 2
SITE MAP
Tetra Tech EM Inc.
R:\P1389-0504\ basemap.dwg 03/01/2001 TURONEM DN



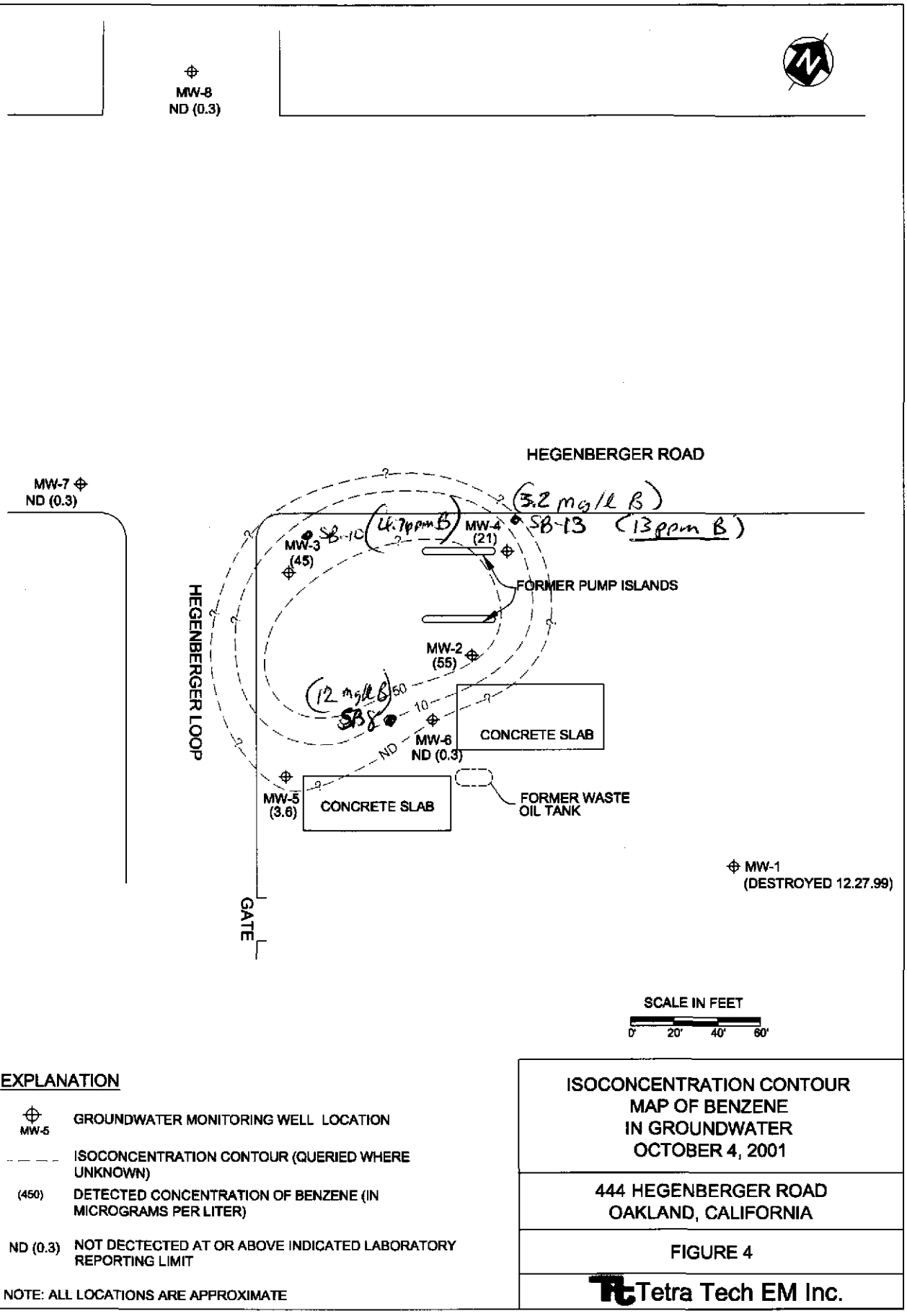
EXPLANATION

- MW-5 — GROUNDWATER MONITORING WELL LOCATION
- 3.35 — GROUNDWATER CONTOUR, CONTOUR INTERVAL = 0.1 FOOT (DASHED WHERE INFERRED)
- (3.39) — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTE: ALL LOCATIONS ARE APPROXIMATE

POTENTIOMETRIC SURFACE MAP OCTOBER 4, 2001
444 HEGENBERGER ROAD OAKLAND, CALIFORNIA
FIGURE 3
Tetra Tech EM Inc.

R:\Clients\OAKLAND\ fig3_hegen.dwg 12/03/2001 marianne.turonek DN



EXPLANATION

MW-5	GROUNDWATER MONITORING WELL LOCATION
- - - -	ISOCONCENTRATION CONTOUR (QUERIED WHERE UNKNOWN)
(450)	DETECTED CONCENTRATION OF BENZENE (IN MICROGRAMS PER LITER)
ND (0.3)	NOT DECTECTED AT OR ABOVE INDICATED LABORATORY REPORTING LIMIT

NOTE: ALL LOCATIONS ARE APPROXIMATE

ISOCONCENTRATION CONTOUR MAP OF BENZENE IN GROUNDWATER OCTOBER 4, 2001

444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE 4

Tetra Tech EM Inc.

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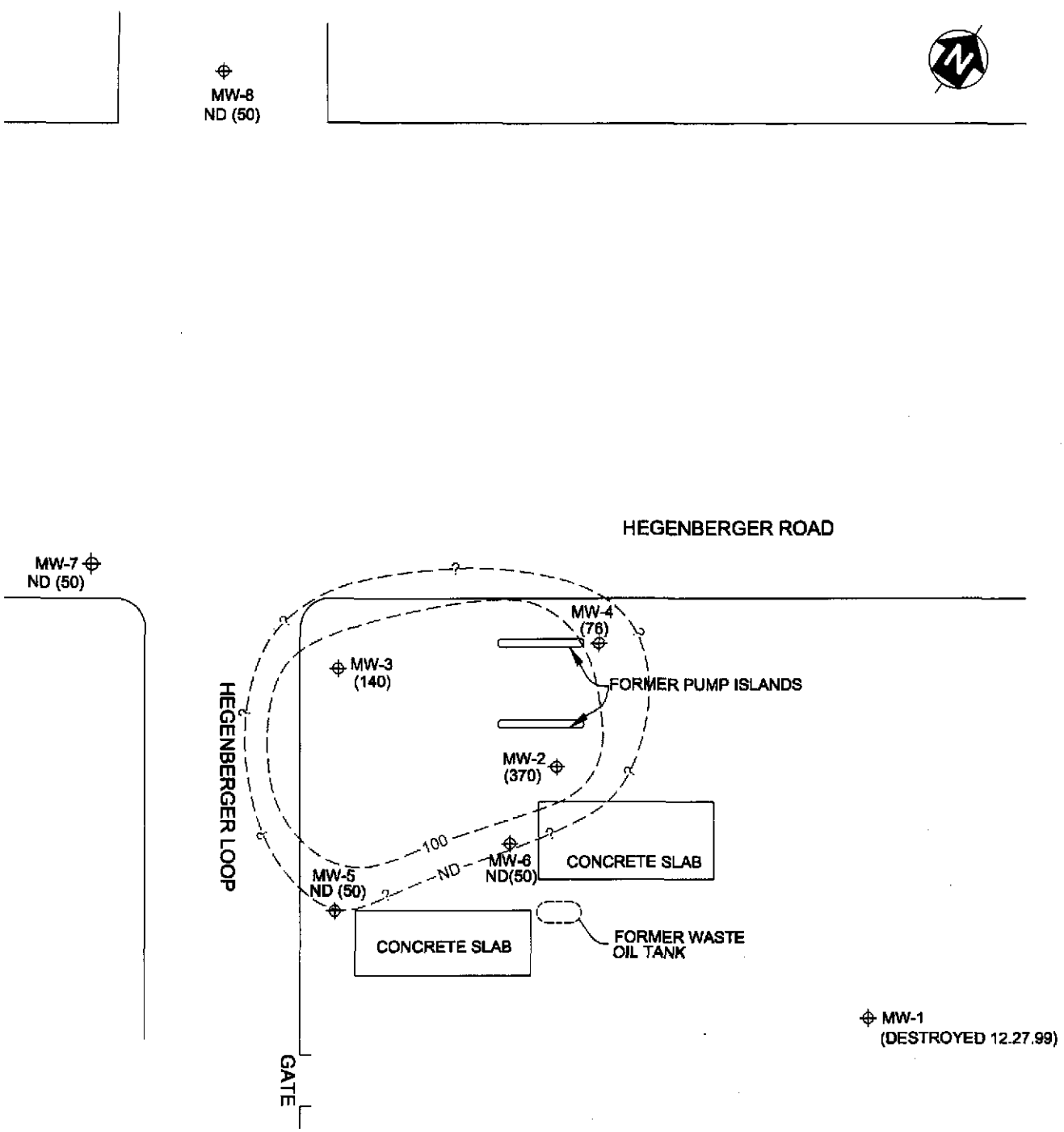

EXPLANATION

MW-5	GROUNDWATER MONITORING WELL LOCATION
----	ISOCONCENTRATION CONTOUR (QUERIED WHERE UNKNOWN)
(370)	DETECTED CONCENTRATION OF TOTAL PETROLEUM AS GASOLINE (IN MICROGRAMS PER LITER)
ND (50)	NOT DECTECTED AT OR ABOVE INDICATED LABORATORY REPORTING LIMIT

NOTE: ALL LOCATIONS ARE APPROXIMATE

ISOCONCENTRATION CONTOUR MAP OF TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN GROUNDWATER OCTOBER 4, 2001

444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE 5

Tetra Tech EM Inc.

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TABLE 1

WELL DATA
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

WELL I.D.	DATE	INSTALLED WELL DEPTH (feet bgs)	SCREEN INTERVAL (feet bgs)	WELL DEPTH (feet BTOC)	TOC ELEVATION (feet)	DEPTH TO GROUNDWATER (feet BTOC)	GROUNDWATER ELEVATION (feet)	COMMENTS
MW-1	12/02/98	20	5 - 20	19.60	100.74*	2.90	97.84	hard bottom
	03/08/99			19.35		3.43	97.31	soft bottom
	07/01/99			19.53		3.81	96.93	
	08/18/99			19.53		3.62	97.12	
	09/15/99			19.30		3.69	97.05	
	12/27/99			19.45		3.81	96.93	well destroyed
MW-2	12/02/98	20	5 - 20	19.79	102.44*	4.61	97.83	soft bottom
	03/08/99			19.32		5.16	97.28	soft bottom
	07/01/99			19.43		5.91	96.53	
	08/18/99			19.43		5.53	96.91	
	09/15/99			19.43		5.55	96.89	
	12/27/99			19.52		5.55	96.89	
	03/29/00			19.57		5.44	97.00	
	06/09/00			?		?	?	NM -- FLH
	12/14/00			19.50	9.05**	5.00	4.05	Resurveyed
	05/07/01			19.30		5.69	3.36	
	10/04/01			19.30		5.60	3.45	
MW-3	12/02/98	20	5 - 20	19.85	102.00*	4.24	97.76	soft bottom
	03/08/99			19.24		4.90	97.10	soft bottom
	07/01/99			19.54		5.35	96.65	
	08/18/99			19.54		5.21	96.79	
	09/15/99			19.56		5.26	96.74	
	12/27/99			19.60		5.42	96.58	
	03/24/00			19.63		5.81	96.19	
	06/09/00			19.59		5.43	96.57	
	12/14/00			16.55	8.60**	4.85	3.75	Resurveyed
	05/07/01			16.32		5.37	3.23	
	10/04/01			16.31		5.27	3.33	
MW-4	12/02/98	20	5 - 20	19.15	100.00*	2.20	97.80	soft bottom
	03/08/99			19.44		2.80	97.20	hard bottom
	07/01/99			19.48		5.23	94.77	
	08/18/99			19.48		5.00	95.00	
	09/15/99			19.42		4.99	95.01	
	12/27/99			19.58		5.23	94.77	
	03/24/00			19.63		5.39	94.61	
	06/09/00			19.67		5.24	94.76	
	12/14/00			19.55	8.50**	4.60	3.90	Resurveyed
	05/07/01			19.31		5.20	3.30	
	10/04/01			19.31		5.08	3.42	

TABLE 1

WELL DATA
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

WELL I.D.	DATE	INSTALLED WELL DEPTH (feet bgs)	SCREEN INTERVAL (feet bgs)	WELL DEPTH (feet BTOC)	TOC ELEVATION (feet)	DEPTH TO GROUNDWATER (feet BTOC)	GROUNDWATER ELEVATION (feet)	COMMENTS
MW-5	12/02/98	20	5 - 20	19.72	102.22*	4.59	97.63	soft bottom
	03/08/99			19.72		5.20	97.02	hard bottom
	07/01/99			19.61		5.59	96.63	
	08/18/99			19.61		5.37	96.85	
	09/15/99			19.55		5.55	96.67	
	12/27/99			19.54		5.48	96.74	
	03/24/00			19.57		6.02	96.20	
	06/09/00			19.52		5.59	96.63	
	12/14/00			19.75	8.84**	5.10	3.74	Resurveyed
	05/07/01			19.46		5.52	3.32	
	10/04/01			19.46		5.45	3.39	
MW-6	03/24/00	20	10 - 20	18.39	102.58*	5.49	97.09	
	06/09/00			18.44		5.87	96.71	
	12/14/00			14.25	9.19**	5.13	4.06	Resurveyed
	05/07/01			15.71		5.89	3.30	
	10/04/01			15.67		5.71	3.48	
MW-7	12/14/00	20	5 - 20	18.75	8.10**	3.48	4.62	
	05/07/01			18.03		5.13	2.97	
	10/04/01			19.74		4.87	3.23	
MW-8	12/14/00	20	5 - 20	20.15	8.68**	5.10	3.58	
	05/07/01			20.31		5.74	2.94	
	10/04/01			20.32		5.52	3.16	

Notes:
bgs = Below ground surface
TOC = Top of casing
BTOC = Below top of casing
NM = Not measured
FLH = Floating product
* = Elevation relative to arbitrary benchmark of 100 feet established at MW-4
** = Elevation relative to established City of Oakland benchmark (feet above mean sea level)

TABLE 2
GROUNDWATER ANALYTICAL DATA
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA
Results In Micrograms Per Liter
(Page 1 of 2)

WELL I.D.	DATE	TPH-d	TPH-g	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	FUEL ADDITIVES
MW-1	12/02/98(a)	ND(50)	ND(50)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	---
	03/08/99	190	ND(50)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	---
	07/01/99	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	---
	09/15/99	ND(50)	3,100	ND(0.5)	9.6	7.8	12	---
	12/27/99	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	---
	12/27/99	WELL DESTROYED						
MW-2	12/02/98(a)	99	ND(50)	**4.6**	0.85	0.57	5	---
	03/08/99	210	180	**200(a)**	0.74	1.3	2.3	---
	07/01/99	ND(50)	1,100	**190**	13	33	36	---
	09/15/99	100*	990	**330**	9.7	11	19	---
	12/27/99	ND(50)	1,000	**260**	7.2	1.3	10	---
	03/29/00	31,000	1,900	**110**	4.8	9.5	12	---
	06/09/00	NOT SAMPLED - WELL CONTAINED FLOATING HYDROCARBONS						
	12/14/00	470	1,600	**450**	18	61	26	ND(2/20)
	05/08/01	300	950	**120**	5.8	8.5	32	---
	10/04/01	170*	370	**55**	2.8	17	4.2	---
MW-3	12/02/98(a)	300	970	**160**	6.5	16	9	---
	03/08/99	1,400	2,600	**1,800(b)**	30(c)	67(c)	26(c)	---
	07/01/99	150*	3,000	**1**	ND(0.5)	32	36	---
	09/15/99	110*	1,100	**350**	8.3	5.4	10	---
	12/27/99	70	560	**170**	2.1	7.6	3.1	---
	03/24/00	1,000	8,400	**4,100**	71	190	75	---
	06/09/00	320	2,700	**1,100**	17	18	ND(10)	---
	14/14/00	ND(100)	710	**140**	2.2	3.3	1.2	ND(0.5/5)
	05/08/01	ND(400)	1,500	**270**	7.9	11	5.6	---
	10/04/01	ND(50)	140	**45**	ND(0.3)	1.3	ND(0.6)	---
MW-4	12/02/98(a)	620	ND(50)	**1.1**	0.37	<0.3	2	---
	03/08/99	ND(50)	1,300	**1,900(b)**	9.4	1.2	11	---
	07/01/99	ND(50)	610**	**120**	ND(0.5)	<0.5	<0.5	---
	09/15/99	59*	830	**320**	6.5	1.7	<2.0	---
	12/27/99	ND(50)	55	**5.8**	ND(0.5)	<0.5	<0.5	---
	03/24/00	77	430	**240**	3.3	0.98	1.5	---
	06/09/00	ND(50)	220	**91**	0.93	ND(0.5)	ND(0.5)	---
	14/14/00	ND(50)	96	**15**	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
	05/07/01	ND(100)	380	**130**	2.5	1.7	2.5	---
	10/04/01	ND(50)	76	**21**	ND(0.3)	ND(0.3)	ND(0.6)	---

TABLE 2
GROUNDWATER ANALYTICAL DATA
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA
Results In Micrograms Per Liter
(Page 2 of 2)

WELL I.D.	DATE	TPH-d	TPH-g	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	FUEL ADDITIVES
MW-5	12/02/98(a)	620	ND(50)	**1.1**	0.37	ND(0.3)	2	---
	03/08/99	ND(50)	58	**23**	0.31	ND(0.3)	1.8	---
	07/01/99	64*	1,900	**160**	10	13	22	---
	09/15/99	ND(50)	410	**64**	2.1	1.3	2.7	---
	12/27/99	ND(50)	130	**15**	0.73	ND(0.5)	ND(0.5)	---
	03/24/00	460	2,500	**560**	57	18	87	---
	06/09/00	140	2,600	**770**	63	15	71	---
	12/14/00	ND(50)	220	**17**	0.63	1.7	1.1	ND(0.5/5)
	05/07/01	ND(200)	3,200	**450**	44	54	66	---
	10/04/01	ND(50)	ND(50)	**3.6**	ND(0.3)	ND(0.3)	ND(0.6)	---
MW-6	03/24/00	470	2,400	**430**	16	340	73	---
	06/09/00	ND(50)	540	**190**	1.2	3.7	4.5	---
	12/14/00	ND(50)	ND(50)	0.51	ND(0.5)	ND(0.5)	0.94	ND(0.5/5)
	05/07/01	ND(50)	ND(50)	**4.4**	ND(0.5)	ND(0.5)	ND(0.5)	---
	10/04/01	ND(50)	ND(50)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.6)	---
MW-7	12/14/00	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5/5)
	05/07/01	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	---
	10/04/01	ND(50)	ND(50)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.6)	---
MW-8	12/14/00	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.52 MTBE***
	05/07/01	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	---
	10/04/01	ND(50)	ND(50)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.6)	---
MCLs		NE	NE	1	100	680	1750	MTBE - 5 ALL OTHER - NE

Notes:
Bold values exceed MCLs
(a) Reporting limit for this monitoring event are elevated 10 times due to matrix interference.
(b) Reporting limit is elevated 100 times due to matrix interference.
(c) Reporting limit is elevated 5 times due to matrix interference.
* Analytical results within quantitation range for diesel; however, chromatographic pattern not typical of fuel
** Analytical results within quantitation range for gasoline; however, chromatographic pattern not typical of fuel
*** Remaining fuel additives were not detected at or above respective laboratory reporting limits
--- Not available/not analyzed
MCL Maximum Contaminant Levels per State Office of Drinking Water Standards
ND Not detected at or above indicated laboratory reporting limit
NE No MCL or Action Level has been established.
TPH-d Total petroleum hydrocarbons as diesel
TPH-g Total petroleum hydrocarbons as gasoline
Fuel Additives include methyl tertiary butyl ether (MTBE), di-isopropyl ether, ethyl tertiary butyl ether, tertiary amyl methyl ether, and tertiary butyl alcohol

TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER FLOW CONDITIONS
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

DATE	WELL ID	GROUNDWATER ELEVATION (feet)	GROUNDWATER FLOW DIRECTION	GROUNDWATER GRADIENT (feet/feet)
12/02/98	MW-1	97.84	W	0.00091
	MW-2	97.83		
	MW-3	97.76		
	MW-4	97.80		
	MW-5	97.63		
03/08/99	MW-1	97.31	SW	0.00086
	MW-2	97.28		
	MW-3	97.10		
	MW-4	97.20		
	MW-5	97.02		
07/01/99	MW-1	96.93	SW	0.0011
	MW-2	96.53		
	MW-3	96.65		
	MW-4	94.77		
	MW-5	96.63		
08/18/99	MW-1	97.12	W	0.0013
	MW-2	96.91		
	MW-3	96.79		
	MW-4	95.00		
	MW-5	96.85		
09/15/99	MW-1	97.05	N*	0.04089*
	MW-2	96.89		
	MW-3	96.74		
	MW-4	95.01	W	0.00125**
	MW-5	96.67		
12/27/99	MW-1	96.93	W**	0.0010**
	MW-2	96.89		
	MW-3	96.58		
	MW-4	94.77	N*	0.0489*
	MW-5	96.74		

TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER FLOW CONDITIONS
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

DATE	WELL ID	GROUNDWATER ELEVATION (feet)	GROUNDWATER FLOW DIRECTION	GROUNDWATER GRADIENT (feet/feet)
03/24/00	MW-2	97.00***	NW	0.0469
	MW-3	96.19		(from MW-2 to MW-4)
	MW-4	94.61		
	MW-5	96.20	WSW	0.0131
	MW-6	97.09		(from MW-6 to area of MW-5)
06/09/00	MW-2	NM	N	0.03 (average)
	MW-3	96.57		(at MW-2, -3 & -4;
	MW-4	94.76		from MW-6 to MW-4)
	MW-5	96.63	SSW	0.0011 (average)
	MW-6	96.71		(from MW-6 to area of MW-5)
12/14/00	MW-2	4.05	N	0.003
	MW-3	3.75		(from MW-2 to MW-4)
	MW-4	3.90		
	MW-5	3.74		
	MW-6	4.06		
	MW-7	4.62	N	0.006
	MW-8	3.58		(from MW-7 to MW-8)
05/07/01	MW-2	3.36	NW	0.0014
	MW-3	3.23		
	MW-4	3.30		
	MW-5	3.32		
	MW-6	3.30		
	MW-7	2.97	NW	0.0025
	MW-8	2.94		(from MW-3 to MW-7)
10/04/01	MW-2	3.45	NW	0.0013
	MW-3	3.33		
	MW-4	3.42		
	MW-5	3.39		
	MW-6	3.48		
	MW-7	3.23	NW	0.001
	MW-8	3.16		(from MW-3 to MW-7)

Notes:

* Flow component between Wells MW-2 and MW-4

** Flow component between Wells MW-2, MW-3,and MW-5

*** Measurement taken 3/29/00

Well MW-1 destroyed 12/27/99

Well MW-6 installed 3/20/00

APPENDIX A

MONITORING WELL PURGING FORMS

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

FIELD REPORT

Project Name: McMorgan - 3rd Quarter Date: 10/4/01
Project Address: _____ Project No: P1389-05-03
Arrival Time: 08:30 Departure: 17:00
TtEMI Personnel: RSchumann, M. Buchalski Signature: _____
Agency (1): _____ Contractor (1): _____
Agency (2): _____ Contractor (2): _____

Purpose of Visit:

___Drilling ___Site Inspection
___Tank Removal/Installation ___O & M Treatment System
X Groundwater Sampling ___Other -

Time:	Description of Activities:
08:30	Arrive at site, meet flush safety, setup traffic control. Health and safety meeting. Mostly Cloudy ~65°F
08:45	Open seven monitoring wells
09:15	measure initial water levels
10:00	Purge & sample mw 8
11:10	Purge & sample mw 7
12:00	Lunch → ~~rain~~ partly cloudy ~ 75°F
13:20	Purge & Sample mw 6
14:00	Purge & Sample mw 4
14:40	Purge & sample mw 2
15:20	purge & Sample mw 3
15:50	Purge & Sample mw 5
16:30	Clean site inspect IDW drums
17:00	Leave site

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - DEPTH

Project Name: McMorgan Date: 10/4/01

Project Address: _____ Project No: P1389-05-03

Personnel: RSchumann, M. Buchalski Signature: _____

Well ID	Time	Casing Elevation	Depth to Product	Depth to Water	Total Depth	GW Elevation
mw-8	0916			5.52	20.32	
mw-3	0923			5.27	16.31	
mw-4	0927			5.08	19.31	
mw-2	0932			5.60	19.30	
mw-6	0937			5.71	15.67	
mw-5	0940			5.45	19.46	
mw-7	0945			4.87	19.74	

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: Mc Morgan Date: 10/4/01

Project Address: _____ Project No: P1389-05-03

Personnel: R Schumann / M Buchalski Signature: Michael Buchalski

Well ID:	MW-2		
Total Well Depth:	19.30	**Circle One:**	**Conversions**
Depth to Liquid Surface:	5.60	**2"ϕ**	**A. 0.163 gal./ft.**
Length of Liquid Column:	13.70	**4"ϕ**	**B. 0.653 gal./ft.**
Conversion Factor:	0.163 gal/ft		
Total Volume in Well:	2.2	**3 Volumes =**	6.6

Vol	Time	Depth	Temp.	mS/cm Conductiv.	pH	DO mg/L ~~Turbidity~~
initial	1440		23 °C	0.90	6.6	7.6
2.4	1445		22	0.97	6.6	7.9
4.4	1451		22	0.95	6.7	8.0
6.6	1457		21	0.92	6.8	8.1
	1500	5.22	Sample collected			

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: Memorgan Date: 10/4/01

Project Address: _____ Project No: P1389-05-03

Personnel: R Schumann / M Buchalski Signature: _____

Well ID:	mw 3		
Total Well Depth:	16.31	**Circle One:**	**Conversions**
Depth to Liquid Surface:	5.27	(2"ϕ)	**A. 0.163 gal./ft.**
Length of Liquid Column:	11.04	4"ϕ	**B. 0.653 gal./ft.**
Conversion Factor:	0.163		
Total Volume in Well:	1.80	**3 Volumes =**	5.4

Vol	Time	Depth	Temp.	Conductiv.	pH	DO ~~Turbidity~~
initial	15:20		23	0.76	6.7	7.7
1.8	15:24		21	0.76	6.7	8.3
3.6 gal	15:28		21	0.73	6.7	8.1
5.4 gal	15:31	4.85'	21	0.69	6.7	8.3
	15:35	Sample collected				

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: McMorgan Date: 10/4/01

Project Address: _____ Project No: P1389-05-03

Personnel: R Schumann / M Buchalski Signature: _____

Well ID:	MW4		
Total Well Depth:	19.31	**Circle One:**	**Conversions**
Depth to Liquid Surface:	5.08	**2"ϕ** (A.)	**0.163 gal./ft.**
Length of Liquid Column:	14.23	**4"ϕ**	**B. 0.653 gal./ft.**
Conversion Factor:	0.163		
Total Volume in Well:	2.32	**3 Volumes =**	6.96

vol	Time	Depth	Temp.°C	Conductiv. (mS/cm)	pH	~~DO~~ ~~Turbidity~~ (mg/L)
initial	14:01		24	1.4	6.8	7.7
2.3gal	14:05		21	1.1	6.7	8.2
4.6	14:10		21	0.76	6.7	8.1
6.9	14:15	4.72	21	0.75	6.7	8.2
	14:20		sample	collected		

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: Mcmorgan Date: 10/4/01

Project Address: _____ Project No: P1389-05-03

Personnel: RSchumann / M. Buchulski Signature: _____

Well ID:	MW 5		
Total Well Depth:	19.46	**Circle One:**	**Conversions**
Depth to Liquid Surface:	5.45	**2"ϕ**	**A. 0.163 gal./ft.**
Length of Liquid Column:	14.01	**4"ϕ**	**B. 0.653 gal./ft.**
Conversion Factor:	0.163		
Total Volume in Well:	2.28	**3 Volumes =**	6.84

001

Time	Depth	Temp.	Conductiv.	pH	ΔTurbidity
initial 15:51		22	0.90	6.6	7.6
3.00 15:55		21	0.88	6.7	7.9
5.30 15:58		21	0.85	6.7	8.1
7.58 16:02	5.11	21	0.81	6.7	8.0
16:05		sample	collected		

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: memorgan Date: 10/4/01

Project Address: _____ Project No: P1389-0503

Personnel: R. Schumann / M Buchalski Signature: _____

Well ID:	MW6		
Total Well Depth:	15.67	**Circle One:**	**Conversions**
Depth to Liquid Surface:	5.71	(2"ϕ)	**A. 0.163 gal./ft.**
Length of Liquid Column:	9.96	4"ϕ	**B. 0.653 gal./ft.**
Conversion Factor:	0.163		
Total Volume in Well:	1.68	**3 Volumes =**	5.01

Time	Depth	Temp. °C	Conductiv. ms/cm	pH	DO mg/L ~~Turbidity~~
13:25		23	0.76	6.9	8.4
13:29		21	0.75	6.8	8.6
13:32		20	0.75	6.9	8.7
13:35	5.46				
13:40	Sample collected				

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: mcmorgan Date: 10/4/01

Project Address: _____ Project No: P1389.0503

Personnel: Rschumann / M. Buchalski Signature: _____

Well ID:	MW7		
Total Well Depth:	19.74	**Circle One:**	**Conversions**
Depth to Liquid Surface:	4.87	(2"ϕ)	**A. 0.163 gal./ft.**
Length of Liquid Column:		4"ϕ	**B. 0.653 gal./ft.**
Conversion Factor:	0.163		
Total Volume in Well:	2.42	**3 Volumes =**	7.23

VOL	Time	Depth	Temp.	Conductiv.	pH	~~Turbidity~~	D.O
initial	11:10		23 °C	1.3 ms/cm	6.8		7.7
2.5	1121		21 °C	0.99	6.8		8.5
5.0	1127		21	0.89	6.9		8.7
7.6	1133		21	0.87	6.8		8.7
7.9	1134	4.72	Sample	Collected			

Tetra Tech EM, Inc.
10670 White Rock Road, #100
Rancho Cordova, CA 95670
916.852.8300
916,853.4550 fax

HYDROLOGIC DATA SHEET - PURGING DATA

Project Name: mcmorgan Date: 10/4/01
Project Address: _____ Project No: P1389-05-03
Personnel: R. Schumann m Burchdsk. Signature: _____

Well ID:	mw 8		
Total Well Depth:	20.32'	**Circle One:**	**Conversions**
Depth to Liquid Surface:	5.51'	(2"ϕ)	**A. 0.163 gal./ft.**
Length of Liquid Column:	14.81'	4"ϕ	**B. 0.653 gal./ft.**
Conversion Factor:	0.163 gal/ft		
Total Volume in Wel:	2.41 gal	**3 Volumes =**	7.23

001

Time	Depth	Temp. °C	Conductiv. ms/cm	pH	Turbidity	D.O mg/L
initial 10:16	5.51	21	2.0	6.6	~~620~~	8.4
2.1 gal 10:20		21	2.1	6.6	~~30~~	8.6
5.8 gal 10:27		20	1.8	6.8	—	8.7
7.3 gal 10:32		20	1.7	6.7	—	8.7
10:33	5.46	sample collected		—		

Sheet __ of __

APPENDIX B

LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY FORMS

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

10/19/2001

Tetra Tech
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Attention: **Walter Kim**

Reference: **Analytical Results**

Project Name: **McMorgan**
Project No.: **P1389-05-03**
Date Received: **10/05/2001**
Chain Of Custody: **5022**

CLS ID No.: **T2141**
CLS Job No.: **842141**

The following analyses were performed on the above referenced project:

No. of Samples	*Turnaround Time*	*Analysis Description*
7	10 Days	TPH Diesel by DHS Method - M8015 (water)
7	10 Days	TPH Gasoline and BTXE (water)

Although sample MW-2 - 100401 was found to contain compounds in the retention time range generally associated with Diesel, the chromatogram for this sample was not consistent with the expected chromatographic pattern or "fingerprint." However, the reported concentration is based on Diesel calibration.

These samples were received by CLS Labs in a chilled, intact state and accompanied by a valid chain of custody document.

Calibrations for analytical testing have been performed in accordance to and pass the EPA's criteria for acceptability.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **TPH Diesel by DHS Method - M8015 (Water)**

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **10/08/2001**
Date Analyzed: **10/09/2001**
Date Reported: **10/10/2001**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **E02243**
Instrument ID: **PGC04**
Analyst ID: **NGOCDUNG**
Matrix: **WATER**

ANALYTICAL RESULTS

Lab / Client ID Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
1B / MW-8-100401				
TPH as Diesel	N/A	ND	0.050	1.0
2B / MW-7-100401				
TPH as Diesel	N/A	ND	0.050	1.0
3B / MW-6-100401				
TPH as Diesel	N/A	ND	0.050	1.0
4B / MW-4-100401				
TPH as Diesel	N/A	ND	0.050	1.0
5B / MW-2-100401				
TPH as Diesel	N/A	0.17	0.050	1.0
6B / MW-3-100401				
TPH as Diesel	N/A	ND	0.050	1.0
7B / MW-5-100401				
TPH as Diesel	N/A	ND	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-8-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-1A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	21.1	20.0	105	72	132

MW-8-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	ND	0.30	1.0
Toluene	108883	ND	0.30	1.0
Ethylbenzene	100414	ND	0.30	1.0
Xylenes, total	1330207	ND	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-7-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-2A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	21.0	20.0	105	72	132

MW-7-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	ND	0.30	1.0
Toluene	108883	ND	0.30	1.0
Ethylbenzene	100414	ND	0.30	1.0
Xylenes, total	1330207	ND	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-6-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-3A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	21.2	20.0	106	72	132

MW-6-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	ND	0.30	1.0
Toluene	108883	ND	0.30	1.0
Ethylbenzene	100414	ND	0.30	1.0
Xylenes, total	1330207	ND	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-4-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-4A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	21.3	20.0	107	72	132

MW-4-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	21	0.30	1.0
Toluene	108883	ND	0.30	1.0
Ethylbenzene	100414	ND	0.30	1.0
Xylenes, total	1330207	ND	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-5-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-7A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	20.6	20.0	103	72	132

MW-5-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	3.6	0.30	1.0
Toluene	108883	ND	0.30	1.0
Ethylbenzene	100414	ND	0.30	1.0
Xylenes, total	1330207	ND	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-2-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-5A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	20.4	20.0	102	72	132

MW-2-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	55	3.0	10
Toluene	108883	2.8	0.30	1.0
Ethylbenzene	100414	17	0.30	1.0
Xylenes, total	1330207	4.2	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES
Environmental Chemistry

Analysis Report: **BTEX, EPA Method 602**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-3-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-6A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (ug/L)	Surr Conc. (ug/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	19.7	20.0	99	72	132

MW-3-100401

Analyte	CAS No.	Results (ug/L)	Rep. Limit (ug/L)	Dilution (factor)
Benzene	71432	45	0.30	1.0
Toluene	108883	ND	0.30	1.0
Ethylbenzene	100414	1.3	0.30	1.0
Xylenes, total	1330207	ND	0.60	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-8-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-1A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0187	0.0200	94	70	130

MW-8-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	ND	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES
Environmental Chemistry

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-7-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-2A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0192	0.0200	96	70	130

MW-7-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	ND	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-6-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-3A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0189	0.0200	94	70	130

MW-6-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	ND	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-5-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-7A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0208	0.0200	104	70	130

MW-5-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	ND	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-4-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-4A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0231	0.0200	115	70	130

MW-4-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	0.076	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-3-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-6A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0247	0.0200	124	70	130

MW-3-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	0.14	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

CALIFORNIA LABORATORY SERVICES

Environmental Chemistry

Analysis Report: **Total Petroleum Hydrocarbons, EPA Method 8015**
Purge and Trap, EPA Method 5030

Client: **Tetra Tech**
10670 White Rock Road
Suite 100
Rancho Cordova, CA 95670

Project: **McMorgan**

Date Sampled: **10/04/2001**
Date Received: **10/05/2001**
Date Extracted: **N/A**
Date Analyzed: **10/08/2001**
Date Reported: **10/11/2001**
Client ID No.: **MW-2-100401**

Project No.: **P1389-05-03**
Contact: **Walter Kim**
Phone: **(916)352-8300**

Lab Contact: **James Liang**
Lab ID No.: **T2141-5A**
Job No.: **842141**
COC Log No.: **5022**
Batch No.: **31770**
Instrument ID: **GC007**
Analyst ID: **JENNDC**
Matrix: **WATER**

SURROGATE

Analyte	CAS No.	Results (mg/L)	Surr Conc. (mg/L)	Surrogate Recovery (percent)	Lower Spec (Limit)	Upper Spec (Limit)
o-Chlorotoluene	95498	0.0231	0.0200	116	70	130

MW-2-100401

Analyte	CAS No.	Results (mg/L)	Rep. Limit (mg/L)	Dilution (factor)
TPH as Gasoline	N/A	0.37	0.050	1.0

ND = Not detected at or above indicated Reporting Limit

CHAIN OF CUSTODY RECORD

Tetra Tech EM Inc.
10670 White Rock Road, Suite 100
Rancho Cordova, CA 95670
(916) 852-8300 FAX (916) 852-8397

DATE: 10/5/01
CHAIN OF CUSTODY NUMBER: No. 3022
LABORATORY NUMBER:
PAGE 1 OF 1

PROJECT NAME: McMorgan	PROJECT MANAGER: Walter Kim
PROJECT NUMBER: P1389-05-03	TELEPHONE NUMBER: 916-853-4500
PROJECT LOCATION:	DESTINATION LABORATORY: CLS
SAMPLER(S): R. Schumann/M. Buchalski	ADDRESS:
SAMPLER SIGNATURE(S):	CITY STATE ZIP:
SITE CONTACT/ TELEPHONE NUMBER:	LABORATORY TELEPHONE NUMBER:

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE	TIME	MATRIX TYPE	NO./TYPE OF CONTAINERS	TURN AROUND TIME	TPH-g/BTEX	TPH-d								REMARKS (GRAB, COMPOSITE, ETC.)
mw8-100401	10/4/01	10:33	H_2O	1-1L 4-Voa	stnd	X	X								2wk TAT
mw7-100401	10/4/01	11:25	H_2O			X	X								
mw6-100401	10/4/01	1342				X	X								
mw4-100401		1420				X	X								
mw2-100401		1500				X	X								
mw3-100401						X	X								
mw5-100401	↓		↓	↓	↓	↓	X								

SHIPPED VIA:
AIRBILL #:

SPECIAL INSTRUCTIONS:

RELINQUISHED BY (SIGNATURE)	PRINT NAME/ COMPANY	DATE	TIME	RECEIVED BY (SIGNATURE)	PRINT NAME/ COMPANY	DATE	TIME
	Rob Schumann/ Tt EM	10/5/01	11:55				
				RECEIVED AT LAB BY (PRINT AND SIGN):		10/5	1155

DISTRIBUTION: WHITE = LABORATORY YELLOW = PROJECT MANAGER PINK = FILE

Tetra Tech EM Inc.

10670 White Rock Road, Suite 100 ♦ Rancho Cordova, CA 95670 ♦ (916) 852-8300 ♦ FAX (916) 852-0307

May 3, 2001
Via Facsimile and US Mail

Mr. Barney M. Chan
Alameda County, Health Care Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: 444 Hegenberger Loop, Oakland, CA
Tetra Tech EM Inc. Project Number P1389

Dear Mr. Chan:

Thank you for taking the time to meet with me and the representatives of McMorgan & Company, Mr. Patrick Murray and Ms. Mary Schroeder. We appreciated your comments and recommendations concerning the ongoing site investigation and proposed sale and development of the referenced property. Based on our meeting of Friday, April 27, 2001 we came away with the understanding that one or two additional quarterly groundwater monitoring of all existing wells should be conducted and that based on trends associated with target contaminants, a Risk-Based Corrective Action analyses should be conducted using the American Society for Testing and Materials standards.

You mentioned that based on current information from site investigations, the lack of beneficial use of the underlying aquifer, lack of nearby sensitive receptors, and the proposed likely use as a hotel that closure would be likely and eminent. You further commented that although your office will be the initial reviewer of any closure request, that the California Regional Water Quality Control Board has the final authorization for site closure. We understand that as a condition of closure, a risk management plan may be required for the site and should the site be developed, a site health and safety plan and engineering controls may also be required.

As I informed you at our meeting, I have scheduled the next quarterly groundwater monitoring to take place on Monday, May 7, 2001. Should you have any questions or if I can be of further assistance, please do not hesitate to contact me at 916.853.4505.

Sincerely,

Walter H. Kim
Program Manager

WHK:mak/Meeting Minutes of 042701

cc: Mr. Patrick Murray, McMorgan & Company