Tetra Tech EM Inc.

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

February 27, 2002
Via Federal Express

5814
no soil evaluation?

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

Re: Preliminary Tier 2 Risk-Based Corrective Action Evaluation, February 2002
McMorgan & Company Loop
444 Hegenberger ~~Road,~~ Oakland, California
Tetra Tech EM Inc. Project No. P1389-01

Dear Mr. Chan:

Tetra Tech EM Inc. (Tetra Tech) is pleased to submit on behalf of McMorgan & Company, the results of a Preliminary Tier 2 Risk-Based Corrective Action (RBCA) evaluation for the subject site. The evaluation was conducted pursuant to a meeting on April 27, 2001, between McMorgan & Company, Tetra Tech and yourself to determine whether McMorgan & Company should petition the Alameda County, Health Care Services Agency for closure of the subject site. Your prompt response is requested due to the pending sale of the property.

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

Walter H. Kim
Program Manager

Enclosures: Oakland RBCA Cover Sheet
Preliminary Tier 2 RBCA Evaluation

cc: Ms. Mary Schroeder, McMorgan & Company

Oakland RBCA Cover Sheet

Project Proponent: McMorgan & Company
Site Address: 444 Hegenberger Rd
Alameda County Parcel Number(s): 044-5076-007-02

Chemicals of Concern		
(1) Benzene	(4) Total Xylenes	(7)
(2) Toluene	(5)	(8)
(3) Ethylbenzene	(6)	(9)

Exposure Pathways of Concern

Surficial Soil
- ☐ Ingestion/dermal contact/inhalation

Subsurface Soil
- ☐ Ingestion of groundwater impacted by leachate
- ☐ Inhalation of indoor air vapors
- ☐ Inhalation of outdoor air vapors

Groundwater
- ☐ Ingestion of groundwater
- ☒ Inhalation of indoor air vapors
- ☒ Inhalation of outdoor air vapors

Water Used for Recreation
- ☐ Ingestion/dermal contact

Land Use Scenario

☐ Residential ☒ Commercial/Industrial

Method of Analysis

☐ Tier 1
☒ Tier 2 (specify soil type: ☐ Merritt sands ☐ sandy silts ☒ clayey silts)
☐ Tier 3 Model(s) employed: ☒ Oakland RBCA ☐ Other(s) (specify:)

Application of RBCA Levels

☒ As evidence that no further action required
☐ As target cleanup levels for removal or treatment of chemical(s) of concern
☐ Other (specify:)

Containment Measures

☒ Cap (specify material: Asphaltic Concrete Paving Proposed) ☐ Vapor barrier (specify material:)
☐ Other(s) (specify:)
Exposure pathways that will be affected:

Institutional Controls

☐ Permit tracking ☒ Deed restriction ☒ Deed Notice ☐ Water well restriction
☐ Access control ☐ Other(s) (specify:)

Public Notification

Specify all actions to be taken:

Submitted by: Tetra Tech EM Inc. on behalf of McMorgan & Company **Date submitted:** 2/19/02

Tetra Tech EM Inc.

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

February 11, 2002
Via Federal Express

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

Subject: **Preliminary Tier 2 Risk-Based Corrective Action Evaluation, February 2002**
McMorgan & Company Loop
444 Hegenberger Road, Oakland, California
Tetra Tech EM Inc. Project No. P1389-01

Dear Mr. Murray:

Tetra Tech EM Inc. (Tetra Tech) is pleased to submit to McMorgan & Company the results of a Preliminary Tier 2 Risk-Based Corrective Action (RBCA) evaluation for the subject site (Figures 1 and 2) using the "Oakland Urban Land Redevelopment Program Guidance Document (Guidance)," issued by the City of Oakland Public Works Agency (PWA) (PWA 2000). The evaluation was conducted pursuant to a meeting on April 27, 2001, between McMorgan & Company, Tetra Tech and Mr. Barney Chan of the Alameda County Health Care Services Agency (ACHCSA) to determine whether McMorgan & Company should petition the ACHCSA for closure of the subject site (Attachment 1).

SITE BACKGROUND

The subject site is located in northwestern Alameda County, approximately ¼ mile south of the Interstate 880-Hegenberger Road interchange and approximately 1 mile northeast of the Oakland International Airport (Figure 1). The unpaved site occupies a rectangular-shaped parcel (Assessor's Parcel Number [redacted]) that is situated in the northeast corner of the intersection of Hegenberger Road and Hegenberger Loop (Figure 2). The southwest portion of the subject site was previously occupied by a retail gasoline service station.

PREVIOUS INVESTIGATIONS

A series of soil and groundwater investigations have been conducted at the subject site since 1997. A site assessment in April 1997 indicated the presence of petroleum hydrocarbons in soils and groundwater beneath the site (Tetra Tech 2000).

A supplemental assessment of soil and groundwater in November 1998 resulted in the installation of five, 2-inch-diameter groundwater-monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5), each with perforated casing set between 5 and 20 feet below ground surface (bgs) (Tetra Tech 2000).

Monitoring Well MW-1 was destroyed in December 1999 in accordance with ACHCSA guidelines (E_2C 2000a). In addition, Monitoring 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.

On December 12, 2000, Tetra Tech supervised the drilling and installation of off-site groundwater monitoring wells MW-7 and MW-8 (Figure 2).

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 site's active wells, now expanded to include off-site wells MW-7 and MW-8. Historic DTW measurements are summarized in Table 1.

The most recent quarterly groundwater monitoring took place on October 4, 2001. Analysis of the groundwater samples collected from the seven wells indicated that concentrations of total petroleum hydrocarbons (TPH) as diesel (TPH-d) were detected in the sample collected from MW-2 and TPH as gasoline (TPH-g) and/or benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in the samples collected from MW-2, MW-3, MW-4, and MW-5. Neither TPH-g nor BTEX compounds were detected in the samples collected from MW-6, MW-7 and MW-8. Historic groundwater sample analytical results are summarized in Table 2.

The October 2001 quarterly groundwater monitoring report (Tetra Tech 2001) concluded the following:

- Petroleum hydrocarbons have not migrated to the locations of the wells across Hegenberger Loop or Hegenberger Road (MW-7 and MW-8).
- A plume of hydrocarbons, including TPH-d, TPH-g and BTEX, remains beneath the northwest corner of the site.
- The plume continues to impact 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 MW-2, MW-3, MW-4, MW-5, and MW-6.
- The concentration of TPH-g has decreased in MW-2, MW-3, MW-4, and MW-5.

GROUNDWATER

Groundwater is encountered approximately 5 feet bgs. Based on data collected in October 2001 and the interpretation shown on Figure 3, 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 (Tetra Tech 2001).

TIER 1 RISK-BASED CORRECTIVE ACTION EVALUATION

A Tier 1 RBCA evaluation was previously conducted to evaluate the impact to the health of on-site workers resulting from petroleum hydrocarbon constituents beneath the subject site (E_2C 2000b). Four constituents of concern (COCs) were detected in the groundwater and include the following:

- Benzene
- Toluene
- Ethylbenzene
- Total Xylenes
- VOCs, PAHs

Three exposure pathways were identified in the Tier 1 RBCA as follows:

- dermal, ingestion & volatilization from surface soil

- Ingestion of groundwater
- Volatilization to outdoor air from groundwater + soil
- Volatilization to indoor air from groundwater + soil

The COCs were compared to Tier 1 Commercial Risk-Based Screening Levels (RBSLs) for each identified exposure pathway. Concentrations of the identified COCs exceeded the RBSLs and a Tier 2 RBCA was recommended (E_2C 2000b).

PRELIMINARY TIER 2 RISK-BASED CORRECTIVE ACTION EVALUATION

Based on the recommendations resulting from the Tier 1 RBCA evaluation, the October 2001 groundwater monitoring report (Tetra Tech 2001), and the PWA Guidance, Tetra Tech conducted a Preliminary Tier 2 RBCA evaluation. The Preliminary Tier 2 RBCA identified site-specific information such as COCs, underlying soil type, and exposure pathways.

RESULTS OF PRELIMINARY TIER 2 RBCA EVALUATION

Constituents of Concern

Based on results of past quarterly groundwater monitoring (Tetra Tech 2001), benzene, toluene, ethylbenzene, and total xylenes were identified as the COCs for the Preliminary Tier 2 evaluation.

Soil Type

The PWA Guidance classifies the following three possible subsurface soil categories for sites in their jurisdiction: (1) Merritt Sands, (2) Sandy Silts, or (3) Clayey Silts. In a Preliminary Tier 2 RBCA evaluation, subsurface soil conditions are evaluated and placed into one of these three categories.

The subsurface at the subject site, to approximately 20 feet bgs, generally consists of clay, gravelly clay, silty clay, and gravelly sand, interpreted as artificial fill. Based on a review of available boring logs (Appendix A), the subsurface at the subject site was placed into the "Clayey Silts" category.

Exposure Pathways

Two exposure pathways were identified in the Preliminary Tier 2 RBCA evaluation: (1) volatilization of constituents to outdoor air from groundwater, and (2) volatilization of constituents to indoor air from groundwater. Ingestion of groundwater was not considered in the Preliminary Tier 2 RBCA evaluation because (1) the close proximity of the site to the San Francisco Bay precludes the use of groundwater as a potable water source and (2) all water needs for future reuse of the subject site will be from the municipal water supply, not wells.

Site-Specific Target Levels (SSTLs) for soil and groundwater cleanup goals were determined by cross-referencing each COC with the identified exposure pathways and the appropriate subsurface soil type. Table 3 shows the SSTLs for the COCs and exposure pathways for Clayey Silts for the subject site.

CONCLUSION

- The Preliminary Tier 2 RBCA evaluation indicates that there are no exceedances of SSTLs at the subject site.

RECOMMENDATIONS

Based on the results of the Preliminary Tier 2 RBCA evaluation and pursuant to the April 27, 2001, meeting with the ACHCSA, Tetra Tech recommends the following:

- Quarterly groundwater monitoring at the subject site should be discontinued.

- McMorgan & Company should petition the ACHCSA and the State Water Resources Control Board (SWRCB) for site closure.
- Additional conditions, as may be applicable, stemming from the April 27, 2001 meeting with the ACHCSA (Attachment 1) should be observed.
- Upon the granting of site closure by the SWRCB, the seven active groundwater monitoring wells at the project site should be destroyed in accordance with ACHCSA guidelines.

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 with 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.

Sincerely,

TETRA TECH EM INC.

Robert Schumann
Staff Geologist

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

Attachments

cc: B. M. Chan, ACHCSA
W. H. Kim, Tetra Tech

REFERENCES

E_2C. 2000a. *Quarterly Groundwater Monitoring First Quarter 2000.* April.

E_2C. 2000b. *Risk-Based Corrective Action Evaluation.* May.

PWA. 2000. *Oakland Urban Land Redevelopment Program Guidance Document.* City of Oakland Public Works Agency (PWA). January.

Tetra Tech. 2000. *Work plan for Additional Environmental Investigation.* July.

Tetra Tech. 2001. *Third Quarter Groundwater Monitoring Report October 2001.* December.

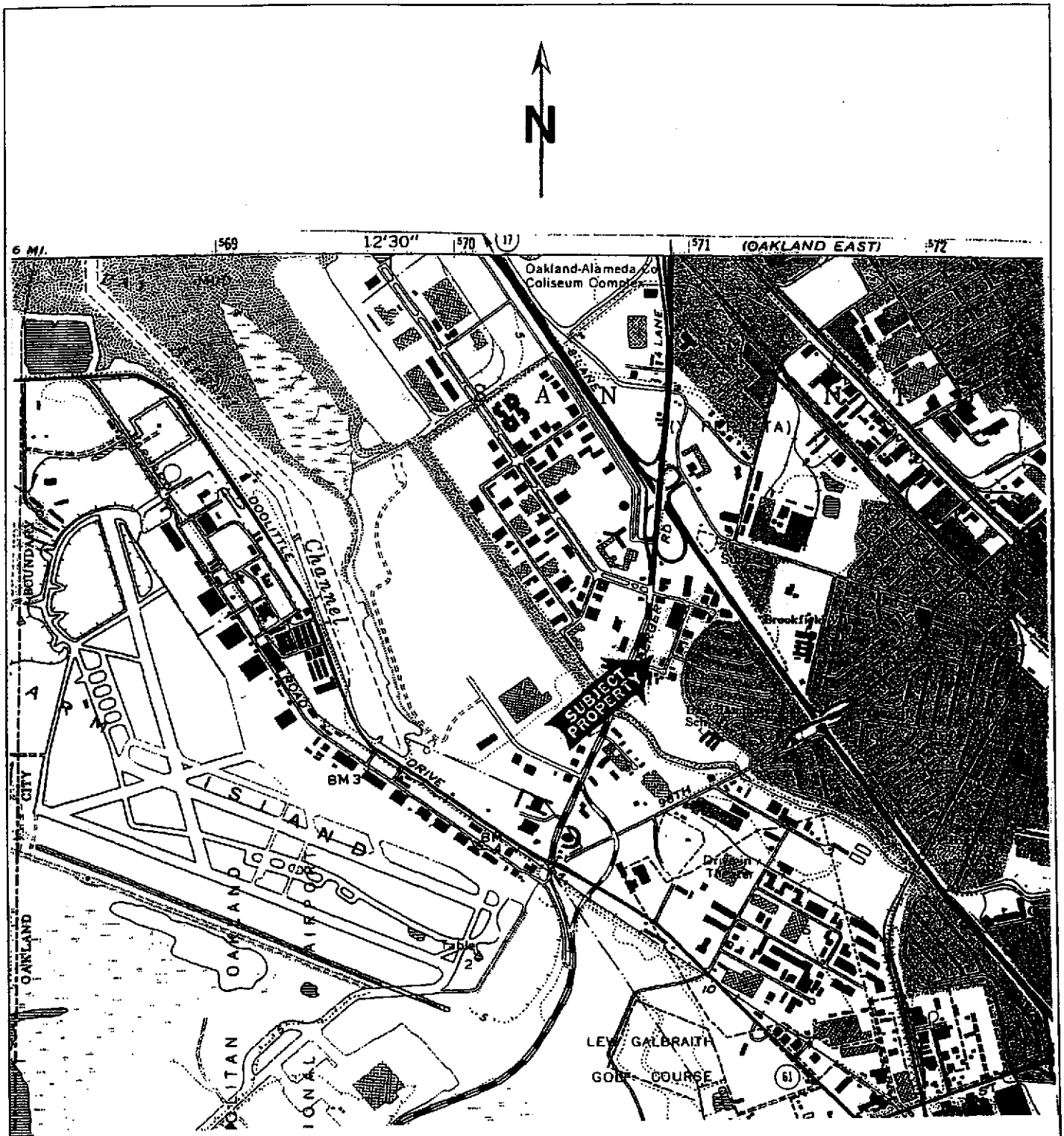


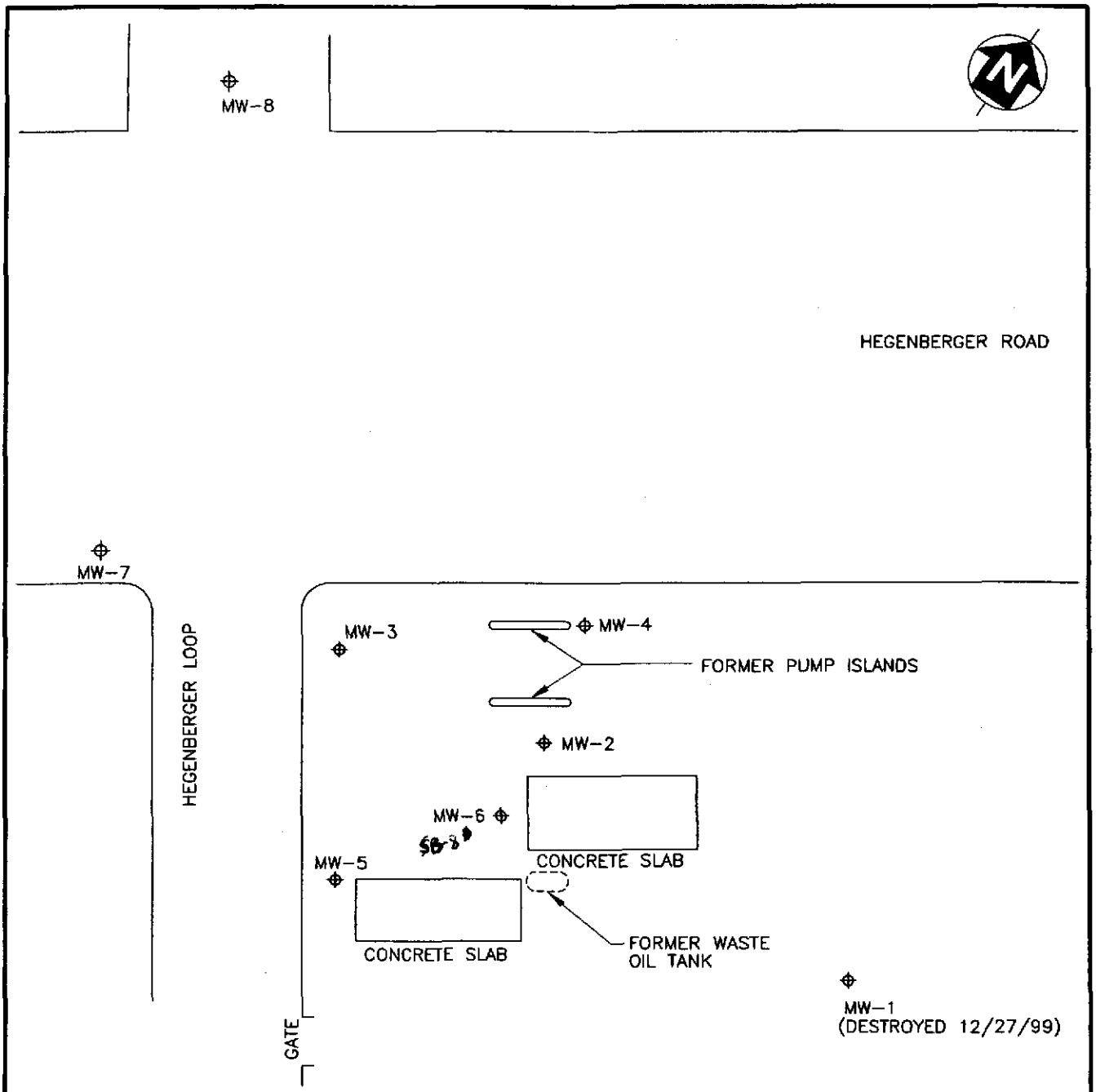
Figure 1 - SITE MAP

Tetra Tech EM Inc.
10670 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

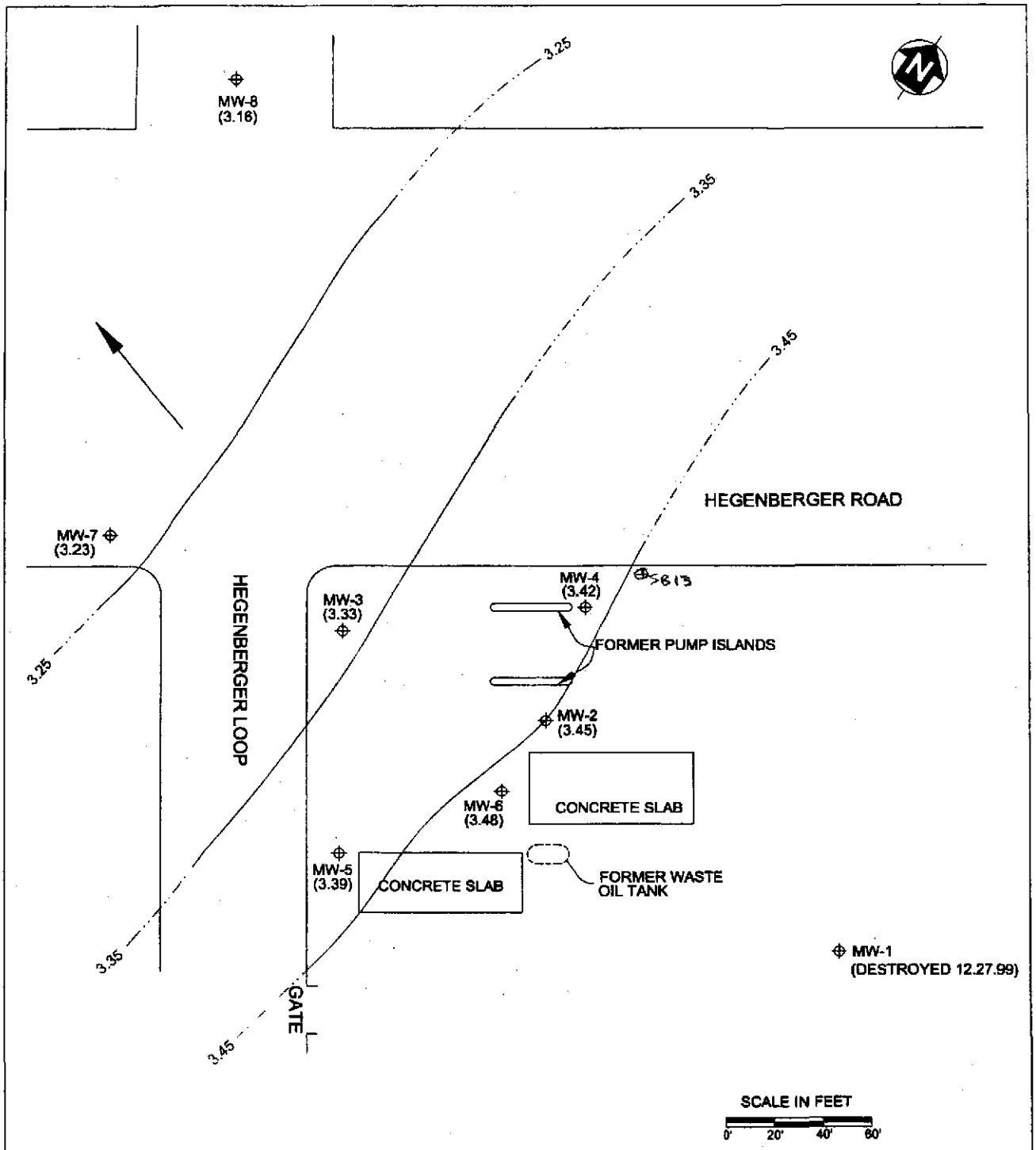


444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

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.

P:\Clients\OAKLAND_fig3_hegen.dwg 12/03/2001 marianne.turenek DN

TABLE 1

HISTORIC 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

HISTORIC 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
HISTORIC 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
HISTORIC 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
OAKLAND TIER 2 SITE SPECIFIC TARGET LEVELS FOR CLAYEY SILTS
444 HEGENBERGER ROAD
OAKLAND, CALIFORNIA
(Page 1 of 1)

Medium	Exposure Pathway	LU and Use	Type of Risk	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES
Groundwater [mg/l]	Inhalation of Indoor Air Vapors	Residential	Carcinogenic	5.60E+00			
			Hazard	1.90E+01	> SOL	> SOL	> SOL
		Commercial/Industrial	Carcinogenic	8.90E+01			
			Hazard	5.40E+02	> SOL	> SOL	> SOL
	Inhalation of Outdoor Air Vapors	Residential	Carcinogenic	> SOL			
			Hazard	> SOL	> SOL	> SOL	> SOL
		Commercial/Industrial	Carcinogenic	> SOL			
			Hazard	> SOL	> SOL	> SOL	> SOL

Notes:

mg/L = milligrams per Liter

> SOL = RBSL exceeds solubility of chemical in water

RBSL = Risk-Based Screening Levels

Derived from *Oakland Urban Land Redevelopment Program Guidance Document*.
City of Oakland Public Works Agency [PWA], January 2000

NORTHWEST
ENVIROCON, INC.
1828 TRIBUTE ROAD, SUITE A
SACRAMENTO, CA. 95815
(916) 649-3570 FAX: (916) 649-3819

BORING LOG

PROJECT NAME: 444 HEGENBERGER LOOP
PROJECT NUMBER: 05-001594
SOIL BORING ☐ MONITORING WELL ☒ ☐

BORING NO.: MW2
SHEET 1 of 1

PROJECT LOCATION: 444 HEGENBERGER LOOP, OAKLAND, CA		START DATE: 11/23/98	COMPLETION DATE: 11/23/98
		COMPLETED DEPTH (FEET): 20	GROUNDWATER DEPTH (FEET): 17-ENCOUNTERED
DRILLING CONTRACTOR: WEEKS DRILLING/PUMP	DRILLER: RICHARD LARSEN	WELL CONSTRUCTION	
DRILLING EQUIPMENT: HSA-MOBILE	BORING DIAMETER: 8"Ø	TYPE AND DIAMETER OF WELL CASING: 2-INCH Ø SCHEDULE 40 PVC/FLUSH-THREADED	
SAMPLING METHOD: California Modified ☒ Hand Auger ☐ Geoprobe ☐		SLOT SIZE: 0.020-INCH	FILTER MATERIAL: MONTEREY 2/12
LOGGED BY: MHS	BACKFILL MATERIAL:	WELL DEPTH: 20FT	PERFORATED INTERVAL: 5-20FT

TIME	DESCRIPTION	BLOW COUNTS	SAMPLE	UCSC SOIL TYPE	PID/FID READINGS OVA (ppm)	REMARKS
	0.3' A/C **0.3' - 2.0' SAND W/CLAY.** SP/SC. 7.5YR4/6. POORLY GRADED, MED/SUBROUNDED, PLASTIC CLAY/SOFT, MOIST, SL. ODOR. **2.0' - 3.5' CLAY.** CL. 5Y4/2. MOIST/PLASTIC/SOFT, ODOR			SP/SC CL	4.4	AGGREGATE BASE
1306	**3.5' - 8.5' GRAVELLY CLAY.** GC. 5Y4/2. FINE/SUBROUNDED, PLASTIC CLAY/SOFT, STRONG ODOR	3 7 5	■	GC GC	321	MW1 3.5'-5.0'
1315	**8.5' - 13.5' CLAY.** CL. 2.5Y2/0, MOIST, PLASTIC, SOFT, ODOR	1 2 1	■	CL CL	626	MW1 8.5'-10.0'
1324	**13.5' - 18.5' SILTY CLAY.** CL. 5B4/1, MOIST, MOD. PLASTIC, STIFF, NO ODOR	3 7 5	■	CL CL	0.2	MW1 13.5'-15.0' SATURATED @ 17'
1334	**18.5' - 20.0' GRAVELLY SAND.** GW. 2.5Y/6, FINE GRAIN/SUBROUNDED, MED-COARSE SAND/SUBROUNDED, SATURATED, NO CEMENTATION, NO ODOR. 3-5% GRAVEL, 40-50% SAND, 40-50% COARSE SAND		NS	GW	0.0	NO SAMPLE- BARREL EMPTY
1350						TD@20FT

DEPTH (FEET): 0, 5, 10, 15, 20, 25

LITHOLOGY

WELL

DATE: 12/12/00

PRC LITHOLOGIC BORING LOG

SHEET 1 OF 1

SITE ID: 444 Hagenbarger Rd BORING ID: MW-7

CHARGE NO.: P1389004

LOGGED BY: M. Buchalski

SYMBOLS:
≡ Well Screen Int.
⊽ Static water level
* Staining / Odor

CONTACTS:
— Distinct
---- Inferred
\ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE RECOVERY	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
										Asphalt Gravel (Base Rock), dark yellowish brown (10YR4/6) moist, gravel up to 2 inch, few clay, dense, no odor
			0	1		5		CH		
121200001	1105			1						Clay (CH), Black (2.5/N), moist, very plastic, very soft, no odor
				2						
			0	4		10		CL		
121200-02	1110			8						Silty clay (CL), dark greenish gray (10Y4/1), dry to moist, medium plasticity, medium stiff, no odor
				11						
						15				
			0	14				GP		Sandy gravel (GP), olive brown (2.5Y4/4), saturated, some clay, sand coarse to fine grained, gravel up to 1.5 inch, loose, no odor
121200-03	1115			18						
				20						
								SP		Poorly graded sand (SP), olive brown (2.5Y4/4), saturated, some gravel up to 3/4 inch, loose, no odor
121200-04	1130		0	0		20				
										Bottom of boring

DATE: 12/12/00

PRC LITHOLOGIC BORING LOG

SHEET 1 OF 1

SITE ID: 444 Hegenberger Rd BORING ID: MW-8

CHARGE NO.:

LOGGED BY: M. Buchalski

SYMBOLS: ≡ Well Screen Int. ∓ Static water level * Staining / Odor

CONTACTS: — Distinct --- Inferred \ Gradational

SAMPLE ID	SAMPLE TIME	SAMPLE DIRECTION	PID-SAMPLE (ppm)	BLOW COUNT / 6-IN	Inches Recovered	DEPTH (ft bgs)	GRAPHIC	USCS SOIL TYPE	Well Screen Detail	
										Asphalt
										Fill material, clay with sand and gravel, very dark grayish brown (10YR 3/2), moist, gravel up to 1.5 inch
				2		5		CL		
			⊙	1						Silty clay (CL), dark greenish gray (10Y 3/1), saturated, extremely soft, low plasticity, no odor, Bay Mud
121200-05	1345			1						
				2		10		CH		
			⊙	3						Clay (CH), black (2.5/N), moist, few silt, some organic material, stiff, medium plasticity, hackery fracture, no odor
121200-06	1352			6						
						15		GP		
			⊙	10						Sandy gravel (GP), olive brown (2.5Y4/4), saturated, some clay, sand coarse to fine grained, gravel up to 2 inch, loose, no odor
121200-07	1405			20						
						20		SP		Poorly graded sand (SP), olive brown (2.5Y4/4), saturated, trace gravel, loose, no odor
121200-08	1415		⊙	16						
										Bottom of boring

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