



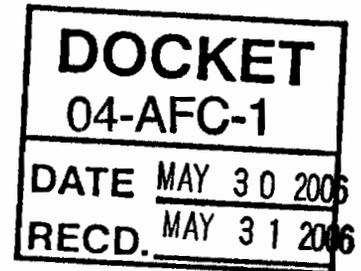
CH2MHILL

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833
Tel 916.920.0300
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May 30, 2006

184288

Mr. William Pfanner
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814-5504



RE: Final Field Investigation Summary Report
San Francisco Electric Reliability Project (04-AFC-1)

Dear Bill:

Please find attached 12 copies and one original of the "Final Field Investigation Summary Report." Copies of the report are being filed both electronically and in hard copy.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Program Manager

c: Project File
Proof of Service List



SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 9th Floor, San Francisco, CA 94103 • Tel. (415) 554-0725 • Fax (415) 554-3181 • TTY (415) 554.1854



May 30, 2006

Ms. Nancy Katyl
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

GAVIN NEWSOM
MAYOR

RICHARD SKLAR
PRESIDENT

RYAN L. BROOKS
VICE PRESIDENT

E. DENNIS NORMANDY
ANN MOLLER CAEN
ADAM WERBACH

SUSAN LEAL
GENERAL MANAGER

Subject: Final Field Investigation Summary Report, SFERP Site, San Francisco, California

Dear Nancy:

Enclosed is CH2M Hill's Final Field Investigation Summary report of May 26, 2006, which details the February 2006 environmental investigation of the SFERP proposed power plant site, located in the Potrero District of San Francisco.

The final report has been revised to address your April 14, 2006 comments on the Draft Field Investigation Report (March 30, 2006) and incorporate Tom Lae's (CH2M Hill) April 21, 2006 response to your comments. The comments and responses are attached to this report as Attachment C.

We are now moving forward to identify and implement specific remedial and/or remedial risk management measures, which, with the Regional Water Quality Control Board's approval, will be applied to the site.

Please call me if you have any questions.

Sincerely,

Randall D. Smith
Utility Specialist
Power Enterprise

**San Francisco Electric Reliability
Project (SFERP)
(04-AFC-1)**

Final Field Investigation Summary Report

Submitted by
The City and County of San Francisco

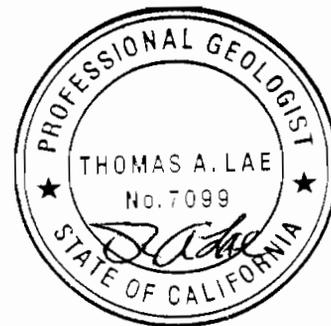
May 26, 2006



CH2MHILL

San Francisco Electric Reliability Project (SFERP) (04-AFC-1)

Final Field Investigation Summary Report



This report was prepared under the supervision of a California Professional Geologist

Thomas A. Lae, PG 7099

CH2MHILL

Final Field Investigation Summary Report – SFERP Site

1.0 Introduction

This final field investigation summary report presents the sampling results of an investigation conducted by CH2M HILL on behalf of the City and County of San Francisco (the City or CCSF) at the proposed San Francisco Electric Reliability Project (SFERP) site, in the Potrero District of the City of San Francisco, CA. The proposed power plant site is located between Cesar Chavez Street and 25th Street, southeast of the corner of Michigan and 25th Street in the Potrero District of the City of San Francisco.

The purpose of the investigation was to collect additional environmental samples to further characterize the soil, vadose zone, and shallow groundwater at the site. Sixteen additional borings (see attached map) were drilled in which soil, soil gas, and/or groundwater samples were collected. The field investigation, sample analyses, and preparation of the subsequent summary report were supervised by a State of California Professional Geologist. Field work was conducted in accordance with the Final Field Sampling Plan approved by the involved regulatory agencies (CH2M HILL, 2005). A small number of clarification comments were received from the RWQCB on the draft version and this final document incorporates those changes as appropriate. The comments and responses are attached to this report (attachment C).

2.0 Local Geology

The entire site is underlain by artificial fill (of unknown source) that was formerly submerged beneath the San Francisco Bay. The fill is composed of a mixture of crushed serpentine bedrock, building debris, sand, silty sand, and silt typical of the San Francisco Bay area. Groundwater beneath the site was encountered during summer 2005 at a depth of approximately 11 feet below ground surface (bgs). Groundwater flow is generally northeastward toward the San Francisco Bay to the east, although it is likely under tidal influence and, as such, flow direction could be variable.

During drilling, the subsurface conditions encountered were found to be highly variable. A significant amount of debris (concrete, bricks, rubble, rocks) as well as sand, clay/gravel mixtures were commonly observed. This material is consistent with typical "fill" material used in the area.

3.0 Background

Several previous investigations have been conducted in the project vicinity in support of a number of environmental assessments. Details of those previous investigations are summarized in the Final Human Health and Ecological Risk Assessment, Former Western

Pacific Property, Port Site, San Francisco CA (Geomatrix, 2000). As summarized, total petroleum hydrocarbons (TPH) and metals contamination were identified as the primary contaminants of concern for the area.

In late July/early August of 2005, as part of a geotechnical investigation of the proposed power plant site, 15 borings were drilled (see attached plate 2 provided by GTC). In eight of the borings, environmental soil samples were collected. Samples were analyzed for TPH-diesel, TPH-motor oil, and TPH-Bunker C oil, arsenic, lead, asbestos, and pH. The focus of the sampling was the top 10 feet of soil, as this was determined to be the depth of disturbance during construction activities for the power plant. In addition to the boring-specific sampling that was conducted, composite soil samples were also collected to aid in profiling the drilling spoils for offsite disposal.

The results of July/ August 2005 sampling showed that TPH-diesel was present, but all reported detections were below 1,000 mg/kg. Bunker C oil was reported in all samples up to a maximum concentration of 20,000 mg/kg in the southern part of the site from boring SB-13. The highest concentrations of arsenic were reported from samples collected in the northern part of the site. At a depth of 5 feet, arsenic was reported at a concentration of 460 mg/kg from boring SB-3. Lead in soil was reported at a wide range of concentrations that are not atypical of San Francisco soils. Concentrations ranged from 0.2 mg/kg to 2,100 mg/kg, the highest from boring SB-4 at a depth of 10 feet. Asbestos was not widely reported and where reported was only at a "trace" amount. Erosion from local serpentine bedrock is the likely source of the trace detections.

The California Energy Commission, Regional Water Quality Control Board, and the Department of Toxic Substances Control (DTSC) worked with the City and County of San Francisco to develop the Final Field Sampling Plan, which addressed the additional sampling and analysis needed to characterize the site prior to construction.

4.0 Field Activities

Prior to mobilization of the drilling crew, each of the 16 soil boring locations was staked and Underground Service Alert was notified. In addition, the locations were cleared for underground utilities by Precision Locating of Brentwood, CA. A City and County of San Francisco, Department of Public Health soil boring permit was obtained prior to initiation of intrusive activities. A copy of the permit is included as Attachment A.

On February 20, 2006, CH2M HILL field staff and drill crew from WDC Exploration and Wells (Zamora, CA) mobilized to the proposed SFERP site. Drilling and sampling was conducted via direct-push technology using a track-mounted Geoprobe drill rig and was completed on February 28, 2006. Soil samples were collected nominally at the surface, 5, and 10 feet below ground surface (bgs). All planned soil samples were collected with the exception of only the 5-foot sample at SB-24, where only enough volume was recovered for the asbestos sample. Soil gas samples for VOC analysis were collected at a nominal depth of 5 feet bgs prior to the collection of the 5-foot soil sample. Soil gas samples were collected via vacuum pump with single use Teflon tubing. Three soil gas samples were not collected due to wet soil conditions that hindered sample collection. All groundwater samples were collected as planned. Given the large number of groundwater samples that were collected,

temporary wells were installed by placing 1-inch diameter PVC well screen and blank casing in each boring. A peristaltic pump was used to collect the groundwater samples. Water depth varied from approximately 13 feet bgs in the southern part of the site to 9 feet in the low-lying area to the north. At the completion of each boring's sampling activities, the PVC was removed and the boring was grouted to the surface with neat cement per permit requirements. Boring logs are included as Attachment B.

Soil cuttings and decontamination water were placed into 2 drums and were labeled and disposed of as non-hazardous waste by the City.

Samples were submitted at the end of each sampling day under chain of custody to Curtis and Tompkins Laboratory, Berkeley, CA.

5.0 Sample Results

This section presents a summary of the results from the field investigation. The presentation of the data is divided into the three media that were sampled (soil, soil gas, and groundwater). Detected analytes for each sample are presented in Tables 5-1 through 5-5.

5.1 Soil

Soil samples were collected for the following analyses: TPH as diesel, -Motor Oil, -Bunker C oil, and -Gasoline by Method 8015; Volatile Organic Compounds (VOCs) by Method SW8260B; Semi-VOCs (SVOCs) by Method SW8270C; Polynuclear Aromatic Hydrocarbons (PAHs) by Method SW8310; Polychlorinated Biphenyls (PCBs) by Method SW8082; Total (CAM-17) metals by SW6000- or SW7000-series; Asbestos by PLM; pH; and a select number of samples were analyzed for chlorinated herbicides by Method SW8151A. Soil results are presented on Tables 5-1 through 5-3. Results were screened against SFBRWQCB Tier 1 Environmental Screening Levels for groundwater (RWQCB, 2005).

5.1.1 Total Petroleum Hydrocarbons

TPH as diesel, -MO, and Bunker C oil, (by EPA Modified Method 8015) were reported in essentially all samples across the project site. TPH-Gasoline was only reported in two samples. The ESL of 500 mg/kg for TPH-D was exceeded in 3 samples. The ESL of 500 mg/kg for TPH-MO was exceeded in 12 samples. The ESL of 1000 mg/kg for TPH-Bunker C was exceeded in the same 12 samples as those that exceeded the TPH-MO ESLs. The ESL of 400 mg/kg for TPH-Gasoline was not exceeded..

5.1.1.1 TPD-Diesel

Detections of TPH-diesel ranged from one non-detect (ND) to 20,000 mg/kg. Reported detections greater than 1,000 mg/kg included: 2,500 mg/kg reported at SB-19, 10 feet, 2,500 mg/kg reported at SB-20, 10 feet bgs and 20,000 mg/kg reported from SB-24, 10 feet bgs. Borings SB-19 and SB-20 are located on the southern part of the site and boring SB-24 is located in the central part of the site. Most (45 of 47 samples) reported concentrations that were less than 1,000 mg/kg.

5.1.1.2 TPH-Motor Oil

TPH-MO was reported in all but two samples. Reported detections ranged from ND up to 9,500 mg/kg. There were 10 reported concentrations greater than 1,000 mg/kg. The highest reported concentration (9,500 mg/kg) was from SB-24, 10 feet bgs.

5.1.1.3 TPH-Bunker C Oil

TPH-Bunker C was similarly reported in all but 1 sample. There were 13 of 47 samples that had reported concentrations greater than 1,000 mg/kg. Concentrations ranged from ND up to a maximum of 57,000 mg/kg. This highest concentration was reported from SB-24, 10 feet bgs.

5.1.1.4 TPH-Gasoline

TPH-G was reported in only two of 47 samples. The reported concentrations were 3.2 mg/kg and 0.37 mg/kg, from SB--18, 5 feet bgs and SB-20, 10 feet bgs, respectively.

5.1.2 Volatile Organic Compounds

Volatile organic compounds (VOCs), by EPA Method SW8260B, including Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) constituents, were reported infrequently from samples collected at the site. VOCs were detected from 7 of the 16 borings. Concentrations ranged from ND to 1,400 µg/kg. However, several of the reported detections included acetone, which is a common laboratory contaminant and not a likely site contaminant. Other compounds reported include cis-1,2-Dichloroethene, Trans-1,2-Dichloroethene, Napthalene, trichloroethene, and 2-Butanone. Excluding acetone, VOCs were only reported from two borings, SB-17 and SB-24. No compound exceeded its respective ESL in soil.

5.1.3 Semi-Volatile Organic Compounds

Semi-volatile organic compounds (SVOCs), by EPA Method SW8270C, were reported in nine of the 47 samples collected across the site and from six boring locations. In the northern part of the site, only boring SB-28, 5 feet bgs, contained SVOCs reported that included benzo(b)fluoranthene and fluoranthene, both at concentrations less than 100 µg/kg. Neither exceeded their respective ESL. In the Southern part of the site, two borings, SB-17 and SB-18, contained SVOCs reported from two depths in each boring. Nine separate SVOC analytes were reported in these two borings. Only one compound, benzo(k)fluoranthene exceeded its ESL of 130 mg/kg with two detections of 220 and 590 mg/kg. In the central part of the site, SVOCs were reported at a similar frequency. Three borings contained SVOCs. In SB-21, 5 SVOC analytes were reported at relatively low concentrations (120 µg/kg or less). In SB-25, only butylbenzylphthalate was reported at 3,900 µg/kg in the 5-foot sample. In SB-24, numerous SVOC analytes were reported at elevated concentrations – all at the 10-foot depth. Concentrations ranged from 170,000 µg/kg as indeno(1,2,3-cd)pyrene, to 2,600,000 µg/kg as phenanthrene. ESLs were exceeded in only one sample (SB-24, 10 feet bgs).

5.1.4 Polynuclear Aromatic Hydrocarbons

Polynuclear Aromatic Hydrocarbons (PAHs), by EPA Method SW8310, in soil were frequently reported from samples collected across the site. Of the 47 samples, 45 contained PAHs. Most concentrations were less than 1000 µg/kg. However, there were 4 samples (from 4 separate borings) that contained PAHs at concentrations greater than 1,000 µg/kg. Of these 4 samples, one sample (SB-24, 10 feet bgs) contained concentrations in excess of

100,000 µg/kg. The maximum concentration reported from this sample was 580,000 µg/kg as phenanthrene. ESLs were exceeded in 5 samples.

5.1.5 Polychlorinated Biphenyls

Seventeen of 47 samples from 11 borings contained polychlorinated biphenyls (PCBs) by EPA SW8082. Arochlor-1254 was the most frequently reported congener with 10 detections (mostly from the central part of the site). Concentrations of Arochlor-1254 ranged from 18 µg/kg to 3,000 µg/kg – the highest reported from SB-26, 0 feet bgs. Arochlor -1260 was also reported in 9 samples and ranged in concentration from 14 µg/kg to 1,100 µg/kg – the highest from SB-25, 10 feet bgs). There was a single reported detection of Arochlor-1242 at a concentration of 22 µg/kg from SB-26, 5 feet bgs. Also, a single reported detection of Arochlor-1248 was reported at 99 µg/kg from SB-16, 0 feet bgs. The ESL for PCBs is 740 mg/kg – this was exceeded in two samples (SB-25, 10 feet bgs and SB-26, 0 feet bgs).

5.1.6 Chlorinated Herbicides

Chlorinated herbicides, by EPA Method SW5151A, were analyzed from four surface samples collected across the site from SB-19, SB-24, SB-28 and SB-29. No chlorinated herbicides were reported from any sample.

5.1.7 Metals

Metals were reported in all samples collected across the site. Metals are naturally occurring in the environment in a wide range of concentrations. Of the metals results that were reported from this investigation, five were reported above their respective ESLs. Arsenic was reported above its ESL of 0.24 mg/kg in all 47 samples that were collected. Concentrations ranged from 0.56 mg/kg to 44 mg/kg. The highest being reported from SB-30, 10 feet bgs. Cobalt was reported above its ESL of 10 mg/kg in 18 samples. The highest reported detection was 100 mg/kg from SB-21, 5 feet bgs. A single detection of lead above its ESL of 750 mg/kg was reported at SB-16, 10 feet bgs, at a concentration of 1,400 mg/kg. Nickel was reported above its ESL of 150 mg/kg in 10 samples. The highest reported concentration was 2,600 mg/kg from SB-28, 10 feet bgs. Zinc was reported above its ESL of 600 mg/kg in three samples. The highest reported concentration reported was 1,600 mg/kg from SB-16, 10 feet bgs. No other ESLs were exceeded.

5.1.8 Asbestos

Asbestos was reported in 10 of 48 samples collected. Only two of the 10 samples contained detections greater than “trace” concentrations. These included samples from boring SB-29 (5 feet bgs and 10 feet bgs) at concentrations of 3 percent and 2 percent, respectively. Pieces of serpentine were noted in the boring log for these two samples. The asbestos material was identified by the lab as Chrysotile. No ESL for asbestos (or chrysotile) has been established.

5.1.9 pH

pH in soil reported from all samples collected across the site ranged in value from 7 to 12.6. The highest value, 12.6, was reported from SB-25, 5 feet bgs. Other values greater than pH of 10 were reported across at both surface and subsurface sample locations. The majority of the high pH values were reported at the surface or 5 feet bgs samples.

5.2 Soil Gas

Soil gas samples were collected in all but three boring locations. In borings SB-16, SB-19, and SB-26, samples could not be collected due to wet conditions that hindered sampling. In the 13 other borings, samples were collected as planned. In each of these samples, both solvent- and fuel-related VOC compounds were reported. The majority of reported detections were trace-level or low-level concentrations (10 to 100 [micrograms per cubic meter] $\mu\text{g}/\text{m}^3$ or less). In seven borings, concentration exceeded 1,000 $\mu\text{g}/\text{m}^3$. SB-17 contained vinyl chloride, trans-1,2-dichloroethene, and cis-1,2-dichloroethene at 2,800 $\mu\text{g}/\text{m}^3$, 3,800 $\mu\text{g}/\text{m}^3$, and 1,600 ppbv, respectively. SB-23 contained hexane and propane, 2-methyl at 12,000 and 13,000 $\mu\text{g}/\text{m}^3$, respectively. Soil gas results are presented on Table 5-4.

5.3 Groundwater

Groundwater samples were collected in all borings at the site. Samples were collected via peristaltic pump directly into laboratory-prepared sample containers. Samples were collected for the same parameters as those for soil, with the exception of asbestos. Groundwater results are presented on Table 5-5. Results were screened against the SFBRWQCB Tier 1 Environmental Screening Levels for groundwater (RWQCB, 2005).

5.3.1 Total Petroleum Hydrocarbons

TPH as diesel, -MO, and Bunker C oil, were reported in essentially all groundwater samples across the project site. TPH-Gasoline was only reported in one groundwater sample location.

5.3.1.1 TPD-Diesel

TPH-diesel was reported in all samples collected across the site. Concentrations ranged from 140 $\mu\text{g}/\text{L}$ to 3,500 $\mu\text{g}/\text{L}$. The highest reported concentration was from the sample collected at SB-18, in the southern part of the site. A concentration of 3,300 $\mu\text{g}/\text{L}$ was reported from SB-27, located in the northern part of the site. The SFBRWQCB environmental screening level (ESL) for TPH-(middle distillates) is 640 $\mu\text{g}/\text{L}$. All but four samples contained an exceedence of the ESL.

5.3.1.2 TPH-Motor Oil

TPH-MO was reported in all samples collected at the site. Concentrations ranged from ND to 2,500 $\mu\text{g}/\text{L}$. The ND was reported from SB-29, located in the northern part of the site and 2,500 $\mu\text{g}/\text{L}$ was reported in two locations: SB-20 and SB-27. These two locations are along the eastern side of the site. The SFBRWQCB environmental screening level (ESL) for TPH-(middle distillates) is 640 $\mu\text{g}/\text{L}$. All but five samples, contained an exceedence of the ESL.

5.3.1.3 TPH-Bunker C Oil

TPH-Bunker C oil was reported in all samples. Concentrations ranged from 540 $\mu\text{g}/\text{L}$ to 12,000 $\mu\text{g}/\text{L}$. All but the single 540 $\mu\text{g}/\text{L}$ detection exceeded 1,000 $\mu\text{g}/\text{L}$. The highest concentration was reported from SB-27, located in the central part of the site on the eastern side. The SFBRWQCB environmental screening level (ESL) for TPH-(residual fuels) is 640 $\mu\text{g}/\text{L}$. All but one sample, contained an exceedence of the ESL.

5.3.1.4 TPH-Gasoline

TPH-gasoline was only reported from one sample location. SB-20 contained a concentration of 200 µg/L. All other samples were reported as ND. The SFBRWQCB environmental screening level (ESL) for TPH-(gasoline) is 500 µg/L.

5.3.2 Volatile Organic Compounds

VOCs were reported in 9 of 16 samples. Reported detections ranged from a few VOC analytes reported in a sample up to 14 analytes in a sample. Concentrations were typically very low - all 10 µg/L or less, except SB-18 had a reported detection of 24 µg/L for cis-1,2-Dichloroethene. Boring SB-20 contained the most reported VOC analytes with 14, followed by SB-18 with 8 analytes. None of the reported VOC detections exceeded the SFBRWQCB ESLs.

5.3.3 Semi-Volatile Organic Compounds

There were no reported detections of SVOCs from any groundwater sample collected at the site.

5.3.4 Polynuclear Aromatic Hydrocarbons

PAHs in groundwater were reported in 13 of 16 samples. Most reported detections were less than 1 µg/L. The maximum reported concentration was 12 µg/L (as Phenanthrene) from the sample from SB-24 - this sample had the most reported PAHs at the highest concentrations. Sample locations where PAHs were also frequently reported included were SB-16, SB-18, SB-19, SB-23, SB-25, and SB-31. Several exceedences of the ESLs were noted for PAHs. Sample locations with ESL exceedences were SB-16, SB-18, SB-19, SB-20, SB-23, SB-24, SB-25, SB-26, and SB-31.

5.3.5 Polychlorinated Biphenyls

There were no reported detections of PCBs from any groundwater sample collected at the site.

5.3.6 Chlorinated Herbicides

Only one groundwater sample (SB-29) was collected for chlorinated herbicides. SB-29 contained no reported detections of chlorinated herbicides.

5.3.7 Metals

Dissolved metals were reported in all groundwater samples. Barium was the most frequently reported (was present in all 16 samples). Concentrations for barium ranged from 13 µg/L up to 370 µg/L. The highest reported concentration was from SB-23. Arsenic was reported in 12 samples with a maximum reported concentration of 190 µg/L from SB-25. Lead was reported in 5 samples up to a maximum of 23 µg/L. Other metals detected are shown on the attached table. Several exceedences of ESLs for metals were reported across the site.

5.3.8 pH

The values of pH in groundwater ranged from 7.2 in SB-30 to a 10.7 reported from both SB-24 and SB-27.

6.0 Conclusions

The results of this study show that TPH is present in both soil and groundwater at the proposed SFERP project site. TPH-Diesel, TPH-Bunker C Oil, and TPH-Motor Oil were all frequently detected across this site. TPH-Gasoline was rarely reported and at low concentrations. VOCs in soil, soil gas, and groundwater were typically reported sporadically and at relatively low concentrations and were generally reported in the southern part of the site. Likewise, SVOCs were infrequently reported. The vicinity of SB-24, located in the central part of the site, contains SVOCs. PAHs were reported across the site, but only appear to be significant in the vicinity of SB-24. No chlorinated Herbicides were reported at the site. PCBs were reported sporadically across the site in soil and were not reported in groundwater. Arsenic above its ESL in soil was reported across the site. Sporadic detections of metals in groundwater were reported. Asbestos (as chryostile) was reported up to 3 percent from boring SB-29 where serpentine was noted to be present during drilling.

7.0 References

- CH2M HILL. 2005. *Field Sampling Plan, San Francisco Electrical Reliability Project*. Prepared for San Francisco Public Utilities Commission. Final. February.
- Geomatix. 2000. *Final Human Health Ecological Risk Assessment, Former Western Pacific Property, Port Site, San Francisco CA*. Prepared for the Port of San Francisco.
- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), 2005. *Screening for Environmental Concerns at Sites with Contaminated Soil or Groundwater*. Interim Final, February.

Approximate GW Flow Direction
June 1999 (AGS 1999)

Maryland Street

SB-31

SB-20

SB-18

B-15

SB-17

SB-19

SB-16

B-14

B-13

SB-22

B-12

SB-23

B-9

SB-24

B-8

SB-27

SB-26

B-6

SB-28

B-4

B-2

SB-29

B-3

B-1

SB-21

B-7

B-11

B-10

25TH Street

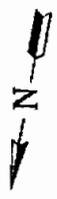
SB-30

LEGEND:

B-8 ● Borings by GTC, July - August 2005

SB-16 ◊ February 2006 Soil Borings

--- Approximate Site Boundary



NOTE:

Base Map provided by BP POWER, Inc.
Reference: "MUNI SITE-PLOT PLAN-3 UNITS SIMPLE CYCLE",
SFERP, San Francisco, California
DRAWING NO. C.1, Preliminary Issue

*Approximate Locations - Not To Scale

ES012006/ISSAC sample_borings2.a (05/24/06) Issue



GEO TECHNICAL CONSULTANTS, INC.
500 Sansome Street, Suite 402
San Francisco, CA 94111

Field Exploration Map

Muni Site

SFPUC ERP Power Plant

PLATE 1

Sept. 2005

SF03019

Table 5-1
Soil Detections
SFERP Power Plant Site

Sample Method	Analyte	Units	RWQCB Tier 1 ESL		SB-16		SB-17		SB-18		SB-19		SB-20			
			Screening Levels	SB16-S0	SB16-S5	SB17-S0	SB17-S5	SB18-S0	SB18-S5	SB19-S0	SB19-S5	SB20-S0	SB20-S5			
EPA 8310	Anthracene	ug/Kg	2,800	37	87	50	14	17	11	85	100	21	150	6.6	12	6.4
EPA 8310	Benzo(a)anthracene	ug/Kg	1,300	160	330	340	65	110	33	77	550	140	300	36	72	6.4
EPA 8310	Benzo(a)pyrene	ug/Kg	1,300	170	420	390	95	160	29	66	550	140	110	36	81	8.7
EPA 8310	Benzo(b)fluoranthene	ug/Kg	1,300	140	260	340	64	130	27	62	680	110	790	26	62	11
EPA 8310	Benzo(g,h,i)perylene	ug/Kg	27,000	170	550	820	110	280	27	550	960	170	470	140	130	18
EPA 8310	Benzo(k)fluoranthene	ug/Kg	130	88	170	180	34	63	13	43	260	69	92	16	35	5.8
EPA 8310	Chrysene	ug/Kg	13,000	260	390	420	72	140	64	89	600	180	850	51	81	7.8
EPA 8310	Dibenz(a,h)anthracene	ug/Kg	380	150	410	400	130	200	32	160	580	150	170	31	88	14
EPA 8310	Fluoranthene	ug/Kg	40,000	320	630	640	200	280	93	520	1500	250	900	76	140	11
EPA 8310	Fluorene	ug/Kg	8,900	18	32											
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300	130	320	270	83	140	24	270	450	70	100	99	53	7.4
EPA 8310	Naphthalene	ug/Kg	1,500	160	340	230	120	110	27	380	1100	140	1400	51	78	4.4
EPA 8310	Phenanthrene	ug/Kg	11,000	250	630	560	200	220	28	85	1400	230	1100	75	140	10
EPA 8310	Pyrene	ug/Kg	85,000	10.3	8.2	8.5	10.4	8.6	9.7	8.1	9	9.7	9.1	8.4	7	7.7
PLM	Asbestos	%						trace		trace	trace	trace		trace		
EPA 9045C	pH	SU														

Blank cells - Not detected above the reporting limit

SW8151A - Chlorinated Herbicides - All ND

Highlighted Cell - exceeds screening level

Table 5-2
Soil Detections
SFERP Power Plant Site

Sample Method	Analyte	Unit	RWQCB Tier 1 ESL Screening Levels	SB-21		SB-22		SB-23		SB-24		SB-25		SB-26		SB-27								
				SB21-S0	SB21-S1	SB22-S0	SB22-S5	SB23-S0	SB23-S5	SB24-S0	SB24-S10	SB25-S0	SB25-S10	SB26-S0	SB26-S5	SB27-S0	SB27-S5							
EPA 6010B	Antimony	mg/Kg	40	0.47	0.57	4.1	4.1	6.1	6.2	18	3.6	11	26	4	5.8	1.5	3.4	5.1	0.56					
EPA 6010B	Arsenic	mg/Kg	0.24	3.3	350	160	210	170	82	390	220	200	210	110	1200	80	67	160	64					
EPA 6010B	Barium	mg/Kg	1,500	0.29	0.47	0.32	0.42	0.21	1.4	0.21	0.21	0.27	0.15	0.22	0.25	0.15	0.26	0.11	0.11					
EPA 6010B	Beryllium	mg/Kg	6	0.32	0.95	0.36	0.32	0.3	0.3	1.5	0.3	0.35	1.2	0.29	0.64	0.65	0.65	0.65	0.65					
EPA 6010B	Cadmium	mg/Kg	7	58	1100	22	39	57	220	44	4	50	45	40	50	120	37	39	78					
EPA 6010B	Chromium	mg/Kg	2,500	8.4	100	4.2	8.4	20	6.9	2.7	10	4.8	6.1	9.6	8.4	7.7	7.4	7.4	23					
EPA 6010B	Cobalt	mg/Kg	10	9.4	100	13	30	32	27	4	180	12	23	100	19	20	91	13	25					
EPA 6010B	Copper	mg/Kg	230	42	80	27	16	39	23	4	480	5.4	16	5.9	160	16	8.2	31	28					
EPA 6010B	Lead	mg/Kg	750	80	27	16	39	23	4	480	5.4	16	5.9	160	16	8.2	31	28	28					
EPA 6010B	Molybdenum	mg/Kg	40	90	3300	19	57	100	380	1.1	2.2	1.1	7.9	46	34	92	49	50	38					
EPA 6010B	Nickel	mg/Kg	150	0.54	3.6	0.68	0.68	0.3	0.68	11	73	0.39	1	0.86	1.4	0.46	0.53	1.4	0.64					
EPA 6010B	Selenium	mg/Kg	10	0.5	0.68	0.68	0.41	0.47	0.64	0.82	0.59	0.48	0.77	0.4	0.61	0.41	0.28	0.64	0.64					
EPA 6010B	Thallium	mg/Kg	13	42	44	29	40	40	35	7	41	54	72	41	53	51	110	42	43					
EPA 6010B	Vanadium	mg/Kg	200	88	29	200	58	54	83	53	71	870	44	44	44	220	46	58	50					
EPA 6010B	Zinc	mg/Kg	600	0.078	0.11	0.058	0.1	0.088	1.1	0.068	0.22	0.049	1.2	0.066	0.093	0.047	0.036	0.42	0.42					
EPA 7471A	Mercury	mg/Kg	10	0.078	0.11	0.058	0.1	0.088	1.1	0.068	0.22	0.049	1.2	0.066	0.093	0.047	0.036	0.42	0.42					
EPA 8015B	Bunker C C12-40	mg/Kg	1,000	38	440	110	2200	550	140	1800	340	40	1100	57000	610	320	750	2200	380	12	3600	5600	6	
EPA 8015B	Diesel C10-C24	mg/Kg	500	6.4	54	15	180	46	24	130	23	5.6	94	20000	38	37	130	270	73	1.9	230	670	1.3	
EPA 8015B	Gasoline C7-C12	mg/Kg	400	16	200	47	1100	280	51	600	170	18	570	6500	330	150	280	1300	210	6.3	1900	2700	3	
EPA 8015B	Motor Oil C24-C36	mg/Kg	500	16	200	47	1100	280	51	600	170	18	570	6500	330	150	280	1300	210	6.3	1900	2700	3	
EPA 8092	Aroclor-1242	ug/Kg	740	50	30	30	30	30	24	140	14	14	540	18	30	30	30	30	30	30	130	310	310	310
EPA 8092	Aroclor-1246	ug/Kg	740	50	30	30	30	30	24	140	14	14	540	18	30	30	30	30	30	30	130	310	310	310
EPA 8092	Aroclor-1254	ug/Kg	740	50	30	30	30	30	24	140	14	14	540	18	30	30	30	30	30	30	130	310	310	310
EPA 8092	Aroclor-1260	ug/Kg	740	50	30	30	30	30	24	140	14	14	540	18	30	30	30	30	30	30	130	310	310	310
EPA 8260B	2-Bidaneone	ug/Kg	NE																					
EPA 8260B	Acetone	ug/Kg	500																					
EPA 8260B	cis-1,2-Dichloroethene	ug/Kg	3,000																					
EPA 8260B	Naphthalene	ug/Kg	1,500																					
EPA 8260B	trans-1,2-Dichloroethene	ug/Kg	7,300																					
EPA 8260B	Trichloroethene	ug/Kg	730																					
EPA 8270C	2-Methylnaphthalene	ug/Kg	5,600																					
EPA 8270C	4-Chloroaniline	ug/Kg	53																					
EPA 8270C	Acenaphthylene	ug/Kg	1,300																					
EPA 8270C	Anthracene	ug/Kg	2,800																					
EPA 8270C	Benzo(a)anthracene	ug/Kg	1,300																					
EPA 8270C	Benzo(b)fluoranthene	ug/Kg	1,300																					
EPA 8270C	Benzo(g,h,i)perylene	ug/Kg	27,000																					
EPA 8270C	Benzo(k)fluoranthene	ug/Kg	130																					
EPA 8270C	Butylbenzophthalate	ug/Kg	NE																					
EPA 8270C	Chrysene	ug/Kg	13,000																					
EPA 8270C	Fluoranthene	ug/Kg	40,000																					
EPA 8270C	Fluorene	ug/Kg	8,900																					
EPA 8270C	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300																					
EPA 8270C	Naphthalene	ug/Kg	1,500																					
EPA 8270C	Phenanthrene	ug/Kg	11,000																					
EPA 8270C	Pyrene	ug/Kg	85,000																					
EPA 8310	Acenaphthylene	ug/Kg	1,300																					
EPA 8310	Anthracene	ug/Kg	2,800																					
EPA 8310	Benzo(a)anthracene	ug/Kg	1,300																					
EPA 8310	Benzo(b)fluoranthene	ug/Kg	1,300																					
EPA 8310	Benzo(g,h,i)perylene	ug/Kg	27,000																					
EPA 8310	Benzo(k)fluoranthene	ug/Kg	130																					
EPA 8310	Chrysene	ug/Kg	13,000																					
EPA 8310	Dibenz(a,h)anthracene	ug/Kg	380																					
EPA 8310	Fluoranthene	ug/Kg	40,000																					
EPA 8310	Fluorene	ug/Kg	8,900																					
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300																					
EPA 8310	Naphthalene	ug/Kg	1,500																					
EPA 8310	Phenanthrene	ug/Kg	11,000																					
EPA 8310	Pyrene	ug/Kg	85,000																					
EPA 9045C	Asbestos	%	trace	8.4	8.6	11.7	11	12.3	9	12	9.2	8.1	12.3	9.1	11.8	12.6	12.1	10.5	11.6	8.7	8.6	11.6	8.6	

Blank cells - Not detected above the reporting limit
SW6151A - Chlornated Herbicides - All ND

Highlighted Cell - exceeds screening level

Table 5-3
Soil Detections
SFERP Power Plant Site

Sample Method	Analyte	Units	RWQCB Tier 1 ESL Screening Levels		SB-28			SB-29			SB-30			SB-31		
			SB28-S0	SB28-S5	SB28-S10	SB29-S0	SB29-S5	SB29-S10	SB30-S0	SB30-S5	SB30-S10	SB31-S0	SB31-S5	SB31-S10		
EPA 8310	Anthracene	ug/Kg	2,800	1,300	56	41	6.4	5.6	14							
EPA 8310	Benzo(a)anthracene	ug/Kg	1,300	4200	160	56	35	30	81							
EPA 8310	Benzo(a)pyrene	ug/Kg	1,300	5100	160	43	49	30	100							
EPA 8310	Benzo(b)fluoranthene	ug/Kg	1,300	5200	100	26	46	48	90							
EPA 8310	Benzo(g,h,i)perylene	ug/Kg	27,000	4500	210	73	100	66	210							
EPA 8310	Benzo(k)fluoranthene	ug/Kg	130	2600	53	18	22	16	50							
EPA 8310	Chrysene	ug/Kg	13,000	3800	180	75	66	110	150							
EPA 8310	Dibenz(a,h)anthracene	ug/Kg	380	3500	140	34	38	12	150							
EPA 8310	Fluoranthene	ug/Kg	40,000	7900	410	140	84	260	190							
EPA 8310	Fluorene	ug/Kg	8,900	19	19	7.7										
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300	4400	130	27	40	31	95							
EPA 8310	Naphthalene	ug/Kg	1,500													
EPA 8310	Phenanthrene	ug/Kg	11,000	3100	290	100	49	33	92							
EPA 8310	Pyrene	ug/Kg	85,000	2900	380	120	65	50	130							
PLM	Asbestos	%				3	2	trace								
EPA 9045C	pH	SU	12.1	9.7	8.3	12.3	9.3	8.4	11.9	7.8	11.7	12.4	11.8			

Blank cells - Not detected above the reporting limit
SW8151A - Chlorinated Herbicides - All ND

Highlighted Cell - exceeds screening level

Table 5-4
Method TO-14 Soil Gas Detections in ug/m3
SFERP Power Plant Site

Sample Method	Analyte	Southern					Central					Northern							
		SB-16	SB17-SG5 SB18-SG5	SB-19	SB20-SG5	SB21-SG5 SB22-SG5 SB23-SG5 SB24-SG5 SB25-SG5	SB-26	SB27-SG5	SB28-SG5 SB29-SG5 SB30-SG5	SB31-SG5	SB16	SB17-SG5 SB18-SG5	SB-19	SB20-SG5	SB21-SG5 SB22-SG5 SB23-SG5 SB24-SG5 SB25-SG5	SB-26	SB27-SG5	SB28-SG5 SB29-SG5 SB30-SG5	SB31-SG5
TO-14A	1,1,1-Trichloroethane		41																
TO-14A	1,1-Dichloroethane				11														
TO-14A	1,2,4-Trichlorobenzene																		
TO-14A	1,2,4-Trimethylbenzene		5.3																
TO-14A	1,2-Dichloroethane																		
TO-14A	1,3,5-Trimethylbenzene																		
TO-14A	2,2,4-Trimethylpentane		96		18														
TO-14A	2-Butanone (Methyl Ethyl Ketone)																		
TO-14A	2-Propanol																		
TO-14A	4-Ethyltoluene																		
TO-14A	Acetone		39		92														
TO-14A	Benzene		400		75														
TO-14A	Carbon Disulfide																		
TO-14A	Chloroform																		
TO-14A	cis-1,2-Dichloroethane		8200		220														
TO-14A	Cumene																		
TO-14A	Cyclohexane		170		20														
TO-14A	Ethanol																		
TO-14A	Ethyl Benzene																		
TO-14A	Freon 11																		
TO-14A	Freon 12																		
TO-14A	Heptane		86		17														
TO-14A	Hexane		280		230														
TO-14A	m,p-Xylene																		
TO-14A	Methylene Chloride																		
TO-14A	o-Xylene																		
TO-14A	Propene, 2-methyl-		1800		1900														
TO-14A	Propylbenzene																		
TO-14A	Tetrachloroethene																		
TO-14A	Tetrahydrofuran																		
TO-14A	Toluene		31		9														
TO-14A	trans-1,2-Dichloroethane		3800		290														
TO-14A	Trichloroethene		250		62														
TO-14A	Vinyl Chloride		2800		470														

Blank cells - Not detected above the reporting limit.

Table 5-5
Groundwater Detections in ug/L
SFERP Power Plant Site

Sample Method	Analyte	Units	RWOCB Tier 1 ESL										Southern										Central										Northern									
			SB-16	SB-17	SB-18	SB-19	SB-20	SB-21	SB-22	SB-23	SB-24	SB-25	SB-26	SB-27	SB-28	SB-29	SB-30	SB-31	SB-16-W10	SB-17-W10	SB-18-W10	SB-19-W10	SB-20-W10	SB-21-W10	SB-22-W10	SB-23-W10	SB-24-W10	SB-25-W10	SB-26-W10	SB-27-W10	SB-28-W10	SB-29-W10	SB-30-W10	SB-31-W10								
EPA 8010B	Arsenic	ug/L	86	310	66	9.5	25	310	220	310	310	240	370	13	8.9	180	7.2	18	16	230	22	140	77																			
EPA 8010B	Barium	ug/L	1000																																							
EPA 8010B	Chromium	ug/L	3.1																																							
EPA 8010B	Copper	ug/L	2.5																																							
EPA 8010B	Lead	ug/L	240																																							
EPA 8010B	Molybdenum	ug/L	8.2																																							
EPA 8010B	Nickel	ug/L	5																																							
EPA 8010B	Selenium	ug/L	19																																							
EPA 8010B	Vanadium	ug/L	81																																							
EPA 7470A	Zinc	ug/L	55																																							
EPA 7470A	Mercury	ug/L	0.012																																							
EPA 8015B	Bunker C C12-40	ug/L	640																																							
EPA 8015B	Diesel C10-C24	ug/L	640																																							
EPA 8015B	Gasoline C7-C12	ug/L	500																																							
EPA 8015B	Motor Oil C24-C36	ug/L	640																																							
EPA 8260B	1,2,4-Trimethylbenzene	ug/L	NE																																							
EPA 8260B	1,3,5-Trimethylbenzene	ug/L	NE																																							
EPA 8260B	1,2-Dichloroethane	ug/L	690																																							
EPA 8260B	Acetone	ug/L	1500																																							
EPA 8260B	Benzene	ug/L	46																																							
EPA 8260B	Carbon Disulfide	ug/L	NE																																							
EPA 8260B	Chlorobenzene	ug/L	25																																							
EPA 8260B	Chloroform	ug/L	62																																							
EPA 8260B	cis-1,2-Dichloroethene	ug/L	590																																							
EPA 8260B	Ethylbenzene	ug/L	290																																							
EPA 8260B	Isopropylbenzene	ug/L	NE																																							
EPA 8260B	m,p-Xylenes	ug/L	100																																							
EPA 8260B	MTBE	ug/L	1800																																							
EPA 8260B	Naphthalene	ug/L	24																																							
EPA 8260B	o-Xylene	ug/L	100																																							
EPA 8260B	para-Isopropyl Toluene	ug/L	1300																																							
EPA 8260B	Propylbenzene	ug/L	NE																																							
EPA 8260B	sec-Butylbenzene	ug/L	NE																																							
EPA 8260B	trans-1,2-Dichloroethene	ug/L	590																																							
EPA 8260B	Trichloroethene	ug/L	360																																							
EPA 8260B	Vinyl Chloride	ug/L	13																																							
EPA 8310	Acenaphthene	ug/L	23																																							
EPA 8310	Anthracene	ug/L	0.73																																							
EPA 8310	Benzo(a)anthracene	ug/L	270																																							
EPA 8310	Benzo(b)pyrene	ug/L	0.027																																							
EPA 8310	Benzo(k)fluoranthene	ug/L	0.029																																							
EPA 8310	Benzo(g,h,i)perylene	ug/L	0.1																																							
EPA 8310	Benzo(a)fluoranthene	ug/L	0.014																																							
EPA 8310	Chrysene	ug/L	0.35																																							
EPA 8310	Dibenz(a,h)anthracene	ug/L	0.25																																							
EPA 8310	Fluoranthene	ug/L	8																																							
EPA 8310	Fluorene	ug/L	3.9																																							
EPA 8310	Indene(1,2,3-cd)pyrene	ug/L	0.029																																							
EPA 8310	Naphthalene	ug/L	24																																							
EPA 8310	Phenanthrene	ug/L	4.6																																							
EPA 8310	Pyrene	ug/L	2																																							
EPA 9040B	pH		7.3	8.1	9.7	8.3	9.2	8.3	9.2	7.8	8.2	8.1	10.7	8.1	10.7	8.1	8.1	8	10.7	7.4	8.1	7.2	7.8																			

Blank cells - Not detected above the reporting limit
 SW8151A - Chlorinated Herbicides - All ND
 SW6082 - PCBs - all ND
 SW8270C - SVOC - All ND

Highlighted Cell - exceeds screening level

Attachment A - City and County of SF Boring Permit



City and County of San Francisco
DEPARTMENT OF PUBLIC HEALTH

Gavin Newsom, Mayor
 Mitchell H. Katz, M.D.
 Director of Health

ENVIRONMENTAL HEALTH SECTION

**Application for Monitoring Well
 Construction/Destruction or Soil Borings**

Application Date: 2/6/06 Starting Date: 2/15/06 Completion Date: 2/16/06

Job Address/Location: 25th and Illinois ST. at proposed SFPUC - MUNI POWER PLANT SITE.
TO BE COMPLETED BY OWNER, CONSULTANT OR DRILLER

Property Owner <u>SAN FRANCISCO PORT</u>	Well Owner (If Different) <u>- SAME -</u>	Consultant /Engineer/Geologist Name <u>CH2M HILL / THOMAS LAE</u>
Address <u>PIER 1</u>	Address	Address <u>2485 NATOMAS PK DR. #600</u>
City, State, Zip <u>SAN FRANCISCO, CA 94111</u>	City, State Zip	City, State, Zip <u>SACRAMENTO, CA 95833</u>
Telephone Number <u>415 274 0256</u>	Telephone Number	Telephone Number <u>916 286 0246</u>

Please indicate Type and Number of Proposed Wells/Borings

- | | | |
|---|--|---|
| Geotechnical Investigation: | Environmental Investigation: | Monitoring Wells Construction |
| <input type="checkbox"/> Exploratory Wells | <input checked="" type="checkbox"/> Exploratory Holes | <input type="checkbox"/> Chemical Leaks |
| <input type="checkbox"/> Cathodic Wells | <input type="checkbox"/> Water /Vapor Extraction Wells | <input type="checkbox"/> Compliance Well |
| <input type="checkbox"/> Cone Penetrometer Test | <input type="checkbox"/> Hydropunch | <input type="checkbox"/> Baseline Study |
| <input type="checkbox"/> Shallow Anodes | <input type="checkbox"/> LOP Workplan | <input type="checkbox"/> Well Destruction |
| <input type="checkbox"/> Other _____ | | <input type="checkbox"/> LOP Workplan |

16 SOIL BORINGS FOR ENVIRONMENTAL SITE CHARACTERIZATION

Topographic Features -Well is to be constructed:

- In a Public Sidewalk In a Public Road On Private Property On City Property

Construction Specifications:

Diameter of Well Casing: _____ Annular Seal Depth: _____

Gauge of Casing: _____ Annular Seal Material: _____

Casing Depth: _____ Other Information: _____

Destruction Specifications: Well Diameter: _____ Approximate Depth: _____

Materials and Procedures to be Used: 16 SOIL BORINGS TO APPROX 15 FEET WILL BE DRILLED

WITH DIRECT-PUSH (GEOPROBE) TECHNOLOGY. SOIL, SOIL GAS, & GU SAMPLES WILL BE COLLECTED IN EACH BORING. BORINGS WILL BE SEALED WITH NEAT CEMENT.

WELL LOCATION: On the following site plan accurately draw the well location. (Recommend Assessor's Map)

1. Sketch well location to scale, show dimensions to nearest foot.
2. Show a minimum of two dimensions at right angles. Dimensions shall be from the centerline of the closest named street, road or highway.
3. Show location of any existing wells.

WATER QUALITY
 monitoring wells

1390 Market Street, Suite 210
 San Francisco, CA 94102

Phone (415) 252-3841
 Fax (415) 252-3894

SITE PLAN

see attached map.

borings SB-16 through SB-31

CERTIFICATION BY WELL OWNER/AGENT AND DRILLER/AGENT:

I certify the information above is correct to the best of my knowledge. I certify that the well will be constructed in compliance with the conditions this permit, the San Francisco Health Code and, if applicable, the Hazardous Materials Permit & Disclosure Ordinance of the City/County. It is my responsibility as the responsible party to notify this Section of any changes in the purpose of this well from that which is indicated on this application form.

If proposed well is to meet compliance with a Hazardous Materials Permit & Disclosure Ordinance, has the Hazardous Materials Unified Program been contacted: [] Yes [] No

WDC Exploration + wells
P.O. Box 141, Zamora, CA 1-800-873-3073

283326
C-57 Driller's License Number

[Signature] 2/16/06
Signature of Responsible Professional Date

P.G. 7099
Civil Engineer Registration Number or Engineering Geologist Certificate Number

Based on information on the application and attachments(s) hereto (if any) and subject to approval noted below, permission is hereby granted to commence the described project. Permission to start may be withheld until a field check verifies all statements made on application by Permittee and is also subject to any "General" and "Special" conditions attached.

To be Completed by Well Section Staff: Project # 3347 Date Approved 2/17/06

Number of Wells: _____ Number of Soil Borings: 16

This project to ~~construct~~/destruct is APPROVED
 This project to ~~construct~~/destruct is DISAPPROVED

Inspector [Signature]

Attachment B - Boring Logs



CH2MHILL

PROJECT NUMBER:
184288.NS.HG

BORING NUMBER:
SB-16

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 33' E of W Fence, 93' S of N Fence, South Area

DRILLING CONTRACTOR: WDC Exploration & Wells, Zamora, Ca.

DRILLING METHOD AND EQUIPMENT: Direct push Geoprobe Model 7730T track mounted coring unit

WATER LEVELS, DATE, AND TIME:
12.7 feet, 2/27/2006

DRILLING START DATE & TIME:
02/27/06

DRILLING FINISH DATE & TIME:
02/27/06

LOGGER:
Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6'-6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G.outlings	SYMBOLIC LOG	CORE DESCRIPTION		WELL	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG	DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION	
1						WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 6/2 fine to coarse sand with fine gravel.		rain	
2			3.0			GRAVELLY CLAY (GC) olive gray 5Y 5/2, wet sandy lean clay with app. 25% fine gravel.			
3									
4						bricks at 3-1/2 to 4 feet.			
5						CLAYEY SAND (SC) very dark grayish brown 10YR 3/2, wet sand with some fine gravel.			
6			2.0						
7									
8						FILL - gravel and pieces of brick.			
9			0.0						
10									
11									
12			2.0			POORLY GRADED GRAVEL WITH SAND (GP) black 10YR 2/1, wet, fine to coarse gravel with sand and pieces of brick.			
13									
14						POORLY GRADED SAND (SP) black 10 YR 2/1, wet, fine sand.			
15			2.5						
16						Total depth 15 feet			
17									
18									
19									
20									
21									
22									
23									
24									
25									

no soil gas sample taken raining and water coming into borehole



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-17

SHEET 1 OF 1

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 12' N of Building, 34' N of S Fence, 37' E of Building

DRILLING CONTRACTOR: WDC Exploration & Wells, Zamora, Ca.

105 ft W of E fence

DRILLING METHOD AND EQUIPMENT: Direct push Geoprobe Model 7730T track mounted coring unit

WATER LEVELS, DATE, AND TIME:

12.7 feet, 2/22/2006

DRILLING START DATE & TIME:

02/22/06

DRILLING FINISH DATE & TIME:

02/22/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6" 6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. cuttings	SYMBOLIC LOG	CORE DESCRIPTION		WELL	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG	DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION	
1						WELL GRADED SAND WITH GRAVEL (SW) olive 5Y 4/5, moist, fine to very coarse sand, with fine, angular gravel - pieces of serpentine.			
2									
3									
4			2.0			CLAYEY GRAVEL (GC) olive gray 5Y 5/2, moist, fine, angular gravel with app. 30% clay, clasts of serpentine.			
5									
6						CLAYEY SAND WITH GRAVEL (SC) olive gray 5Y 5/2 moist, fine to coarse sand with clay and fine gravel, clasts of serpentine.			soil gas sample SB17 - SG5
7									
8									
9			3.0			POORLY GRADED SAND WITH GRAVEL (SW) black 5Y 2.5/1 fine to coarse sand with fine gravel.			
10						POORLY GRADED SAND (SP) black 10Y 2.5/1.			pieces of broken bricks
11									
12									
13						WELL GRADED SAND WITH GRAVEL (SW) very dark gray 5Y 3/1, moist, fine to coarse sand with fine gravel.			
14			2.5			POORLY GRADED GRAVEL (GP) very dark gray 5Y 3/1, wet, fine, angular gravel.			gravel lens at 14 feet borehole takes several extra bags of grout to fill
15						Total depth 15 feet			
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									



CH2MHILL

PROJECT NUMBER:
184288.NS.HG

BORING NUMBER:
SB-18

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **SE corner of yard in front of blue Conex Box, con't below**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca. / 25' W of E Fence, 35' N of S Fence**

WATER LEVELS, DATE, AND TIME:

12.7 feet, 2/22/2006

DRILLING START DATE & TIME:

02/22/06

DRILLING FINISH DATE & TIME:

02/22/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 5'-5"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. outtings	SYMBOLIC LOG	CORE DESCRIPTION	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, OOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, DTHCR CONTAMINANTS	SYMBOLIC DRILLING RATE, DRILLING FLUID LOSS LOG CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1							
2							
3							
4			2.0				
5							
6							soil gas sample SB18 - SG5
7							
8			3.0				
9							
10							
11							pieces of brick in core
12							
13							
14			2.5				
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



Total depth 15 feet



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-19

SHEET 1 OF 1

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **41' S of N Fence, 120' E of W Fence, South Area**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca.**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

WATER LEVELS, DATE, AND TIME:

12.9 feet, 2/27/2006

DRILLING START DATE & TIME:

02/27/06

DRILLING FINISH DATE & TIME:

02/27/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. cuttings	SYMBOLIC LOG	CORE DESCRIPTION	WELL
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1						CLAYEY GRAVEL (GC) dark gray 5Y 3/2, moist to wet, angular fine gravel with 40 to 50% clay.	rain
2							
3			4.0			SERPENTINE GRAVEL (GP) greenish gray 10GY 5/1 dry, weathered serpentine.	
4							
5						SANDY LEAN CLAY (CL) grayish brown 10YR 5/2, moist clay with app. 25 to 30%, fine to coarse sand.	
6			2.0				soil gas sample SB19 - SG5
7						CLAYEY SAND WITH GRAVEL (SC) olive gray 5Y 5/2, moist, fine to coarse sand with clay and gravel size clasts of serpentine.	
8							
9			2.5			POORLY GRADED SAND (SP) very dark gray 5Y 3/1, wet, fine sand.	
10							
11							
12						CLAYEY SAND (SC) olive gray 5Y 5/2, moist, fine to coarse sand with app. 20% clay.	
13			3.5			FILL - Bricks - red 2.5YR 4/6.	pieces of brick
14						FILL - WOOD - black 10YR 2/1, wet, pieces of wood.	pieces of wood
15						Total depth 15 feet	
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-20

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **NE Corner of S Yard, 35' S of N Fence, 25' W of E Fence**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca.**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

WATER LEVELS, DATE, AND TIME:

12.2 feet, 2/24/2006

DRILLING START DATE & TIME:

02/24/06

DRILLING FINISH DATE & TIME:

02/24/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-6'(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. cuttings	SYMBOLIC LOG	CORE DESCRIPTION		WELL	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG	DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION	
1_			3.0			WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 5/2, dry, fine to coarse sand with fine gravel.			
2_									
3_									
4_			3.5			WELL GRADED SAND WITH GRAVEL (SW) greenish gray 5GY 5/1, dry, medium to very coarse sand with gravel, pieces of serpentine.		OVM 2 = back ground pieces of serpentine soil gas sample SB20 - SG5	
5_									
6_									
7_									
8_									
9_									
10_						POORLY GRADED SAND AND BRICKS (SW) red 2.5YR 5/8, and very dark gray 10YR 3/1, moist broken brick, fine to medium sand, and pieces of wood.	OVM 1ppm on fresh sample		
11_									
12_									
13_									
14_									
15_						POORLY GRADED GRAVEL WITH SAND (GP) very dark gray 10YR 3/1, wet, fine, angular gravel to 1 cm with sand.	OVM 4ppm downhole after coring at 11.5 ft. pieces of brick and wood		
16_									
17_									
18_									
19_									
20_									
21_									
22_									
23_									
24_									
25_									

Total depth 15 feet.



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-21

SHEET 1 OF 1

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 33' E of W Fence, 127' N of S Fence, Central Area

DRILLING CONTRACTOR: WDC Exploration & Wells, Zamora, Ca.

DRILLING METHOD AND EQUIPMENT: Direct push Geoprobe Model 7730T track mounted coring unit

WATER LEVELS, DATE, AND TIME:

11.1 feet, 2/24/2006

DRILLING START DATE & TIME:

02/23/06

DRILLING FINISH DATE & TIME:

02/24/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-8"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. cuttings	SYMBOLIC LOG	CORE DESCRIPTION		WELL	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG	DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION	
1			2.5		[Symbolic Log]	POORLY GRADED SAND WITH GRAVEL (SW) olive gray 5Y 4/2, dry to moist, fine to coarse sand with fine gravel.		OVM = back ground	
2									
3									
4			2.5		[Symbolic Log]	CLAYEY GRAVEL WITH SAND (GC) olive 5Y 5/3, moist, fine gravel with clay and sand, clasts of serpentine.	soil gas sample SB21 - SG5		
5									
6									
7			2.5		[Symbolic Log]	WELL GRADED SAND (SW) very dark gray 2.5Y 3/1, moist, fine to very coarse sand, some serpentine clasts.	OVM 3 ppm = back ground		
8									
9									
10			3.0		[Symbolic Log]	WELL GRADED GRAVEL WITH SAND (GW) grayish brown 10YR 5/2, moist, fine to medium gravel to 3 cm with fine to coarse sand.	poor recovery in gravel, probably blocked off core barrel		
11									
12									
13									
14									
15									
16						Total depth 15 feet			
17									
18									
19									
20									
21									
22									
23									
24									
25									



CH2MHILL

PROJECT NUMBER:
184288.NS.HG

BORING NUMBER:
SB-26

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **40' S of N Fence to Cement Plant, 73' W of E Fence**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca.**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

WATER LEVELS, DATE, AND TIME:

9.6 feet, 02/22/2006

DRILLING START DATE & TIME:

02/22/06

DRILLING FINISH DATE & TIME:

02/22/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G cuttings	SYMBOLIC LDG	CORE DESCRIPTION	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG
1						WELL GRADED SAND WITH GRAVEL (SW) dark grayish brown 2.5Y 4/2, dry, fine to coarse sand with fine gravel.	
2							
3							
4			2.0			WELL GRADED SAND (SW) grayish brown 10YR 5/2, moist, fine to coarse sand.	soil gas sample attempt brought up water perched zone no sample taken
5							
6							
7						WELL GRADED SAND WITH GRAVEL (SW) brown 10YR 4/3, moist, fine to coarse sand with fine gravel.	
8			2.5				
9							
10						WELL GRADED SAND WITH GRAVEL (SW) brown 10YR 4/3, moist, fine to coarse sand with fine gravel.	
11			3.0				
12							
13						Total depth 15 feet	
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-27

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **NE corner of control yard, 41' W of E Fence, con't below**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca. / 14' S of N Fence**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

WATER LEVELS, DATE, AND TIME:

9.2 feet, 02/24/2006

DRILLING START DATE & TIME:

02/24/06

DRILLING FINISH DATE & TIME:

02/24/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. outtings	SYMBOLIC LOG	CORE DESCRIPTION	WELL
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1			2.5			WELL GRADED SAND WITH GRAVEL (SW) very dark grayish brown 2.5Y 3/2, moist, fine to coarse sand with fine gravel.	clear sunny OVM = back ground
2							
3			3.5			WELL GRADED SAND (SW) very dark grayish brown 2.5Y 3/2, moist, fine to coarse sand with app 5% fine gravel.	
4							
5			3.0			POORLY GRADED GRAVEL WITH SAND (GP) grayish brown 2.5Y 5/2, moist, fine gravel with medium to coarse sand (app. 25-40%).	OVM = back ground soil gas sample SB27 - SG5
6							
7			2.5			POORLY GRADED SAND (SP) light grayish brown 10YR 6/2, wet, fine to dry coarse sand.	
8							
9						POORLY GRADED GRAVEL WITH SAND (SP) very dark gray 5Y 3/1, fine gravel with sand.	OVM = 1ppm on fresh wet sample
10						LEAN CLAY (CL) greenish gray 10GY 4/1, wet clay.	
11							
12							
13							
14							
15							
16						Total depth 15 feet	
17							
18							
19							
20							
21							
22							
23							
24							
25							



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-29

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **by Cement Box, app. 175 ft N of S fence, 170' E of W fence**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca.**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

WATER LEVELS, DATE, AND TIME:

8.7 feet, 2/20/2006

DRILLING START DATE & TIME:

02/20/06

DRILLING FINISH DATE & TIME:

02/20/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G.outlings	SYMBOLIC LOG	CORE DESCRIPTION		WELL	
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, DOOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG	DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION	
1						WELL GRADED SAND WITH GRAVEL (SW) dark grayish brown 10YR 4/2, moist, fine to coarse sand with fine gravel.			
2									
3									
4									
5									
6						WELL GRADED SAND WITH GRAVEL AND CLAY (SW/SC) dark greenish gray 10GY 4/1, moist fine to coarse sand with serpentine clasts.			
7									soil gas sample SB29 - SG5
8									
9									
10									
11						WELL GRADED SAND WITH GRAVEL (SW) greenish gray 10GY 6/1, wet, fine to coarse sand with serpentine clasts.			
12						Total depth 11.5 feet			
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									



CH2MHILL

PROJECT NUMBER:

184288.NS.HG

BORING NUMBER:

SB-31

SHEET **1** OF **1**

SOIL BORING LOG

PROJECT NAME: **San Francisco Electric Reliability Project**

LOCATION: **60' S of N Building and Fence, 275' E of W con't below**

DRILLING CONTRACTOR: **WDC Exploration & Wells, Zamora, Ca. / Fence to Cement plant yard**

DRILLING METHOD AND EQUIPMENT: **Direct push Geoprobe Model 7730T track mounted coring unit**

WATER LEVELS, DATE, AND TIME:

11.2 feet, 2/21/2005

DRILLING START DATE & TIME:

02/21/06

DRILLING FINISH DATE & TIME:

02/21/06

LOGGER:

Rob Pexton PG

DEPTH BELOW SURFACE (FEET)	SPT BLOW COUNT 6"-6"(N)	SAMPLE INTERVAL DEPTH (FEET)	LENGTH OF RECOVERY OF CORE (FEET)	SAMPLE NAME & TYPE E.G. cuttings	SYMBOLIC LOG	CORE DESCRIPTION		WELL		
						SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	SYMBOLIC LOG	DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION		
1						WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 5/2, dry, fine to very coarse sand with fine gravel.				
2										
3										
4			2.0			WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 5/2, moist, fine to very coarse sand with fine gravel.				
5									soil gas sample SB31 - SG5	
6										
7										
8			1.0							
9										
10						FILL - SAND AS ABOVE WITH PIECES OF CLAYEY GRAVEL (GC) very dark grayish brown 10YR 3/2, moist, fine gravel with coarse sand and app. 30-40% clay.			small pieces of brick in clay	
11										
12			2.0			GRAVELLY CLAY (CL) black 2.5Y 2.5/1, moist clay with fine gravel and sand.			drilled to 11.5 ft had to push to 14 ft to set 1" screen to get water sample	
13										
14						POORLY GRADED GRAVEL WITH SAND (SP) dark gray 5Y 4/1, wet, angular, fine gravel with coarse sand.				
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
						Total depth 14 feet				

Attachment C - Responses to RWQCB Comments

Response to Comments Table

Comments to the <i>Draft Field Investigation Summary Report, March 30, 2006</i> . Comments received April 14, 2006 via email from Nancy Katyl, SFBRWQCB.		
No.	Comment	Response
1	The report was not signed by a licensed professional (Engineer or Geologist) as required.	The Final report will be signed by a professional geologist.
2	Why are soil concentrations compared to the USEPA Preliminary Remediation Goals (PRGs) when the groundwater results are compared to the Environmental Screening Levels (ELs)? PRGs do not consider the soil vapor or leaching to groundwater pathways, which at this site may be important.	The soil results tables (5-1, 5-2, and 5-3) have been revised so that a comparison to ESLs can be made.
3	What is the correct scale of Plate 2 (Is there a Plate 1)? The figure provided in the February 3 work plan has a scale of 1 inch = 600 feet while the same figure has a scale of 1 inch = 50 feet. It also refers to "proposed boring locations". Please fix the scale and legend.	The scale on the original GTC figures was incorrect and inadvertently used for the FSP. The correct scale is 1 inch = 50 feet. The legend has been corrected as requested and the figure number changed to Plate 1.
4	Sampling location SB-27 has been moved (exact distance unknown due to scale issue listed in comment 3) from the assumed downgradient edge of the site, as agreed to in the January 31 meeting, to a location closer to the center. Why was it moved so far? Was this change conveyed to, or approved by, anyone at the Water Board?	The eastern "site" boundary is the fence line on the west side of Maryland Street and not the dashed line shown on the draft version figure and has been corrected for this final report. The borings SB-18, SB-20, and SB-27 were moved to be within or as close as possible to the site proper and not on Maryland Street. At the time of the field effort, there was a significant amount of construction material (for the adjacent MUNI project) that was staged in the vicinity along the eastern fence line. Borings SB-18, -20, and -27 could not be drilled along the eastern edge as originally planned. The field crew moved the borings to the nearest closest accessible location. The borings were moved 50 feet or less.

5	<p>Why do some analytes for soil have different PRGs listed depending on the analytical methods (8270C vs. 8310)? Please explain or correct table 5-1 through 5-3.</p>	<p>The results have now been compared to Tier 1 ESLs as requested in comment 2.</p>
6	<p>Soil gas data are provided in ppbv. These units are incorrect and need to be converted (to ug/ m3) and the data resubmitted.</p>	<p>The laboratory provided both ppbv and ug/ m3. Table 5-4 has been revised to show the results in ug/ m3 as requested.</p>