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CH2MHILL

May 30, 2006

184288

DOCKET
04-AFC-1
DATE MAY 30 2006
RECD. MAY 31 2006

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

SFPUC
WATER
WASTEWATER
POWER

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 9th Floor, San Francisco, CA 94103 • Tel. (415) 554-0725 • Fax (415) 554-3161 • TTY (415) 554.1854

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May 30, 2006

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

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

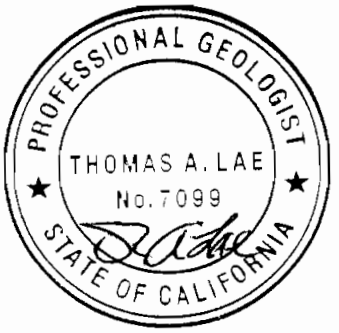
The City and County of San Francisco

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 deteecion 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 repored 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] $\mu g/m^3$ or less). In seven borings, concentration exceeded 1,000 $\mu g/m^3$. SB-17 contained vinyl chloride, trans-1,2-dichloroethene, and cis-1,2-dichloroethene at 2,800 $\mu g/m^3$, 3,800 $\mu g/m^3$,and 1,600 ppbv, respectively. SB-23 contained hexane and propane, 2-methyl at 12,000 and 13,000 $\mu g/m^3$, 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 $\mu g/L$ to 3,500 $\mu g/L$. The highest reported concentration was from the sample collected at SB-18, in the southern part of the site. A concentration of 3,300 $\mu g/L$ 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 $\mu g/L$. 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 $\mu g/L$. The ND was reported from SB-29, located in the northern part of the site and 2,500 μg /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 $\mu g/L$. 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 $\mu g/L$ to 12,000 $\mu g/L$. All but the single 540 $\mu g/L$ detection exceeded 1,000 $\mu g/L$. 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 $\mu g/L$. 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 that 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

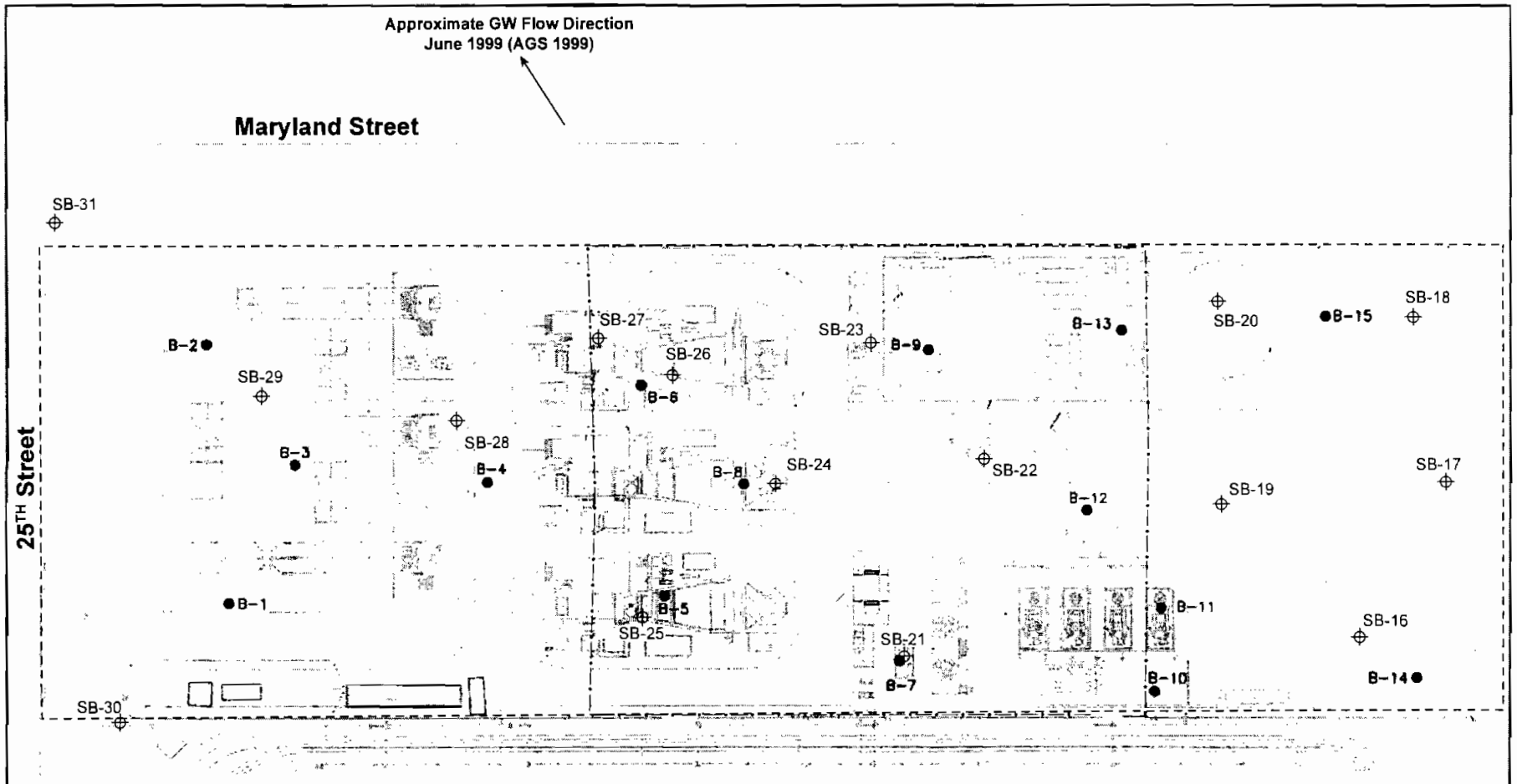
The results of this study show that TPH is present in both soil and groundwater at the proposed SFERP project site. TPH-Diesel, TPH-Bunker C Oil, and TPH–Motor Oil were all frequently detected across this site. TPH-Gasoline was rarely reported and at low concentrations. VOCs in soil, soil gas, and groundwater 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.



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. C1, Preliminary Issue

*Approximate Locations – Not To Scale

N

50' 25' 0 50' 100'

SCALE: 1" = 50'

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

Field Exploration Map	PLATE 1
Muni Site	Sept. 2005
SFPUC ERP Power Plant	SF05019

ES012006018SAC sample_locations2.ai 05/24/06 ldeus

Table 5-1
Soil Detections
SFERP Power Plant Site

			RWQCB Tier 1 ESL	SB-16			SB-17			SB-18			SB-19			SB-20		
Sample Method	**Analyte**	**Units**	**Screening Levels**	**SB16-S0**	**SB16-S5**	**SB16-S10**	**SB17-S0**	**SB17-S5**	**SB17-S10**	**SB18-S0**	**SB18-S5**	**SB18-S10**	**SB19-S0**	**SB19-S5**	**SB19-S10**	**SB20-S0**	**SB20-S5**	**SB20-S10**
EPA 6010B	Antimony	mg/Kg	40	3.8		35			8.3									
EPA 6010B	Arsenic	mg/Kg	0.24	9.2	0.77	24	2.9	3.7	14	5.4	4.3	6.4	8.4	1.2	9.6	4.9	4.6	5.4
EPA 6010B	Barium	mg/Kg	1,500	130	14	290	68	180	250	160	160	140	130	29	100	240	75	130
EPA 6010B	Beryllium	mg/Kg	8	0.2		0.65		0.14	0.2	0.22	0.3	0.36	0.27		0.25	0.37	0.12	0.21
EPA 6010B	Cadmium	mg/Kg	7	0.7		1.8	0.34	0.48	0.58	0.4			0.47		0.46			
EPA 6010B	Chromium	mg/Kg	2,500	81	1300	58	430	390	41	71	61	55	120	97	200	220	30	21
EPA 6010B	Cobalt	mg/Kg	10	12	79	11	64	36	9.1	10	10	7.3	17	25	34	28	8.3	2.5
EPA 6010B	Copper	mg/Kg	230	75	32	200	40	47	160	36	29	41	42	110	57	37	12	3.6
EPA 6010B	Lead	mg/Kg	750	170	0.88	1400	20	67	340	85	180	93	96	33	93	56	21	13
EPA 6010B	Molybdenum	mg/Kg	40	3.7		4.2		1.1	0.96	1.6								
EPA 6010B	Nickel	mg/Kg	150	120	1700	46	1300	650	37	93	39	31	220	52	580	360	43	15
EPA 6010B	Selenium	mg/Kg	10	0.3	1.2	1.4			0.6	0.34	0.75			0.94	0.74	1.9	0.87	
EPA 6010B	Thallium	mg/Kg	13	0.44		0.51				0.32		0.93	0.97	0.85	0.29		0.83	0.65
EPA 6010B	Vanadium	mg/Kg	200	38	42	47	44	65	53	48	80	59	51	78	63	49	27	26
EPA 6010B	Zinc	mg/Kg	600	230	32	1600	49	91	300	120	85	100	110	99	100	80	91	21
EPA 7471A	Mercury	mg/Kg	10	0.25	0.031	0.7	0.033	0.51	0.71	0.31	0.31	0.58	0.4	0.21	0.33	0.22	0.22	0.034
EPA 8015B	Bunker C C12-40	mg/Kg	1,000	570		500	160	700	130	460	1800	830	260	15000	47	140	59	10000
EPA 8015B	Diesel C10-C24	mg/Kg	500	40		110	16	92	12	38	170	100	20	2500	6.6	15	14	2500
EPA 8015B	Gasoline C7-C12	mg/Kg	400											0.37				3.2
EPA 8015B	Motor Oil C24-C36	mg/Kg	500	300		170	82	330	61	230	950	380	140	6500	21	68	18	3100
EPA 8082	Aroclor-1242	ug/Kg	740															
EPA 8082	Aroclor-1248	ug/Kg	740	99														
EPA 8082	Aroclor-1254	ug/Kg	740	64														
EPA 8082	Aroclor-1260	ug/Kg	740	66	15					17			120				15	
EPA 8260B	2-Butanone	ug/Kg	NE									95		13				
EPA 8260B	Acetone	ug/Kg	500						25					81				
EPA 8260B	cis-1,2-Dichloroethene	ug/Kg	3,600					1400	5.7									
EPA 8260B	Naphthalene	ug/Kg	1,500					520										
EPA 8260B	trans-1,2-Dichloroethene	ug/Kg	7,300					880										
EPA 8260B	Trichloroethene	ug/Kg	730					450										
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					76										
EPA 8270C	Benzo(a)pyrene	ug/Kg	1,300					120										
EPA 8270C	Benzo(b)fluoranthene	ug/Kg	1,300					99										
EPA 8270C	Benzo(g,h,i)perylene	ug/Kg	27,000					95										
EPA 8270C	Benzo(k)fluoranthene	ug/Kg	130				99	120			220	590						
EPA 8270C	Butylbenzylphthalate	ug/Kg	NE															
EPA 8270C	Chrysene	ug/Kg	13,000					97										
EPA 8270C	Fluoranthene	ug/Kg	40,000				97	130				600						
EPA 8270C	Fluorene	ug/Kg	8,900															
EPA 8270C	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300					78										
EPA 8270C	Naphthalene	ug/Kg	1,500															
EPA 8270C	Phenanthrene	ug/Kg	11,000															
EPA 8270C	Pyrene	ug/Kg	85,000				120	180			260	810				180		
EPA 8310	Acenaphthylene	ug/Kg	1,300									140		500				

Table 5-1
Soil Detections
SFERP Power Plant Site

			RWQCB Tier 1 ESL	SB-16			SB-17			SB-18			SB-19			SB-20		
Sample Method	**Analyte**	**Units**	**Screening Levels**	**SB16-S0**	**SB16-S5**	**SB16-S10**	**SB17-S0**	**SB17-S5**	**SB17-S10**	**SB18-S0**	**SB18-S5**	**SB18-S10**	**SB19-S0**	**SB19-S5**	**SB19-S10**	**SB20-S0**	**SB20-S5**	**SB20-S10**
EPA 8310	Anthracene	ug/Kg	2,800	37	87	50	14	17		11	85	100	21	150	6.6	12		
EPA 8310	Benzo(a)anthracene	ug/Kg	1,300	160	330	340	65	110	23	33	77	550	140	300	36	72	6.4	
EPA 8310	Benzo(a)pyrene	ug/Kg	1,300	170	420	390	95	160	21	29	66	550	140	110	36	81	8.7	
EPA 8310	Benzo(b)fluoranthene	ug/Kg	1,300	140	260	340	64	130	33	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	77	550	960	170	470	140	130	18	
EPA 8310	Benzo(k)fluoranthene	ug/Kg	130	88	170	180	34	63	13	16	43	260	69	92	16	35		
EPA 8310	Chrysene	ug/Kg	13,000	260	390	420	72	140	74	64	89	600	180	850	51	81	7.8	5.8
EPA 8310	Dibenz(a,h)anthracene	ug/Kg	380	150	410	400	130	200	24	32	160	580	150	170	31	88	14	
EPA 8310	Fluoranthene	ug/Kg	40,000	320	630	640	200	280	130	93	520	1500	250	900	76	140	11	
EPA 8310	Fluorene	ug/Kg	8,900	18	32								8.2	1000				
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300	130	320	270	83	140	24	24	270	450	70	100	99	53	7.4	
EPA 8310	Naphthalene	ug/Kg	1,500															
EPA 8310	Phenanthrene	ug/Kg	11,000	160	340	230	120	110	27	71	380	1100	140	1400	51	78	4.4	4.2
EPA 8310	Pyrene	ug/Kg	85,000	250	630	560	200	220	28	63	85	1400	230	1100	75	140	10	4.1
PLM	Asbestos	%						trace			trace	trace	trace		trace			
EPA 9045C	pH	SU		10.3	8.2	8.5	10.4	8.6	9.7	11	8.1	9	9.7	9.1	8.4	7	7.7	9

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

			RWQCB Tier 1 ESL	SB-21			SB-22			SB-23			SB-24		SB-25			SB-26			SB-27		
Sample Method	**Analyte**	**Unit**	**Screening Levels**	**SB21-S0**	**SB21-S5**	**SB21-S10**	**SB22-S0**	**SB22-S5**	**SB22-S10**	**SB23-S0**	**SB23-S5**	**SB23-S10**	**SB24-S0**	**SB24-S10**	**SB25-S0**	**SB25-S5**	**SB25-S10**	**SB26-S0**	**SB26-S5**	**SB26-S10**	**SB27-S0**	**SB27-S5**	**SB27-S10**
EPA 6010B	Antimony	mg/Kg	40									5.5					4.4						
EPA 6010B	Arsenic	mg/Kg	0.24	4.7	0.57	8.2	4.8	4.1	4.1	5.1	6.2	18	3.5	3.6	6.3	11	26	4	5.5	1.5	3.9	5.1	0.56
EPA 6010B	Barium	mg/Kg	1,500	92	3.3	350	160	210	210	170	82	390	220	49	200	210	230	110	1200	80	67	160	64
EPA 6010B	Beryllium	mg/Kg	6	0.29		0.47	0.32	0.25	0.42	0.21	1.4	0.21	0.21		0.27	0.21	0.21	0.15	0.22	0.25	0.15	0.26	0.11
EPA 6010B	Cadmium	mg/Kg	7	0.32		0.95	0.36			0.32	0.3	1.5	0.3	0.39	0.35		1.2		0.29	0.64		0.65	
EPA 6010B	Chromium	mg/Kg	2,500	58	1100	22	39	57	220	44	4	50	29	48	26	51	45	40	50	120	37	39	78
EPA 6010B	Cobalt	mg/Kg	10	9.4	100	4.2	8.2	8.4	20	6.9	2.7	10	4.8	17	6.1	9.6	8.4	7.7	5.6	38	7.7	7.4	23
EPA 6010B	Copper	mg/Kg	230	20	6.4	13	30	32	27	23	4	180	12	81	22	23	100	19	20	91	13	25	70
EPA 6010B	Lead	mg/Kg	750	42		80	27	16	39	25	27	480	5.4	90	16	5.9	180	16	8.2	3.7	31	28	
EPA 6010B	Molybdenum	mg/Kg	40					1.1	2.2	1.1	2.6	1.5	1.2	1.4	1.3		7.9		5.3				
EPA 6010B	Nickel	mg/Kg	150	90	2300	19	57	100	360	49	11	73	26	33	34	74	48	46	34	92	49	50	38
EPA 6010B	Selenium	mg/Kg	10	0.54	3.6	0.68				0.3			0.69	2.4		0.39	1	0.66		1.4	0.46	0.93	1.4
EPA 6010B	Thallium	mg/Kg	13	0.5		0.64		0.41		0.47		0.82	0.59		0.48	0.77		0.4	0.61		0.41	0.28	0.64
EPA 6010B	Vanadium	mg/Kg	200	42	44	29	40	40	35	52	7	41	54	78	52	72	41	53	51	110	42	43	77
EPA 6010B	Zinc	mg/Kg	600	88	29	200	58	54	83	53	71	870	39	240	44	44	310	88	44	220	46	58	50
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	
EPA 8015B	Bunker C C12-40	mg/Kg	1,000	38	440	110	2200	550	140	1600	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																				
EPA 8015B	Motor Oil C24-C36	mg/Kg	500	16	200	47	1100	290	51	600	170	18	570	9500	330	150	280	1300	210	6.3	1900	2700	
EPA 8082	Aroclor-1242	ug/Kg	740																22				
EPA 8082	Aroclor-1248	ug/Kg	740																				
EPA 8082	Aroclor-1254	ug/Kg	740	50						140			540		18		1000	3000	30		130	310	
EPA 8082	Aroclor-1260	ug/Kg	740				30				14						1100						
EPA 8260B	2-Butanone	ug/Kg	NE																				
EPA 8260B	Acetone	ug/Kg	500						24										33				
EPA 8260B	cis-1,2-Dichloroethene	ug/Kg	3,600																				
EPA 8260B	Naphthalene	ug/Kg	1,500											75									
EPA 8260B	trans-1,2-Dichloroethene	ug/Kg	7,300																				
EPA 8260B	Trichloroethene	ug/Kg	730																				
EPA 8270C	2-Methylnaphthalene	ug/Kg	5,600											310000									
EPA 8270C	4-Chloroaniline	ug/Kg	53											450000									
EPA 8270C	Acenaphthylene	ug/Kg	1,300											380000									
EPA 8270C	Anthracene	ug/Kg	2,800											560000									
EPA 8270C	Benzo(a)anthracene	ug/Kg	1,300											420000									
EPA 8270C	Benzo(a)pyrene	ug/Kg	1,300			89								480000									
EPA 8270C	Benzo(b)fluoranthene	ug/Kg	1,300			120								430000									
EPA 8270C	Benzo(g,h,i)perylene	ug/Kg	27,000											210000									
EPA 8270C	Benzo(k)fluoranthene	ug/Kg	130											170000									
EPA 8270C	Butylbenzylphthalate	ug/Kg	NE													3900							
EPA 8270C	Chrysene	ug/Kg	13,000			93								480000									
EPA 8270C	Fluoranthene	ug/Kg	40,000			98								1200000									
EPA 8270C	Fluorene	ug/Kg	6,900											470000									
EPA 8270C	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300											170000									
EPA 8270C	Naphthalene	ug/Kg	1,500											1200000									
EPA 8270C	Phenanthrene	ug/Kg	11,000											2600000									
EPA 8270C	Pyrene	ug/Kg	85,000		80	80								1400000									
EPA 8310	Acenaphthylene	ug/Kg	1,300											82000									
EPA 8310	Anthracene	ug/Kg	2,800		5.5		80	22	14	39	47			100000	13		16	71	44			26	
EPA 8310	Benzo(a)anthracene	ug/Kg	1,300	35	38	6.9	62	120	96	66	300		54	130000	24	7.3	60	130	66	8.8	100	53	27
EPA 8310	Benzo(a)pyrene	ug/Kg	1,300	25	65	7.9	28	120	170	38	290		44	88000	21	5.6	77	86	54	10	69	43	
EPA 8310	Benzo(b)fluoranthene	ug/Kg	1,300		44	7.3	36	120	120	41	300			55000	28	9.4	63	100	42	8	98	61	33
EPA 8310	Benzo(g,h,i)perylene	ug/Kg	27,000	57	100	16	55	380	400	81	320		100	65000	51		83	230	46	22	220	91	60
EPA 8310	Benzo(k)fluoranthene	ug/Kg	130		23	3.6	20	67	71	28	160			36000	14		36	64	35	4.7	45	26	10
EPA 8310	Chrysene	ug/Kg	13,000	110	40	9.7	160	190	170	210	360		250	110000	73	26	91	400	180	14	280	120	61
EPA 8310	Dibenz(a,h)anthracene	ug/Kg	380		110	16	13	140	160		310			67000	8.7		66	150	59	10		13	9.6
EPA 8310	Fluoranthene	ug/Kg	40,000	73	84	20	180	300	190	210	570		230	450000	86	29	160	470	260	18	420	170	48
EPA 8310	Fluorene	ug/Kg	6,900											110000				41	25			11	
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300	43	70	6.6	43	150	150	37	160		49	50000	23		56	160	50	10	170	38	44
EPA 8310	Naphthalene	ug/Kg	1,500						45					130000			55						
EPA 8310	Phenanthrene	ug/Kg	11,000	43	40	18	90	120	110	110	280		120	580000	56	20	110	260	230	9.1	240	110	13
EPA 8310	Pyrene	ug/Kg	85,000	58	97	12	120	210	160	120	480		140	430000	59	16	120	310	160	13	270	100	37
PLM	Asbestos	%			trace						trace												
EPA 9045C	pH	SU		9.4	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
SW8151A - Chlorinated Herbicides - All ND

Highlighted Cell - exceeds screening level

Table 5-3
Soil Detections
SFERP Power Plant Site

			RWQCB Tier 1 ESL	SB-28			SB-29			SB-30			SB-31		
Sample Method	**Analyte**	**Units**	**Screening Levels**	**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 6010B	Antimony	mg/Kg	40									25			3.5
EPA 6010B	Arsenic	mg/Kg	0.24	6.3	6.6	3.3	6.9	5.5	2	9.8	5.8	44	7.4	3.7	38
EPA 6010B	Barium	mg/Kg	1,500	91	59	34	390	110	8.2	82	140	150	80	180	170
EPA 6010B	Beryllium	mg/Kg	8	0.21	0.39		0.29	0.22		0.2	0.27		0.21	0.25	0.62
EPA 6010B	Cadmium	mg/Kg	7	0.3	0.42	0.55	0.43	0.24		0.54	0.56	1.1	0.25		1.2
EPA 6010B	Chromium	mg/Kg	2,500	31	91	300	45	45	440	32	45	54	32	40	55
EPA 6010B	Cobalt	mg/Kg	10	5.9	33	77	6.4	8.4	84	10	7.8	22	5.6	6	7.7
EPA 6010B	Copper	mg/Kg	230	15	120	33	15	24	5.5	21	25	230	17	21	95
EPA 6010B	Lead	mg/Kg	750	8.8	38	32	7.6	45	1.7	24	20	320	9.4	2.6	210
EPA 6010B	Molybdenum	mg/Kg	40	1.2	1.2		2.5			0.83	2.9	3.4	1.9	1.8	3.5
EPA 6010B	Nickel	mg/Kg	150	25	64	2600	42	64	1900	38	52	60	26	43	63
EPA 6010B	Selenium	mg/Kg	10	0.71	1.5	2.4	0.96		0.93	0.68	0.4	8.1			2.2
EPA 6010B	Thallium	mg/Kg	13				0.77							0.38	
EPA 6010B	Vanadium	mg/Kg	200	38	120	17	68	30	18	42	55	110	34	40	41
EPA 6010B	Zinc	mg/Kg	600	53	130	610	37	51	23	54	65	270	47	33	310
EPA 7471A	Mercury	mg/Kg	10	0.024	0.082	0.072	0.027	0.039		0.04	0.088	0.46	0.04		1.5
EPA 8015B	Bunker C C12-40	mg/Kg	1,000	2200	270	75	430	48	21	3800	3500	400	390	270	920
EPA 8015B	Diesel C10-C24	mg/Kg	500	250	39	13	82	5.9	2.8	190	200	38	29	35	53
EPA 8015B	Gasoline C7-C12	mg/Kg	400												
EPA 8015B	Motor Oil C24-C36	mg/Kg	500	1100	120	29	200	22	8.9	2100	1800	200	200	130	500
EPA 8082	Aroclor-1242	ug/Kg	740												
EPA 8082	Aroclor-1248	ug/Kg	740												
EPA 8082	Aroclor-1254	ug/Kg	740												
EPA 8082	Aroclor-1260	ug/Kg	740		15										
EPA 8260B	2-Butanone	ug/Kg	NE												
EPA 8260B	Acetone	ug/Kg	500												54
EPA 8260B	cis-1,2-Dichloroethene	ug/Kg	3,600												
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(a)pyrene	ug/Kg	1,300												
EPA 8270C	Benzo(b)fluoranthene	ug/Kg	1,300		79										
EPA 8270C	Benzo(g,h,i)perylene	ug/Kg	27,000												
EPA 8270C	Benzo(k)fluoranthene	ug/Kg	130												
EPA 8270C	Butylbenzylphthalate	ug/Kg	NE												
EPA 8270C	Chrysene	ug/Kg	13,000												
EPA 8270C	Fluoranthene	ug/Kg	40,000		96										
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		110										
EPA 8310	Acenaphthylene	ug/Kg	1,300												

Table 5-3
Soil Detections
SFERP Power Plant Site

			RWQCB Tier 1 ESL	SB-28			SB-29			SB-30			SB-31		
Sample Method	**Analyte**	**Units**	**Screening Levels**	**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		1300	62	41					6.4	5.6		14
EPA 8310	Benzo(a)anthracene	ug/Kg	1,300	7.6	4200	160	56				24	35	30		81
EPA 8310	Benzo(a)pyrene	ug/Kg	1,300	5.4	5100	160	43	5.7			6.7	49	30		100
EPA 8310	Benzo(b)fluoranthene	ug/Kg	1,300	12	5200	100	26	12			17	46	48		90
EPA 8310	Benzo(g,h,i)perylene	ug/Kg	27,000		4500	210	73	39		38	28	100	66		210
EPA 8310	Benzo(k)fluoranthene	ug/Kg	130		2600	53	18	8.2			11	22	16		50
EPA 8310	Chrysene	ug/Kg	13,000	13	3800	180	75	15		100	22	66	110		150
EPA 8310	Dibenz(a,h)anthracene	ug/Kg	380		3500	140	34	43			12	38			150
EPA 8310	Fluoranthene	ug/Kg	40,000	22	7900	410	140			38	110	84	260		190
EPA 8310	Fluorene	ug/Kg	8,900			19	7.7								
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/Kg	1,300	6	4400	130	27	52		50	31	40			95
EPA 8310	Naphthalene	ug/Kg	1,500												
EPA 8310	Phenanthrene	ug/Kg	11,000	16	3100	290	100	12			15	49	33		92
EPA 8310	Pyrene	ug/Kg	85,000	18	2900	380	120	8.5			7.5	65	50		130
PLM	Asbestos	%	NE					3	2	trace					
EPA 9045C	pH	SU		12.1	9.7	8.3	12.3	8.3	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

			Southern				Central							Northern			
Sample Method	**Analyte**	**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**
TO-14A	1,1,1-Trichloroethane									17							
TO-14A	1,1-Dichloroethene	N	41		N	11						N					
TO-14A	1,2,4-Trichlorobenzene	O			O							O					
TO-14A	1,2,4-Trimethylbenzene													58		9.2	
TO-14A	1,2-Dichloroethane	S		5.3	S							S					
TO-14A	1,3,5-Trimethylbenzene	A			A							A		24			
TO-14A	2,2,4-Trimethylpentane	M		55	M				1300			M	16	590		7.6	
TO-14A	2-Butanone (Methyl Ethyl Ketone)	P	96		P	18	8.3	13		5.4	20	P	6.1	15		53	4.8
TO-14A	2-Propanol	L			L							L				27	
TO-14A	4-Ethyltoluene	E			E							E		44		6	
TO-14A	Acetone		39			92	37	120		43	140		21	64	18	240	52
TO-14A	Benzene	C	400	69	C	75	10		1100	9.1	16	C	11	29	5.7	33	23
TO-14A	Carbon Disulfide	O			O	5.9	3.9	5.3		16	23	O		9.8		32	14
TO-14A	Chloroform	L			L						13	L	100	59	72		
TO-14A	cis-1,2-Dichloroethene	L	6200	83	L	220						L					
TO-14A	Cumene	E			E	20						E					
TO-14A	Cyclohexane	C	170	140	C	160	9.4	8.3	2500	24	310	C	17	73	5.4	29	37
TO-14A	Ethanol	T			T		8.2	24			10	T				12	
TO-14A	Ethyl Benzene	E			E	5.6						E		5.7			
TO-14A	Freon 11	D			D			36		47	31	D			8.6		
TO-14A	Freon 12									5.8							22
TO-14A	Heptane		86			17	5.9		1300	6.5	33		10	140		41	22
TO-14A	Hexane		260	140		230	29	5.9	12000	22	79		18	64	5	66	44
TO-14A	m,p-Xylene					6.6	5.2		250	6.3	8.3			25		15	9.3
TO-14A	Methylene Chloride						36						5.4				
TO-14A	o-Xylene													10		5.4	
TO-14A	Propene, 2-methyl-		1600	2100		1900		210	13000	260	1300		300	840	1300	1500	900
TO-14A	Propylbenzene													16			
TO-14A	Tetrachloroethene									12	25				120	8.3	
TO-14A	Tetrahydrofuran						4.4						13	3.6		6.8	
TO-14A	Toluene		31			9	8.9		340	9.4	18		6.2	44	5.4	28	16
TO-14A	trans-1,2-Dichloroethene		3800	31		290											
TO-14A	Trichloroethene		250	15		62	42							11	350	9.7	
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

			RWQCB Tier 1 ESL	Southern					Central							Northern			
			Screening Levels	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
Sample Method	Analyte	Units		SB16-W10	SB17-W10	SB18-W10	SB19-W10	SB20-W10	SB21-W10	SB22-W10	SB23-W10	SB24-W10	SB25-W10	SB26-W10	SB27-W10	SB28-W10	SB29-W10	SB30-W10	SB31-W10
EPA 6010B	Arsenic	ug/L	36			9.5	25			7.5	13	8.9	190	7.2	18	5.4	17	13	16
EPA 6010B	Barium	ug/L	1000	86	310	66	310	220	310	240	370	13	250	72	16	230	22	140	77
EPA 6010B	Chromium	ug/L	180									22							
EPA 6010B	Copper	ug/L	3.1									17							130
EPA 6010B	Lead	ug/L	2.5			5.1				6.9	23								9
EPA 6010B	Molybdenum	ug/L	240			20								30	78				33
EPA 6010B	Nickel	ug/L	8.2																36
EPA 6010B	Selenium	ug/L	5	9.3			8.7			8.7				5.1			12	12	
EPA 6010B	Vanadium	ug/L	19			150						18		81	30				
EPA 6010B	Zinc	ug/L	81	55												130		53	31
EPA 7470A	Mercury	ug/L	0.012																0.87
EPA 8015B	Bunker C C12-40	ug/L	640	1200	5000	8800	4700	11000	3400	4300	3300	5700	4200	3500	12000	1300	590	2000	5300
EPA 8015B	Diesel C10-C24	ug/L	640	300	1800	3500	1700	2900	870	1200	880	1700	1100	1300	3300	340	140	560	790
EPA 8015B	Gasoline C7-C12	ug/L	500					200											
EPA 8015B	Motor Oil C24-C36	ug/L	640	420	980	1000	710	2500	830	940	780	1300	1000	570	2500	340		530	2200
EPA 8260B	1,2,4-Trimethylbenzene	ug/L	NE					7.5											
EPA 8260B	1,3,5-Trimethylbenzene	ug/L	NE					3											
EPA 8260B	1,2-Dichloroethane	ug/L	690			1.4													
EPA 8260B	Acetone	ug/L	1500									10							
EPA 8260B	Benzene	ug/L	46		2.8	4.5	1.1	4.8											
EPA 8260B	Carbon Disulfide	ug/L	NE			1.1													
EPA 8260B	Chlorobenzene	ug/L	25				0.7												
EPA 8260B	Chloroform	ug/L	62													0.5			
EPA 8260B	cis-1,2-Dichloroethene	ug/L	590		1.4	24	0.8	6.8											
EPA 8260B	Ethylbenzene	ug/L	290					1.3											
EPA 8260B	Isopropylbenzene	ug/L	NE					1.2											
EPA 8260B	m,p-Xylenes	ug/L	100					2.5											
EPA 8260B	MTBE	ug/L	1800			1.2											1.1	3.1	1.1
EPA 8260B	Naphthalene	ug/L	24					3.3											
EPA 8260B	o-Xylene	ug/L	100					2.2											
EPA 8260B	para-Isopropyl Toluene	ug/L	1300					1.1											
EPA 8260B	Propylbenzene	ug/L	NE					1.5											
EPA 8260B	sec-Butylbenzene	ug/L	NE					0.9											
EPA 8260B	trans-1,2-Dichloroethene	ug/L	590		1.5	2.9		2.1											
EPA 8260B	Trichloroethene	ug/L	360			0.6										1.6	1		
EPA 8260B	Vinyl Chloride	ug/L	13		0.8	6.1		3.4											
EPA 8310	Acenaphthene	ug/L	23					5.4											
EPA 8310	Anthracene	ug/L	0.73	0.11			0.39	0.7				2.1							
EPA 8310	Benzo(a)anthracene	ug/L	270	0.36		0.11	1.3	0.15			0.14	1.8	0.29						0.16
EPA 8310	Benzo(a)pyrene	ug/L	0.027	0.48		0.12	1.6				0.15	2	0.52	0.11					0.17
EPA 8310	Benzo(b)fluoranthene	ug/L	0.029	0.35			1.3					1.1	0.41						
EPA 8310	Benzo(g,h,i)perylene	ug/L	0.1	1.2		0.34	3.2				0.31	2	0.81	0.21					0.24
EPA 8310	Benzo(k)fluoranthene	ug/L	0.014	0.19			0.67					0.67	0.19						
EPA 8310	Chrysene	ug/L	0.35	0.43		0.19	1.4	0.16			0.18	1.7	0.29						0.34
EPA 8310	Dibenz(a,h)anthracene	ug/L	0.25	0.6		0.28	1.8				0.25	2.1	0.55						0.23
EPA 8310	Fluoranthene	ug/L	8	0.92	0.21	0.29	3	1.4			0.41	6.8	0.63					0.19	0.93
EPA 8310	Fluorene	ug/L	3.9			0.44	0.56	1.2				3.2							
EPA 8310	Indeno(1,2,3-cd)pyrene	ug/L	0.029	0.36		0.15	1.1				0.14	1.5	0.46						0.23
EPA 8310	Naphthalene	ug/L	24					3.4				6.4							
EPA 8310	Phenanthrene	ug/L	4.6	0.42	0.28	0.69	2.1	2.8	0.14		0.18	12			0.11				0.13
EPA 8310	Pyrene	ug/L	2	0.9	0.11	0.3	2.9	1.2	0.13		0.27	6.7	0.83	0.13				0.17	0.29
EPA 9040B	pH			7.3	8.1	9.7	8.3	9.2	7.8	8.2	8.1	10.7	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
SW8082 - 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~~ 20 / 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	Well Owner (If Different)	Consultant /Engineer/Geologist Name
San Francisco Port	- same -	CH2M Hill / Thomas Lee
Address Pier 1	Address	Address 2485 Natomas Pk Dr. #600
City, State, Zip San Francisco, CA 94111	City, State Zip	City, State, Zip Sacramento, CA 95833
Telephone Number 415 274 0256	Telephone Number	Telephone Number 916 286 0246

Please indicate Type and Number of Proposed Wells/Borings

Geotechnical Investigation:	Environmental Investigation:	Monitoring Wells Construction
[ ] Exploratory Wells	[x] Exploratory Holes	[ ] Chemical Leaks
[ ] Cathodic Wells	[ ] Water /Vapor Extraction Wells	[ ] Compliance Well
[ ] Cone Penetrometer Test	[ ] Hydropunch	[ ] Baseline Study
[ ] Shallow Anodes	[ ] LOP Workplan	[ ] Well Destruction
[ ] Other_____		[ ] 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, + GW 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.

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
Name and Address of Well Driller/ Company

283326
C-57 Driller's License Number

S R A Lee
Signature of Responsible Professional
(NO substitution of Signature will be accepted)

2/6/06
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

WATER QUALITY
monitoring wells

1390 Market Street, Suite 210
San Francisco, CA 94102

Phone (415) 252-3841
Fax (415) 252-3894
Sept. 2005

Attachment B – Boring Logs

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-16	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.7 feet, 2/27/2006	02/27/06	02/27/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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								no soil gas sample taken raining and water coming into borehole
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			Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-17	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.7 feet, 2/22/2006	02/22/06	02/22/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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						POORLY GRADED SAND WITH GRAVEL (SW) black 5Y 2.5/1 fine to coarse sand with fine gravel.		
9			3.0					
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 CONTRACTOR: WDC Exploration & Wells, Zamora, Ca. / 25' W of E Fence, 35' N of S Fence

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

WATER LEVELS, DATE, AND TIME:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.7 feet, 2/22/2006	02/22/06	02/22/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1								
2						WELL GRADED SAND WITH GRAVEL (SW) olive gray 5Y 4/2, moist, fine to coarse sand with fine angular gravel, serpentine clasts.		
3								
4			2.0					
5						WELL GRADED SAND (SW) dark greenish gray 5GY 4/1, moist, fine to coarse sand.		
6								soil gas sample SB18 - SG5
7								
8								
9								
10			3.0					
11						CLAYEY SAND (SC) very dark grayish brown 2.5Y 3/2, moist, fine to coarse sand with clay.		pieces of brick in core
12								
13								
14			2.5					
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-19	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.9 feet, 2/27/2006	02/27/06	02/27/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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								
10			2.5			POORLY GRADED SAND (SP) very dark gray 5Y 3/1, wet, fine sand.		
11								
12						CLAYEY SAND (SC) olive gray 5Y 5/2, moist, fine to coarse sand with app. 20% clay.		
13						FILL - Bricks - red 2.5YR 4/6.		pieces of brick
14			3.5					
15						FILL - WOOD - black 10YR 2/1, wet, pieces of wood.		pieces of wood
16						Total depth 15 feet		
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-20	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.2 feet, 2/24/2006	02/24/06	02/24/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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 coarse sand with fine gravel.		
2			3.0					
3								
4						WELL GRADED SAND WITH GRAVEL (SW) greenish gray 5GY 5/1, dry, medium to very coarse sand with gravel, pieces of serpentine.		
5								OVM 2 = back ground pieces of serpentine soil gas sample SB20 - SG5
6								
7								
8			3.5					
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								OVM 4ppm downhole after coring at 11.5 ft. pieces of brick and wood
13								
14								
15						POORLY GRADED GRAVEL WITH SAND (GP) very dark gray 10YR 3/1, wet, fine, angular gravel to 1 cm with sand.		
16						Total depth 15 feet.		
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-21	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
11.1 feet, 2/24/2006	02/23/06	02/24/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1						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			2.5					
4								
5						CLAYEY GRAVEL WITH SAND (GC) olive 5Y 5/3, moist, fine gravel with clay and sand, clasts of serpentine.		soil gas sample SB21 - SG5
6								
7			2.5					
8						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
9								
10								
11			3.0			WELL GRADED GRAVEL WITH SAND (GW) grayish brown 10YR 5/2, moist, fine to medium gravel to 3 cm with fine to coarse sand.		
12								
13								poor recovery in gravel, probably blocked off core barrel
14								
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-22	

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 100' N of S Fence to Mid'l Yard, con't below

DRILLING CONTRACTOR: WDC Exploration & Wells, Zamora, Ca. / 123' W of E Fence to Mid'l yard

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

WATER LEVELS, DATE, AND TIME:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.7 feet, 2/22/2006	02/22/06	02/22/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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, dry, fine to coarse sand with fine gravel.		found pieces of bent steel plate when hand augering
2								
3								
4			1.5			WELL GRADED SAND WITH GRAVEL (SW) gray 10YR 6/1, dry, fine to coarse sand with fine gravel.		OVM = back ground
5								
6								soil gas sample SB22 - SG5
7								
8								
9								
10			0.3			POORLY GRADED GRAVEL (GP) olive 5Y 5/3, serpentine cobblestone in core barrel.		core driven through cobble of serpentine, difficulty getting it out
11								
12						POORLY GRADED GRAVEL WITH SAND (GP) dark grayish brown 2.5Y 4/2, moist, fine gravel with sand.		soil sample taken at 11.5 ft SB22 - S11
13								
14			2.0			POORLY GRADED SAND (SP) very dark gray 2.5Y 3/1, wet, fine to medium sand.		large pieces of brick OVM = background
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-23	

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 50' W of Fence, 20' N of Gate, Central Yard

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
10.3 feet, 02/23/2006	02/22/06	02/23/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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 coarse sand with fine gravel.		
2								
3								
4								
5						WELL GRADED SAND WITH GRAVEL (SW) brown 10YR 4/3, moist, fine to coarse sand with fine gravel.		
6								small pieces of brick
7								soil gas sample SB23 - SG5
8								
9								
10						WELL GRADED SAND WITH GRAVEL (SW) dark greenish gray 5GY 4/1, moist, fine to coarse sand with fine gravel, pieces of serpentine.		
11								
12								
13								water sample taken, 02/23/2006
14								
15								
16						Total depth 15 feet		
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-24	

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 125' W of E Fence, 95' S of N Fence, Middle 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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
12.7 feet, 2/27/2006	02/24/06	02/27/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1						WELL GRADED SAND WITH GRAVEL (SW) light brownish gray 10YR 6/2, dry, fine to coarse sand with fine gravel.		clear
2								
3								
4								
5						SANDY LEAN CLAY (CL) olive gray 5Y 5/2, moist clay with fine sand.		
6								soil gas sample SB24 - SG5
7						SANDY LEAN CLAY (CL) light olive brown 2.5Y 5/4, moist clay with fine to coarse sand and some gravel.		
8								
9								
10						CLAYEY GRAVEL (GC) light olive brown 2.5 Y 5/3, moist, fine serpentine gravel with clay.		
11								
12			2.0					some wood at bottom of boring at 11.5 feet.
13						Total Depth 11.5 feet		
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-25	

SOIL BORING LOG

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

LOCATION: **NW corner of yard, 55' E of W Fence, 30' S of N 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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
7.5 feet, 02/23/2006	02/23/06	02/23/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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 coarse sand with fine gravel.		clear sunny
2								
3			2.5					
4						WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 5/2, dry, fine to coarse sand with gravel.		
5								
6			3.5			POORLY GRADED GRAVEL WITH SAND (GP) white 10YR 8/1, dry, fine, angular gravel with very coarse sand.		soil gas sample SB25 - SG5, 9:26
7								
8						POORLY GRADED GRAVEL WITH SAND (GP) 10YR 8/1.		
9								
10			1.0			POORLY GRADED GRAVEL WITH SAND (GP) 10YR 8/1.		
11								
12								
13						CLAYEY GRAVEL WITH SAND (GC) black 10YR 2/1, wet, fine gravel with clay and gravel sand, some pieces of brick.		black muck below water table poor recovery
14			0.5					
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-26	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
9.6 feet, 02/22/2006	02/22/06	02/22/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
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					
5						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
6								
7								
8								
9			2.5					
10								
11						WELL GRADED SAND WITH GRAVEL (SW) brown 10YR 4/3, moist, fine to coarse sand with fine gravel.		
12								
13								
14			3.0					
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-27	

SOIL BORING LOG

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

LOCATION: **NE corner of control yard, 41' W of E Fence, con't below / 14' S of N 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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
9.2 feet, 02/24/2006	02/24/06	02/24/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: DRILLING RATE, DRILLING FLUID LOSS CIRCULATION ZONES, TESTS CONDUCTED WATER LEVELS, WELL INSTRUMENTATION
1						WELL GRADED SAND WITH GRAVEL (SW) very dark grayish brown 2.5Y 3/2, moist, fine to coarse sand with fine gravel.		clear sunny
2			2.5					OVM = back ground
3								
4								
5						WELL GRADED SAND (SW) very dark grayish brown 2.5Y 3/2, moist, fine to coarse sand with app 5% fine gravel.		
6			3.5					
7						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
8								
9								
10			3.0			POORLY GRADED SAND (SP) light grayish brown 10YR 6/2, wet, fine to dry coarse sand.		
11								OVM = 1ppm on fresh wet sample
12						POORLY GRADED GRAVEL WITH SAND (SP) very dark gray 5Y 3/1, fine gravel with sand.		
13			2.5					
14						LEAN CLAY (CL) greenish gray 10GY 4/1, wet clay.		
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-28	

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 93' W of E Fence line of Central yard, 61' N of N con't below Fence line to Central yard

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
9 feet, 02/20/2006	02/20/06	02/20/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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								auger to 5 ft then drive soil gas probe
4								
5			3.5			FILL - WELL GRADED SAND WITH GRAVEL AND CLAY (SW/SC), small pieces of brick serpentine, some clayey material		soil gas sample SB28 - SG5, 11:45
6								
7								
8						WELL GRADED SAND (SW) pale brown 10YR 6/3, moist, fine to coarse subangular sand.		
9								
10			2.3					
11						WELL GRADED SAND WITH GRAVEL (SW) very dark grayish brown 2.5Y 4/2, moist, fine to very coarse sand with fine gravel.		serpentine in drive shoe.
12						Total depth 11.5 feet		
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-29	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
8.7 feet, 2/20/2006	02/20/06	02/20/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, OOOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-30	

SOIL BORING LOG

PROJECT NAME: San Francisco Electric Reliability Project

LOCATION: 6' N of Fence corner at NW corner, con't below

DRILLING CONTRACTOR: WDC Exploration & Wells, Zamora, Ca ./ at cement yard at 25th St.

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

WATER LEVELS, DATE, AND TIME:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
13.3 feet, 02/21/2006	02/21/06	02/21/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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, moist, fine to coarse sand with fine gravel and some clay.		
2								
3								
4			2.0			WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 5/2, moist, fine to coarse sand with fine gravel.		
5								
6						SANDY LEAN CLAY (CL) olive gray 5Y 4/2, moist clay with fine to medium sand.		soil gas sample SB30 - SG5
7								
8						WELL GRADED SAND WITH GRAVEL (SW) dark gray 5Y 4/1, moist, fine to coarse sand with fine gravel.		
9								
10			2.5					
11						SILTY SAND (SM) dark reddish brown 5YR 3/4, moist, dense, fine sand with silt.		
12								
13								
14			2.0			POORLY GRADED SAND (SP) black 5Y 2.5/1, wet, fine subangular sand.		
15						Total depth 15 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:	SHEET 1 OF 1
184288.NS.HG	SB-31	

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:	DRILLING START DATE & TIME:	DRILLING FINISH DATE & TIME:	LOGGER:
11.2 feet, 2/21/2005	02/21/06	02/21/06	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: SOIL NAME, (USCS SYMBOL), COLOR (STAINING), MOISTURE CONTENT, RELATIVE DENSITY, CONSISTENCY, SOIL STRUCTURE, MINERALOGY, ODOR, PRESENCE OF NON AQUEOUS PHASE LIQUID, OTHER CONTAMINANTS	WELL: SYMBOLIC LOG	WELL: 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						WELL GRADED SAND WITH GRAVEL (SW) grayish brown 10YR 5/2, moist, fine to very coarse sand with fine gravel.		
4			2.0					
5								soil gas sample SB31 - SG5
6								
7								
8								
9			1.0					
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						Total depth 14 feet		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Attachment C – Responses to RWQCB Comments

Response to Comments Table

Comments to the ***Draft Field Investigation Summary Report, March 30, 2006***. 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 (ELSs)? 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 1inch = 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	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.	The results have now been compared to Tier 1 ESLs as requested in comment 2.
6	Soil gas data are provided in ppbv. These units are incorrect and need to be converted (to ug/m3) and the data resubmitted.	The laboratory provided both ppbv and ug/m3. Table 5-4 has been revised to show the results in ug/m3 as requested.