APPENDIX E-1
CLEAN CLOSURE REPORT FORMER DEBRIS CONSOLIDATION CELL

CORNERSTONE
EARTH GROUP

Type of Services	**Clean Closure Report** **Former Debris Consolidation Cell**
Location	**1633 Oakland Road** **San Jose, California**
Client	**Markovits & Fox, Inc.**
Client Address	**14125 Capri Drive** **Los Gatos, California 95032**
Project Number	**114-1-10**
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Type of Services	**Clean Closure Report** **Former Debris Consolidation Cell**
Location	**1633 Oakland Road** **San Jose, California**

SECTION 1: INTRODUCTION

We are pleased to present this clean closure report for the removal of the former debris consolidation cell at 1633 Oakland Road in San Jose, California (Site). This work was performed in accordance with the June 21, 2007 Clean Closure Workplan, which was approved by the Department of Toxic Substances Control (DTSC) on October 23, 2007, and the April 14, 2005 Remedial Design and Implementation Plan (RDIP), approved by the DTSC on April 29, 2005.

1.1 PURPOSE

The purpose of this work was to remove and appropriately dispose the consolidation cell material in accordance with the Clean Closure Workplan.

1.2 BACKGROUND

Markovits & Fox, Inc. purchased the approximately 18-acre Site in 1957. For an unknown period of time prior to 1957, a pear orchard occupied the Site. Markovits & Fox, Inc. leased the property from 1957 to 1963 for continued cultivation of the orchard by others. Development of a metal recycling facility began on-Site in 1963 and Markovits & Fox, Inc. began operation in 1964. The metals recycling operations historically included sorting, shredding, and compressing of ferrous and non-ferrous metals. The sorted metals were transported off-Site for recycling by others.

During construction of the recycling facility, a pit was excavated in the northwest portion of the Site (Figure 2). Solid wastes from the on-Site recycling operations were buried in the pit (consolidation cell) until approximately 1970. The wastes were placed in compacted layers covered by soil (Lowney Associates, 2004).

The consolidation cell was capped with soil and pavement in the early 1970s. Previous investigations included the excavation of three exploratory trenches and the drilling of 30 exploratory borings in the consolidation cell to collect soil/debris samples for laboratory analyses and to record the type of debris observed. Solid wastes observed in the consolidation cell included paper and plastic packaging, wire, metal shavings, wood, glass, concrete fragments,

tires, and clothing. Analytical results of the consolidation cell material are summarized in the Clean Closure Work Plan (Lowney Associates, 2004).

The recycling facility ceased operation in 2000, and most of the structures were demolished in November 2001. Foundations of two structures were left in-place over the consolidation cell to preserve the integrity of the cap over the debris.

As described in the April 30, 2007 Interim Completion Report (TRC Lowney), the initial phase of Site cleanup was performed during 2006 in accordance with the November 10, 2004 Removal Action Workplan (RAW). Soil with contaminants of concern (COCs) detected above the unrestricted cleanup goals was removed from much of the Site, with the exception of the area of the existing consolidation cell and the location of an interim stockpile. Due to the presence of impacted soil detected at levels significantly above the unrestricted cleanup goals adjacent to the existing consolidation cell in two sidewall samples (SV-L15-7 and SV-L15-8) (Figure 3), it appeared that the soil removal activities could not be completed without destabilizing the consolidation cell. To complete the soil removal actions, removal of the existing consolidation cell material (clean closure) was performed from March 19 to May 23, 2008, as described below. Removal of the impacted soil adjacent to the consolidation cell and verification sampling/analyses was performed during removal of the consolidation cell material.

1.3 SCOPE OF WORK

As presented in our June 21, 2007 agreement with Markovits and Fox (Agreement), the scope of work performed for this work included the following:

- Destruction of four on-Site ground water monitoring wells;
- Observation of over-excavation of the consolidation cell material;
- Collection of verification soil samples, ponded water samples, and excavated material samples for laboratory analyses;
- Dust monitoring;
- Import soil quality evaluation and backfill compaction testing, and;
- Collection of three ground water grab samples for laboratory analyses

The limitations for this investigation are presented in Section 7.

SECTION 2.0: CLEANUP GOALS

Chemicals of Concern (COCs) and approved Site-Specific unrestricted cleanup goals for soil are summarized in Table 1. The basis for the cleanup goals is presented in the RAW (Lowney Associates, 2004).

Table 1. Cleanup Goals of COCs Detected in Consolidation Cell Debris

Contaminant	Unrestricted Cleanup Goal (parts per million [ppm])
Arsenic	21*
Cadmium	8.95
Chromium III	100,000
Copper	2,840
Lead	146
Nickel	148
Total DDT	1.0
PCBs	1.0
TPHd	100
TPHmo	500

*Upper Confidence Level (UCL) 95% of Site background

SECTION 3.0: EXCAVATION AND MATERIAL MANAGEMENT

Clean closure activities at the Site were performed in general accordance with the Clean Closure Workplan and the April 14, 2005 Remedial Design and Implementation Plan (RDIP) (Lowney Associates, 2005). Selected photographs of the removal activities are presented in Appendix A.

3.1 GROUND WATER MONITORING WELL DESTRUCTION

Prior to performing the removal of the consolidation cell, ground water monitoring wells -1, MFW-2, MFW-3, and MFW-4 were destroyed on February 6, 2008 in accordance with Santa Clara Valley Water District permit requirements. The well destruction completion notices are presented in Appendix C.

3.2 MATERIAL EXCAVATION, INTERIM STOCKPILING, AND DISPOSAL EVALUATION

3.2.1 Environmental Contractor Guidance

A Cornerstone Earth Group (Cornerstone) staff Geologist was present on-Site full time during the clean closure activities to provide guidance to the environmental contractor (Pacific States Environmental of Dublin, California), collect verification soil samples, and document conditions observed. The removal action was performed under the oversight of Peter Langtry, P.G., C.E.G. Backfill compaction criteria for the former consolidation cell were provided by Laura Knutson, P.E., G.E.

3.2.2 Removal and Evaluation of Consolidation Cell Cap

The consolidation cell was capped by approximately 1 to 8 feet of clayey soil. The cap soil was excavated and stockpiled separately in accordance with the RDIP as the underlying debris was over-excavated during March and April, 2008. Approximately 2,500 cubic yards of cap soil were excavated and stockpiled on-Site.

To evaluate disposal or re-use alternatives of the stockpiled cap soil, one discrete soil sample was collected for each approximately 250 cubic yards of cap material in accordance with the

RDIP. Twelve stockpiled soil samples (CS-SP-1 through CS-SP-10) were collected and submitted to a state certified laboratory and analyzed for arsenic and lead (EPA Test Method 6000). Laboratory analytical results of the stockpiled cap soil are presented in Table 2. The complete analytical results are presented in Appendix B.

Table 2. Analytical Results of Debris Pit Cap Soil Samples
(concentrations in ppm)

Sample ID	Date	Arsenic	Lead
CS-SP-1	4/14/2008	47	160
CS-SP-2	4/14/2008	26	75
CS-SP-3	4/14/2008	19	160
CS-SP-4	4/14/2008	33	110
CS-SP-5	4/14/2008	14	220
CS-SP-6	4/14/2008	65	210
CS-SP-7	4/14/2008	9.9	210
CS-SP-8	4/14/2008	100	240
CS-SP-9	4/14/2008	37	140
CS-SP-10	4/14/2008	21	160

Note: CS-SP-1 = Cap Soil-Stockpile-1

Based on the analytical results, lead and arsenic were detected in the cap soil exceeding the unrestricted cleanup goals. Therefore, the cap soil was placed into the existing interim stockpile for future on-Site consolidation.

3.2.3 Removal and Initial Evaluation of Consolidation Cell Material

The consolidation cell soil and debris were excavated and placed into temporary stockpiles. The stockpiles were placed on top of an impermeable 6-mil liner in accordance with Section 2.6.1 of the RDIP. The environmental contractor excavated and stockpiled approximately 30,000 cubic yards of consolidation cell material over a period of 21 days, between March 20 and April 17, 2008.

To evaluate whether the chromium, lead and nickel detected in the excavated consolidation cell soil required stabilization before off-Site disposal, one composite soil sample was collected for each approximately 700 cubic yards of stockpiled material (soil and debris); 44 composite soil samples (D-SP-1 through D-SP-44) were analyzed for soluble chromium, lead and nickel using the federal Toxicity Characteristic Leaching Procedure (TCLP) (EPA Test Method 6000). Analytical results are summarized in Table 3 and the analytical reports are presented in Appendix B.

Table 3. Initial Analytical Results of Excavated Debris
(concentrations in ppm)

Sample ID	Date	TCLP Chromium	TCLP Lead	TCLP Nickel
D-SP-1	3/21/08	<0.100	16.6	0.280
D-SP-2	3/21/08	<0.100	10.3	0.270
D-SP-3	3/21/08	<0.100	41.4	0.570
D-SP-4	3/25/08	<0.100	27.5	0.370
D-SP-5	3/25/08	<0.100	8.35	0.180
D-SP-6	**3/25/08**	**<0.100**	**4.47**	**0.150**
D-SP-7	3/27/08	<0.100	34.0	0.530

Continued.

Table 3, continued.

Sample ID	Date	TCLP Chromium	TCLP Lead	TCLP Nickel
D-SP-8	3/27/08	<0.100	65.5	0.470
D-SP-9	3/28/08	<0.100	18.3	1.13
D-SP-10	3/28/08	<0.100	47.7	0.560
D-SP-11	3/28/08	<0.100	15.5	0.410
D-SP-12	3/28/08	<0.100	7.91	0.990
D-SP-13	4/1/08	<0.100	20.7	0.697
D-SP-14	4/1/08	<0.100	13.9	0.507
D-SP-15	4/1/08	<0.100	12.0	0.776
D-SP-16	**4/1/08**	**<0.100**	**2.93**	**0.406**
D-SP-17	4/1/08	<0.100	21.3	7.87
D-SP-18	4/1/08	<0.100	10.8	1.01
D-SP-19	**4/1/08**	**<0.100**	**0.969**	**0.302**
D-SP-20	**4/1/08**	**<0.100**	**0.520**	**0.182**
D-SP-21	**4/2/08**	**<0.100**	**3.33**	**0.410**
D-SP-22	4/2/08	<0.100	6.66	0.450
D-SP-23	4/2/08	<0.100	6.79	0.690
D-SP-24	4/2/08	<0.100	9.90	0.650
D-SP-25	4/2/08	<0.100	23.0	0.460
D-SP-26	4/8/08	<0.100	7.01	0.370
D-SP-27	4/8/08	<0.100	23.3	0.310
D-SP-28	**4/8/08**	**<0.100**	**1.38**	**0.260**
D-SP-29	4/8/08	<0.100	10.6	0.910
D-SP-30	**4/8/08**	**<0.100**	**2.72**	**0.270**
D-SP-31	4/8/08	<0.100	14.3	0.800
D-SP-32	4/8/08	<0.100	5.65	0.250
D-SP-33	4/8/08	<0.100	7.08	0.330
D-SP-34	**4/15/08**	**<0.100**	**2.57**	**0.410**
D-SP-35	**4/15/08**	**<0.100**	**2.11**	**0.400**
D-SP-36	**4/15/08**	**<0.100**	**1.25**	**0.330**
D-SP-37	**4/15/08**	**<0.100**	**2.66**	**0.330**
D-SP-38	4/15/08	<0.100	14.0	1.18
D-SP-39	4/15/08	<0.100	6.64	0.490
D-SP-40	**4/15/08**	**<0.100**	**3.50**	**1.04**
D-SP-41	4/15/08	<0.100	10.7	0.500
D-SP-42	**4/15/08**	**<0.100**	**3.31**	**0.430**
D-SP-43	**4/15/08**	**<0.100**	**2.93**	**0.370**
D-SP-44	**5/13/2008**	**<0.100**	**0.730**	**0.130**
TCLP		5	5	5

Bold = stockpile sample that did not exceed TCLPs and did not require stabilization prior to disposal
Note: D-SP-1 = Debris-Stockpile-1

Laboratory analyses detected TCLP lead above 5 ppm in 29 out of 44 samples analyzed. The soil exceeding 5 ppm TCLP lead was stabilized before off-Site disposal, as discussed in Section 3.3.

3.2.4 Extent of Consolidation Cell Over-Excavation

The consolidation cell excavation was approximately 500 feet by 160 feet and extended to depths of approximately 25 feet, as shown on Figure 3. Ground water was encountered at a depth of approximately 21 feet and ponded in the deeper portion of the pit. The approximate area of the ponded water is shown on Figure 3. No sheen or odors were noted on the ponded water.

3.3 STABILIZATION OF EXCAVATED CONSOLIDATION CELL MATERIALS

Stockpiled consolidation cell soil that exceeded the TCLP limit was treated on-Site to reduce the solubility of lead to below the TCLP. Significant debris was present in the soil and was removed using a screen prior to treatment. Debris was removed for disposal along with the treated soil.

The consolidation cell material was mixed with a 1 to 2 percent phosphoric acid reagent in an on-Site pugmill. The contractor had a Transportable Treatment Unit (TTU) permit from the state (Appendix C) to operate the pugmill.

The treated material was re-tested for TCLP lead. Laboratory analyses of 17 composite soil samples (TM-SP-1 through TM-SP-17) detected TCLP lead below 5 ppm; this soil was removed for appropriate off-Site disposal as discussed in Section 3.7. Two composite soil samples had TCLP lead detected above 5 ppm. This material was re-treated and re-tested for TCLP lead; the post-treatment analyses did not detect TCLP lead above 5 ppm; the re-treated material was also removed for appropriate off-Site disposal. Analytical results are presented in Table 4 and the analytical reports are presented in Appendix B.

Table 4. Analytical Results of Treated Debris
(Concentrations in ppm)

Sample ID	Date	TCLP Lead	TCLP Chromium	TCLP Nickel
TM-SP-1(A-D)	6/18/2008	**9.46**	<0.100	0.350
TM-SP-2(A-D)	6/19/2008	1.840	<0.100	0.700
TM-SP-3(A-D)	6/23/2008	0.200	<0.100	0.680
TM-SP-4(A-D)	6/23/2008	0.240	<0.100	0.630
TM-SP-5(A-D)	6/25/2008	0.260	<0.100	0.590
TM-SP-6(A-D)	6/25/2008	<0.100	<0.100	0.840
TM-SP-7(A-D)	6/26/2008	0.110	---	---
TM-SP-8(A-D)	6/26/2008	0.450	---	---
TM-SP-9(A-D)	6/27/2008	0.140	---	---
TM-SP-10(A-D)	6/27/2008	<0.100	---	---
TM-SP-11(A-D)	7/1/2008	**9.14**	---	---
TM-SP-12(A-D)	7/1/2008	<0.100	---	---
TM-SP-13(A-D)	7/3/2008	0.270	---	---
TM-SP-14(A-D)	7/3/2008	<0.100	---	---
TM-SP-15(A-D)	7/3/2008	0.180	---	---
TM-SP-16(A-D)	7/7/2008	<0.100	---	---
TM-SP-17(A-D)	7/7/2008	0.130	---	---
TM-SP-1(AA-DD)[1]	7/7/2008	<0.100	---	---
TM-SP-11(A-D)[1]	7/11/2008	1.50	---	---
TCLP		5	5	5

[1] Retreated stockpile, 1(A-D) and 11(A-D).

Bold = Treated material exceeding TCLP.
--- = Analysis not required by disposal facility
Note: TM-SP-1 = Treated Material-Stockpile-1

3.4 VERIFICATION SOIL SAMPLING AND LABORATORY ANALYSES

Following removal of the consolidation cell material, verification soil samples were collected from the sidewalls and bottom of the excavation by Cornerstone's staff Geologist. Verification

soil samples were collected using hand sampling equipment using a 30-foot grid (900 square feet), with verification soil samples collected at one location per grid. The samples were collected from the surface to a depth of approximately ½ foot into the sidewall or base, as described on Table 5. The sidewalls were generally sloped at approximately 1:1 or 2:1 (horizontal to vertical), but were more gently sloping in some areas. Samples were identified as a base sample if they were collected from the generally flat portion of the pit below a depth of approximately 20 feet.

A grid identification system was developed, with the north-south rows labeled alphabetically starting at AA and the east-west rows labeled numerically starting at 0. Verification samples were given an identification number based on the sample grids (i.e. LF-3 from grid F3, meaning north-south row F, east-west row 3). The "L" was used to designate the samples as collected from the landfill (debris consolidation cell).

Verification soil samples collected from 66 grids were submitted to a state certified laboratory and analyzed for 17 California Assessment Manual (CAM) metals (EPA Test Method 6000/7000), PCBs (EPA Test Method 8082), total petroleum hydrocarbons in the diesel (TPHd) and motor oil (TPHmo) ranges (EPA Test Method 8015M), and volatile organic compounds (VOCs) (EPA Test Method 8260). The metal and PCB analyses were selected based on the COCs previously detected in the consolidation cell material above unrestricted cleanup goals. The VOC and TPH analyses were selected since these constituents have been detected in ground water in the area of the consolidation cell. Analytical results are summarized in Table 5 in the Tables section of this report. The complete analytical results are presented in Appendix B.

Several of the samples (LD-4, LE-5, LF-6, LG-7, LH-8, LI-9, and LJ-10) were collected from the base of the excavation below the ponded water using hand sampling equipment. Because these samples were saturated, the laboratory determined the moisture content of the samples and reported the analytical results as dry weight.

Based on the analytical results, approximately 1 additional foot of soil was excavated from several grids (AA0, B0, B2, C1, D2, D6, E2, I7, J9, and J11) where one or more COCs had been detected above cleanup goals. Approximately 300 additional cubic yards of soil were excavated. After the additional excavation, a new verification soil sample was collected from the same approximate location as the original sample and analyzed for the COCs that exceeded the cleanup goals in the initial sample. The new sample was identified with an "A" (i.e. LC-1A). Additional soil was excavated from grids AA0 and I7 until the final verification soil samples did not exceed cleanup goals, with subsequent verification samples identified with a "B" and "C".

Four of the initial verification samples (LB-2, LD-2, LI-7 and LJ-7) had PCBs detected above 1 ppm. Therefore, in accordance with Toxic Substances Control Agency (TSCA) guidelines, after excavation of additional soil from the grid, a 9-point composite sample was collected from the initial sample location using a 5-foot grid. Laboratory analysis of the 9-point composite sample at grid I7 (sample LI-7B) detected 61.5 ppm PCBs. Therefore, one additional foot of soil was over-excavated from this grid; approximately 50 tons of the over-excavated soil from grid I7 were removed for disposal as a TSCA hazardous waste, as discussed in Section 3.7. Laboratory analysis of the final verification samples did not detect PCBs over the Site cleanup goal.

Laboratory analyses of final verification soil samples did not detect COCs above Site unrestricted cleanup goals, with the exception of arsenic in six samples and lead in one sample. The arsenic exceeding the cleanup goals were detected in samples LE-5, LF-6, LG-3A, LG-7,

LH-8, and LI-9, which were collected from depths of approximately 7 to 25 feet. The lead exceeding the cleanup goal was detected in sample LG-3A, collected from a depth of approximately 7 feet. Using the U.S. EPA's ProUCL program (Version 3.0), the 95 percent Upper Confidence Level (UCL) of arsenic detected in the final verification samples was calculated to be 16 ppm. The 95 percent UCL of lead detected in the final verification samples was 30.7 ppm. The UCL calculation results are presented in Appendix D. No further soil was excavated.

3.5 PONDED WATER LABORATORY ANALYSES

To evaluate the quality of the ponded water, two samples of the ponded water were collected on April 23 and June 20, 2008. The samples were collected directly from the ponded water using the sample bottles. The samples were submitted to a state certified laboratory and analyzed for arsenic and thallium (EPA Test Method 6000), PCBs (EPA Test Method 8082), TPHd and TPHmo (EPA Test Method 8015M), and VOCs (EPA Test Method 8260). The sample collected April 23, 2008 was additionally analyzed for the remaining CAM 17 metals (EPA Test Method 6000/7000).

Analytical results are summarized in Table 6 in the Tables section of this report. The complete analytical results are presented in Appendix B. VOCs, PCBs, TPHd and TPHmo were not detected. Arsenic and barium were detected in the water below California drinking water MCLs. Antimony was detected at 0.013 ppm, which was above the drinking water Maximum Contaminant Level (MCL) of 0.006 ppm. However, the concentration of antimony detected likely is in the range of background levels for the shallow ground water and does not appear to be a significant concern. Previous ground water monitoring in the former consolidation cell area detected up to 0.0068 ppm antimony (TRC Lowney, 2006).

3.6 EXCAVATED SLOPE SOIL ANALYSES

After removal of the consolidation cell debris, the sidewalls of the excavation were sloped at approximately 2:1 to 3:1 in the upper approximately 15 feet of the excavation for safety and geotechnical reasons. Approximately 2,500 cubic yards of the excavated slope was stockpiled separately on-Site. To evaluate whether this soil could be re-used as fill on-Site, 11 discrete samples were collected from the stockpiles (approximately one sample per 250 cubic yards) and were submitted to a state certified laboratory. The samples were analyzed for arsenic, cadmium, chromium, copper, lead and nickel (EPA Test Method 6000), PCBs (EPA Test Method 8082), organochlorine pesticides (EPA Test Method 8081), TPHd and TPHmo (EPA Test Method 8015M). Analytical results are summarized in Table 7 in the Tables section of this report. The complete analytical results are presented in Appendix B. Sidewall sampling is discussed in Section 3.4.

Arsenic and pesticides were detected in stockpile samples SM-SP-11 , SM-SP-12, SM-SP-16 and SM-16-17 above Site cleanup goals. This soil was placed into the interim stockpile for future consolidation. The remaining slope material analytical results were below Site cleanup goals. This material was stockpiled for future on-Site use as general fill.

3.7 TRANSPORTATION AND DISPOSAL OF MATERIALS

From May to July 2008, approximately 14,114 tons of untreated debris and 16,126 tons of treated debris were removed for disposal as a California hazardous waste at Kettleman City Class I landfill. Approximately 47 tons of soil excavated from grid I7 were removed for disposal

as a TSCA hazardous waste at Kettleman City Class I landfill. In addition, approximately 250 tons of metal debris were removed for recycling at American Metal & Iron, Inc. facility in San Jose and approximately 466 tons of debris consisting primarily of wood that was free of soil were removed for disposal at the Zanker Road Class II facility in San Jose. Approximately 30 tons of vehicle tires that were segregated from the debris were removed for disposal as a Calfornia hazardous waste at Kettleman City Class I landfill during October 2008. Transportation was performed by various trucking companies.

Waste disposal manifests were signed by representatives of Markovits & Fox. The hazardous waste disposal manifests are presented in Appendix E.

3.8 DUST/AIR MONITORING

A lower explosive level (LEL) meter was used daily during the over-excavation of the consolidation cell material to monitor for possible explosive conditions. No readings were detected above 10 percent of the LEL.

From March 19 to May 23, 2008, perimeter dust monitoring was performed daily during excavation activities using PDR 1000 Aerosol Monitors. In general, two down-wind and one up-wind monitors were used each day. A summary of daily average dust measurements for the three monitoring locations is presented in Appendix F. None of the daily dust averages exceeded the 150 $\mu g/m^3$ dust action level presented in the RDIP.

In addition to the dust monitoring, perimeter air sampling was performed by a Certified Industrial Hygienist on March 20, March 21 and March 24, 2008 during the early stages of excavation of the debris to evaluate if additional dust controls appeared required. In addition, perimeter air sampling also was performed on July 3 and July 8, 2008 during the loading of the debris for off-Site disposal. Air samples were collected from two down-wind and one up-wind location on each day. Laboratory analyses of the air samples did not detect PCBs, arsenic, nickel, lead, copper, or chromium. The air monitoring results are presented in Appendix F.

3.9 EXCAVATION BACKFILLING

Prior to backfilling, ponded water was pumped from the pit and used for on-Site dust control. After the water level was lowered to near the base of the pit, the excavation was backfilled between a depth of approximately 22 and 25 feet with drain rock (crushed recycled concrete). The crushed concrete was covered by a geotextile fabric and backfilled with imported soil to a depth of approximately 15 feet below original grade. Imported soil quality was screened in general accordance with DTSC's Information Advisory – Clean Imported Fill Material (October, 2001). A summary of the imported soil is presented below; analytical results for the imported soil are presented in Appendix G. A summary of backfill compaction testing results also is presented in Appendix G.

Approximately 900 cubic yards:
Albany Drive, San Jose. Storm drain excavation.

Approximately 4,300 cubic yards
Villa Granada, Sunnyvale. Basement excavation.

SECTION 4.0: GROUND WATER QUALITY EVALUATION

In accordance with the Clean Closure Work Plan, ground water quality was evaluated in the former consolidation cell area after the debris was over-excavated. Based on previous quarterly and semi-annual ground water monitoring (TRC Lowney, 2006; Cornerstone Earth Group, 2008), ground water flow direction in the former consolidation cell area is to the southwest. Therefore, to evaluate ground water quality, three exploratory borings were drilled on the down-gradient side of the former consolidation cell, as discussed below.

4.1 SUBSURFACE INVESTIGATION

Our staff geologist supervised, logged and sampled three exploratory borings (SB-3, SB-4, and SB-5) in the area of the former consolidation cell (Figure 3). Subsurface investigation activities were performed on June 18, 2008. The exploratory borings were drilled to a depth of approximately 30 feet using direct-push equipment. Soil samples were collected from the borings continuously. Ground water was encountered at a depth of approximately 22 feet. Sampling protocol and boring logs are presented in Appendix I.

4.2 GROUND WATER SAMPLE COLLECTION AND LABORATORY ANALYSES

Ground water grab samples were collected from the three exploratory borings. Sample GS-1 was collected from boring SB-3, sample GS-2 was collected from boring SB-4, and GS-3 was collected from boring SB-5. Ground water grab sampling protocol is summarized in Appendix I.

Ground water grab samples were analyzed for TPHg and BTEX (EPA Test Method 8260), TPHd (EPA Test Method 8015), VOCs (EPA Test Method 8260), arsenic and thallium (EPA Test Method 6000). These analyses were selected to be consistent with the previous semi-annual ground water monitoring in the former consolidation cell area. Analytical results are summarized in Table 6. Chain of custody documentation and laboratory analytical reports are presented in Appendix B.

SECTION 5.0: QUALITY ASSURANCE REVIEW

The laboratory quality assurance (QA) procedures included matrix spike, matrix spike duplicates, laboratory control spike, laboratory control spike duplicates, and method blanks. The QA results appeared to be within the QA limits. The QA results are included in the laboratory reports in Appendix B.

Low concentrations (0.254 ppm or less) of methylene chloride were detected in six of the verification soil samples collected on April 29, 2008. Methylene chloride was not detected in the other verification soil samples or ponded water in the debris pit. Methylene chloride is a common laboratory solvent used for sample extractions. Because the methylene chloride was detected in samples collected the same day, the methylene chloride appears likely to have been a result of laboratory contamination.

SECTION 6.0: CONCLUSIONS

Debris formerly disposed in the consolidation cell was removed for appropriate off-Site disposal. Based on the analytical results, soil left in-place after removal of the debris meets Site

unrestricted cleanup goals. Based on analytical results of the ponded water samples collected from the former consolidation cell, the debris does not appear to have significantly impacted ground water quality. Further evaluation of soil quality in the former consolidation cell location does not appear required.

Laboratory analyses of ground water grab samples GS-2 and GS-3 did not detect petroleum hydrocarbons; the detection limit for sample GS-2 was raised due to limited sample volume. Laboratory analyses of ground water sample GS-1 detected 6,220 ppb TPHd. Sample GS-1 was collected from boring SB-3, located at the northwest end of the former consolidation cell. Previous ground water monitoring in the former consolidation cell area also detected diesel range hydrocarbons in well MFW-2, located approximately 40 feet from GS-1. Concentrations of TPHd detected in well MFW-2 decreased from 4,600 ppb in January 2003 to non-detect (less than 105 ppb) in January 2008 (TRC Lowney, August 12, 2006; Cornerstone Earth Group, 2008). Therefore, the TPHd detected at GS-1 appears to be limited in extent and the concentrations appear to be decreasing over time due to natural attenuation processes. Because debris has been removed from the former consolidation cell, the decrease in concentrations will likely continue.

Laboratory analyses did not detect VOCs in sample GS-3. VOCs were detected in ground water grab samples GS-1 and GS-2. However, with the exception of vinyl chloride detected at 0.71 ppb in GS-2, the VOCs detected were below MCLs. The MCL for vinyl chloride is 0.5 ppb. The concentration of vinyl chloride detected is lower than previous concentrations detected in the former consolidation cell area. We understand that the DTSC will require at least four consecutive quarters of ground water monitoring.

SECTION 7.0: LIMITATIONS

Cornerstone performed the clean closure oversight and prepared this work for the use of Markovits and Fox and DTSC. Markovits and Fox and DTSC understand that the extent of soil and ground water data obtained is based on the reasonable limits of time and budgetary constraints. In addition, the chemical information presented in this report can change over time and is only valid at the time of this investigation and for the locations sampled.

This report, an instrument of professional service, was prepared for the sole use of Markovits and Fox and DTSC. Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.

SECTION 8.0: REFERENCES

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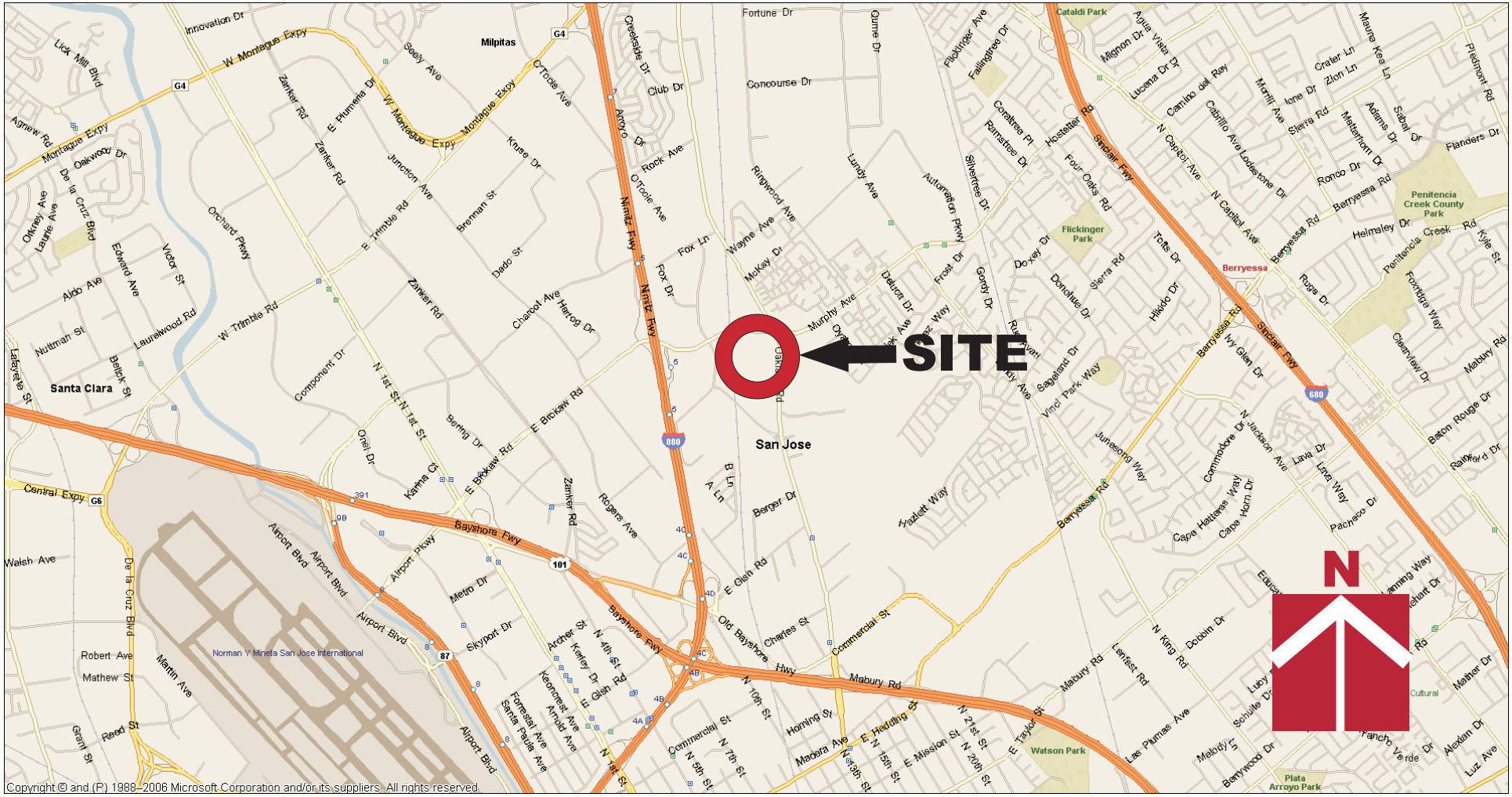


CORNERSTONE EARTH GROUP

Vicinity Map

1633 Oakland Road
San Jose, CA

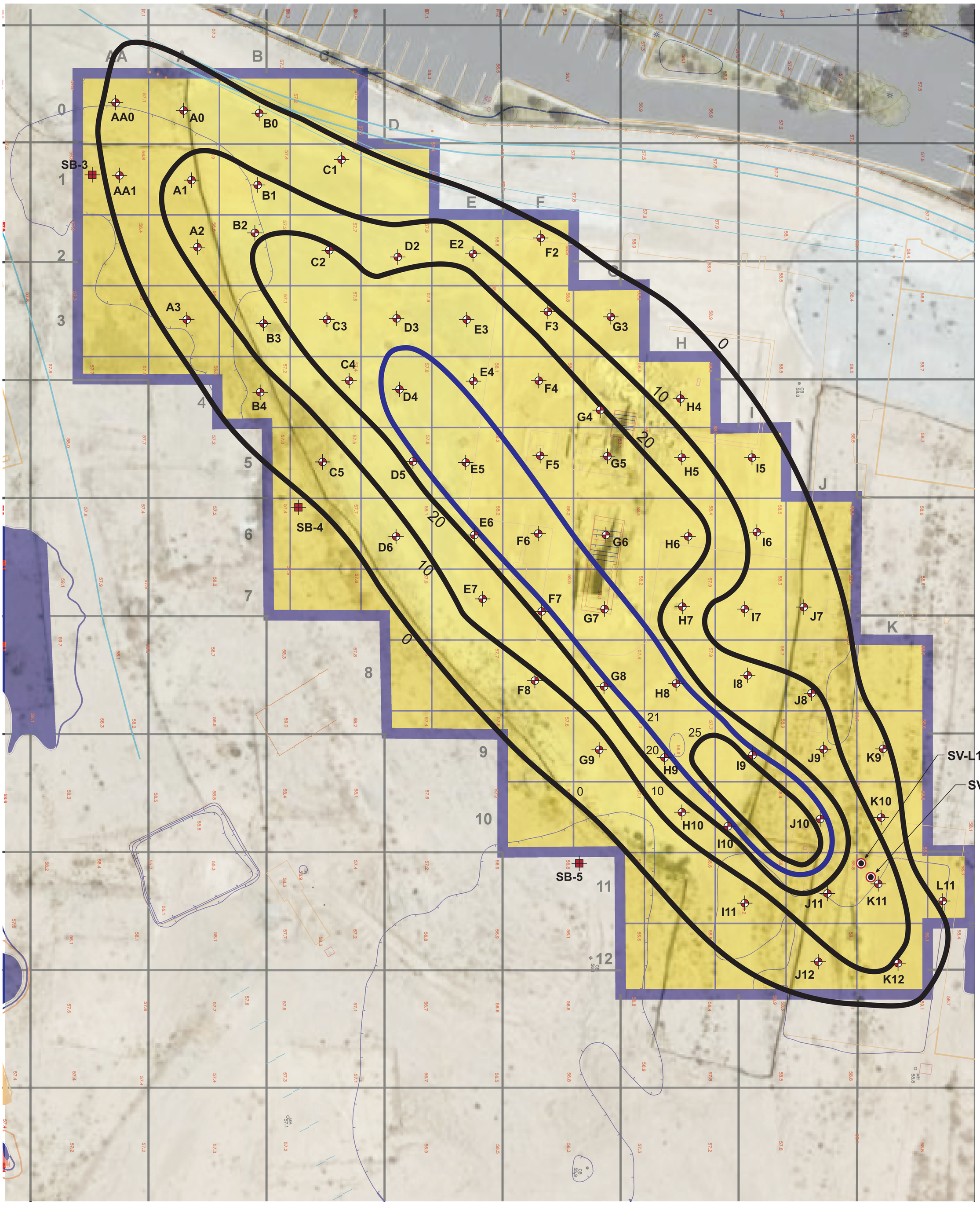
Project Number	114-1-10
Figure Number	Figure 1
Date	October 2008
Drawn By	MGV

CORNERSTONE EARTH GROUP

Site Plan

1633 Oakland Road
San Jose, California

Project Number	114-1-10
Figure Number	Figure 2
Date	October 2008
Drawn By	MGV



Approximate location of verification soil sample

Approximate location of 2006 verification soil sample (over-excavated)

Approximate Location of June 18, 2008 Ground Water Grab Sample

N

0 20 40 80

APPROXIMATE SCALE (FEET)

CORNERSTONE EARTH GROUP

Consolidation Cell Over-Excavation Verification Sample Locations

1633 Oakland Road San Jose, CA

Project Number	114-1-10
Figure Number	Figure 3
Date	October 2008
Drawn By	MGV

DATA SUMMARY TABLES

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Table 5. Analytical Results of Debris Pit Verification Soil Samples
(Concentrations in ppm)

Sample ID	Date	Depth (feet)	Location	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	VOCs	TPHd	TPHo
LA-0	4/29/2008	8	Sidewall	7.2	<1	50	30	10	83	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	a.	<2	<4
LA-1	4/23/2008	19	Sidewall	6.2	<1	46	22	6.9	71	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LA-2	4/23/2008	17	Sidewall	5.4	<1	44	26	9.8	82	<0.1	<0.2	<0.1	<0.1	<0.1	0.147	<0.1	ND	<2	<4
LA-3	4/23/2008	6	Sidewall	10	<1	48	27	11	83	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LAA-0	4/29/2008	2	Sidewall	**52**	2.7	44	66	130	77	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	b.	<2	39
LAA-0A	5/8/2008	3	Sidewall	**52**	2.6	44	47	69	77	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LAA-0B	5/21/2008	4	Sidewall	6.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LAA-1	4/25/2008	3	Sidewall	7.5	<1	47	32	9.9	82	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LB-0	4/29/2008	2	Sidewall	**140**	6.8	47	170	**560**	81	<0.1	<0.2	<0.1	<0.1	<0.1	0.702	<0.1	ND	<8	205
LB-0A	5/8/2008	3	Sidewall	**150**	7.1	45	190	**670**	81	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	3.84	12.2
LB-0B	5/21/2008	4	Sidewall	6	---	---	---	7.7	---	---	---	---	---	---	---	---	---	---	---
LB-1	4/28/2008	14	Sidewall	5.4	<1	43	36	12	80	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LB-2	4/23/2008	19	Base	6.8	1	69	80	120	110	<0.2	<0.4	<0.2	<0.2	<0.2	**2.13**	<0.2	ND	<40	**565**
LB-2A	5/2/2008	20	Base	---	---	---	---	---	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	---	<2	<4
LB-2B (1-9)	5/16/2008	20	Base	---	---	---	---	---	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	---	---	<4
LB-3	4/23/2008	16	Sidewall	6.4	<1	47	28	7.6	85	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LB-4	4/23/2008	6	Sidewall	7.1	<1	52	30	9.4	94	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LC-1	4/28/2008	3	Sidewall	**26**	1.4	42	43	26	82	<0.1	<0.2	<0.1	<0.1	<0.1	0.119	<0.1	ND	6.22	89.8
LC-1A	5/8/2008	4	Sidewall	13	<1	49	37	11	82	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	4.33
LC-2	4/23/2008	21	Base	19	1.4	48	34	11	81	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LC-3	4/17/2008	21	Base	2.2	<1	53	39	11	83	<0.1	<0.2	<0.1	<0.1	<0.1	0.113	<0.1	ND	<2	9.24
LC-4	4/23/2008	20	Base	18	1.3	50	30	10	91	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LC-5	4/23/2008	6	Sidewall	6.1	<1	43	28	29	75	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	c.	<2	<4
LD-2	4/29/2008	17	Sidewall	**27**	1.6	53	150	**180**	98	<0.1	<0.2	<0.1	<0.1	<0.1	**1.9**	<0.1	d.	68.9	**504**
LD-2A	5/8/2008	18	Sidewall	7.3	<1.0	48	32	9.2	91	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LD-2B (1-9)	5/21/2008	18	Sidewall	17	---	---	---	51	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	---	---	9.34
LD-3	4/17/2008	20	Base	19	<1	45	33	22	70	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	e.	<2	<4
LD-4*	5/7/2008	21	Base	8.8	1.5	48	160	**1,200**	77	<0.118	<0.235	<0.118	<0.118	<0.118	0.435	<0.118	ND	2.54	66.8
LD-4A	5/16/2008	22	Base	---	---	---	---	8.4	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	---	---	<4
LD-5	4/23/2008	20	Base	6.8	<1	60	53	19	93	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LD-6	5/5/2008	8	Sidewall	**62**	4	53	56	99	90	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.498	f.	280	374
LD-6A	6/13/2008	9	Sidewall	8.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LE-2	4/29/2008	16	Sidewall	**26**	1.6	50	74	100	86	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.177	g.	7.69	16.7
LE-2A	5/8/2008	17	Sidewall	7	<1	41	30	7.6	75	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LE-3	4/16/2008	20	Base	2.5	<1	71	48	14	99	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LE-4	4/17/2008	20	Base	<1.7	<1	57	41	13	84	<0.1	<0.2	<0.1	<0.1	<0.1	0.171	<0.1	ND	<2	6.01
LE-5*	5/7/2008	24	Base	6.8	<1.2	34	25	44	62	<0.122	<0.245	<0.122	<0.122	<0.122	<0.122	<0.122	ND	<4.89	161
LE-6	4/23/2008	21	Base	9.5	<1	56	44	18	88	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	7.13
LE-7	4/23/2008	16	Sidewall	6.4	<1	41	27	7.8	71	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LF-2	4/29/2008	3	Sidewall	6.6	<1	41	26	8.9	66	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LF-3	4/16/2008	11	Sidewall	6.6	<1	51	33	10	82	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LF-4	4/16/2008	20	Base	4.3	<1	62	47	20	88	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LF-5	4/16/2008	20	Base	8	<1	68	57	19	97	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	22.2	170
LF-6*	5/7/2008	24	Base	16	<1.4	62	59	24	110	<0.137	<0.273	<0.137	<0.137	<0.137	0.323	<0.137	ND	20.7	123
LF-7	4/29/2008	19	Base	4.4	<1	48	33	9	75	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
Cleanup Goal[1]				21	8.95	100,000	2,840	146	148	1	1	1	1	1	1	1		100	500

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Sample ID	Date	Depth (feet)		Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	VOCs	TPHd	TPHo
LF-8	4/29/2008	9	Sidewall	7.6	<1	44	30	11	75	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LG-3	4/16/2008	6	Sidewall	**33**	1.6	52	340	120	85	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.112	ND	4.7	53.8
LG-3A	5/2/2008	7	Sidewall	**36**	2.4	38	61	**150**	65	---	---	---	---	---	---	---	---	---	---
LG-4	4/16/2008	21	Base	6	<1	54	42	12	76	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LG-5	4/15/2008	21	Base	7.2	<1.0	60	47	28	84	<0.100	<0.200	<0.100	<0.100	<0.100	<0.100	<0.100	ND	<3	<6
LG-6	4/25/2008	21	Base	9.5	<1	52	52	38	80	<0.1	<0.2	<0.1	<0.1	<0.1	0.277	<0.1	ND	2.21	47.9
LG-7*	5/7/2008	23	Base	**49**	2.1	55	54	41	90	<0.139	<0.278	<0.139	<0.139	<0.139	<0.139	<0.139	ND	<2.78	<5.57
LG-8	4/29/2008	19	Base	6.8	<1	57	49	9.5	99	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LG-9	4/29/2008	7	Sidewall	6.6	<1	40	26	8.8	66	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	h.	<2	<4
LH-4	4/16/2008	8	Sidewall	7.5	<1	50	33	9.6	78	<0.1	<0.2	<0.1	<0.1	<0.1	0.296	<0.1	ND	<2	<4
LH-5	4/15/2008	16	Sidewall	8.2	<1.0	46	30	11	76	<0.100	<0.200	<0.100	<0.100	<0.100	<0.100	<0.100	ND	<2	<4
LH-6	4/15/2008	20	Base	<1.7	<1.0	62	42	13	86	<0.100	<0.200	<0.100	<0.100	<0.100	<0.100	<0.100	ND	<2	<4
LH-7	4/23/2008	16	Sidewall	6.3	<1	48	30	15	82	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	4.6
LH-8*	5/7/2008	24	Base	**46**	1.8	48	38	38	87	<0.128	<0.257	<0.128	<0.128	<0.128	<0.128	0.22	ND	<2.57	22.3
LH-9	5/8/2008	20	Base	8.4	<1	49	36	9.4	85	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LH-10	4/29/2008	19	Sidewall	8	<1	62	39	10	110	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LI-5	4/23/2008	5	Sidewall	9.4	<1	46	34	11	77	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LI-6	4/16/2008	8	Sidewall	7.8	<1	53	39	11	86	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LI-7	4/23/2008	7	Sidewall	15	1.2	47	44	48	83	<0.5	<1	<0.5	<0.5	<0.5	<0.5	**3.81**	ND	28.6	73.1
LI-7B (1-9)	5/22/2008	8	Sidewall	---	---	---	---	---	---	<10	<20	<10	<10	<10	<10	**61.5**	---	---	---
LI-7C (1-9)	5/30/2008	9	Sidewall	---	---	---	---	---	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.838	---	---	---
LI-8	4/30/2008	13	Sidewall	7.3	<1	48	31	9.2	83	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LI-9*	5/7/2008	25	Base	**38**	1.9	51	54	51	88	<0.143	<0.285	<0.143	<0.143	<0.143	<0.143	<0.143	ND	<2.85	<5.71
LI-10	5/8/2008	20	Base	14	<1	50	35	10	85	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LI-11	4/30/2008	5	Sidewall	6.4	<1	47	32	8.1	78	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LJ-7	4/30/2008	7	Sidewall	8.4	<1	52	33	9.8	91	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LJ-8	4/30/2008	11	Sidewall	7.3	<1	44	29	8.4	78	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LJ-9	4/30/2008	13	Sidewall	**74**	7.9	54	240	**320**	96	<0.1	<0.2	<0.1	<0.1	<0.1	**1.19**	<0.1	ND	<2	21
LJ-9A (1-9)	6/19/2008	14	Sidewall	6.6	---	---	---	11	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	---	---	---
LJ-10*	5/7/2008	24	Base	**23**	8.9	58	65	43	96	<0.143	<0.286	<0.143	<0.143	<0.143	0.195	<0.143	ND	<2.86	<5.73
LJ-11	4/30/2008	18	Base	9.5	3.6	68	320	**150**	98	<0.5	<1	<0.5	<0.5	<0.5	5.1	<0.5	ND	<2	28
LJ-11A (1-9)	6/13/2008	19	Base	---	---	---	---	8.8	---	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	---	---	---
LJ-12	4/30/2008	6	Sidewall	9	<1	48	32	12	78	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LK-9	5/1/2008	1	Sidewall	13	1	52	42	31	88	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LK-10	5/1/2008	7	Sidewall	7.4	<1	51	29	9	81	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LK-11	5/1/2008	16	Sidewall	10	<1	52	32	22	82	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LK-12	4/30/2008	10	Sidewall	16	1.4	50	41	39	83	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<2	<4
LL-11	5/1/2008	1	Sidewall	**27**	1.6	56	54	64	97	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.122	ND	<2	4.88
Cleanup Goal[1]				21	8.95	100,000	2,840	146	148	1	1	1	1	1	1	1		100	500

1 Unrestricted Cleanup Goal as approved by DTSC, November 2004
< Not detected at or above laboratory reporting limit
Yellow Sample Location Over-Excavated
Blue Soil sample collected below water that was not over-excavated.
a. 0.254 ppm methylene chloride
b. 0.098 ppm methylene chloride
c. 0.017 ppm trichloroethene
d. 0.380 methylene chloride; 0.012 ppm toluene
e. 0.015 ppm dichlorodichfluoromethane
f. 0.13 ppm methylene chloride; 0.048 ppm total xylenes
g. 0.055 ppm methylene chloride
h. 0.043 ppm methylene chloride

--- Not Analyzed
Bold Concentration detected exceeds cleanup goal
* Sample collected below water. Results are shown in dry weight.

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Table 6. Analytical Results of Ground Water Grab Samples and Ponded Water Samples
(Concentrations in ppb)

Sample ID	Date	Antimony	Arsenic	Thallium	Benzene	Toluene	Vinyl Chloride	Other VOCs	PAHs	TPHg	TPHd	TPHo
Ponded Water												
PW-1	4/23/2008	13a.	35a.	<10a.	<0.5	<0.5	<0.5	ND	ND	<50	<100	<200
PW-1	6/18/2008	---	34	<10	<0.5	<0.5	<0.5	ND	---	<50	<220	---
Ground Water												
GS-1 (SB-3)	6/18/2008	---	16	<10	0.59	1.1	<0.5	b.	---	139*	6,220	---
GS-2 (SB-4)	6/18/2008	---	17	<10	<0.5	1.26	0.71	c.	---	<50	<2,500**	---
GS-3 (SB-5)	6/18/2008	---	14	<10	<0.5	1.43	<0.5	ND	---	<50	<100	---
MCL		6	50	2	1	150	0.5	various	various	NA	NA	NA
ESL***		6	50	2	1	40	0.5	various	various	100	100	100

< Not detected at or above laboratory reporting limit

* Laboratory reported that hydrocarbons gasoline detected does not resemble gasoline standard. TPHg reported due to presence of heavier hydrocarbons within gasoline quantitative range

** Increased detection limit due to limited sample volume

*** Environmental Screening Level, CRWQCB, May 2008

a. Other CAM 17 metals were not detected or were detected below screening levels/MCLs

b. Other VOCs detected are isopropylbenzene (1.38 ppb), n-propylbenzene (0.52 ppb), sec-butylbenzene (1.8 ppb)

c. Other VOCS detected are 1.1-dichloroethane (3.02 ppb/MCL=5.0 ppb), 1,1-dichloroethene (1.85 ppb/MCL=6 ppb)

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Table 7. Analytical Results of Slope Material Soil Samples
(Concentrations in ppm)

Sample ID	Date	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	PCBs	Total DDT	TPHd	TPHo
SM-SP-1	4/10/2008	11.0	<1.0	54	39	21	86	ND	0.111	19.2	36.6
SM-SP-2	4/10/2008	7.4	<1.0	50	40	14	90	ND	0.028	<2.0	7.1
SM-SP-3	4/10/2008	16.0	<1.0	48	47	36	82	ND	0.240	<2.0	19.5
SM-SP-4	4/10/2008	6.1	<1.0	46	33	9	82	ND	0.003	<2.0	<4.0
SM-SP-5	4/10/2008	6.6	<1.0	47	30	13	78	ND	0.004	<2.0	<4.0
SM-SP-6	4/10/2008	5.8	<1.0	46	31	11	81	ND	0.003	<2.0	<4.0
SM-SP-7	4/10/2008	6.6	<1.0	49	33	11	87	ND	0.022	<2.0	<4.0
SM-SP-8	4/10/2008	7.3	<1.0	39	33	15	86	ND	0.017	2.8	17.2
SM-SP-9	4/10/2008	19.0	<1.0	44	43	44	77	ND	0.301	4.7	10.1
SM-SP-10	4/10/2008	5.9	<1.0	46	31	9	78	ND	ND	<2.0	<4.0
SM-SP-11	4/10/2008	**75.0**	1.6	47	82	**190**	76	ND	**2.353**	3.7	39.8
SM-SP-12	4/14/2008	**50.0**	---	---	---	130	---	---	---	---	---
SM-SP-15	4/28/2008	7.4	<50	<250	<250	13	<250	0.1	0.193	<2.0	<4.0
SM-SP-16	4/28/2008	7.8	<50	<250	<250	16	<250	**2.4**	0.054	5.1	7.5
SM-SP-17	4/28/2008	**34.0**	<50	<250	<250	120	<250	0.915	0.104	<2.0	<4.0
SM-SP-18	4/28/2008	8.9	<50	<250	<250	24	<250	ND	0.038	<2.0	<4.0
SM-SP-19	4/28/2008	7.8	---	---	---	16	---	---	---	---	---
SM-SP-20	4/30/2008	6.5	<1.0	44	25	8	74	ND	ND	<2.0	<4.0
Cleanup Goal[1]		21	8.95	100,000	2,840	146	148	1	1	100	500

1	Unrestricted Cleanup Goal approved by DTSC, November 2004
<	Not detected at or above laboratory reporting limit
Yellow	Soil placed into interim stockpile for future consolidation
Blue	Soil acceptable for use as unrestricted fill.
---	Not Analyzed
Bold	Concentration detected exceeds cleanup goal

APPENDIX A – SELECTED PHOTOGRAPHS

Photograph 1. View of consolidation cell excavation looking northwest.

Photograph 2. View of south sidewall of consolidation cell.

Photograph 3. Close-up of typical debris removed from consolidation cell.

Photograph 4. Stockpiles of excavated debris. View toward east.

Photograph 5. Excavation of debris from base of the consolidation cell. The base in the foreground is approximately 25 feet below original grade.

Photograph 6. Collection of bottom soil samples below the ponded water, May 7, 2008.

Copies of Appendices B-H of this Clean Closure Report for the Former Debris Consolidation Cell at 1633 Oakland Road are on file with the Department of Planning, Building, and Code Enforcement and are available for review during normal business hours.

APPENDIX E-2
FOURTH QUARTER GROUNDWATER MONITORING REPORT
1633 OAKLAND ROAD

CORNERSTONE EARTH GROUP

Type of Services	4th Quarter 2009 Ground Water Monitoring Report
Location	1633 Oakland Road San Jose, California
Client	Markovits & Fox, Inc.
Client Address	14125 Capri Drive Los Gatos, California 95032
Project Number	114-1-18
Date	February 23, 2010

REGISTERED GEOLOGIST
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APPENDIX A – GROUND WATER SAMPLING PROTOCOL
APPENDIX B – ANALYTICAL DATA SHEETS AND CHAIN OF CUSTODY DOCUMENTATION

Type of Services	**4th Quarter 2009 Ground Water Monitoring Report**
Location	**1633 Oakland Road San Jose, California**

SECTION 1: INTRODUCTION

1.1 PURPOSE

We are pleased to present this 4th quarter 2009 ground monitoring report for 1633 Oakland Road in San Jose, California (Site). Ground water monitoring was performed as required by the Department of Toxic Substances Control (DTSC) in their November 17, 2008 letter. Results of the ground water quality evaluation are presented below.

1.2 BACKGROUND

In 1957, the approximately 18-acre Site was occupied by a pear orchard. The Site was purchased by Markovits & Fox, Inc. (1957) who then leased the property to others for continued cultivation of the orchard. Development began on-Site in 1963, and the former Markovits & Fox, Inc. metals recycling facility began operation in 1964. The metals recycling operations historically included sorting, shredding, and compressing of ferrous and non-ferrous metals. The sorted metals were transported off-Site for recycling by others.

The recycling facility ceased operation in 2000, and most of the structures were demolished in November 2001. Foundations of two structures were left in-place over the consolidation cell to preserve the integrity of the cap over the debris.

Since July 2000, several environmental investigations to evaluate soil and ground water quality have been conducted at the Site. Ground water monitoring of the four former on-Site wells, MFW-1, MFW-2, MFW-3 and MFW-4, located in the consolidation cell area, started in November 2000 (Figure 2). Upon approval by the DTSC, monitoring was reduced to a semi-basis beginning in 2004. Historical ground water flow directions and analytical results are summarized in Tables 1A and 2.

Former consolidation cell area monitoring wells MFW-1 to MFW-4 were destroyed in early 2008 under permit with the Santa Clara Valley Water District (Water District) prior to removal of the consolidation cell. The excavation and off-Site disposal of the consolidation cell soil was performed from April to July 2008. Three replacement wells were installed in November 2008 (FCC-MW-1, FCC-MW-2, and FCC-MW-3). The three wells have been sampled quarterly

since their installation. The results were previously presented in 4th Quarter 2008, 1st Quarter 2009, and 2nd Quarter 2009 Monitoring Reports (Cornerstone 2008, 2009).

The 3rd Quarter 2009 sampling event was postponed to the 4th quarter due to on-Site grading/earthwork activities near the wells as described by the April 29, 2008 Removal Action Workplan (RAW) for 1040, 1060 and 1080 E. Brokaw Road (Cornerstone Earth Group, 2008).

1.3 SCOPE OF WORK

The scope of work for this study was presented in our November 6, 2008 agreement with Markovits & Fox, Inc. A summary of activities performed is presented below.

- Collect hydrogeologic data to evaluate the ground water flow direction.
- Collect and analyze ground water samples from three monitoring wells (FCC-MW-1, FCC-MW-2 and FCC-MW-3).
- Preparation of this quarterly monitoring report.

SECTION 2: GROUND WATER QUALITY EVALUATION

2.1 GROUND WATER FLOW DIRECTION

To estimate the ground water flow direction at the Site, depth to ground water measurements were recorded on October 1, 2009 by Blain Tech Services, Inc. (Blain Tech) in monitoring wells FCC-MW-1 through FCC-MW-3. Top of casing elevations, depth to water measurements, calculated ground water elevation, and flow direction information is presented below in Table 1B in the Data Summary Tables section of this report. A record of the ground water depth measurements is presented in Appendix A.

Based on the ground water elevation measurements, the shallow ground water flow direction beneath the Site is towards the southwest (S55W) at an approximate gradient of 0.015 feet/foot. This flow direction is consistent with flow directions measured during previous sampling events. A potentiometric surface map showing ground water elevation contours is included on Figure 3.

2.2 GROUND WATER SAMPLE COLLECTION AND ANALYSES

To evaluate ground water quality, ground water samples were collected by Blain Tech on October 1, 2009 from the on-Site monitoring wells (FCC-MW-1 to FCC-MW-3) using low-flow sampling techniques. Ground water samples were submitted under chain of custusdy to a State certified analytical laboratory. The ground water samples were analyzed for gasoline-range petroleum hydrocarbons (TPHg), benzene, toluene, ethyl benzene, and xylenes (BTEX), MTBE, and volatile organic compounds (VOCs) by EPA Test Method 8260b; diesel-range petroleum hydrocarbons (TPHd) by EPA Test Method 8015M; and dissolved arsenic and thallium by EPA Test Method 6010B. Prior to performing the TPHd analysis, the ground water samples were passed through a silica gel column to help remove non-fuel naturally occurring hydrocarbons.

The analytical results are summarized in Table 2 in the Data Summary Tables section of this report and were compared to the primary maximum contaminant levels (MCLs) for drinking water published by the California Department of Health Services (December 2009) and the

ground water environmental screening levels (ESLs) published by the San Francisco Bay Regional Water Quality Control Board (May 2008). ESLs were developed to protect human health, ecological health, and beneficial uses of ground water considering site-specific conditions. The presence of a chemical at a concentration above an ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring; exceeding ESLs indicates that the potential for impacts may exist and that additional evaluation is needed.

Ground water sampling protocol and Blain Tech's ground water sampling logs are presented in Appendix A. Analytical data sheets and chain of custody documentation are included in Appendix B.

SECTION 3: CONCLUSIONS

3.1 ARSENIC AND THALLIUM

Laboratory analyses of the ground water samples collected from monitoring wells FCC-MW-1, FCC-MW-2, and FCC-MW-3 did not detect dissolved thallium above laboratory reporting limits. Concentrations of dissolved arsenic detected (25 µg/L [parts per billion, ppb] to 55 µg /L) exceeded the MCL and ESL but appeared generally consistent with previous monitoring events and were similar to previous results detected in the former up-gradient monitoring well MFW-3 (Figure 2). The concentrations of arsenic historically detected in former well MFW-3, summarized in Table 2, appear representative of background levels in shallow ground water beneath the Site. Therefore, in our opinion, the former consolidation cell does not appear to have significantly increased arsenic concentrations in the shallow ground water.

3.2 BTEX AND MTBE

Benzene, toluene, ethylbenzene, xylene and MTBE were not detected in ground water during this monitoring event and, other than the benzene detected during June 2009, were not detected in earlier monitoring events. Based on the analytical data, the benzene detected in ground water during June 2009 appears to have been anomalous.

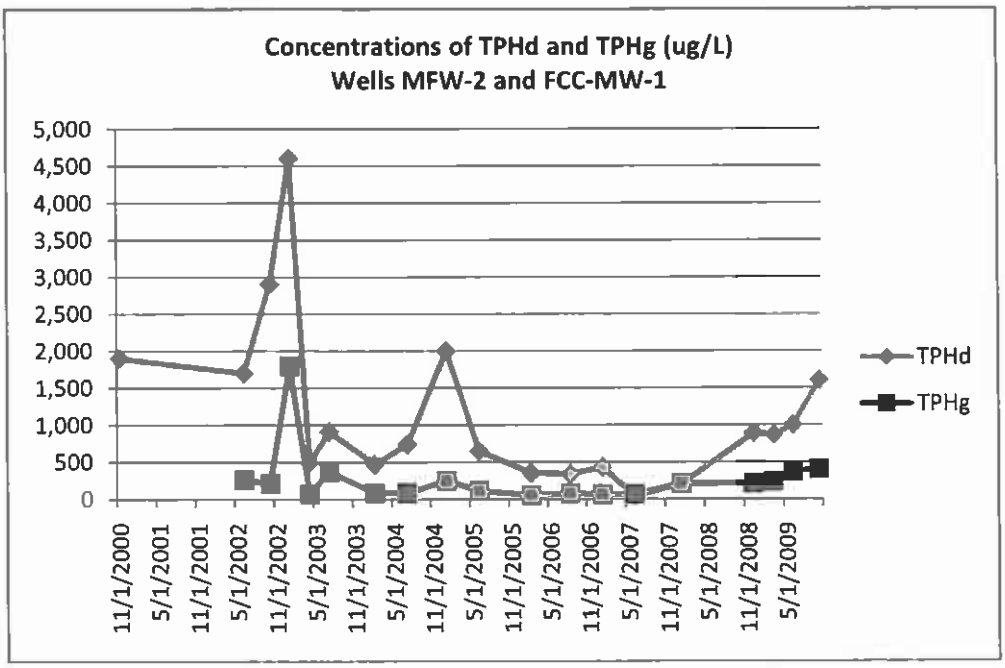
3.3 VOCS

Laboratory analysis of the FCC-MW-1 ground water sample detected the following VOCs: naphthalene (19.0 µg/L); isopropyl benzene (7.0 µg/L); n-butylbenzene (2.4 µg/L); n-propylbenzene (4.5 µg/L); 4-isopropyltoluene (2.0 µg/L); 1,2,4-Trimethylbenzene (25 µg/L); 1,3,5-Trimethylbenzene (4.3 µg/L); and sec-butylbenzene (2.8 µg/L); No MCLs have been established for these compounds. The ESL (Table A) for naphthalene is 17 µg/L; no ESLs are available for the other VOCs detected. No other VOCs, including vinyl chloride, were detected in the ground water samples.

3.4 DIESEL AND GASOLINE RANGE TOTAL PETROLEUM HYDROCARBONS

Laboratory analyses of the FCC-MW-1 ground water sample detected TPHd at 1,600 µg/L and TPHg at 400 µg/L. The drinking water (toxicity) ESL for TPHd and TPHg is 210 µg/L (Table F-1a). TPHd and TPHg were not detected in the ground water samples collected from the other wells. The concentrations of TPHd and TPHg detected in monitoring well FCC-MW-1 increased over the previous three sampling events (TPHd 890 µg/L to 1,600 µg/L; TPHg 210 µg/L to 400 µg/L). As shown in Table 2, these concentrations are generally lower than the previous results from former monitoring well MFW-2, located approximately 75 feet north-

northeast of monitoring well FCC-MW-1 (Figure 2). Monitoring well MFW-2 was also located down-gradient of the former consolidation cell material. TPHg and TPHd concentrations ranged up to 1,800 µg/L and 4,600 µg/L, respectively, in former well MFW-2 in January 2003 (TRC, 2007). As shown below, the TPHd and TPHg concentrations appear to show an overall declining trend compared to pre-consolidation cell removal concentrations.



Note: Data from 11/14/00 to 1/25/07 is from well MFW-2 and data from 12/3/2008 to 10/1/09 is from well FCC-MW-1.

Based on analytical results of former monitoring well MW-3, the TPHg and TPHd detected in monitoring well FCC-MW-1 appears limited in extent. Monitoring well MW-3 was located near the former metal bailer/shear in the northwest portion of the site, approximately 90 feet southwest (down-gradient) of monitoring well FCC-MW-1 (Figure 2). Monitoring well MW-3 was sampled on November 12, 2006. Laboratory analyses detected 57 µg/L TPHg and 1.64 µg/L benzene; TPHd and total petroleum hydrocarbons in the motor oil range (TPHmo) were not detected. Monitoring well MW-3 was destroyed in November 2006 in accordance with Santa Clara Valley Water District (SCVWD) permit requirements (TRC Lowney, 2007).

3.5 REQUEST FOR DISCONTINUATION OF GROUND WATER MONITORING – FORMER CONSOLIDATION CELL AREA

On behalf of Markovits and Fox, we request from DTSC the discontinuation of ground water quality monitoring in the former consolidation cell area, based on the following: 1) the former consolidation cell debris has been removed; 2) concentrations of TPHg and TPHd detected in ground water appear to be lower than concentrations prior to the removal of the former consolidation cell; 3) the concentrations of TPHg and TPHd detected appear limited in down-gradient extent (based on November 2006 sampling of former well MW-3); 4) dissolved arsenic concentrations detected down-gradient of the former consolidation cell appear consistent with

background levels formerly detected in up-gradient monitoring well MFW-3; and 5) the concentrations of VOCs, TPHg, and TPHd detected in monitoring wells FCC-MW-1, FCC-MW-2 and FCC-MW-3 do not appear to present a significant threat to human health or the environment. This last conclusion is based on the; A) limited extent and overall decreasing concentrations of TPHg and TPHd plus the lack of BTEX components of TPHg and TPHd; and B) the lack of VOCs detected in wells FCC-MW-1, FCC-MW-2 and FCC-MW-3 above MCLs and residential/unrestricted ESLs, with the exception of naphthalene detected slightly above the ground water ESL of 17 µg/L (Table A) during the latest sampling event. The ground water screening level for evaluation of potential vapor intrusion concerns under a residential scenario (Table E-1) is 3,200 µg/L.

Monitoring wells FCC-MW-1, FCC-MW-2 and FCC-MW-3 will be destroyed in accordance with Water District permit requirements upon receipt of formal written approval by DTSC. It is anticipated that ground water quality monitoring in the new consolidation cell area, as described in the July 15, 2009 Remedial Design and Implementation Plan (RDIP) (Cornerstone, 2009), will start during the second quarter 2010.

This report will be submitted to DTSC for their review.

SECTION 4: LIMITATIONS

Cornerstone performed this investigation to support Markovits and Fox in evaluation of ground water quality beneath the Site. Markovits and Fox understands that the extent of ground water data obtained is based on the reasonable limits of time and budgetary constraints. In addition, the chemical information presented in this report can change over time and is only valid at the time of this investigation and for the locations sampled.

This report, an instrument of professional service, was prepared for the sole use of Markovits ad Fox and the DTSC and may not be reproduced or distributed without written authorization from Cornerstone.

Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.

SECTION 5: REFERENCES

Cornerstone Earth Group, February 7, 2008. First Semi-Annual 2008 Ground Water Monitoring Report and Well Destruction Activities, 1633 Old Oakland Road, San Jose, California.

Cornerstone Earth Group. April 29, 2008. Removal Action Workplan, 1040, 1060 and 1080 East Brokaw Road, San Jose, California.

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EPA, April, 1996. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, Robert W. Puls, Michael J. Barcelona. EPA/540/S-95/504.

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DATA SUMMARY TABLES

Table 1A. Historical Ground Water Flow Direction Measurements

Date	Ground Water Flow Direction
11/14/00	S45W*
6/14/02	S45W*
10/23/02	S40W*
1/15/03	S56W*
4/30/03	S65W*
7/24/03	S55W*
2/4/04	S68W*
7/1/04	S37W*
1/26/05	S33W*
6/28/05	S35W*
2/1/06	S40W*
8/1/06	S38W*
1/25/07	S28W*
6/22/07	S45W**
1/9/08	W10S**

* TRC, April 25, 2007. First Semi-Annual 2007 Ground Water Monitoring Report and Well Destruction Activities, 1633 Old Oakland Road, San Jose, California
** Cornerstone Earth Group. February 7, 2008. First Semi-Annual 2008 Ground Water Monitoring Report, 1633 Oakland Road, San Jose, California

Table 1B. Ground Water Elevation Data – Monitoring Wells FCC-MW-1, FCC-MW-2, and FCC-MW-3

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Water (feet)	Ground Water Elevation (feet msl)	Ground Water Flow Direction
FCC-MW-1	12/03/08	62.92	23.01	39.91	S60W
FCC-MW-1	03/13/09	62.92	20.37	42.55	S34W
FCC-MW-1	06/26/09	62.92	22.5	40.42	S68W
FCC-MW-1	10/01/09	62.92	22.78	40.14	S55W
FCC-MW-2	12/03/08	64.36	24.01	40.35	
FCC-MW-2	03/13/09	64.36	21.88	42.48	
FCC-MW-2	06/26/09	64.36	23.4	40.96	
FCC-MW-2	10/01/09	64.36	23.17	41.19	
FCC-MW-3	12/03/08	62.73	22.31	40.42	
FCC-MW-3	03/13/09	62.73	20.48	42.25	
FCC-MW-3	06/26/09	62.73	21.6	41.13	
FCC-MW-3	10/01/09	62.73	21.98	40.75	

Table 2. Analytical Results of Selected Ground Water Samples
(Concentrations in µg/L)

Sample ID	Date	TPH (Gasoline)	TPH (Diesel)	Benzene	Toluene	Ethyl benzene	Xylenes (Total)	MTBE	Vinyl Chloride	Arsenic	Thallium
MFW-1#	11/14/00	NA	**150**	NA	NA	NA	NA	NA	**1.7**	<5	**11**
	6/14/02	<50	<50	ND	ND	ND	ND	ND	ND	**43**	<5
	10/23/02	<50	<50	ND	ND	ND	ND	ND	**1.5**	**12**	<5
	1/15/03	<50	ND	ND	ND	ND	ND	ND	**1.5**	**40**	<5
	4/30/03	<50	<50	ND	ND	ND	ND	ND	**0.98**	**43**	**8.1**
	7/24/03	<50	<50	ND	ND	ND	ND	ND	**1.4**	**75**	<5
	2/4/04	<50	59	ND	ND	ND	ND	ND	**3.8**	<5	<5
	7/1/04	<50	<50	ND	ND	ND	ND	ND	**1.3**	**33**	<5
	1/26/05	<50	<50	ND	ND	ND	ND	ND	**0.77**	<5	<5
	6/28/05	<50	**140**	ND	ND	ND	ND	ND	**2.0**	**21**	<5
	2/1/06	<50	<50	ND	ND	ND	ND	ND	**1.3**	**28**	<5
	8/1/06	<50	<50	ND	ND	ND	ND	ND	**0.81**	**27**	<4.7
	1/25/07	<50	51	ND	ND	ND	ND	ND	**1.6**	**34**	<4.7
	6/22/2007	<50	**273**	<0.50	<0.50	<0.50	<1.50	<0.50	**2.07**	**28**	<4
	1/9/2008	<50	<105	<0.50	<0.50	<0.50	<1.50	<0.50	**1.95**	**32**	<10
MFW-2#	11/14/00	NA	**1,900**	NA	NA	NA	NA	NA	ND	<5	**11**
	6/14/02	**260**	1,700	ND	ND	ND	ND	ND	ND	**38**	<5
	10/23/02	**210**	2,900	ND	ND	ND	ND	ND	ND	<5	**9.0**
	1/15/03	1,800	4,600	ND	ND	ND	ND	ND	ND	**11**	<5
	4/30/03	***65***	**490**	ND	ND	ND	0.97	ND	ND	**24**	**6.9**
	7/24/03	**370**	**910**	ND	ND	ND	0.96	ND	ND	**57**	<5
	2/4/04	83	**470**	ND	ND	ND	ND	ND	ND	<5	<5
	7/1/04	82	**740**	ND	ND	ND	ND	ND	ND	<5	<5
	1/26/05	**250**	**2,000**	ND	ND	ND	ND	ND	ND	<5	<5
	6/28/05	**110**	**650**	ND	ND	ND	ND	ND	ND	**5.8**	<5

Continued.

Table 2, Continued.

Sample ID	Date	TPH (Gasoline)	TPH (Diesel)	Benzene	Toluene	Ethyl benzene	Xylenes (Total)	MTBE	Vinyl Chloride	Arsenic	Thallium
	2/1/06	<50	**350**	ND	ND	ND	ND	ND	ND	<4.7	<4.7
	8/1/06	75	**340**	ND	ND	ND	ND	ND	ND	<4.7	<4.7
	1/25/07	**62**	**430**	ND	ND	ND	ND	ND	ND	**5.8**	<5
	6/22/2007	62	<33	<0.50	<0.50	<0.50	<1.50	<0.50	<0.5[A]	**12**	<4
	1/9/2008	**208**	**203**	<0.50	<0.50	<0.50	<1.50	<0.50	<0.5[B]	<10	<10
MFW-3#	11/14/00	NA	<50	NA	NA	NA	NA	NA	ND	<5	<10
	6/14/02	<50	<68	ND	ND	ND	ND	ND	ND	**36**	<5
	10/23/02	<50	<50	ND	ND	ND	ND	ND	ND	<5	<5
	1/15/03	<50	ND	ND	ND	ND	ND	ND	ND	**70**	**6.6**
	4/30/03	<50	<50	ND	ND	ND	ND	ND	ND	**34**	<5
	7/24/03	<50	<50	ND	ND	ND	ND	ND	ND	**56**	<5
	2/4/04	<50	**160**	ND	ND	ND	ND	ND	ND	<5	<5
	7/1/04	52	<50	ND	ND	ND	ND	ND	ND	**11**	<5
	1/26/05	<50	<50	ND	ND	ND	ND	ND	ND	<5	<5
	6/28/05	<50	<50	ND	ND	ND	ND	ND	ND	**25**	<5
	2/1/06	<50	<50	ND	ND	ND	ND	ND	ND	**21**	<4.7
	8/1/06	<50	<50	ND	ND	ND	ND	ND	ND	**20**	<4.7
	1/25/07	<50	51	ND	ND	ND	ND	ND	ND	**27**	**6.6**
	6/22/2007	<50	<31.1	<0.50	<0.50	<0.50	<1.50	<0.50	<0.5	**19**	<4
	1/9/2008	<50	<104	<0.50	<0.50	<0.50	<1.50	<0.50	<0.5	**21**	<10
MFW-4#	1/15/03	<50	<50	ND	ND	ND	ND	ND	ND	**17**	<5
	4/30/03	<50	<50	ND	ND	ND	ND	ND	ND	**32**	<5
	7/24/03	<50	<50	ND	ND	ND	ND	ND	ND	**64**	<5
	2/4/04	<50	<50	ND	ND	ND	ND	ND	ND	<5	<5
	7/1/04	<50	<50	ND	ND	ND	ND	ND	ND	**8.1**	<5
	1/26/05	<50	51	ND	ND	ND	ND	ND	ND	<5	<5
	6/28/05	<50	<50	ND	ND	ND	ND	ND	ND	**14**	<5

Continued.

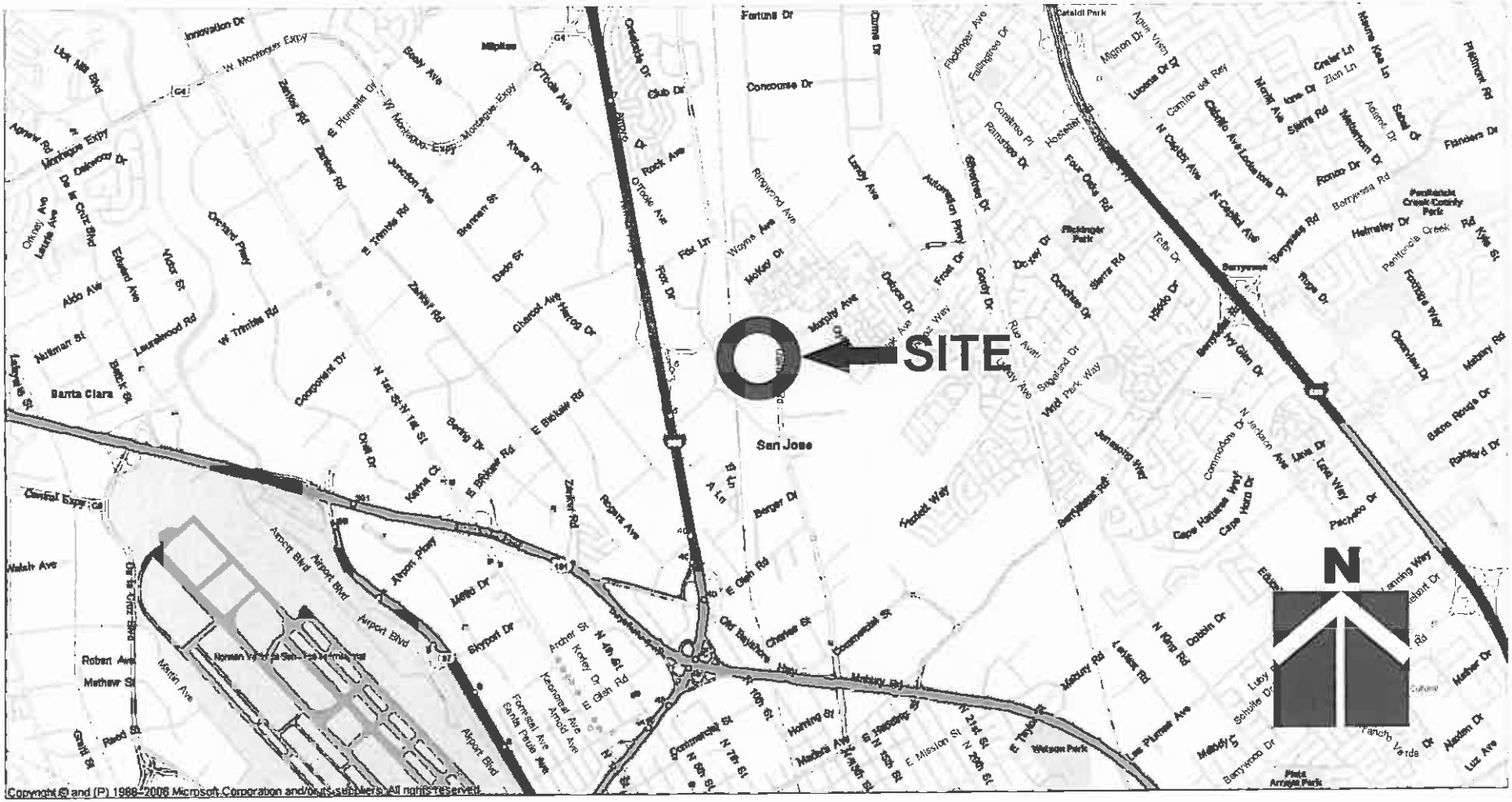
Table 2, Continued.

Sample ID	Date	TPH (Gasoline)	TPH (Diesel)	Benzene	Toluene	Ethyl benzene	Xylenes (Total)	MTBE	Vinyl Chloride	Arsenic	Thallium
	2/1/06	<50	<50	ND	ND	ND	ND	ND	ND	14	<4.7
	8/1/06	<50	<50	ND	ND	ND	ND	ND	ND	20	<4.7
	1/25/07	<50	<50	ND	ND	ND	ND	ND	ND	19	<5
	6/22/2007	<50	<100	<0.50	<0.50	<0.50	<1.50	<0.50	<0.5	16	<4
	1/9/2008	<50	<106	<0.50	<0.50	<0.50	<1.50	<0.50	<0.5	15	<10
FCC-MW-1	12/03/2008	210	890	<0.50	<0.50	<0.50	<1.0	<5.0	<0.5[C]	12	<5
	3/13/09	230	870	<0.50	<0.50	<0.50	<1.0	<5.0	<0.5[D]	20	<32
	6/10/09	370	1,000	1.8	<0.50	<0.50	2.1	<5.0	<0.5[E]	23	<32
	10/01/09	400	1,600	<0.50	<0.50	<0.50	12	<0.50	<0.50[F]	25	<10
FCC-MW-2	12/03/2008	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<0.5	39	<5
	3/13/09	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<0.5	47	<32
	6/10/09	<50	<50	1.0	<0.50	<0.50	<1.0	<5.0	<0.5	27	<32
	10/01/09	<50	<65	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	36	<10
FCC-MW-3	12/03/2008	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<0.5	48	<5
	3/13/09	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<0.5	47	<32
	6/10/09	<50	<50	0.8	<0.50	<0.50	<1.0	<5.0	<0.5	45	<32
	10/01/09	<50	<64	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	55	<10
ESL[1]		100	100	1	40	30	20	5	0.5	36	2
MCL[2]		NE	NE	1	150	300	300	13	0.5	10	2

Footnotes on next page

1	Environmental Screening Level (ESL), RWQCB, San Francisco Bay Region – May 2008
2	Maximum Contaminant Level (MCL), CDHS – November 2008
<	Not detected at or above the stated laboratory reporting limit
#	Well destroyed April 2008. See TRC, April 25, 2007 for results prior to June 2007.
NE	Not Established
ND	Not Detected
BOLD	Concentration exceeds ESL or MCL
A	Isopropylbenzene was detected at 1.61 ppb; no MCL or ESL has been established for this compound.
B	Isopropylbenzene was detected at 2.26 ppb; sec-butylbenzene was detected at 1.30 ppb; no MCLs or ESLs have been established for these compounds
C	1,1-Dichloroethane was detected at 0.69 ppb; the MCL and ESL for this compound is 5 ppb. Isopropylbenzene was detected at 6.7 ppb; Napthalene was detected at 5 ppb; n-Butylbenzene was detected at 2.4 ppb; n-Propylbenzene was detected at 3.4 ppb; sec-butylbenzene was detected at 3.4 ppb; no MCLs have been established for these compounds. The ESL for naphthalene is 17 ppb
D	1,1-Dichloroethane was detected at 0.68 ppb; the MCL and ESL for this compound is 5 ppb. Isopropylbenzene was detected at 6.8 ppb; Napthalene was detected at 4.3 ppb; n-Butylbenzene was detected at 2.4 ppb; n-Propylbenzene was detected at 3.8 ppb; sec-Butylbenzene was detected at 3.5 ppb; no MCLs have been established for these compounds. The ESL for naphthalene is 17 ppb.
E	Isopropylbenzene was detected at 6.5 ppb; Napthalene was detected at 11 ppb; sec-Butylbenzene was detected at 3.1 ppb; n-Propylbenzene was detected at 3.9 ppb; 1,2,4-Trimethylbenzene was detected at 5.4 ppb; no MCLs have been established for these compounds. The ESL for naphthalene is 17 ppb.
F	Isopropylbenzene was detected at 7.0 ppb; Napthalene was detected at 19 ppb; sec-Butylbenzene was detected at 2.8 ppb; n-Propylbenzene was detected at 4.5 ppb; 1,2,4-Trimethylbenzene was detected at 25 ppb; 4-isopropyltoluene was detected at 2.0 ppb; 1,3,5-Trimethylbenzene was detected at 4.3 ppb; no MCLs have been established for these compounds. The ESL for naphthalene is 17 ppb. ESLs have not been established for the other VOCs detected.

NOTE: With the exception of the compounds listed in superscripts A, B, C, D, E and F; no other VOCs were detected above laboratory screening limits.

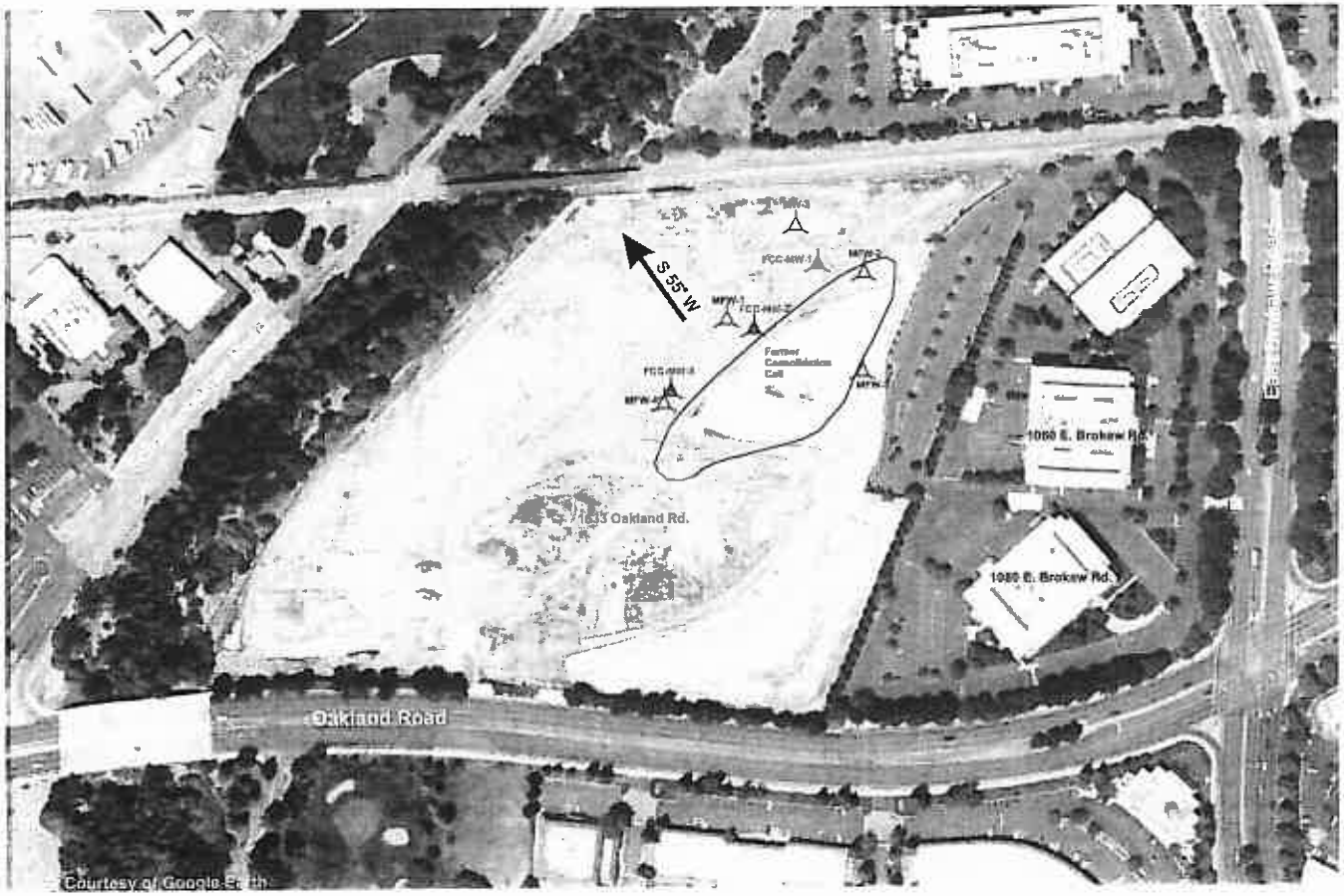


CORNERSTONE EARTH GROUP

Vicinity Map

Oakland Road Monitoring Wells
San Jose, CA

Project Number	114-1-18
Figure Number	Figure 1
Date	July 2009
Drawn By	FLL



Approximate Location of Ground Water Monitoring Well

Approximate Location of Former Ground Water Monitoring Well

Approximate Direction of Ground Water Flow (October 1, 2009)

N

0 200 400

APPROXIMATE SCALE (FEET)

Site Plan

Oakland Road Monitoring Wells
San Jose, CA

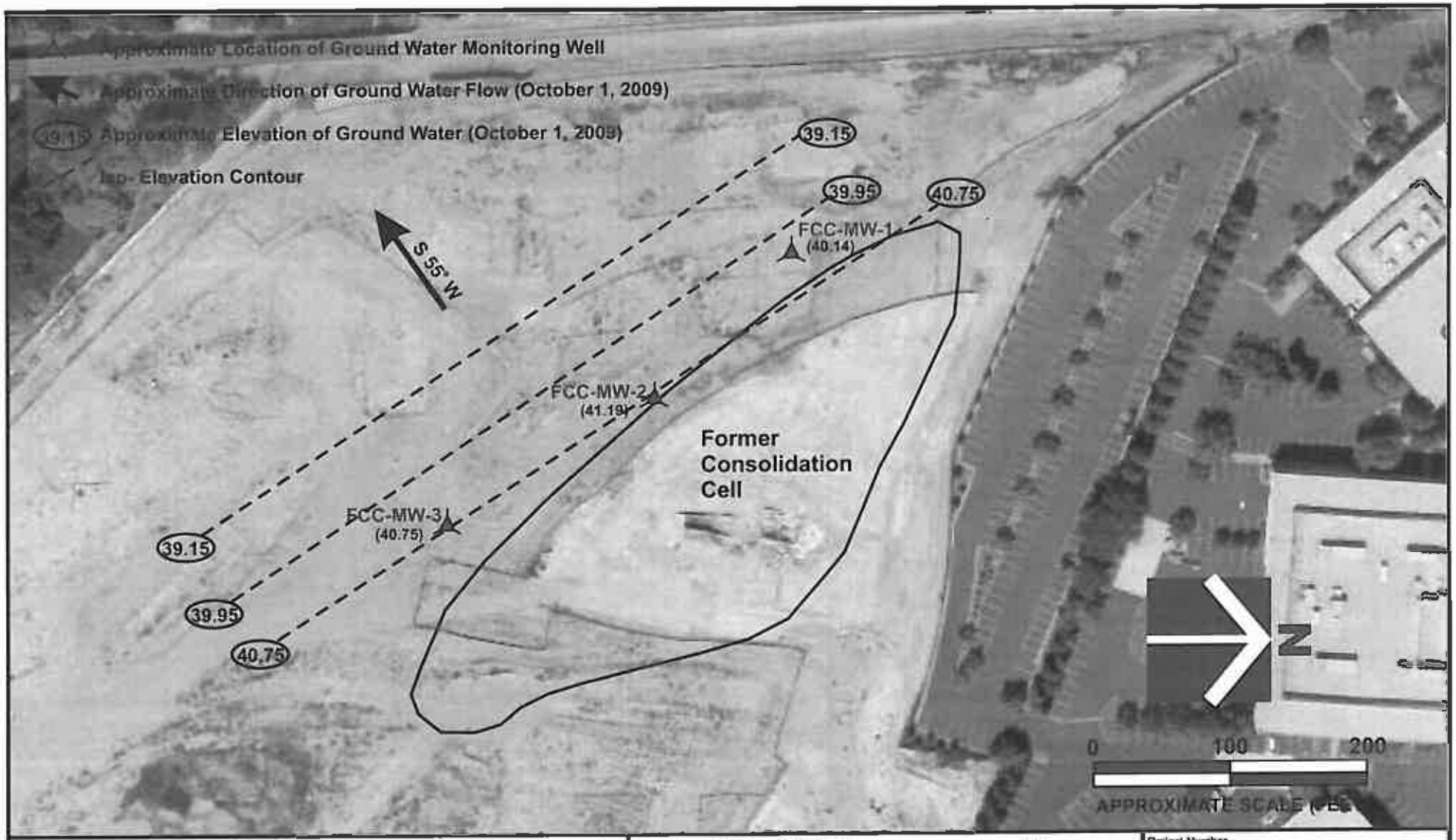
CORNERSTONE EARTH GROUP

Project Number: 114-1-18

Figure Number: Figure 2

Date: February 2010

Drawn by: FLL



CORNERSTONE EARTH GROUP

Ground Water Iso- Elevation Map

Oakland Road Monitoring Wells
San Jose, CA

Project Number	114-1-18
Figure Number	Figure 3
Date	October 2009
Drawn By	FLL

Appendix A
Ground Water Sampling Protocol

At least 72 hours after well development, the monitoring wells were sampled in general accordance with EPA 'Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures'. Well purging was performed prior to sampling using a withdrawal rate that minimizes drawdown while attempting to satisfy time constraints. According Barcelona, Wehrmann, and Varlien (1994) and Puls and Powell (1992), purging less than 1 L/min (approximately 0.25 gallons per minute) provides more reproducible VOCs and metal analytical results than purging at high rates. This method, commonly termed low-flow sampling, is based on the premise that at low pumping rates, there is little mixing of the water column and laminar ground water flow through the screen provides a more consistent sample. Note that a monitoring well with a low yield may not be applicable to his technique since it may be difficult to reduce the pumping rate sufficiently to prevent mixing of the water column in the well casing in such a well.

The water level in the well being sampled was continuously monitored using an electronic water-level indicator during low-flow sampling. The water-level indicator was set below the water surface after sufficient water had been withdrawn to fill the pump and tubing. When the well was being purged, if the water level fell below the water-level indicatory probe, the signal indicates that the water level has fallen below the maximum allowable drawdown, and the pumping rate was then decreased. Pumping was started at approximately 100mL/min and gradually adjusted to attempt to match the well's recharge rate.

During purging, pH, temperature, conductivity, and turbidity measurements were recorded for each well volume of ground water removed. Stabilization is considered to have been achieved after pH, conductivity, and turbidity have stabilized for three consecutive readings (pH within approximately 0.1 pH units, conductivity within approximately 3% of the last reading, and turbidity within 10% of the last reading). If, after the third well volume, these parameters have not stabilized, additional well volumes were removed until consecutive measurements were within approximately 10% within 3 minutes apart or up to 10 well volumes.

Upon stabilization, the ground water was sampled. Allowable drawdown during sampling does not exceed the distance between the top of the well screen and the pump intake, which was positioned near the mid-point of screen. If the yield is low and the well is pumped dry, the well was allowed to recharge to approximately 80 percent of the original level before sampling.

The ground water samples were collected in appropriately labeled containers, placed in an ice-chilled cooler, and delivered along with chain of custody documentation to a state-certified laboratory for analyses.

. or Purge Water Drum L

Client: CORNERSTONE EARTH GROUP

Site Address: 1633 OAKLAND RD. SAN JOSE

STATUS OF DRUM(S) UPON ARRIVAL

Date	12.9.08	3-13-09	6/10/09	10/1/09		
Number of drum(s) empty:						
Number of drum(s) 1/4 full:		1				
Number of drum(s) 1/2 full:			1	1		
Number of drum(s) 3/4 full:						
Number of drum(s) full:	2	2	2	2		
Total drum(s) on site:	2			3		
Are the drum(s) properly labeled?	Y	Y	Y			
Drum ID & Contents:	PURGE H2O	PURGE H2O →				
If any drum(s) are partially or totally filled, what is the first use date:	12/3/08	12/9/08	12/19/08			

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE

Date	12.9.08	3-13-09	6/10/09	10/1/09		
Number of drums empty:						
Number of drum(s) 1/4 full:	1	1				
Number of drum(s) 1/2 full:			1			
Number of drum(s) 3/4 full:				1		
Number of drum(s) full:				2		
Total drum(s) on site:	3	3	3	3		
Are the drum(s) properly labeled?	Y	Y	Y	Y		
Drum ID & Contents:	PURGE H2O	PURGE H2O →	→	→		

LOCATION OF DRUM(S)

Describe location of drum(s): ALONG ORANGE FENCE LINE NEXT TO EXCAVATION HOLE (NEAR FCL. MW3)

FINAL STATUS

Number of new drum(s) left on site this event	1	Ø	0	0		
Date of inspection:	12.9.08	3-13-09	6/10/09	10/1/09		
Drum(s) labelled properly:	Y	Y	Y	Y		
Logged by BTS Field Tech:	JK	JK	BD	DM		
Office reviewed by:	[illegible]	[illegible]	RC	RC		

WELL GAUGING DATA

Project # 091001-DR 2 Date 10/1/09 Client Cornerstone EG.

Site 1633 Oakland Rd. San Jose Ca.

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
Fcc-mw-1	1155	2					22.78	42.44		
Fcc-mw-2	1147	2					23.17	42.29		
Fcc-mw-3	1134	2					21.98	42.16		

WELLHEAD INSPECTION CHECKLIST

Date 10/1/09 Client Cornerstone Earth Group

Site Address 1633 Oakland Rd. San Jose CA

Job Number 091001-DR2 Technician DR

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
FCC-MW-1						No lock ✓		
FCC-MW-2						No lock ✓		
FCC-MW-3						No lock ✓		

NOTES:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 091001-DR2	Client: Cornerstone EG
Sampler: DR	Date: 10/1/09
Well I.D.: FCC-MW-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 42.44	Depth to Water Pre: 22.78 Post: 22.82
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump X Bladder Pump
Sampling Method: Dedicated Tubing X New Tubing Other ____

Flow Rate: ~300 mL/min Pump Depth: 30'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW Observations
1432	22.84	7.35	2090	295	2.26	-135.2	900	22.80
1435	23.33	7.27	2085	199	1.39	-126.1	1800	22.81
1438	23.95	7.21	2107	108	1.13	-121.0	2700	22.81
1441	23.96	7.19	2121	72	0.90	-118.0	3600	22.82
1444	23.97	7.18	2130	68	0.88	-117.7	4500	22.82
1447	23.97	7.16	2132	66	0.85	-117.4	5400	22.82

Did well dewater? Yes (No)	Amount actually evacuated: 5400 mL
Sampling Time: 1455	Sampling Date: 10/1/09
Sample I.D.: FCC-MW-1	Laboratory: TA-SF
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See C.C
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 091001-DR2	Client: Cornerstone EG
Sampler: DR	Date: 10/1/09
Well I.D.: FCC-MW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 42.29	Depth to Water Pre: 23.17 Post: 23.20
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump ☒ Bladder Pump
Sampling Method: Dedicated Tubing ☒ New Tubing Other ____

Flow Rate: ~300 mL/min. Pump Depth: 30'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW Observations
1332	22.49	7.15	2767	>1000	2.43	-68.7	900	23.19
1335	23.34	7.14	2761	>1000	1.40	-77.1	1800	23.20
1338	23.87	7.12	2778	>1000	1.70	-76.4	2700	23.20
1341	24.07	7.12	2782	>1000	1.52	-76.6	3600	23.20
1344	24.16	7.12	2788	>1000	1.43	-76.9	4500	23.20
1347	24.18	7.11	2790	>1000	1.40	-76.9	5400	23.20
1350	24.19	7.11	2790	>1000	1.39	-77.1	6300	23.20

Did well dewater? Yes (No)	Amount actually evacuated: 6300 mL
Sampling Time: 1400	Sampling Date: 10/1/09
Sample I.D.: FCC-MW-2	Laboratory: TA-SF
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See C.C
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 091001-DR2	Client: Cornerstone EG
Sampler: DR	Date: 10/1/09
Well I.D.: FCC-MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 42.16	Depth to Water Pre: 21.98 Post: 22.58
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump X Bladder Pump
Sampling Method: Dedicated Tubing X New Tubing Other ____

Flow Rate: ~300 mL/min Pump Depth: 35'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW Observations
1225	23.05	7.67	1932	101	2.76	-91.7	900	22.58
1228	21.90	7.52	2050	72	1.27	-95.2	1800	22.58
1231	21.52	7.42	2114	53	0.72	-97.9	2700	22.58
1234	21.47	7.39	2136	46	0.65	-97.2	3600	22.58
1237	21.44	7.38	2154	44	0.66	-97.4	4500	22.58
1240	21.43	7.38	2158	41	0.67	-97.4	5400	22.58

Did well dewater? Yes (No)	Amount actually evacuated: 5400 mL
Sampling Time: 1250	Sampling Date: 10/1/09
Sample I.D.: FCC-MW-3	Laboratory: TA-SF
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See CC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 1633 Oakland Rd. San Jose Ca.				PROJECT NUMBER 091001-DK2			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. °C	INITIALS
YSI 556	06F1362 AT	10/1/09 1115	7.0 10.0 4.0 3900 100% DO CAP	7.02 9.99 4.0 3897 ✓	Y	25.91-25.97	DR
Hach Turbidimeter	07110C026534	10/1/09 1130	560 55 5.7	558 54 5	Y	—	DR

Appendix B
Analytical Data Sheets and Chain of Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-22975-1

Job Description: 1633 Oakland Rd, San Jose

For:
Cornerstone Earth Group
2737 North Main Street, Unit 10
Walnut Creek, CA 94597

Attention: Peter Langtry

Approved for release
Afsaneh Salimpour
Project Manager I
10/8/2009 1 39 PM

Afsaneh Salimpour
Project Manager I
afsaneh.salimpour@testamericainc.com
10/08/2009

CA ELAP Certification # 2496
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TestAmerica Laboratories, Inc.
TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566
Tel (925) 484-1919 Fax (925) 600-3002 www.testamericainc.com

Job Narrative
720-J22975-1

Comments
No additional comments.

Receipt
The following sample(s) was received with headspace in the sample vial: FCC-MW-2 6 of 6 samples and FCC-MW-1 4 of 6 samples.

All other samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 58963 exceeded control limits for the following analytes: MEK, 1-Hexanone and acetone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 58963 exceeded control limits for the following analytes: 1,2-dibromo-3-chloropropane, MEK, 2-Hexanone, MIBK and acetone.

Method(s) 8260B: The continuing calibration verification (CCV) for napthalene recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

GC Semi VOA
Method(s) 8015B: Capric acid surrogate recovery for the following sample(s) was outside control limits: FCC-MW-1 (720-22975-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-22975-1	**FCC-MW-3**				
Dissolved					
Arsenic		0.055	0.010	mg/L	6010B
720-22975-2	**FCC-MW-2**				
Dissolved					
Arsenic		0.036	0.010	mg/L	6010B
720-22975-3	**FCC-MW-1**				
sec-Butylbenzene		2.8	1.0	ug/L	8260B
Isopropylbenzene		7.0	0.50	ug/L	8260B
4-Isopropyltoluene		2.0	1.0	ug/L	8260B
Naphthalene		19	1.0	ug/L	8260B
N-Propylbenzene		4.5	1.0	ug/L	8260B
1,2,4-Trimethylbenzene		25	0.50	ug/L	8260B
1,3,5-Trimethylbenzene		4.3	0.50	ug/L	8260B
Xylenes, Total		12	1.0	ug/L	8260B
Gasoline Range Organics (GRO)-C5-C12		400	50	ug/L	8260B
Silica Gel Cleanup					
Diesel Range Organics [C10-C28]		1600	64	ug/L	8015B
Dissolved					
Arsenic		0.025	0.010	mg/L	6010B

METHOD SUMMARY

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL SF	SW846 8260B	
Purge and Trap	TAL SF		SW846 5030B
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Liquid-Liquid Extraction (Separatory Funnel)	TAL SF		SW846 3510C SGC
Metals (ICP)	TAL SF	SW846 6010B	
Sample Filtration	TAL SF		FILTRATION
Preparation, Soluble	TAL SF		Soluble Metals

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method	Analyst	Analyst ID
SW846 8260B	Le, Lien	LL
SW846 8260B	Nguyen, Thuy M	TMN
SW846 8015B	Hayashi, Derek	DH
SW846 6010B	Vega, Anthony	AV

SAMPLE SUMMARY

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-22975-1	FCC-MW-3	Water	10/01/2009 1250	10/01/2009 1640
720-22975-2	FCC-MW-2	Water	10/01/2009 1400	10/01/2009 1640
720-22975-3	FCC-MW-1	Water	10/01/2009 1455	10/01/2009 1640

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-3**

Lab Sample ID: 720-22975-1
Client Matrix: Water

Date Sampled: 10/01/2009 1250
Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58963	Instrument ID:	HP5
Preparation:	5030B		Lab File ID:	10060916.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1603		Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1603			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		0.50
Acetone	ND	*	50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND	*	50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND	*	1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND	*	50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND	*	50
N-Propylbenzene	ND		1.0

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-3**

Lab Sample ID: 720-22975-1
Client Matrix: Water

Date Sampled: 10/01/2009 1250
Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58963	Instrument ID:	HP5
Preparation:	5030B		Lab File ID:	10060916.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1603		Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1603			

Analyte	Result (ug/L)	Qualifier	RL
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		10
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	110		67 - 130
1,2-Dichloroethane-d4 (Surr)	107		67 - 130
Toluene-d8 (Surr)	105		70 - 130

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-3**

Lab Sample ID: 720-22975-1

Client Matrix: Water

Date Sampled: 10/01/2009 1250

Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59051	Instrument ID:	HP4
Preparation:	5030B		Lab File ID:	10060934.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 0109		Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 0109			

Analyte	Result (ug/L)	Qualifier	RL
Naphthalene	ND		1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	94		67 - 130
1,2-Dichloroethane-d4 (Surr)	79		67 - 130
Toluene-d8 (Surr)	97		70 - 130

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-2**

Lab Sample ID: 720-22975-2
Client Matrix: Water

Date Sampled: 10/01/2009 1400
Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58963	Instrument ID:	HP5
Preparation:	5030B		Lab File ID:	10060917.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1634		Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1634			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		0.50
Acetone	ND	*	50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND	*	50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND	*	1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND	*	50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND	*	50
Naphthalene	ND		1.0

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-2**

Lab Sample ID: 720-22975-2

Client Matrix: Water

Date Sampled: 10/01/2009 1400

Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58963	Instrument ID:	HP5
Preparation:	5030B		Lab File ID:	10060917.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1634		Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1634			

Analyte	Result (ug/L)	Qualifier	RL
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		10
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	108		67 - 130
1,2-Dichloroethane-d4 (Surr)	111		67 - 130
Toluene-d8 (Surr)	101		70 - 130

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-1**

Lab Sample ID: 720-22975-3

Client Matrix: Water

Date Sampled: 10/01/2009 1455

Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59057	Instrument ID:	HP12
Preparation:	5030B		Lab File ID:	10070912.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1428		Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1428			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		0.50
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	2.8		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	7.0		0.50
4-Isopropyltoluene	2.0		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	19		1.0

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-1**

Lab Sample ID: 720-22975-3

Client Matrix: Water

Date Sampled: 10/01/2009 1455

Date Received: 10/01/2009 1640

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59057	Instrument ID:	HP12
Preparation:	5030B		Lab File ID:	10070912.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1428		Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1428			

Analyte	Result (ug/L)	Qualifier	RL
N-Propylbenzene	4.5		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	25		0.50
1,3,5-Trimethylbenzene	4.3		0.50
Vinyl acetate	ND		10
Vinyl chloride	ND		0.50
Xylenes, Total	12		1.0
2,2-Dichloropropane	ND		0.50
Gasoline Range Organics (GRO)-C5-C12	400		50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	110		67 - 130
1,2-Dichloroethane-d4 (Surr)	111		67 - 130
Toluene-d8 (Surr)	103		70 - 130

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-3**

Lab Sample ID: 720-22975-1

Client Matrix: Water

Date Sampled: 10/01/2009 1250

Date Received: 10/01/2009 1640

8015B Diesel Range Organics (DRO) (GC)-Silica Gel Cleanup

Method:	8015B	Analysis Batch: 720-58888		Instrument ID:	CHDRO5
Preparation:	3510C SGC	Prep Batch: 720-58841		Initial Weight/Volume:	980 mL
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	10/05/2009 2301			Injection Volume:	1 uL
Date Prepared:	10/02/2009 1336			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Diesel Range Organics [C10-C28]	ND		64
Motor Oil Range Organics [C24-C36]	ND		380

Surrogate	%Rec	Qualifier	Acceptance Limits
Capric Acid (Surr)	0		0 - 5
p-Terphenyl	96		31 - 150

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-2**

Lab Sample ID: 720-22975-2

Client Matrix: Water

Date Sampled: 10/01/2009 1400

Date Received: 10/01/2009 1640

8015B Diesel Range Organics (DRO) (GC)-Silica Gel Cleanup

Method:	8015B	Analysis Batch: 720-58888		Instrument ID:	CHDRO5
Preparation:	3510C SGC	Prep Batch: 720-58841		Initial Weight/Volume:	960 mL
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	10/05/2009 2328			Injection Volume:	1 uL
Date Prepared:	10/02/2009 1336			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Diesel Range Organics [C10-C28]	ND		65
Motor Oil Range Organics [C24-C36]	ND		390

Surrogate	%Rec	Qualifier	Acceptance Limits
Capric Acid (Surr)	0		0 - 5
p-Terphenyl	92		31 - 150

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-1**

Lab Sample ID: 720-22975-3

Client Matrix: Water

Date Sampled: 10/01/2009 1455

Date Received: 10/01/2009 1640

8015B Diesel Range Organics (DRO) (GC)-Silica Gel Cleanup

Method:	8015B	Analysis Batch: 720-58888		Instrument ID:	CHDRO5
Preparation:	3510C SGC	Prep Batch: 720-58841		Initial Weight/Volume:	980 mL
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	10/05/2009 2355			Injection Volume:	1 uL
Date Prepared:	10/02/2009 1336			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Diesel Range Organics [C10-C28]	1600		64
Motor Oil Range Organics [C24-C36]	ND		380

Surrogate	%Rec	Qualifier	Acceptance Limits
Capric Acid (Surr)	10	X	0 - 5
p-Terphenyl	91		31 - 150

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-3**

Lab Sample ID: 720-22975-1
Client Matrix: Water

Date Sampled: 10/01/2009 1250
Date Received: 10/01/2009 1640

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 720-58965	Instrument ID:	Thermo ICP2
Preparation:	Soluble Metals	Prep Batch: 720-58866	Lab File ID:	N/A
Dilution:	1.07		Initial Weight/Volume:	
Date Analyzed:	10/05/2009 1738		Final Weight/Volume:	1.0 mL
Date Prepared:	10/02/2009 1730			

Analyte	Result (mg/L)	Qualifier	RL
Arsenic	0.055		0.010
Thallium	ND		0.010

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-2**

Lab Sample ID: 720-22975-2
Client Matrix: Water

Date Sampled: 10/01/2009 1400
Date Received: 10/01/2009 1640

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 720-58965		Instrument ID:	Thermo ICP2
Preparation:	Soluble Metals	Prep Batch: 720-58866		Lab File ID:	N/A
Dilution:	1.07			Initial Weight/Volume:	
Date Analyzed:	10/05/2009 1743			Final Weight/Volume:	1.0 mL
Date Prepared:	10/02/2009 1730				

Analyte	Result (mg/L)	Qualifier	RL
Arsenic	0.036		0.010
Thallium	ND		0.010

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Client Sample ID: **FCC-MW-1**

Lab Sample ID: 720-22975-3
Client Matrix: Water

Date Sampled: 10/01/2009 1455
Date Received: 10/01/2009 1640

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 720-58965		Instrument ID:	Thermo ICP2
Preparation:	Soluble Metals	Prep Batch: 720-58866		Lab File ID:	N/A
Dilution:	1.07			Initial Weight/Volume:	
Date Analyzed:	10/05/2009 1749			Final Weight/Volume:	1.0 mL
Date Prepared:	10/02/2009 1730				

Analyte	Result (mg/L)	Qualifier	RL
Arsenic	0.025		0.010
Thallium	ND		0.010

DATA REPORTING QUALIFIERS

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	*	RPD of the LCS and LCSD exceeds the control limits
GC Semi VOA		
	X	Surrogate exceeds the control limits

Client: Cornerstone Earth Group

Job Number: 720-22975-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-58963					
LCS 720-58963/4	Lab Control Sample	T	Water	8260B	
LCS 720-58963/6	Lab Control Sample	T	Water	8260B	
LCSD 720-58963/5	Lab Control Sample Duplicate	T	Water	8260B	
LCSD 720-58963/7	Lab Control Sample Duplicate	T	Water	8260B	
MB 720-58963/8	Method Blank	T	Water	8260B	
720-22975-1	FCC-MW-3	T	Water	8260B	
720-22975-2	FCC-MW-2	T	Water	8260B	
Analysis Batch:720-59051					
LCS 720-59051/4	Lab Control Sample	T	Water	8260B	
LCS 720-59051/6	Lab Control Sample	T	Water	8260B	
LCSD 720-59051/5	Lab Control Sample Duplicate	T	Water	8260B	
LCSD 720-59051/7	Lab Control Sample Duplicate	T	Water	8260B	
MB 720-59051/8	Method Blank	T	Water	8260B	
720-22975-1	FCC-MW-3	T	Water	8260B	
720-22975-1MS	Matrix Spike	T	Water	8260B	
720-22975-1MSD	Matrix Spike Duplicate	T	Water	8260B	
Analysis Batch:720-59057					
LCS 720-59057/4	Lab Control Sample	T	Water	8260B	
LCS 720-59057/6	Lab Control Sample	T	Water	8260B	
LCSD 720-59057/5	Lab Control Sample Duplicate	T	Water	8260B	
LCSD 720-59057/7	Lab Control Sample Duplicate	T	Water	8260B	
MB 720-59057/8	Method Blank	T	Water	8260B	
720-22975-3	FCC-MW-1	T	Water	8260B	

Report Basis
T = Total

Client: Cornerstone Earth Group

Job Number: 720-22975-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-58841					
LCS 720-58841/2-A	Lab Control Sample	A	Water	3510C SGC	
LCSD 720-58841/3-A	Lab Control Sample Duplicate	A	Water	3510C SGC	
MB 720-58841/1-A	Method Blank	A	Water	3510C SGC	
720-22975-1	FCC-MW-3	A	Water	3510C SGC	
720-22975-2	FCC-MW-2	A	Water	3510C SGC	
720-22975-3	FCC-MW-1	A	Water	3510C SGC	
Analysis Batch:720-58888					
LCS 720-58841/2-A	Lab Control Sample	A	Water	8015B	720-58841
LCSD 720-58841/3-A	Lab Control Sample Duplicate	A	Water	8015B	720-58841
MB 720-58841/1-A	Method Blank	A	Water	8015B	720-58841
720-22975-1	FCC-MW-3	A	Water	8015B	720-58841
720-22975-2	FCC-MW-2	A	Water	8015B	720-58841
720-22975-3	FCC-MW-1	A	Water	8015B	720-58841

Report Basis
A = Silica Gel Cleanup

Metals					
Prep Batch: 720-58866					
LCS 720-58866/2-A	Lab Control Sample	S	Water	Soluble Metals	
LCSD 720-58866/3-A	Lab Control Sample Duplicate	S	Water	Soluble Metals	
MB 720-58783/1-B	Method Blank	D	Water	Soluble Metals	
720-22975-1	FCC-MW-3	D	Water	Soluble Metals	
720-22975-1MS	Matrix Spike	D	Water	Soluble Metals	
720-22975-1MSD	Matrix Spike Duplicate	D	Water	Soluble Metals	
720-22975-2	FCC-MW-2	D	Water	Soluble Metals	
720-22975-3	FCC-MW-1	D	Water	Soluble Metals	
Analysis Batch:720-58965					
LCS 720-58866/2-A	Lab Control Sample	S	Water	6010B	720-58866
LCSD 720-58866/3-A	Lab Control Sample Duplicate	S	Water	6010B	720-58866
MB 720-58783/1-B	Method Blank	D	Water	6010B	720-58866
720-22975-1	FCC-MW-3	D	Water	6010B	720-58866
720-22975-1MS	Matrix Spike	D	Water	6010B	720-58866
720-22975-1MSD	Matrix Spike Duplicate	D	Water	6010B	720-58866
720-22975-2	FCC-MW-2	D	Water	6010B	720-58866
720-22975-3	FCC-MW-1	D	Water	6010B	720-58866

Report Basis
D = Dissolved
S = Soluble

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-58963

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58963/8
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 1143
Date Prepared: 10/06/2009 1143

Analysis Batch: 720-58963
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent75MSD
Lab File ID: 10060908.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		0.50
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-58963

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58963/8
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 1143
Date Prepared: 10/06/2009 1143

Analysis Batch: 720-58963
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent75MSD
Lab File ID: 10060908.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		10
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	98	67 - 130
1,2-Dichloroethane-d4 (Surr)	108	67 - 130
Toluene-d8 (Surr)	102	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58963

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58963/4	Analysis Batch:	720-58963	Instrument ID:	Agilent75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060904.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 0938			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 0938				

LCSD Lab Sample ID:	LCSD 720-58963/5	Analysis Batch:	720-58963	Instrument ID:	Agilent75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060905.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1010			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1010				

	% Rec						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	105	97	66 - 138	8	20		
Acetone	161	126	23 - 150	25	20	*	*
Benzene	104	104	80 - 130	0	20		
Dichlorobromomethane	111	112	74 - 140	1	20		
Bromobenzene	106	105	80 - 128	1	20		
Chlorobromomethane	114	111	80 - 126	2	20		
Bromoform	84	81	56 - 144	4	20		
Bromomethane	107	107	23 - 171	0	20		
2-Butanone (MEK)	153	120	60 - 140	24	20	*	*
n-Butylbenzene	116	117	67 - 160	1	20		
sec-Butylbenzene	111	112	80 - 144	0	20		
tert-Butylbenzene	110	110	80 - 141	0	20		
Carbon disulfide	97	96	38 - 158	1	20		
Carbon tetrachloride	104	104	69 - 136	0	20		
Chlorobenzene	106	106	80 - 122	0	20		
Chloroethane	107	103	51 - 149	4	20		
Chloroform	110	111	70 - 130	1	20		
Chloromethane	109	105	52 - 136	4	20		
2-Chlorotoluene	108	108	76 - 142	0	20		
4-Chlorotoluene	108	109	78 - 140	0	20		
Chlorodibromomethane	88	87	68 - 137	2	20		
1,2-Dichlorobenzene	109	108	80 - 127	1	20		
1,3-Dichlorobenzene	109	110	80 - 128	1	20		
1,4-Dichlorobenzene	105	105	80 - 122	0	20		
1,3-Dichloropropane	122	115	77 - 140	6	20		
1,1-Dichloropropene	116	114	76 - 140	1	20		
1,2-Dibromo-3-Chloropropane	134	108	64 - 136	22	20		*
Ethylene Dibromide	128	119	70 - 143	7	20		
Dibromomethane	123	118	74 - 137	5	20		
Dichlorodifluoromethane	107	102	38 - 142	4	20		
1,1-Dichloroethane	107	107	70 - 130	0	20		
1,2-Dichloroethane	116	112	70 - 133	4	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58963

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-58963/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0938
Date Prepared: 10/06/2009 0938

Analysis Batch: 720-58963
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent75MSD
Lab File ID: 10060904.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-58963/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 1010
Date Prepared: 10/06/2009 1010

Analysis Batch: 720-58963
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent75MSD
Lab File ID: 10060905.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	107	105	70 - 130	2	20		
cis-1,2-Dichloroethene	110	110	80 - 136	0	20		
trans-1,2-Dichloroethene	104	103	80 - 125	1	20		
1,2-Dichloropropane	110	110	75 - 138	0	20		
cis-1,3-Dichloropropene	109	111	72 - 148	1	20		
trans-1,3-Dichloropropene	92	91	74 - 137	1	20		
Ethylbenzene	112	112	80 - 139	0	20		
Hexachlorobutadiene	111	111	75 - 138	0	20		
2-Hexanone	156	121	60 - 140	25	20	*	*
Isopropylbenzene	94	94	63 - 114	0	20		
4-Isopropyltoluene	111	112	73 - 148	0	20		
Methylene Chloride	106	105	71 - 127	1	20		
4-Methyl-2-pentanone (MIBK)	160	128	40 - 168	22	20		*
Naphthalene	110	103	56 - 156	7	20		
N-Propylbenzene	98	98	78 - 144	0	20		
Styrene	104	106	73 - 146	2	20		
1,1,1,2-Tetrachloroethane	106	108	80 - 128	2	20		
1,1,2,2-Tetrachloroethane	131	114	72 - 146	14	20		
Tetrachloroethene	111	110	80 - 134	1	20		
Toluene	106	106	80 - 126	0	20		
1,2,3-Trichlorobenzene	111	112	66 - 153	0	20		
1,2,4-Trichlorobenzene	114	116	70 - 143	1	20		
1,1,1-Trichloroethane	113	113	74 - 135	0	20		
1,1,2-Trichloroethane	126	117	67 - 151	7	20		
Trichloroethene	106	106	72 - 138	1	20		
Trichlorofluoromethane	114	111	62 - 136	3	20		
1,2,3-Trichloropropane	112	98	76 - 142	14	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	108	104	66 - 132	3	20		
1,2,4-Trimethylbenzene	114	115	74 - 151	1	20		
1,3,5-Trimethylbenzene	110	111	75 - 144	1	20		
Vinyl acetate	131	117	40 - 173	12	20		
Vinyl chloride	107	104	58 - 147	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58963

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58963/4	Analysis Batch:	720-58963	Instrument ID:	Agilent75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060904.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 0938			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 0938				

LCSD Lab Sample ID:	LCSD 720-58963/5	Analysis Batch:	720-58963	Instrument ID:	Agilent75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060905.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1010			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1010				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	118	119	78 - 140	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	109	109	67 - 130
1,2-Dichloroethane-d4 (Surr)	113	108	67 - 130
Toluene-d8 (Surr)	102	102	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58963

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58963/6	Analysis Batch:	720-58963	Instrument ID:	Agilent75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060906.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1041			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1041				

LCSD Lab Sample ID:	LCSD 720-58963/7	Analysis Batch:	720-58963	Instrument ID:	Agilent75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060907.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 1112			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 1112				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	89	92	30 - 130	3			

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	108	106	67 - 130
1,2-Dichloroethane-d4 (Surr)	110	108	67 - 130
Toluene-d8 (Surr)	104	105	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-59051

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-59051/8
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/07/2009 0037
Date Prepared: 10/07/2009 0037

Analysis Batch: 720-59051
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent 75MSD
Lab File ID: 10060933.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		0.50
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-59051

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 720-59051/8	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060933.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 0037			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 0037				

Analyte	Result	Qual	RL
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		10
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	93	67 - 130
1,2-Dichloroethane-d4 (Surr)	82	67 - 130
Toluene-d8 (Surr)	99	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59051/4	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060929.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2230			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2230				

LCSD Lab Sample ID:	LCSD 720-59051/5	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060930.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2302			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2302				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	94	95	66 - 138	1	20		
Acetone	60	55	23 - 150	9	20		
Benzene	108	107	80 - 130	1	20		
Dichlorobromomethane	104	104	74 - 140	0	20		
Bromobenzene	111	110	80 - 128	1	20		
Chlorobromomethane	117	116	80 - 126	1	20		
Bromoform	109	110	56 - 144	0	20		
Bromomethane	117	119	23 - 171	2	20		
2-Butanone (MEK)	85	85	60 - 140	0	20		
n-Butylbenzene	106	107	67 - 160	1	20		
sec-Butylbenzene	108	109	80 - 144	0	20		
tert-Butylbenzene	109	109	80 - 141	0	20		
Carbon disulfide	101	102	38 - 158	1	20		
Carbon tetrachloride	99	100	69 - 136	1	20		
Chlorobenzene	102	103	80 - 122	1	20		
Chloroethane	103	105	51 - 149	1	20		
Chloroform	93	92	70 - 130	1	20		
Chloromethane	100	100	52 - 136	1	20		
2-Chlorotoluene	104	105	76 - 142	1	20		
4-Chlorotoluene	104	105	78 - 140	0	20		
Chlorodibromomethane	96	94	68 - 137	1	20		
1,2-Dichlorobenzene	110	111	80 - 127	1	20		
1,3-Dichlorobenzene	114	114	80 - 128	1	20		
1,4-Dichlorobenzene	108	108	80 - 122	0	20		
1,3-Dichloropropane	103	104	77 - 140	1	20		
1,1-Dichloropropene	104	102	76 - 140	2	20		
1,2-Dibromo-3-Chloropropane	98	89	64 - 136	9	20		
Ethylene Dibromide	117	117	70 - 143	0	20		
Dibromomethane	100	101	74 - 137	1	20		
Dichlorodifluoromethane	85	83	38 - 142	2	20		
1,1-Dichloroethane	93	93	70 - 130	0	20		
1,2-Dichloroethane	80	80	70 - 133	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59051/4	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060929.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2230			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2230				

LCSD Lab Sample ID:	LCSD 720-59051/5	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060930.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2302			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2302				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	107	105	70 - 130	2	20		
cis-1,2-Dichloroethene	96	95	80 - 136	1	20		
trans-1,2-Dichloroethene	109	108	80 - 125	1	20		
1,2-Dichloropropane	102	102	75 - 138	1	20		
cis-1,3-Dichloropropene	111	109	72 - 148	1	20		
trans-1,3-Dichloropropene	111	109	74 - 137	1	20		
Ethylbenzene	107	107	80 - 139	1	20		
Hexachlorobutadiene	105	110	75 - 138	5	20		
2-Hexanone	90	86	60 - 140	5	20		
Isopropylbenzene	92	93	63 - 114	1	20		
4-Isopropyltoluene	105	105	73 - 148	0	20		
Methylene Chloride	118	116	71 - 127	1	20		
4-Methyl-2-pentanone (MIBK)	90	86	40 - 168	5	20		
Naphthalene	128	128	56 - 156	0	20		
N-Propylbenzene	107	107	78 - 144	0	20		
Styrene	107	108	73 - 146	1	20		
1,1,1,2-Tetrachloroethane	108	108	80 - 128	0	20		
1,1,2,2-Tetrachloroethane	106	105	72 - 146	1	20		
Tetrachloroethene	104	100	80 - 134	3	20		
Toluene	105	105	80 - 126	0	20		
1,2,3-Trichlorobenzene	119	124	66 - 153	4	20		
1,2,4-Trichlorobenzene	118	124	70 - 143	5	20		
1,1,1-Trichloroethane	104	104	74 - 135	0	20		
1,1,2-Trichloroethane	118	115	67 - 151	3	20		
Trichloroethene	109	107	72 - 138	3	20		
Trichlorofluoromethane	81	81	62 - 136	1	20		
1,2,3-Trichloropropane	94	91	76 - 142	3	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	100	101	66 - 132	1	20		
1,2,4-Trimethylbenzene	113	113	74 - 151	0	20		
1,3,5-Trimethylbenzene	107	107	75 - 144	0	20		
Vinyl acetate	91	96	40 - 173	5	20		
Vinyl chloride	86	84	58 - 147	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59051/4	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060929.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2230			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2230				

LCSD Lab Sample ID:	LCSD 720-59051/5	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060930.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2302			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2302				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	108	108	78 - 140	0	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	97	96	67 - 130
1,2-Dichloroethane-d4 (Surr)	76	75	67 - 130
Toluene-d8 (Surr)	97	98	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59051/6	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060931.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/06/2009 2334			Final Weight/Volume:	10 mL
Date Prepared:	10/06/2009 2334				

LCSD Lab Sample ID:	LCSD 720-59051/7	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060932.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 0006			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 0006				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	82	82	30 - 130	0			

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	97	95	67 - 130
1,2-Dichloroethane-d4 (Surr)	78	77	67 - 130
Toluene-d8 (Surr)	99	99	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22975-1	Analysis Batch: 720-59051	Instrument ID: Agilent 75MSD
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: 10060935.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	10/07/2009 0141		Final Weight/Volume: 10 mL
Date Prepared:	10/07/2009 0141		

MSD Lab Sample ID:	720-22975-1	Analysis Batch: 720-59051	Instrument ID: Agilent 75MSD
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: 10060936.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	10/07/2009 0213		Final Weight/Volume: 10 mL
Date Prepared:	10/07/2009 0213		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Methyl tert-butyl ether	98	96	60 - 138	2	20		
Acetone	53	52	60 - 140	2	20	F	F
Benzene	106	107	60 - 140	0	20		
Dichlorobromomethane	111	109	60 - 140	1	20		
Bromobenzene	109	110	60 - 140	2	20		
Chlorobromomethane	119	118	60 - 140	1	20		
Bromoform	115	112	56 - 140	2	20		
Bromomethane	113	114	23 - 140	1	20		
2-Butanone (MEK)	81	78	60 - 140	3	20		
n-Butylbenzene	100	101	60 - 140	1	20		
sec-Butylbenzene	103	104	60 - 140	1	20		
tert-Butylbenzene	103	106	60 - 140	2	20		
Carbon disulfide	94	96	38 - 140	2	20		
Carbon tetrachloride	101	102	60 - 140	1	20		
Chlorobenzene	101	103	60 - 140	2	20		
Chloroethane	100	105	51 - 140	5	20		
Chloroform	96	97	60 - 140	1	20		
Chloromethane	89	91	52 - 140	2	20		
2-Chlorotoluene	102	104	60 - 140	1	20		
4-Chlorotoluene	102	104	60 - 140	2	20		
Chlorodibromomethane	102	102	60 - 140	1	20		
1,2-Dichlorobenzene	111	111	60 - 140	0	20		
1,3-Dichlorobenzene	111	113	60 - 140	2	20		
1,4-Dichlorobenzene	106	107	60 - 140	1	20		
1,3-Dichloropropane	107	107	60 - 140	0	20		
1,1-Dichloropropene	101	101	60 - 140	0	20		
1,2-Dibromo-3-Chloropropane	84	82	60 - 140	3	20		
Ethylene Dibromide	120	119	60 - 140	1	20		
Dibromomethane	106	104	60 - 140	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22975-1	Analysis Batch: 720-59051	Instrument ID: Agilent 75MSD
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: 10060935.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	10/07/2009 0141		Final Weight/Volume: 10 mL
Date Prepared:	10/07/2009 0141		

MSD Lab Sample ID:	720-22975-1	Analysis Batch: 720-59051	Instrument ID: Agilent 75MSD
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: 10060936.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	10/07/2009 0213		Final Weight/Volume: 10 mL
Date Prepared:	10/07/2009 0213		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Dichlorodifluoromethane	86	87	38 - 140	1	20		
1,1-Dichloroethane	93	93	60 - 140	1	20		
1,2-Dichloroethane	86	86	60 - 140	0	20		
1,1-Dichloroethene	99	101	60 - 140	2	20		
cis-1,2-Dichloroethene	97	98	60 - 140	0	20		
trans-1,2-Dichloroethene	104	105	60 - 140	2	20		
1,2-Dichloropropane	102	102	60 - 140	1	20		
cis-1,3-Dichloropropene	113	112	60 - 140	1	20		
trans-1,3-Dichloropropene	113	112	60 - 140	1	20		
Ethylbenzene	103	104	60 - 140	1	20		
Hexachlorobutadiene	100	103	60 - 140	2	20		
2-Hexanone	90	86	60 - 140	4	20		
Isopropylbenzene	90	91	60 - 140	1	20		
4-Isopropyltoluene	100	102	60 - 140	2	20		
Methylene Chloride	108	105	40 - 140	2	20		
4-Methyl-2-pentanone (MIBK)	90	86	60 - 140	4	20		
Naphthalene	117	120	56 - 140	2	20		
N-Propylbenzene	101	103	60 - 140	2	20		
Styrene	105	105	60 - 140	0	20		
1,1,1,2-Tetrachloroethane	110	112	60 - 140	1	20		
1,1,2,2-Tetrachloroethane	106	106	60 - 140	0	20		
Tetrachloroethene	99	100	60 - 140	1	20		
Toluene	101	102	60 - 140	1	20		
1,2,3-Trichlorobenzene	117	120	60 - 140	3	20		
1,2,4-Trichlorobenzene	118	119	60 - 140	1	20		
1,1,1-Trichloroethane	108	108	60 - 140	0	20		
1,1,2-Trichloroethane	120	120	60 - 140	0	20		
Trichloroethene	105	106	60 - 140	1	20		
Trichlorofluoromethane	84	84	60 - 140	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-59051

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22975-1	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060935.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 0141			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 0141				

MSD Lab Sample ID:	720-22975-1	Analysis Batch:	720-59051	Instrument ID:	Agilent 75MSD
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10060936.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 0213			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 0213				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,2,3-Trichloropropane	91	90	60 - 140	0	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	97	96	60 - 140	0	20		
1,2,4-Trimethylbenzene	108	111	60 - 140	2	20		
1,3,5-Trimethylbenzene	102	103	60 - 140	1	20		
Vinyl acetate	99	96	40 - 140	3	20		
Vinyl chloride	82	82	58 - 140	0	20		
2,2-Dichloropropane	111	110	60 - 140	1	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
4-Bromofluorobenzene	97	97	67 - 130
1,2-Dichloroethane-d4 (Surr)	77	78	67 - 130
Toluene-d8 (Surr)	96	97	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-59057

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-59057/8
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/07/2009 1211
Date Prepared: 10/07/2009 1211

Analysis Batch: 720-59057
Prep Batch: N/A
Units: ug/L

Instrument ID: Chenslation 3
Lab File ID: 10070908.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		0.50
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-59057

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 720-59057/8	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070908.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1211			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1211				

Analyte	Result	Qual	RL
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		10
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	101	67 - 130
1,2-Dichloroethane-d4 (Surr)	107	67 - 130
Toluene-d8 (Surr)	102	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59057

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59057/4	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070904.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1001			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1001				

LCSD Lab Sample ID:	LCSD 720-59057/5	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070905.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1033			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1033				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	97	99	66 - 138	2	20		
Acetone	94	96	23 - 150	2	20		
Benzene	97	98	80 - 130	1	20		
Dichlorobromomethane	106	104	74 - 140	1	20		
Bromobenzene	94	96	80 - 128	2	20		
Chlorobromomethane	92	93	80 - 126	1	20		
Bromoform	97	98	56 - 144	2	20		
Bromomethane	91	91	23 - 171	0	20		
2-Butanone (MEK)	93	97	60 - 140	4	20		
n-Butylbenzene	113	113	67 - 160	0	20		
sec-Butylbenzene	106	105	80 - 144	1	20		
tert-Butylbenzene	105	105	80 - 141	0	20		
Carbon disulfide	95	93	38 - 158	2	20		
Carbon tetrachloride	104	103	69 - 136	0	20		
Chlorobenzene	100	100	80 - 122	0	20		
Chloroethane	98	95	51 - 149	3	20		
Chloroform	100	100	70 - 130	1	20		
Chloromethane	92	89	52 - 136	3	20		
2-Chlorotoluene	105	105	76 - 142	0	20		
4-Chlorotoluene	105	106	78 - 140	1	20		
Chlorodibromomethane	101	106	68 - 137	5	20		
1,2-Dichlorobenzene	99	99	80 - 127	0	20		
1,3-Dichlorobenzene	99	100	80 - 128	0	20		
1,4-Dichlorobenzene	96	99	80 - 122	3	20		
1,3-Dichloropropane	99	102	77 - 140	3	20		
1,1-Dichloropropene	105	103	76 - 140	2	20		
1,2-Dibromo-3-Chloropropane	96	96	64 - 136	0	20		
Ethylene Dibromide	94	99	70 - 143	5	20		
Dibromomethane	97	98	74 - 137	1	20		
Dichlorodifluoromethane	77	76	38 - 142	2	20		
1,1-Dichloroethane	101	101	70 - 130	0	20		
1,2-Dichloroethane	102	103	70 - 133	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59057

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59057/4	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070904.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1001			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1001				

LCSD Lab Sample ID:	LCSD 720-59057/5	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070905.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1033			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1033				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	99	98	70 - 130	1	20		
cis-1,2-Dichloroethene	102	102	80 - 136	1	20		
trans-1,2-Dichloroethene	95	96	80 - 125	1	20		
1,2-Dichloropropane	99	100	75 - 138	2	20		
cis-1,3-Dichloropropene	108	110	72 - 148	2	20		
trans-1,3-Dichloropropene	105	107	74 - 137	2	20		
Ethylbenzene	106	105	80 - 139	1	20		
Hexachlorobutadiene	105	107	75 - 138	1	20		
2-Hexanone	93	99	60 - 140	6	20		
Isopropylbenzene	92	92	63 - 114	1	20		
4-Isopropyltoluene	108	108	73 - 148	0	20		
Methylene Chloride	76	89	71 - 127	17	20		
4-Methyl-2-pentanone (MIBK)	95	100	40 - 168	6	20		
Naphthalene	99	103	56 - 156	4	20		
N-Propylbenzene	104	104	78 - 144	0	20		
Styrene	105	106	73 - 146	1	20		
1,1,1,2-Tetrachloroethane	102	102	80 - 128	1	20		
1,1,2,2-Tetrachloroethane	101	104	72 - 146	3	20		
Tetrachloroethene	98	98	80 - 134	0	20		
Toluene	100	99	80 - 126	1	20		
1,2,3-Trichlorobenzene	97	102	66 - 153	5	20		
1,2,4-Trichlorobenzene	97	99	70 - 143	2	20		
1,1,1-Trichloroethane	103	104	74 - 135	1	20		
1,1,2-Trichloroethane	98	104	67 - 151	6	20		
Trichloroethene	95	94	72 - 138	0	20		
Trichlorofluoromethane	100	97	62 - 136	3	20		
1,2,3-Trichloropropane	99	103	76 - 142	4	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	92	91	66 - 132	1	20		
1,2,4-Trimethylbenzene	110	110	74 - 151	0	20		
1,3,5-Trimethylbenzene	107	107	75 - 144	0	20		
Vinyl acetate	67	69	40 - 173	2	20		
Vinyl chloride	92	89	58 - 147	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59057

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59057/4	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070904.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1001			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1001				

LCSD Lab Sample ID:	LCSD 720-59057/5	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070905.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1033			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1033				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	110	113	78 - 140	3	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	106	106	67 - 130
1,2-Dichloroethane-d4 (Surr)	102	106	67 - 130
Toluene-d8 (Surr)	103	104	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59057

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59057/6	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070906.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1106			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1106				

LCSD Lab Sample ID:	LCSD 720-59057/7	Analysis Batch:	720-59057	Instrument ID:	Chenstation 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10070907.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	10/07/2009 1138			Final Weight/Volume:	10 mL
Date Prepared:	10/07/2009 1138				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	100	92	30 - 130	9			

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	108	107	67 - 130
1,2-Dichloroethane-d4 (Surr)	115	114	67 - 130
Toluene-d8 (Surr)	104	104	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-58841

Method: 8015B
Preparation: 3510C SGC
Silica Gel Cleanup

Lab Sample ID: MB 720-58841/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0115
Date Prepared: 10/02/2009 1336

Analysis Batch: 720-58888
Prep Batch: 720-58841
Units: ug/L

Instrument ID: HP DRO5
Lab File ID: 5a1005040.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		62
Motor Oil Range Organics [C24-C36]	ND		380

Surrogate	% Rec	Acceptance Limits
Capric Acid (Surr)	0	0 - 5
p-Terphenyl	94	31 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58841

Method: 8015B
Preparation: 3510C SGC
Silica Gel Cleanup

LCS Lab Sample ID: LCS 720-58841/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0022
Date Prepared: 10/02/2009 1336

Analysis Batch: 720-58888
Prep Batch: 720-58841
Units: ug/L

Instrument ID: HP DRO5
Lab File ID: 5a1005038.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-58841/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0048
Date Prepared: 10/02/2009 1336

Analysis Batch: 720-58888
Prep Batch: 720-58841
Units: ug/L

Instrument ID: HP DRO5
Lab File ID: 5a1005039.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	70	81	32 - 119	14	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	91	95	31 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Method Blank - Batch: 720-58866

Method: 6010B
Preparation: Soluble Metals Dissolved

Lab Sample ID: MB 720-58783/1-B
Client Matrix: Water
Dilution: 1.07
Date Analyzed: 10/05/2009 1713
Date Prepared: 10/02/2009 1730

Analysis Batch: 720-58965
Prep Batch: 720-58866
Units: mg/L

Instrument ID: Thermo 6500 ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Arsenic	ND		0.010
Thallium	ND		0.010

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58866

Method: 6010B
Preparation: Soluble Metals Soluble

LCS Lab Sample ID: LCS 720-58866/2-A
Client Matrix: Water
Dilution: 1.07
Date Analyzed: 10/05/2009 1718
Date Prepared: 10/02/2009 1730

Analysis Batch: 720-58965
Prep Batch: 720-58866
Units: mg/L

Instrument ID: Thermo 6500 ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

LCSD Lab Sample ID: LCSD 720-58866/3-A
Client Matrix: Water
Dilution: 1.07
Date Analyzed: 10/05/2009 1723
Date Prepared: 10/02/2009 1730

Analysis Batch: 720-58965
Prep Batch: 720-58866
Units: mg/L

Instrument ID: Thermo 6500 ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	108	104	80 - 120	4	20		
Thallium	109	105	80 - 120	4	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58866

Method: 6010B
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	720-22975-1	Analysis Batch:	720-58965	Instrument ID:	Thermo 6500 ICP
Client Matrix:	Water	Prep Batch:	720-58866	Lab File ID:	N/A
Dilution:	1.07			Initial Weight/Volume:	
Date Analyzed:	10/05/2009 1728			Final Weight/Volume:	1.0 mL
Date Prepared:	10/02/2009 1730				

MSD Lab Sample ID:	720-22975-1	Analysis Batch:	720-58965	Instrument ID:	Thermo 6500 ICP
Client Matrix:	Water	Prep Batch:	720-58866	Lab File ID:	N/A
Dilution:	1.07			Initial Weight/Volume:	
Date Analyzed:	10/05/2009 1733			Final Weight/Volume:	1.0 mL
Date Prepared:	10/02/2009 1730				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	115	113	75 - 125	1	20		
Thallium	94	92	75 - 125	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

720-22975

BLAINE
TECH SERVICES, INC

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

LAB: Test America SF 1194/19 DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
☐ EPA ☐ RWQCB REGION _____
☐ LIA
☐ OTHER

CHAIN OF CUSTODY BTS # 091001-DR2

CLIENT: Cornerstone EG

SITE: 1633 Oakland Rd.
San Jose, CA

SPECIAL INSTRUCTIONS: Temp: 3.1°C

Invoice and Report to: Peter Langtry
plangtry@cornerstoneearth.com
925-988-9500

CONDUCT ANALYSIS TO DETECT

SAMPLE I.D.	DATE	TIME	MATRIX S=SOIL W=H_2O	CONTAINERS TOTAL	6 liter vacs 2x1L Amber 1x Sample cup Poly	C = COMPOSITE ALL CONTAINERS	TPH-D, TPH-MO (8015m) w/silica gel cleanup	VOCs (8260B)	Arsenic & Thallium (6010B)	TPH-G/BTEX/MTBE (8015/8260)					ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
FCC-MW-3	10/1/09	1250	W	9	↓		X	X	X	X								
FCC-MW-2	↓	1400	W	9			X	X	X	X								
FCC-MW-1		1455	W	9			X	X	X	X								

SAMPLING COMPLETED DATE 10/1/09 TIME

SAMPLING PERFORMED BY D. Raynal

RESULTS NEEDED NO LATER THAN Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	10/1/09	1515	[signature] (Sample custodian)	10/1/09	1550
[signature]	10/1/09	1550	[signature] TASF	10/01/09	1550
[signature]	10/01/09	1640	[signature]	10-01-09	1640

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

Login Sample Receipt Check List

Client: Cornerstone Earth Group

Job Number: 720-22975-1

Login Number: 22975

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

APPENDIX E-3
BROKAW ROAD REMOVAL ACTION WORKPLAN

CORNERSTONE
EARTH GROUP

Type of Services	Removal Action Workplan
Location	1040, 1060 and 1080 East Brokaw Road San Jose, California
Client	Markovits & Fox, Inc.
Client Address	14125 Capri Drive Los Gatos, California 95032
Project Number	110-4-3
Date	April 29, 2008

Peter Langtry, P.G., C.E.G.
Principal Geologist

PROFESSIONAL GEOLOGIST
PETER M. LANGTRY
PG-5920
EXP. 1-31-2010
STATE OF CALIFORNIA

Ron L. Helm, C.E.G., R.E.A.II
Principal Geologist

EXECUTIVE SUMMARY

This report summarizes the removal action alternatives and a plan for implementing the selected alternative for known contaminated soil at 1040, 1060, and 1080 East Brokaw Road in San Jose, California (Site). This Removal Action Work Plan (RAW) has been prepared in general accordance with the California Health and Safety Code Section 25323.1. The purpose of this RAW is to identify and approve a removal action for the Site that is protective of public health and safety and the environment. This RAW includes:

- A description of the on-Site contamination
- The goals to be achieved by the removal action
- Development of appropriate removal action alternatives and analysis of these alternatives
- Comparison of alternatives, selection of a preferred alternative, and basis for the selection

Planned Development

The approximately 12-acre Site is proposed to be combined with the adjacent approximately 18-acre parcel at 1633 Oakland Road for development with multi-family residences and a retail center. The retail center will be located on-Site on approximately 6-acres adjacent to East Brokaw Road (Figure 2); a new public road and high density residences will occupy the remainder of the Site. The adjacent property at 1633 Oakland Road will be occupied by high density residences and street areas. Mitigation of 1633 Oakland Road is being performed in accordance with the November 10, 2004 Removal Action Workplan (RAW), which was approved by DTSC staff on November 2, 2004 and the July 2006 RAW Addendum, approved by DTSC staff in December 2007.

Site Location

The Site is located at 1040, 1060, and 1080 East Brokaw Road in San Jose, California. The assessor's parcel numbers for the Site are 237-3-61 (1040 East Brokaw Road) and 237-3-69 (1060 and 1080 East Brokaw Road). The Site is currently occupied by three two-story commercial buildings, at-grade pavements, and landscape areas. The parcel is bounded by East Brokaw Road to the north, Oakland Road to the east, railroad tracks to the west, and 1633 Oakland Road to the south.

Site History

The Site's first use appears to have been a pear orchard prior to 1956, when purchased by Markovits & Fox. A portion of the former Markovits & Fox metals recycling facility, located at 1633 Oakland Road (off-Site), appeared to extend on-Site in the general area of 1040 East Brokaw Road, based on aerial photographs from 1971, 1974, and 1982 (Figure 2). The former metals recycling operations reportedly included sorting, shredding, and compressing of ferrous and non-ferrous metals. The on-Site metal recycling activities are unclear; stockpiling of unknown materials did occur on-Site.

The existing 1040 East Brokaw Road building appears to have been constructed in 1984 on the western side of the Site, and reportedly occupied by Anthem Electronics (1985 to 1991), Trace Mountain Products, Inc., (1991 to 1998) and Silicon Motion (1999) as offices and an electronics research, development, and distribution center (TRC Lowney, 2006).

1060 and 1080 East Brokaw Road appeared to be orchards prior to 1956 and then row crops from the 1970's until 1998 when the existing buildings were reportedly constructed. ST Microelectronics currently occupies the 1060 East Brokaw Road building (1998 to present) for general offices and electronics research and development. The 1080 East Brokaw Road building was occupied by TCI of California (1998-1999), AT&T (2000-2002), and Comcast (2003-2005) for general office space and a data call center. Significant quantities of hazardous materials do not appear to have been used in the three on-Site buildings, with the exception of diesel fuel for an emergency generator at 1080 East Brokaw Road. An approximately 350 gallon above-ground storage tank (AST) formerly used to store diesel fuel is located

on-top of the generator. The AST was cleaned and locked-out in 2002 under the City of San Jose Fire Department oversight when the facility was vacated. In addition, there have been no reported releases associated with the diesel AST (TRC Lowney, 2006). The diesel AST will be removed in accordance with regulatory agency requirements before the 1080 East Brokaw Road office building is demolished.

Previous Site Investigations and Areas of Contamination
Between November 2005 and February 2006, 64 exploratory borings were drilled on-site for the collection of soil samples. Shallow ground water was not encountered at that time. Based on a comparison of laboratory analytical results of soil samples collected from the Site to residential California Human Health Screening Levels (CHHSLs) and Environmental Screening Levels (ESLs), the chemicals of concern (COCs) identified in Site soil consisted of polychlorinated biphenyls (PCBs), arsenic, cadmium, chromium, lead, nickel, dichloro-diphenyl trichloroethane (DDT), motor oil ranged total petroleum hydrocarbons (TPHmo), and diesel ranged total petroleum hydrocarbons (TPHd).

In August 2007 two ground water grab samples were collected from the western portion of the Site in the area where the former metals recycling activities associated with 1633 Oakland Road historically extended on-Site. Laboratory analyses of the two ground water grab samples did not detect volatile organic compounds (VOCs), PCBs, or pesticides. Several metals were detected in the ground water but at concentrations below drinking water standards, with the exception of 12 parts per million (ppb) antimony detected. Diesel range hydrocarbons were detected at 428 ppb in one of the ground water samples. The concentrations of antimony and diesel detected do not appear to be a significant concern.

Removal Action Proposed Cleanup Goals
Because 1633 Oakland Road and the Site are contiguous, share a common history, have similar types and concentrations of COCs detected, and is proposed to be combined into one site for redevelopment, the cleanup goals approved for 1633 Oakland Road are proposed for the Site. The proposed cleanup goals for COCs identified for the Site are summarized below.

Proposed Cleanup Goals

Contaminant	Commercial Cleanup Goal (ppm)	Unrestricted Cleanup Goal (ppm)
Arsenic	21	21
Cadmium	1,255	8.95
Chromium III	117,000	100,000
Lead	750	146
Nickel	20,695	148
Total DDT	10.1	1.0
PCBs	10	1.0
TPHd	100*	100*
TPHmo	1,000	500

* Ground water cleanup goal for TPHd is 100 ppb

Removal Action Alternatives and Recommended Alternative
This RAW presents three removal action alternatives for remediation of the contaminated soil to acceptable levels, while taking into account planned and potential activities at and future uses of the Site. These remedial alternatives include the following.

Alternative 1 - No action

Alternative 2 – Capping on-Site soils with existing improvements with a land use covenant.

Alternative 3 – Excavation and off-Site removal of soil exceeding unrestricted cleanup goals

Alternative 4 – Excavation of Site soil exceeding residential or background goals for all COCs and placement into a consolidation cell and a land use covenant (i.e. deed restriction) for the consolidation cell area. Placement of soil exceeding residential or background goals excavated from the adjacent 1633 Oakland Road in on-Site consolidation cell.

Other potential alternatives or innovative technologies have not been included because they are unlikely to be timely, implementable, and/or cost-effective.

The no action alternative (Alternative 1) is not effective in reducing impacts to human health and the environment and is inconsistent with the planned and potential activities and future uses at the Site.

Alternative 2 is comparably effective to Alternative 4 but is not consistent with Site development plans.

Alternative 3 is effective and implementable, but it is less cost effective than Alternatives 2 and 4.

Alternative 4 is comparably effective to Alternative 2 and the most judged implementable of the alternatives reviewed because it is cost effective and will provide unrestricted use of the portion of the property to be redeveloped with residences. Based on consideration of the factors, Alternative 4 is recommended as the removal action alternative for the Site. The soil excavation and construction of the new consolidation cell is expected to occur in two phases. The first phase will include the consolidation of soil onto 1040 East Brokaw Road, anticipated to occur during spring and summer 2008. The second phase will include the remainder of the Site and is expected to occur during 2009.

Notice of Exemption and Administrative Record
The Notice of Exemption and Administrative Record for the Site are included in the appendices of this RAW.

CORNERSTONE EARTH GROUP

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LIST OF ACRONYMS

APN	Assessor's Parcel Number
ARAR	Applicable or Relevant and Appropriate Requirement
AST	Aboveground Storage Tank
BMPs	Best Management Practices
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAM 17	17 California Assessment Method metals
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CHHSL	California Human Health Screening Level
CHWL	California Hazardous Waste Limit
CIH	Certified Industrial Hygienist
COC	Constituent of Concern
CRWQCB	California Regional Water Quality Control Board
CSAP	Confirmation Sampling and Analysis Plan
DDE	DichloroDiphenyldichloroEthylene
DDT	DichloroDiphenylTrichloroethane
DHS	Department of Health Services
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ESL	Environmental Screening Level
H&S	California Health and Safety Code
HSP	Health and Safety Plan
LBNL	Lawrence Berkeley National Laboratory
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
MTBE	Methyl Tertiary Butyl Ether
NA	Not Analyzed
NCP	National oil and Hazardous substances pollution Contingency Plan
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbon
PCB	PolyChlorinated Biphenyl
POTW	Publicly-Owned Treatment Works
ppb	parts per billion
ppm	parts per million
PRG	Preliminary Remediation Goal
QA	Quality Assurance
QC	Quality Control
RAO	Removal Action Objective
RAW	Removal Action Workplan
RDIP	Remedial Design and Implementation Plan
SMP	Soil Management Plan
SMR	Soil Management Report
STLC	Soluble Threshold Limit Concentration
SWPPP	Storm Water Pollution Prevention Plan
TBC	To Be Considered
TPHd	Total Petroleum Hydrocarbons as diesel
TPHg	Total Petroleum Hydrocarbons as gasoline
TPHmo	Total Petroleum Hydrocarbons as motor oil
TTLC	Total Threshold Limit Concentration
UCL	Upper Confidence Limit
USC	United States Code
USGS	United States Geological Survey
VOC	Volatile Organic Compound

Type of Services	**Draft Removal Action Workplan**
Location	**1040, 1060 and 1080 East Brokaw Road** **San Jose, California**

SECTION 1: INTRODUCTION

1.1 PURPOSE

This report presents an evaluation of removal action alternatives and a plan for implementing the selected alternative at 1040, 1060, and 1080 East Brokaw Road (Site) in San Jose, California (Figures 1 and 2). The Riding Group and Markovits & Fox, Inc. entered into a voluntary cleanup agreement (VCA) (HSA-A 05/06-194) with the Department of Toxic Substances Control for investigation and remediation of the Site. The VCA was executed on March 13, 2007.

1.2 CURRENT SITE CONDITIONS

The Site is located at 1040, 1060, and 1080 East Brokaw Road in San Jose, California. The assessor's parcel numbers for the Site are 237-3-61 (1040 East Brokaw Road) and 237-3-69 (1060 and 1080 East Brokaw Road). The parcels are shown on Figure 2. The Site is currently occupied by three two-story commercial buildings, at-grade pavements, and landscape areas. The parcel is bounded by East Brokaw Road to the north, Oakland Road to the east, railroad tracks to the west, and 1633 Oakland Road to the south.

1.3 PLANNED DEVELOPMENT

The approximately 12-acre Site is proposed to be combined with the adjacent approximately 18-acre parcel at 1633 Oakland Road for development with multi-family residences and a retail center. The retail center will be located on-Site on approximately 6-acres adjacent to East Brokaw Road (Figure 2); a new road and high density residences will occupy the remainder of the Site.

1.4 REMOVAL ACTION OBJECTIVES

Removal action objectives (RAOs) for the Site are to mitigate the threat to human health and the environment from the known on-Site sources of contamination in a manner consistent with the planned and potential activities at and future uses of the Site. The RAOs address both chemical concentrations and potential exposure pathways.

SECTION 2: SITE BACKGROUND

2.1 SITE LOCATION AND OPERATIONAL HISTORY

2.1.1 1040 East Brokaw Road

The first use of 1040 East Brokaw Road appears to have been a pear orchard prior to 1956, when purchased by Markovits & Fox. By 1965 the Site was occupied by row crops. However, a portion of the Markovits & Fox metals recycling facility located at 1633 Oakland Road (off-Site) appeared to extend onto the general area of 1040 East Brokaw Road, based on aerial photographs from 1971, 1974, and 1982 (Figure 2). The former metals recycling operations reportedly included sorting, shredding, and compressing of ferrous and non-ferrous metals. The on-Site metal recycling activities are unclear; stockpiling of unknown materials did occur on-Site.

The existing 1040 East Brokaw Road building was constructed in 1984 and reportedly was occupied by Anthem Electronics (1985 to 1991), Trace Mountain Products, Inc., (1991 to 1998) and Silicon Motion (1999) as offices and an electronics research, development, and distribution center (TRC Lowney, 2006). The building currently is vacant.

2.1.2 1060 and 1080 East Brokaw Road

1060 and 1080 East Brokaw Road appeared to be orchards prior to 1956 and then row crops from the 1970's until 1998 when the existing buildings were reportedly constructed. ST Microelectronics currently occupies the 1060 East Brokaw Road building (1998 to present) for general offices and electronics research and development. The 1080 East Brokaw Road building was occupied by TCI of California (1998-1999), AT&T (2000-2002), and Comcast (2003-2005) for general office space and a data call center. Significant quantities of hazardous materials do not appear to have been used in the three on-Site buildings, with the exception of diesel fuel for an emergency generator at 1080 East Brokaw Road. An approximately 350 gallon above-ground storage tank (AST) formerly used to store diesel fuel is located on-top of the generator. The AST was cleaned and locked-out in 2002 under the City of San Jose Fire Department oversight when the facility was vacated. In addition, there have been no reported releases associated with the diesel AST (TRC Lowney, 2006). The San Jose Fire Department Record of Inspection for the tank lock-out is included in Appendix A. The AST will be removed in accordance with regulatory agency requirements when the 1080 East Brokaw Road office building is demolished.

2.2 GEOLOGY AND HYDROGEOLOGY

2.2.1 Regional Geology

Based on U.S. Geologic Survey (USGS) topographic maps, the Site's elevation is approximately 60 feet above mean sea level. Topography near the Site slopes gently to the south/southwest toward Coyote Creek. The Site is located in the San Jose Plain. The San Jose Plain is situated within the Coast Ranges geomorphic province, an area typified by northwest-southeast-trending mountain ranges, valleys, and faults. The Plain lies within a major structural depression between the Diablo Range and Santa Cruz Mountains. The Plain is characterized by a wide alluvial valley, sloping gently northward to San Francisco Bay and bordered by alluvial fans deposited at the base of the Santa Cruz Mountains to the southwest and the Diablo Range to the northeast. A combination of movement along the San Andreas, Hayward, and Calaveras faults and tectonic downwarping is responsible for the formation of the bay depression. Faulting has caused the underlying bedrock to be broken into a series of parallel blocks and downwarping has allowed the gradual accumulation of a thick section of overlying sediments.

Shallow soils in the San Jose Plain predominantly consist of clays and silts interbedded with discontinuous lenses of sand and gravel. Northward-trending buried stream channels of relatively high permeability have been documented in the Plain (DWR, 1967).

2.2.2 Regional Hydrogeology

The Site is located in the South Bay Drainage Unit, tributary to San Francisco Bay. In addition, the Site is located within the San Jose sub-area of the Santa Clara ground water area. The alluvial sequence in the San Jose ground water sub-area is composed of the fine-grained portions of alluvial fan deposits, which interfinger with stream deposits from Coyote Creek, the Guadalupe River, and Los Gatos Creek. This environment has been modified by periodic marine deposition from the ancestral San Francisco Bay. Ground water within the sub-area exists under nearly completely confined conditions and ground water recharge occurs on three sides of the basin (DWR, 1967).

Coyote Creek is located adjacent to the south of the Site. Based on U.S. Geological Survey (USGS) topographic maps, Coyote Creek's headwaters begin in the Diablo Range southeast of Mount Hamilton and flow northward toward the San Francisco Bay.

2.2.3 Site Hydrogeology

Based on on-Site investigations, the depth to the shallow water-bearing zone is unclear, although it is likely at a depth of approximately 30 to 40 feet. The shallow ground water yielding zone likely consists of thin sand stringers interlayered with clayey soils (Stratum A, discussed in section 2.2.4). During the 2006 on-Site geotechnical investigation, what appeared to be a seasonally perched ground water zone within clays was encountered at a depth of approximately 12 to 14 feet near the intersection of East Brokaw Road and Oakland Road (TRC Lowney, 2006); this perched zone was not observed in other on-Site borings. Ground water beneath the site likely flows south/southwest towards Coyote Creek.

2.2.4 Site Geology

Based on on-site investigations, subsurface materials encountered can be grouped into three stratums, as discussed below.

- Stratum A*f*, a clayey fill, was encountered to depths of approximately 2 to 3 feet below base of asphalt/baserock in borings EB-9, EB-14, EB-16, EB-18, EB-35, and EB-37. Possible fill also was observed to a depth of approximately 3 feet in boring EB-57; the depth of fill in this boring was not confirmed.

- Stratum A, a silty to sandy clay, was encountered in borings EB-4 and EB-12 to the maximum depth explored of approximately 24 feet and 32 feet during the 2006 investigation (TRC Lowney), respectively. During the August 2007 investigation (Section 2.4.2), Stratum A was encountered to a depth of approximately 40 feet. In addition, this stratum was encountered to a depth of approximately 42 feet during an on-Site geotechnical investigation (TRC Lowney, 2006).

- Stratum B, a clayey sand, was encountered at a depth of approximately 40 to 42 feet to the maximum depth explored of approximately 45 feet.

2.3 METEOROLOGY

The climate in the San Francisco Bay Area is Mediterranean with mild, rainy winters November through March, and warm, sunny, and nearly dry summers from June through September. The average annual temperature in the San Jose area ranges from 49.6 to 71.0 Fahrenheit. The average annual precipitation is 14.66 inches (www.wrcc.dri.edu).

2.4 PREVIOUS SITE INVESTIGATIONS

2.4.1 2005 Soil Quality Investigation

To evaluate soil quality, during November and December 2005, thirty-four soil borings were drilled to approximate depths of 2 to 4 feet at selected on-Site locations (Figure 3) (TRC Lowney, 2006). In addition, two of the exploratory borings (EB-4 and EB-12) were continued to approximate depths of 24 to 32 feet to attempt to collect ground water grab samples. This depth was selected based on depth to ground water encountered at the adjacent property (1633 Oakland Road) (Lowney Associates, 2004). Because ground water was not encountered in boring EB-12, boring EB-12B was drilled adjacent to boring EB-12 to collect a soil sample from a thin (approximately ½ foot thick) clayey sand layer encountered at a depth of approximately 18 feet. Borings EB-1 through EB-18, including the deeper borings (EB-4, EB-12, and EB-12B), were drilled in the west/southwest portion of the property and near the southwestern property boundary to evaluate soil for potential impacts from former Site use as part of the metals recycling facility on the adjacent property (1633 Oakland Road) and from the former agricultural use (TRC Lowney, 2006). In addition, borings EB-19 through EB-34 were drilled on the east/northeastern portions of the property to evaluate potential impacts from former agricultural use of the Site.

Based on laboratory analyses of soil samples collected from borings EB-1 through EB-34, additional soil quality evaluation was performed to help evaluate the extent of contaminants detected (Section 2.4.3). On February 1 and 2, 2006, 30 shallow soil borings were drilled by TRC Lowney to approximate depths of approximately 2 to 4 feet. These boring locations were selected on-Site using a 100 foot grid, with one exploratory boring randomly located in grids not previously sampled. Boring locations are shown on Figure 2. Borings EB-35, EB-36, EB-54, EB-55, EB-56, EB-57, and EB-58 were located in the western portion of the Site, in the area formerly occupied by metals recycling facility. The remainder of the borings were located on the eastern portion of the Site. In addition, to help evaluate the vertical extent of contaminants detected, borings EB-6A, EB-10A, and EB-31A were drilled adjacent to previous borings EB-6, EB-10, and EB-31 to collect deeper soil samples for laboratory analyses.

Laboratory analytical data are summarized in Tables 1A, 1B, and 1C in Appendix B.

2.4.2 August 2007 Ground Water Quality Evaluation

In accordance with the June 12, 2007 letter from the DTSC, two exploratory borings (GW-1 and GW-2) were drilled by Cornerstone Earth Group in the western portion of the Site on August 8, 2007. The borings were located in the anticipated up-gradient (GW-1) and down-gradient (GW-2) directions of the portion of the Site that was formerly used by Markovits & Fox (see Section 2.1.1). Boring locations are shown on Figure 2.

The exploratory borings were drilled using a hydraulic coring rig equipped with a dual-wall coring system. Soil samples were collected continuously to a depth of approximately 40 feet. Soils consisted of silty clay and sandy clay to a depth of approximately 40 feet, although the proportion of sand appeared to increase at a depth of approximately 40 feet. A distinct water yielding zone was not observed. The bore holes were dry upon completion. Therefore, 1-inch diameter PVC casings with slots in the lower 20 feet (GW-1) and 25 feet (GW-2) were lowered into the borings. Boring GW-1 yielded sufficient ground water to sample within approximately two hours of completing the boring. Boring GW-2 yielded ground water at a slower rate and was subsequently sampled the following day (August 9, 2007).

As required by the DTSC, the ground water grab samples were be analyzed for contaminants of concern identified on-site plus gasoline range hydrocarbons. The two ground water grab samples were submitted to a state certified laboratory and analyzed for 17 California Assessment Method (CAM) metals (EPA Test Method 6000/7000), polychlorinated biphenyls (PCBs) (EPA Test Method 8082), organochlorine pesticides (EPA Test Method 8081), total petroleum hydrocarbons in the gasoline (TPHg), diesel (TPHd) and motor oil (TPHmo) ranges (EPA Test Method 8015M), and volatile organic compounds (VOCs) (EPA Test Method 8260). Laboratory analyses are summarized in Tables 2A and 2B in Appendix B.

2.4.3 Discussion of Laboratory Analytical Results

2.4.3.1 Soil Quality

Laboratory analyses of soil samples collected from the western portion of the Site, in the area formerly occupied by the Markovits and Fox recycling facility, detected polychlorinated biphenyls (PCBs), Dichloro-diphenyl-trichloroethane (DDT), arsenic, and lead above residential California Human Health Screening Levels (CHHSLs). CHHSLs were published by the California Office of Environmental Health Hazard Assessment and California EPA to provide a preliminary evaluation of potential risk and hazard to human health (January 2005). The CHHSLs are modeled after the US EPAs preliminary remediation goals (PRGs). The primary difference between CHHSLs and PRGs is the use of Cal/EPA specific toxicity factors in development of the CHHSLs rather than toxicity factors published by the EPA. The PRGs are chemical concentrations that correspond to fixed levels of risk (either a cancer risk of one in one million [10^{-6}] or a non-carcinogenic hazard quotient of one, whichever occurs at a lower concentration). These levels are based on common exposure pathways, but effects of exposure to multiple contaminants and other site specific conditions are not considered.

In addition, DDT, arsenic, and lead also were detected above residential CHHSLs in the soil samples collected from the former agricultural portion of the Site. The 95 percent upper confidence levels (UCLs) of the sample means for these constituents are summarized in Table 1. Laboratory analytical results for selected COCs are summarized on Figures 3, 4, 5, and 6.

Table 1. Statistical Summary of Selected Chemicals of Concern

Contaminant	Depth	Number of Samples	Maximum Detected Concentration (ppm)	Mean (ppm)	95 % UCL (ppm)
Arsenic	0 - ½	61	140	40	47
	1 - 2	47	160	29	38
	2 - 3	11	120	32	51
	3 – 4	4	48	19	41
Lead	0 - ½	61	480	153	182
	1 - 2	44	540	98	136
	2 – 3	11	660	149	258
	3 - 4	3	210	NA	NA
Total DDT	0 - ½	61	12.5	2.0	2.5
	1 - 2	46	11.94	1.0	1.5
	2 - 3	11	16.93	2.5	5.2
	3 – 4	5	1.24	0.5	1.1
PCBs	0 - ½	27	7.5	1.5	2.2
	1 - 2	11	4.8	0.8	1.7
	2 - 3	10	1.7	0.6	1.0
	3 - 4	1	1.4	NA	NA

NA Not applicable. Insufficient data to perform statistical evaluation

Concentrations of arsenic, lead, PCBs, and DDT appeared to decrease with depth, although at several locations (EB-2, EB-6, EB-10, EB-18, EB-41, EB-42, EB-45, EB-46, EB-50, EB-53, EB-56, EB-59, and EB-60) the vertical extent of one or more of these contaminants exceeding residential CHHSLs has not been fully defined. However, the vertical extent of the contamination will be addressed as part of the remediation.

Concentrations of petroleum hydrocarbons and PAHs detected in soil samples from the western portion of the Site, in the area of the former recycling activities, were detected below residential screening levels (CHHSLs and Environmental Screening Levels [ESLs]) and do not appear to be a significant concern.

As noted above, during the 2006 investigation (TRC Lowney) ground water was not encountered. Laboratory analyses of soil samples collected at a depth of approximately 18 to 19 feet in borings EB-4 and EB-12 did not detect VOCs, TPHd, TPHg, BTEX, or PCBs. A low concentration (6.39 ppm) of TPHmo was detected in the soil sample collected from boring EB-12 at a depth of approximately 19 feet. DDT also was detected in these soil samples collected from borings EB-4 and EB-12 at 0.0069 ppm and 0.0034 ppm, respectively. The cleanup goal for DDT (Section 3.2) is 1.0 ppm.

2.4.3.2 Ground Water Quality

As noted in Section 2.4.2, DTSC required the evaluation of ground water quality up-gradient and down-gradient of the portion of the Site formerly used for recycling activities associated with the adjacent property. Borings GW-1 and GW-2 (Cornerstone Earth Group) were located up-gradient and down-gradient of the former on-Site recycling area, respectively (Figure 2). Laboratory analyses of ground water grab samples collected during August 2007 from borings GW-1 and GW-2 did not detect gasoline

range hydrocarbons, VOCs, organochlorine pesticides, or PCBs. Antimony, arsenic, barium, molybdenum, selenium, vanadium, and zinc were detected at concentrations below drinking water standards; other 17 California Assessment Manual (CAM) metals were not detected (Cornerstone Earth Group, 2007).

TPHd was detected in ground water grab sample GW-2 at 428 parts per billion (ppb). TPHd was not detected in the GW-1 ground water grab sample. The TPHd concentration detected appears similar to the concentrations detected in or near the debris pit area on adjacent 1633 Oakland Road (Cornerstone Earth Group, 2007) and does not appear to be a significant concern. The TPHd detected in the GW-2 ground water will be addressed as part of the RAW for 1633 Oakland Road.

SECTION 3: CLEANUP GOALS

3.1 SELECTION OF CHEMICALS OF CONCERN IN SOIL

Based on a comparison of laboratory analytical results of soil samples collected from the Site to residential screening levels (CHHSLs and ESLs), the chemicals of concern (COCs) identified in Site soil (chemicals exceeding residential screening levels) included PCBs, arsenic, cadmium, chromium, lead, nickel, DDT, TPHd and TPHmo. In addition, TPHd was detected in ground water above the ESL and is included as a COC for ground water.

3.2 CLEANUP GOALS

Because 1633 Oakland Road and the Site are contiguous, share a common history, have similar types and concentrations of COCs detected, and is proposed to be combined into one property for redevelopment, the cleanup goals approved for 1633 Oakland Road (DTSC, November 2, 2004) are proposed for the Site. The risk assessment included with the RAW for 1633 Oakland Road (Lowney Associates, 2004) evaluated Site specific risk and hazards associated with the identified COCs. The cleanup goals for COCs identified for the Site are summarized in Table 2.

Table 2. Cleanup Goals

Contaminant	Commercial Cleanup Goal (ppm)	Unrestricted Cleanup Goal (ppm)
Arsenic	21	21
Cadmium	1,255	8.95
Chromium III	117,000	100,000
Lead	750	146
Nickel	20,695	148
Total DDT	10.1	1.0
PCBs	10	1.0
TPHd	100*	100*
TPHmo	1,000	500

* Ground water cleanup goal for TPHd is 100 ppb

SECTION 4: ENGINEERING EVALUATION FOR THE REMOVAL ACTION

4.1 REMOVAL ACTION ALTERNATIVES

This section provides the analysis of four remedial action alternatives for mitigating the threat to human health and the environment posed by the soil exceeding Site-specific residential cleanup goals, taking into account planned and potential activities at the Site. These remedial alternatives include the following.

Alternative 1 - No action

Alternative 2 – Capping on-Site soils with existing improvements with institutional constraints

Alternative 3 – Excavation and off-Site removal of soil exceeding unrestricted cleanup goals

Alternative 4 – Excavation of Site soil exceeding residential or background goals for all COCs and placement into a consolidation cell and a land use covenant limiting Site use to retail/commercial for the consolidation cell area. Placement of soil exceeding residential or background goals excavated from the adjacent 1633 Oakland Road in on-Site consolidation cell.

Other potential alternatives or innovative technologies have not been included because they are unlikely to be timely, implementable, and/or cost-effective.

4.1.1 Alternative 1 – No Action

The overseeing regulatory agency requires the consideration of no further action as a remedial alternative during the feasibility screening process. This remedial alternative would not involve the removal of the impacted material from the Site or capping beyond what exists today.

4.1.2 Alternative 2 – On-Site Capping

Under the Alternative 2, no soil removal would be performed. Soils with COCs above cleanup goals would be capped with the existing Site improvements (buildings, pavements, landscaping, etc.). A land use covenant and soil management plan would be implemented. The deed restriction would limit Site use to commercial/industrial and would prohibit use as a residence, school, hospital, hospice, or daycare center. Under Alternative 2, soil from 1633 Oakland Road would not be consolidated on-Site. The RAW for 1633 Oakland Road would be revised to consolidate soil on 1633 Oakland Road in accordance with the November 10, 2004 RAW.

4.1.3 Alternative 3 – Soil Excavation and Off-Site Disposal

Under this alternative, any soils exceeding the COCs above residential or established background goals would be excavated and disposed off-Site. Approximately 43,000 cubic yards of COC impacted soil would be transported to a Class I disposal facility. The area would be backfilled with “clean” soils. No on-going operation and maintenance requirements would be imposed on the Site.

4.1.4 Alternative 4 – Excavation, Consolidation, Encapsulation, and Institutional Constraints

Under this alternative, on-Site soils and soils from the adjacent 1633 Oakland Road parcel with COCs exceeding the unrestricted cleanup goals will be over-excavated and consolidated in a consolidation cell on-Site. The new consolidation cell will be dependent upon the depth of ground water in the area of the consolidation cell; the final dimensions of the proposed consolidation cell will be detailed in the Remedial Design and Implementation Plan (RDIP). Approximately 43,000 cubic yards of on-Site soil and approximately 65,000 cubic yards of soil from 1633 Oakland Road will be consolidated in the consolidation cell. An approximately 2-foot thick low permeability cap would then be placed over the new consolidation cell in compliance with the requirements of 27 CCR 21090 (a). Capping, land use covenant, and O&M plans would be limited to the area of the consolidation cell. After completion of the cap there would be no significant contact with underlying soil. No long-term management plans would be required for areas other than the consolidation cell.

If this alternative is chosen, several land use covenants will apply for the consolidation cell area, as discussed below.

- Land overlying the consolidation cell would be limited to retail/commercial use by a land use covenant. The land use covenant will prohibit use as a residence, school, hospital, hospice, or daycare center.

- An Operations and Maintenance (O&M) Agreement and O&M Plan would be required to provide guidelines for the management of residual contaminants in soil in the consolidation cell area. In addition, a financial assurance mechanism would be established for on-going monitoring. The O&M plan will include a Soil Management Plan (SMP). The SMP will include practices and work procedures for activities involving the impacted material; access limitations; safety measures for future maintenance and/or construction workers; as well as notification processes to future occupants or contractors that may perform intrusive earthwork. In addition, the SMP would include a discussion of long-term risk to human health and long-term compliance with the SMP including an annual inspection of the cap by DTSC staff. The SMP also will include storm water pollution controls, which must be implemented in accordance with the site-specific storm water pollution prevention plan (SWPPP).

- A Site-specific health and safety plan would be required to be prepared prior to initiation of construction activities at the Site. Construction workers at the site who contact soil would be required to have the appropriate California Occupational Safety and Health Administration (OSHA) health and safety training.

Additional detail regarding the implementation of Alternative 4 is presented in Section 6.

4.2 EVALUATION OF REMOVAL ACTION ALTERNATIVES

The evaluation of removal action alternatives should consider the effectiveness, implementability, and cost of each remedial alternative. Summaries of the effectiveness, implementability, and cost of the proposed remedial action alternatives are included in Appendix C. These evaluation criteria are discussed and compared for the six proposed remedial action alternatives discussed above.

4.2.1 Effectiveness

The evaluation of the effectiveness of each alternative is based on:

- The reliability and proven history of the alternative with respect to the COCs and conditions encountered at the property, and

- The ability of each alternative to mitigate the threat to human health and the environment posed by impacted soil in a manner consistent with the planned and potential activities at the Site.

Alternative 1 will not be protective of human health and the environment.

For Alternative 2, the impacted material would remain on-Site. The land use covenant and management plan would manage the on-Site impacted material. The alternative is considered effective but not consistent with the planned development activities of the property.

Alternative 3 also is effective. It also is the most conservative of the alternatives because under this alternative all impacted material exceeding unrestricted cleanup goals would be removed from the Site; the potential long-term exposure to impacted material, therefore, will be eliminated. However, there would be added risk transporting this material to an acceptable disposal facility.

For Alternative 4, the impacted material would remain on-Site in the consolidation cell. The land use covenant and management plans would manage the on-Site impacted material in the consolidation cell.

Only the consolidation cell would require land use convents; the majority of the Site would remain unrestricted. This alternative is considered effective and is consistent with the planned development activities of the property.

4.2.2 Implementability

Implementability of a remedial alternative is based on the technical and institutional feasibility of implementing the alternative. Technical feasibility includes the availability of necessary equipment and skilled workers to implement the alternative. Institutional feasibility includes obtaining the necessary permits or regulatory concurrence.

The four remedial alternatives are technically implementable. However, as discussed above, Alternative 1 (no action) does not meet the property owners' plans to redevelop the Site and may not receive institutional approvals. Therefore, Alternative 1 is inconsistent with planned and potential activities and future uses of the site and is not considered implementable.

4.2.3 Cost

The cost of implementing an alternative includes capital and continuing costs. Continuing costs are defined as on-going costs associated with implementation and maintenance of the selected remedy. To compare the total cost of implementing each alternative, costs associated with implementing each alternative were estimated. The capital costs and continuing costs associated with implementing the four alternatives described above are summarized in Appendix D.

4.2.3.1 Capital Costs

Capital costs associated with implementing Alternatives 2, 3, and 4 include construction costs (e.g., constructing a soil and/or asphalt cap and excavating of impacted material, engineering costs [e.g., preparing plans and specifications, and performing construction oversight]), reporting costs, and regulatory agency oversight costs. Estimated capital costs for each alternative are presented in Appendix D.

4.2.3.2 Continuing Costs

If the overseeing regulatory agency requires a land use covenant and/or notices (Alternatives 2 and 4), continuing costs will be incurred as a result of these institutional constraints. Such events will include soil/asphalt cap inspections and repair, and operations and maintenance costs. These events will likely require:

- Notifying overseeing regulatory agencies in advance of performing cap repair/maintenance;
- Preparing appropriate plans for submittal to overseeing regulatory agency, including work plans, health and safety plans, dust control plans, and surface water control plans;
- Using contractors with 24- or 40-hour HAZWOPER health and safety training to perform ground water monitoring or subsurface cap repair/maintenance;
- Regulatory agency oversight during cap repair event;
- Conducting cap monitoring activities by DTSC staff,
- Preparing reports summarizing cap monitoring, maintenance/repair activities;
- Disposing impacted material; and

- Preparation of 5-year assessments.

4.2.3.3 Estimated Costs For Remedial Actions

Estimated remediation costs for implementing each alternative are calculated based on the sum of capital costs and continuing costs. Appendix D reflects the cost estimates with a 20 percent contingency for implementing the remedial alternatives.

Alternative 1: $0

Alternative 2: Capital Cost is approximately $10,000

Alternative 3: Capital Cost is approximately $8.4 million

Alternative 4: Capital Cost is approximately $750,000

4.2.4 Remedial Action Alternative Selection

Alternative 1 is the least effective of the proposed alternatives in mitigating the threat to human health and the environment and is not considered effective or implementable.

Alternative 2 is comparably effective to Alternative 4 but is not consistent with Site development plans.

Alternative 3 is effective and implementable, but is less cost effective than Alternatives 2 and 4.

Alternative 4 is comparably effective to Alternative 2 and the most implementable of the alternatives reviewed because it is cost effective and will provide unrestricted use of the portion of the property to be redeveloped with residences.

Based on consideration of the factors, Alternative 4 is recommended as the remedial action alternative for the Site if the City of San Jose approves the development plans. This alternative involves a land use covenant, excavation, and consolidation of soil exceeding unrestricted cleanup goals into a consolidation cell on-Site. If the proposed redevelopment project does not proceed, Alternative 2 would be implemented as a contingency.

SECTION 5: APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Remedial action objectives should be consistent with Applicable or Relevant and Appropriate Requirements (ARAR) (40 CFR Section 300.415). The underlying definitions are derived from the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Section 300.5). The ARARs are discussed below and are summarized in Table 3.

Applicable Requirements: Cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, remedial action, location, or other circumstance at a site.

Relevant and Appropriate Requirements: Cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well-suited to the particular site.

ARARs typically are separated into three categories as follows.

Chemical-specific ARARs: These are health-based or risk-based standards, which define the allowable limits of specific chemical compounds, found in or discharged to the environment. They can provide

cleanup and discharge levels, governing the extent of site remediation. Most of the chemical-specific ARARs are for ground water used for drinking water; few are available for ambient air or soil.

Location-specific ARARs: These requirements apply to natural site features (e.g., wetlands, flood plains, endangered species) and man-made features (e.g., landfills, city zoning, and places for historical or archaeological significant). Location-specific ARARs restrict the types of remedial actions, which can be implemented based on the characteristics or location of the site.

Action-specific ARARs: These ARARs are technology-based or activity-based limitations which set performance and design restrictions. They specify permit requirements and engineering controls which must be instituted during site activities, and restrict particular activities.

Federal and state non-promulgated standards, policies, or guidance documents, and legal requirements, are not ARARs. However, according to the NCP guidance, these criteria also are to be considered when evaluating and selecting remedial actions necessary to protect human health and the environment.

Potential chemical and action-specific ARARs for on-site soil include the following.

Preliminary Remediation Goals (PRGs) (EPA 2002): PRGs published by Region IX EPA combine current EPA toxicity values with standard exposure factors to estimate media-specific concentrations in soil that are protective of humans over a lifetime of exposure. Concentrations exceeding PRGs do not automatically trigger a response action; however, exceeding a PRG suggests that further evaluation of the potential risk that may be posed by site contaminants is appropriate.

TTLCs/STLCs: Title 22 of the California Code of Regulations lists total threshold limit concentrations (TTLCs) and soluble threshold limit concentrations (STLCs) for classification of hazardous wastes. A waste is considered hazardous in California when laboratory results of representative samples collected from the waste indicate that contaminant levels exceed their respective TTLC or STLC.

Listing and Characteristics: The EPA uses two procedures to define wastes as hazardous, Listing and Hazardous Characteristics. The listing procedure involves identifying industries or processes that produce waste which pose hazards to human health and the environment.

The second procedure involves identifying properties or characteristics that, if exhibited by any waste, indicate a potential hazard if the waste is not properly controlled. Reactivity, toxicity, ignitability, and corrosivity are the four characteristics that must be considered when identifying a waste as hazardous.

Table 3. Potentially Applicable or Relevant and Appropriate Requirements

Standard, Requirement, Criteria, Limitation	Citation	Description	Type of ARARs (Chemical, Location, Action, or To Be Considered [TBC])
Federal			
Classification and Regulation of Hazardous Waste	42 USC* 7401-7642	Establishes criteria for the determination of hazardous waste and its regulation	Chemical/Action
Hazardous Waste Identification	40 CFR** 261.24	Establishes criteria to determine whether solid waste exhibits hazard characteristics of toxicity	Chemical
Drinking Water Standards	40 CFR 141.11-141.16 40 CFR 141.60-141.63	Establishes national primary drinking water standards	Chemical
Transport of Hazardous Waste	40 CFR 263	Standards applicable to transporters of hazardous waste	Action
Clean Air Act	42 USC 7401-7642	Emission standards from stationary and mobile sources	Chemical
Occupational Health and Safety	29 CFR 1910.120	Establishes requirements for health and safety training	Action
Toxic Substances Control Act	40 CFR 750 and 761	Establishes cleanup criteria and protocol for responding to a release of PCBs	Chemical

Standard, Requirement, Criteria, Limitation	Citation	Description	Type of ARARs (Chemical, Location, Action, or To Be Considered [TBC])
Health Risk Assessment	US EPA, Risk Assessment Guidance for Superfund, 1989	Guidance and framework to assess health risk	TBCs (Action)
State and Local			
Determination of Hazardous Waste	22 CCR† 66260.1 et seq.	Establishes criteria for determining waste classification for the purposes of transportation and disposal of wastes	Chemical
Hazardous Waste Generator Requirements	22 CCR 66262.1 et seq.	Establishes standards applicable to generators of hazardous waste	Action
Ambient Air Quality Standards	H&S‡ Sec. 39000-44071	Establishes standards for emissions of chemical vapors and dust	Chemical
Transportation of Hazardous Waste	22 CCR Chapter 13	Governs transportation of hazardous materials	Action
Drinking Water Standards	22 CCR Division 4, Chapter 14 Sec. 64401 et seq.	Establishes drinking water standards for public water supply system	Chemical
Environmental Impact Review	Public Resources Code Sections 21000-21177	Mandates environmental impact review of projects approved by governmental agencies	Action
Emission Standard	Regulation 6, Rule 40 Regulation 8	Establishes emission standard for particulate matter; and notification requirement	Chemical
Disposal of Lead in Soil	H&S Sec. 25157.8	Establishes a standard for disposal of lead to a Hazardous Waste Land Disposal Facility	Chemical
Grading Permit	City of San Jose	Permit required for site excavation and grading activities	Action
Stockpiling Requirements of Contaminated Soil	H&S Sec. 25123.3(a)(2)	Establishes standards for stockpiling of non-RCRA contaminated soil	Action
Occupational Health and Safety	8 CCR Sec. 1500, 2300, and 3200 et seq.	Establishes standards for working conditions and employees	Action
Hazardous Waste Transport	H&S Sec 25160	Standards applicable to transporters of hazardous waste	Action

*USC – United States Code
**CFR – Code of Federal Regulation
†CCR – Code of California Regulation
‡H&S – Health and Safety Code

SECTION 6: PLAN FOR IMPLEMENTING THE PROPOSED REMOVAL ACTION

A formal RDIP will be submitted describing the procedures/protocols for implementing the selected alternative. It will include security measures, contaminant control, permits and plans, field documentation, waste segregation, decontamination areas, air monitoring, dust control, confirmation sampling, transportation plan, and consolidation cell construction/capping.

As applicable, all work will be performed by a contractor appropriately licensed to handle hazardous materials. Regular work hours will be from 7:00 a.m. to 7:00 p.m., Monday through Friday. All on-site workers who may be exposed to health hazards will be certified for hazardous waste operations and emergency response per OSHA regulations under 29 CFR 1910.120 and CCR Title 8 Section 5192.

6.1 HEALTH AND SAFETY PLAN FOR REMOVAL ACTION

A health and safety plan for the remedial action at the site will be presented to DTSC staff with the RDIP.

6.2 EROSION CONTROL PLAN

Prior to implementing the remedial action, a soil management and erosion control plan will be prepared and submitted to the DTSC for their review.

6.3 STORM WATER POLLUTION CONTROLS

The Plan also will include storm water pollution controls, which must be implemented in accordance with the Site-specific storm water pollution prevention plan (SWPPP). Additional storm water precautions include appropriate covering of stockpiles.

6.4 EXCAVATION AND MANAGEMENT OF SOIL ABOVE UNRESTRICTED CLEANUP GOALS

Based on historical sampling results, soil will be excavated from the areas with COCs detected above Site cleanup goals by an appropriately licensed contractor under the full time observation of Cornerstone Earth Group. The excavation area is shown on Figure 7. To evaluate the excavation area and depths, a 100-foot grid was used. The maximum depth of a COC detected in a sample within a grid was used to establish the excavation depth within a grid, with the depth approximately ½ to 1 foot deeper than the maximum detected. Several grids did not have data points; the depths in these grids were the approximate average of the adjacent grids.

As noted in Section 2.4.2, the depth of COCs detected in several borings has not been defined. Based on verification samples in these areas (Section 6.6), the excavation could extend deeper. Excavated soil will be temporarily stockpiled on-Site and/or on the adjacent 1633 Oakland Road parcel.

6.5 FINAL VERIFICATION SAMPLING AND LABORATORY ANALYSES

Verification sampling will be conducted by Cornerstone Earth Group after excavation activities of soil to verify cleanup goals have been reached.

The final verification soil samples will be collected outside the new consolidation cell footprint using a 30-foot grid. After excavation, one verification soil sample will be collected from the base of the excavation at each grid intersection. In addition, sidewall samples will be collected from each location where a grid line intersects a sidewall along the north, east, and west property boundaries. Sidewall samples will not be collected from the south property boundary since the sidewall will be contiguous with the soil removal area of 1633 Oakland Road. Approximately 500 verification soil samples are anticipated to be collected.

Analytical results of previous investigations detected PCBs above 1 ppm at 12 locations on-Site. As required by DTSC, verification soil samples will be collected from these locations after the impacted soil is removed in general accordance with Toxic Substance Control Act (TSCA) guidelines. Nine verification soil samples will be collected at each of the locations where greater than 1 ppm PCBs were detected. The verification soil samples will be collected using a 5-foot grid centered on the former sample location. In accordance with TSCA protocol, the nine soil samples from each location will be submitted to a state certified laboratory and composited into one soil sample for analysis, discussed below.

Surface soil exceeding site cleanup goals in the new consolidation cell footprint will be excavated and temporarily stockpiled by the environmental contractor for future re-location into the consolidation cell. This soil will be stockpiled on top of plastic on-Site or on 1633 Oakland Road.

The “clean” soil excavated from below the surface soil in the new consolidation cell area will be stockpiled separately and evaluated for on-Site re-use. This soil will be stockpiled on top of plastic on-Site or on 1633 Oakland Road. To evaluate soil excavated during construction of the new consolidation cell for re-use (i.e. “clean” soil beneath the impacted surface soil), stockpiled soil samples will be collected in accordance with DTSC guidelines for fill material. Four discrete soil samples will be collected from the first 1,000 cubic yards of stockpiled material, with one sample from each additional 1,000 cubic yards. Alternatively, before performing the soil removal, exploratory borings will be drilled in the planned consolidation cell area for collection/analysis of soil samples. If this alternative is performed, the goal will be to establish the excavation depth needed to remove the contaminated surface soil so that verification soil samples will not need to be collected during excavation. One boring will be drilled for each approximately 2,500 square feet of consolidation cell excavation area (using an approximately 50 by 50 foot grid). Soil samples collected from the upper approximately five feet will be selected for laboratory

analyses; the deepest sample in which all COCs are below unrestricted cleanup goals will be selected as the excavation depth within the grid. In addition, with this alternative, one discrete soil sample will be collected from the exploratory borings for each approximately 1,000 cubic yards of underlying clean soil to be excavated for the construction of the consolidation cell. The underlying soil excavated for the consolidation cell that meets cleanup criteria for unrestricted use would be re-used as general on-Site fill.

Verification soil samples collected from the base and sidewalls of the shallow excavation area and the discrete soil samples collected from the stockpiles of excavated soil created by the construction of the new consolidation cell (i.e. “clean” soil beneath the impacted surface soil) will be submitted to a state certified laboratory and analyzed for contaminants of concern identified for the site (arsenic, cadmium, chromium III, lead, nickel, total DDT, PCBs, TPHd, and TPHmo). The verification samples will be analyzed for PCBs (EPA Test Method 8082), arsenic, cadmium, chromium (III), lead, and nickel (EPA Test Method 6000), organochlorine pesticides, including DDT (EPA Test Method 8081), TPHd and TPHmo (EPA Test Method 8015M). If the verification sampling in the consolidation cell area is performed prior to excavation, as discussed above, the soil samples collected from the consolidation cell borings will be analyzed for these same constituents.

The analytical results will be statistically evaluated in accordance with EPA SW-846 to evaluate whether a sufficient number of samples have been collected. Areas where verification sample results exceed cleanup goals, if any, will be over-excavated an additional approximately ½ foot by an appropriately licensed contractor. Additional verification sampling will be performed as discussed above. Stockpiled “clean” soil excavated from the new consolidation cell will be re-used for general on-Site fill if COCs are detected below unrestricted Site cleanup goals. Stockpiled soil that exceeds the unrestricted cleanup goals, if any, will be placed into the new consolidation cell.

Soil samples will be collected in brass or stainless steel liners. The ends of the liners will be covered in aluminum foil or Teflon film, fitted with plastic end caps, taped, and labeled with a unique identification number. The samples then will be placed in an ice- chilled cooler, and transported to a state-certified analytical laboratory with chain of custody documentation. The soil samples will be submitted to a state certified laboratory for analysis on a one-week laboratory response.

6.6 CONSOLIDATION CELL CONSTRUCTION

The proposed consolidation cell area on-Site is shown on Figure 8. After removal of the surface contaminated soil, as shown on Figure 7, the underlying clean soil will be excavated to a depth of approximately 15 feet. To support the remedial design, 13 borings were drilled to various depths in January 2008; shallow ground water was encountered at depths of approximately 21 to 25 feet. Therefore, based on the January 2008 data, a consolidation cell depth of approximately 15 feet will be approximately 5 feet above the top of the shallow water yielding zone. Soils encountered beneath the Site generally consisted of silty clay with trace thin (inches to 1 foot in thickness) sand layers to a depth of at least 40 feet. The thin sand layers appeared to slowly yield ground water beginning at depths of approximately 21 feet (1080 East Brokaw Road) to approximately 25 feet (1040 East Brokaw Road); the ground water yield appeared to increase significantly below a depth of approximately 30 feet. Based on the soil type (silty clay [CL]), the depth to ground water (approximately 21 to 25 feet below the ground surface), and the low solubility of the COCs detected, there does not appear to be a significant risk to ground water quality from the planned consolidation of soil. Additional detail regarding the January 2008 exploratory borings will be presented in the Remedial Design and Implementation Plan (RDIP).

Depending on the analytical results of the samples collected from the soil excavated for construction of the consolidation cell after removal of the surface impacted soil, as discussed in Section 6.6, the soil will either be re-used on-Site as general construction fill or placed into the new consolidation cell.

The consolidation cell will be capped with a Toxic Substances Control Act (TSCA) compliant cap a minimum of 2 feet thick. The RDIP will include additional details regarding the construction and capping of the consolidation cell.

The consolidation cell construction will occur in two phases. The first phase will consist of the consolidation cell on 1040 East Brokaw Road, anticipated for spring 2008. The remainder of the consolidation cell construction on 1060 and 1080 East Brokaw Road is expected to occur during 2009. The volume of soil to be consolidated from 1633 Oakland Road and 1040 East Brokaw Road exceeds the expected capacity of the consolidation cell on 1040 East Brokaw Road. The excess soil will be temporarily stockpiled on top of the 1040 East Brokaw Road consolidation cell; a stockpile height of up to approximately 10 feet is anticipated. The stockpile will be covered with a KUMA cap to reduce rainwater infiltration and runoff. In 2009, after the 1060 and 1080 East Brokaw Road buildings have been demolished, the excess soil temporarily stockpiled on 1040 East Brokaw Road and the remaining impacted soil from 1060 and 1080 East Brokaw Road will be placed into the second phase consolidation cell (Figure 8).

6.7 LONG-TERM MONITORING

Long-term monitoring includes precautions that will be taken to reduce long-term risks to human health and the environment from residual COCs in soil and ground water.

- A SMP will be prepared and submitted to the DTSC for their approval.
- Procedures will be developed to inform workers and contractors who may contact Site soils about the SMP.
- A land use covenant will be implemented to restrict Site use in the consolidation cell area. The deed restriction will require the restricted portion of the property be limited to commercial/industrial uses and will prohibit use as a residence, school, hospital, hospice, or daycare center. Long term monitoring will consist of an approved Operations and Maintenance Plan and Agreement and Deed Restriction with the Department of Toxic Substances Control. Included activities may include cap inspections and 5-year site remediation reviews by DTSC staff. In addition, any disturbance, modification, or discontinuation of cap maintenance and/or ground water remediation must have the prior approval of the DTSC.
- Ground water quality will be evaluated in the consolidation cell area following placement of the consolidated soil.

6.8 CONTINUED RESPONSE ACTION

Areas where verification sample results exceed residential goals, if any, will be over-excavated approximately ½ foot by an appropriately licensed contractor. Verification sampling will be performed as discussed in Section 6.6.

6.9 SOIL MANAGEMENT PLAN

A soil management plan (SMP) will be prepared that presents guidelines for dust control, erosion control, vehicle decontamination, and stockpile management during the remedial action.

If the cap is removed and soil is excavated for future on-Site structures, impacted soil will be managed as described in the soil management plan. In areas where soil exceeds Site-specific cleanup goals, the soil will be disposed at an appropriate off-Site facility. In addition, any activity that encounters the contaminated soil beneath the cap will be documented in a Soil Management Report (SMR). The purpose of the SMR is to document that the SMP protocols were followed. The SMR will be required to document the final volume of soil excavated, final soil disposal location, re-capping the excavation area in accordance with the RAW and RDIP, and health risk precautions taken during construction activities.

SECTION 7.0: COMPLETION/IMPLEMENTATION REPORT AND CERTIFICATION

After construction of the consolidation cell on 1040 East Brokaw Road, an interim removal action completion/implementation report will be prepared documenting the results of the action, describing any deviations from the approved RAW or RDIP, and summarizing our conclusions and recommendations. A final removal action completion/implementation report will be prepared after the remainder of the work is completed on 1060 and 1080 East Brokaw Road. This report will also document the results of the action, describe any deviations from the approved RAW or RDIP, summarize our conclusions and recommendations, and request certification from the DTSC that remedial actions have been appropriately implemented. In addition, the report will include an as-built description of the new consolidation cell. Conclusions and recommendations will be based on readily available information, observations of existing conditions, and interpretation of the analytical data. The report will include site plans showing all sampling locations, copies of laboratory reports, and copies of all disposal documentation.

SECTION 8.0: LIMITATIONS

This report was prepared for the use of Markovits & Fox, Inc. and DTSC in evaluating remedial alternatives. In providing opinions of estimated remediation cost, The Riding Group and Markovits & Fox, Inc. understand that Cornerstone Earth Group has no control over the cost or availability of labor, equipment or materials; market conditions; or the Contractor's method of pricing, and that Cornerstone Earth Group's opinions of estimated remediation cost are made on the basis of our professional judgment and experience. We recommend a minimum contingency of 20 percent to be added to all estimates. We also recommend obtaining bids from qualified contractors and professional volume estimators who are experienced in performing this type of work. Cornerstone Earth Group makes no warranty, expressed, or implied, that the bids, the negotiated cost of work, or the actual cost of work will not vary from Cornerstone Earth Group's opinion of estimated remediation cost.

SECTION 9.0: REFERENCES

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California Environmental Protection Agency. January 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties

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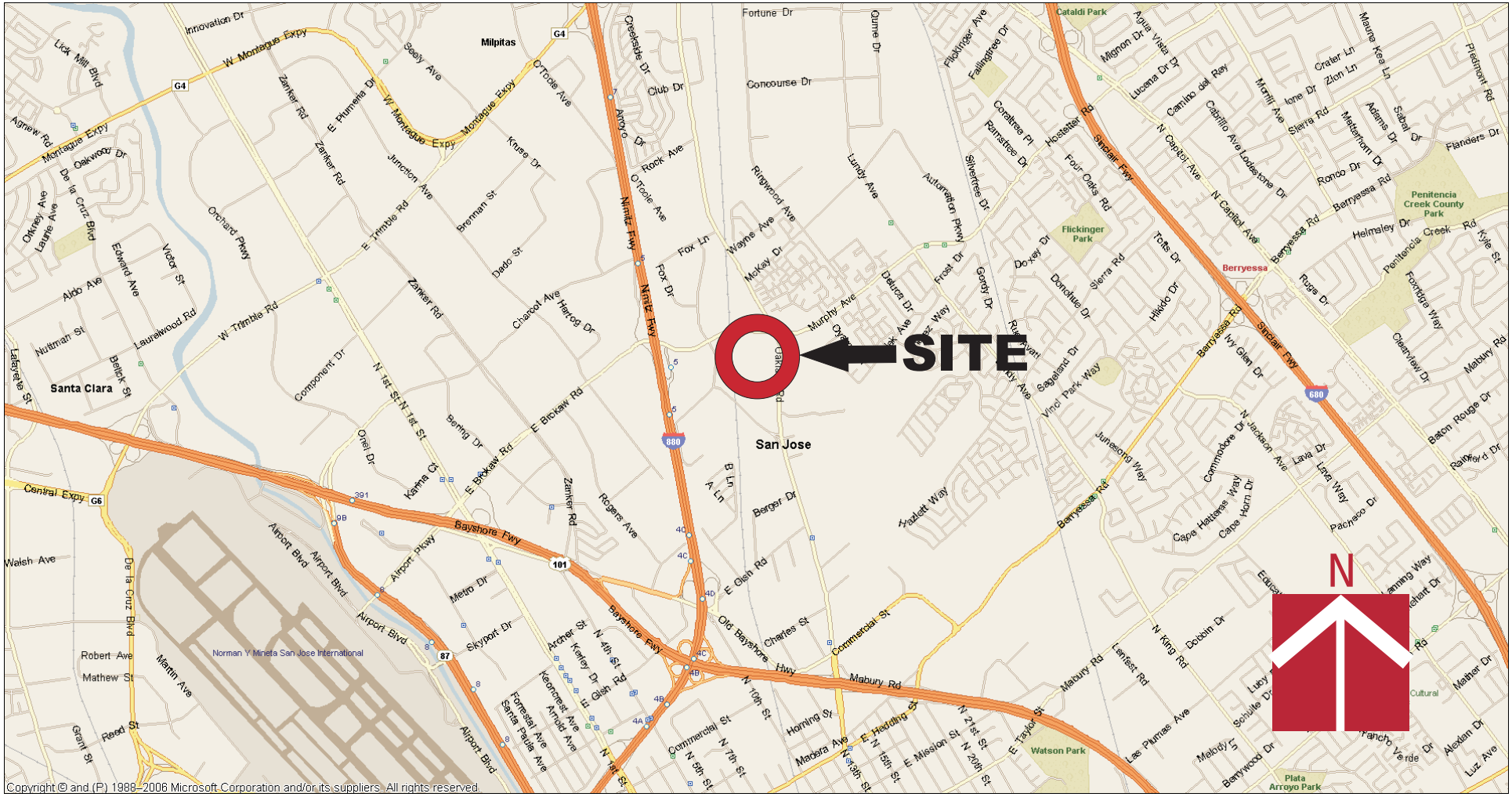
TRC Lowney, August 21, 2006. Second Semi-Annual 2006 Ground Water Monitoring Report, San Jose, California



CORNERSTONE EARTH GROUP

Vicinity Map

1040, 1060, 1080 East Brokaw Road
San Jose, CA

Project Number	110-4-3
Figure Number	Figure 1
Date	August 2007
Drawn By	MGV

LEGEND

Approximate Location of Exploratory Boring

Approximate Location of Ground Water Grab Sample, August 2007

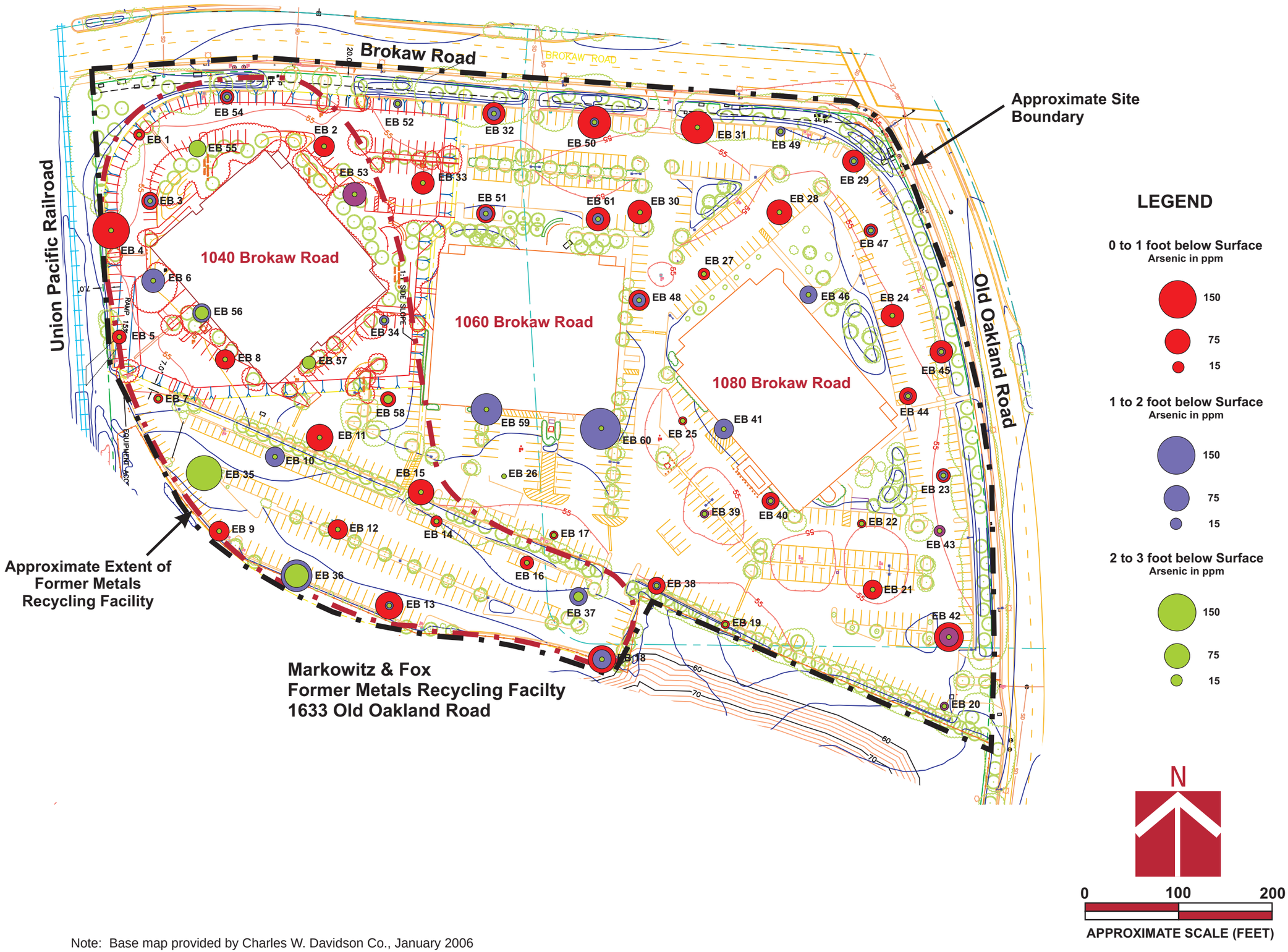
Note: Base map prov ided by Charles W. Davidson Co., January 2006

Project Number	110-4-3
Figure Number	Figure 2
Date	February 2008
Drawn By	MGV

Site Plan and Boring Locations

1040 - 1080 Brokaw Road
San Jose, CA

CORNERSTONE EARTH GROUP



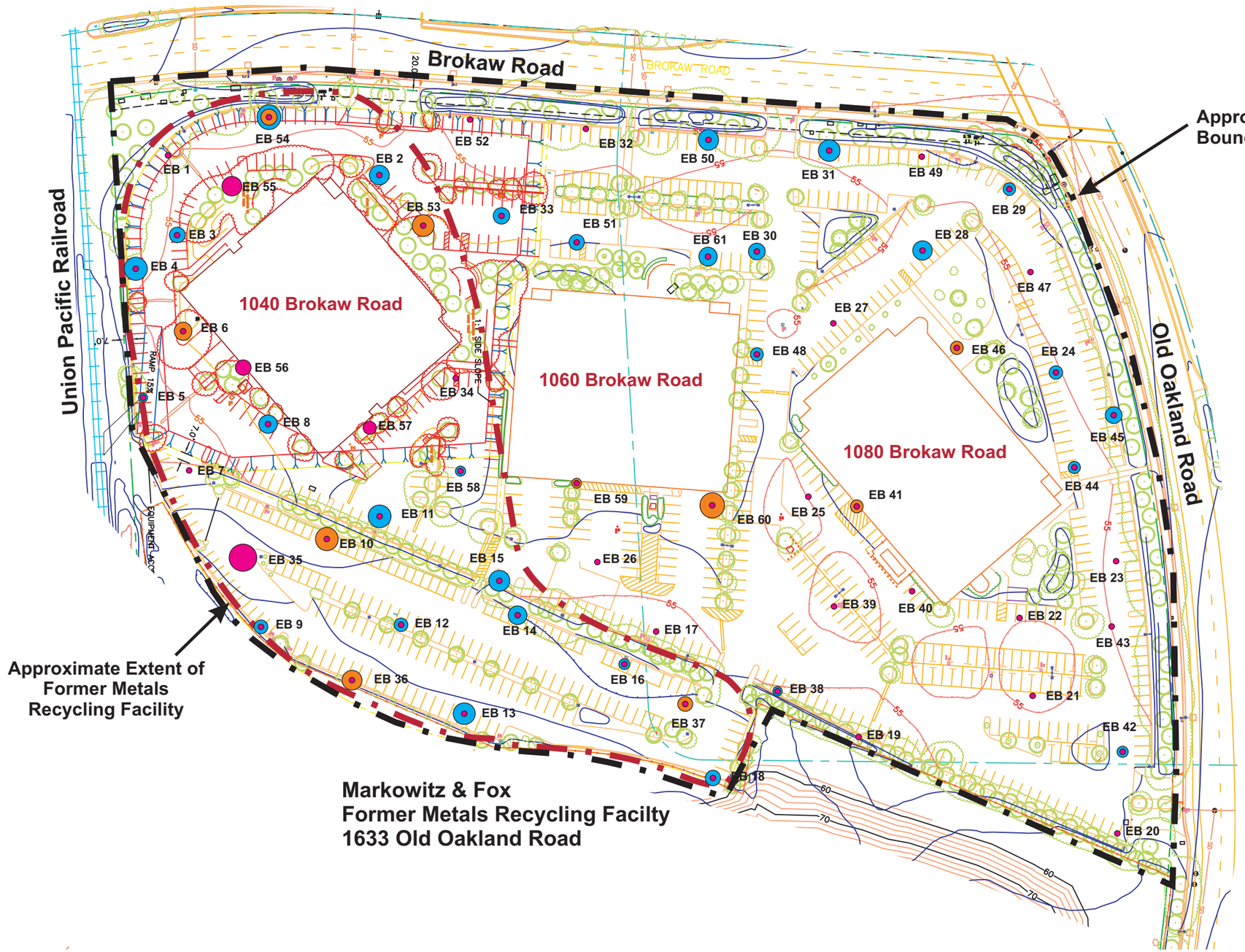
Note: Base map provided by Charles W. Davidson Co., January 2006

Project Number	110-4-3
Figure Number	Figure 3
Date	August 2007
Drawn By	MGV

Boring Locations and Arsenic Distribution in Soil

1040 - 1080 Brokaw Road
San Jose, CA

CORNERSTONE EARTH GROUP



LEGEND

0 to 1 foot below Surface
Lead in ppm

150
75
15

1 to 2 foot below Surface
Lead in ppm

150
75
15

2 to 3 foot below Surface
Lead in ppm

150
75
15

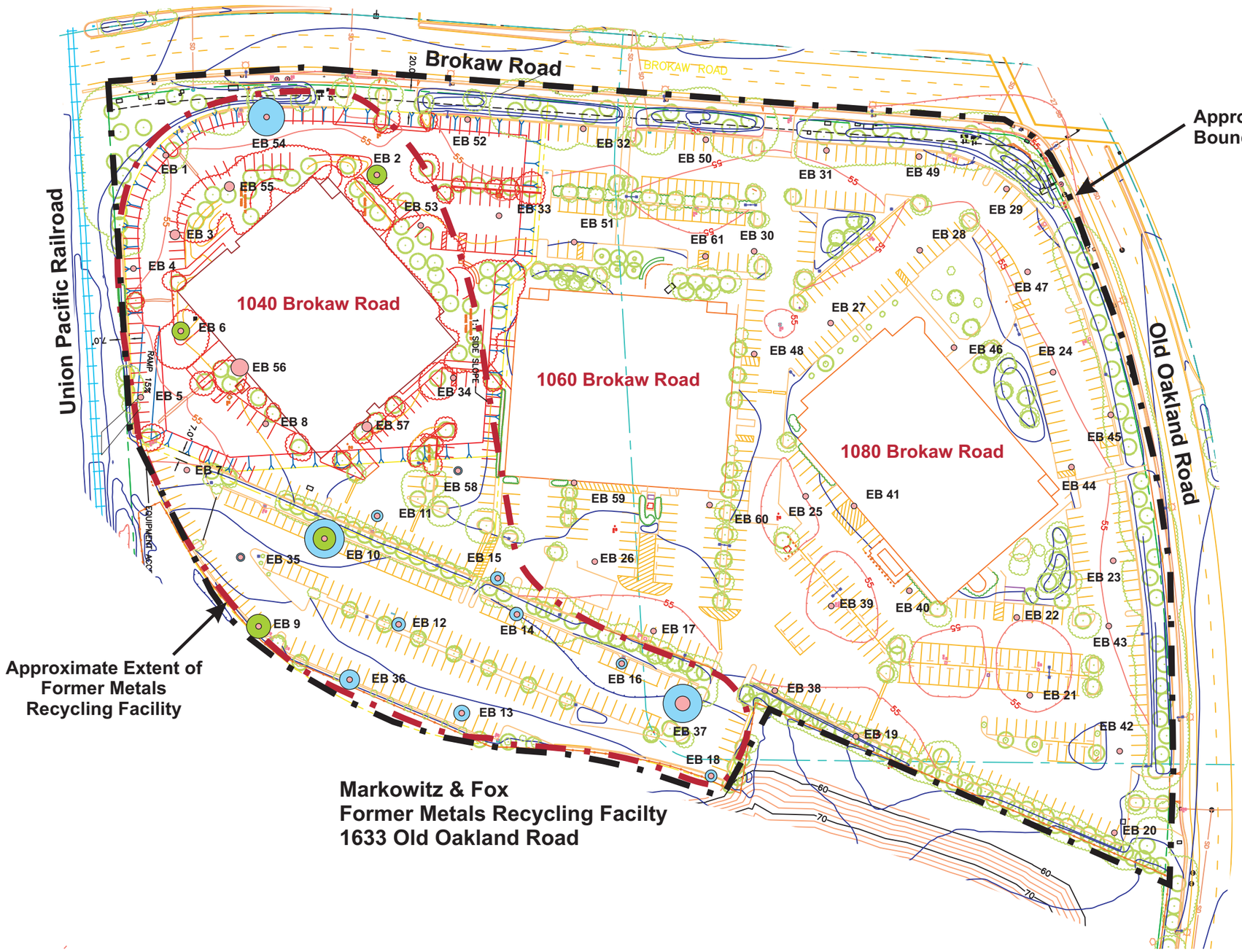
Note: Base map provided by Charles W. Davidson Co., January 2006

Project Number	110-4-3
Figure Number	Figure 4
Date	August 2007
Drawn By	MGV

Boring Locations and Lead Distribution in Soil

1040 - 1080 Brokaw Road
San Jose, CA

CORNERSTONE EARTH GROUP



Note: Base map provided by Charles W. Davidson Co., January 2006

Project Number 110-4-3

Figure Number Figure 5

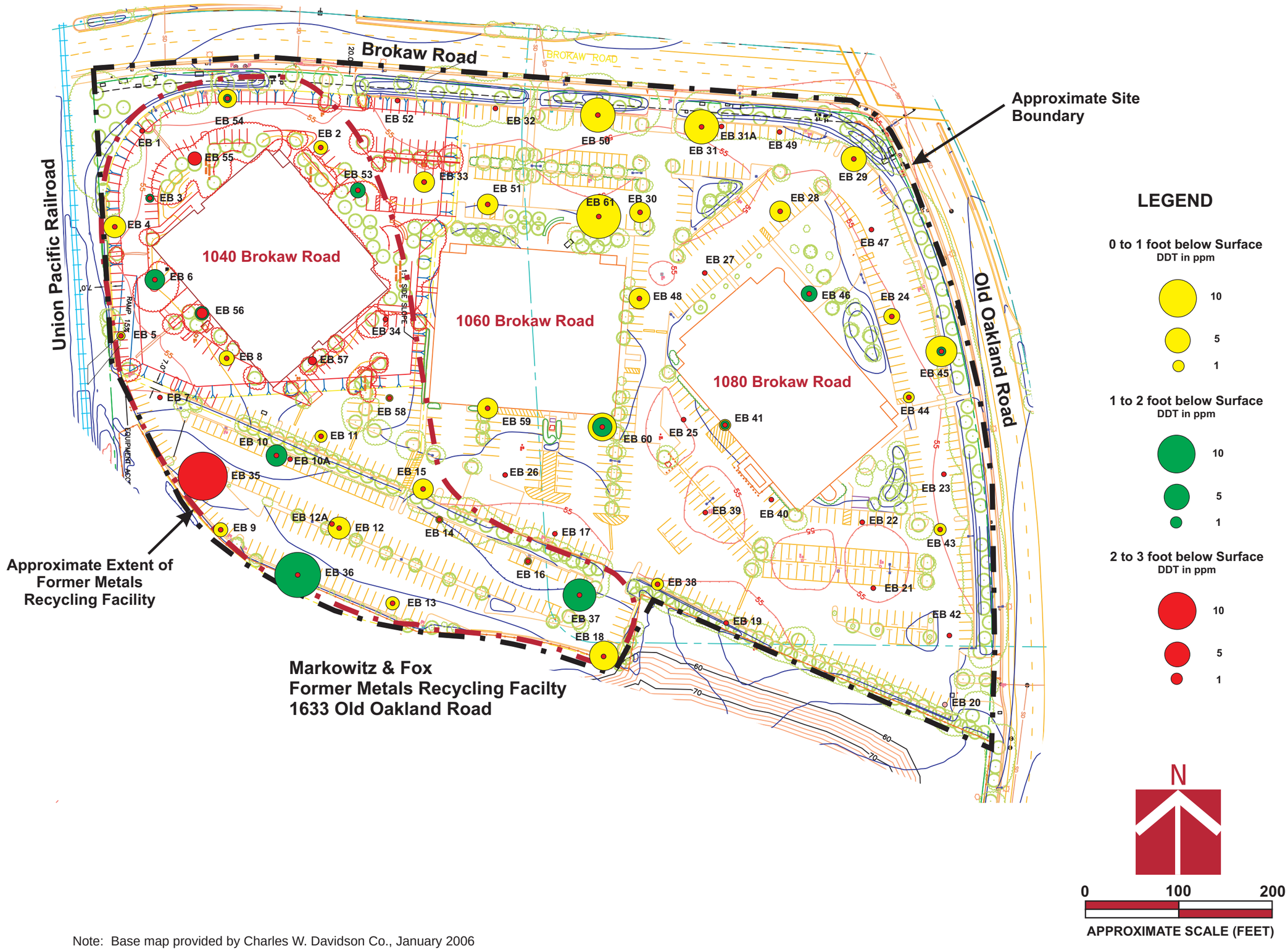
Drawn By MGV

Date August 2007

Boring Locations and PCB Distribution in Soil

1040 - 1080 Brokaw Road
San Jose, CA

CORNERSTONE EARTH GROUP



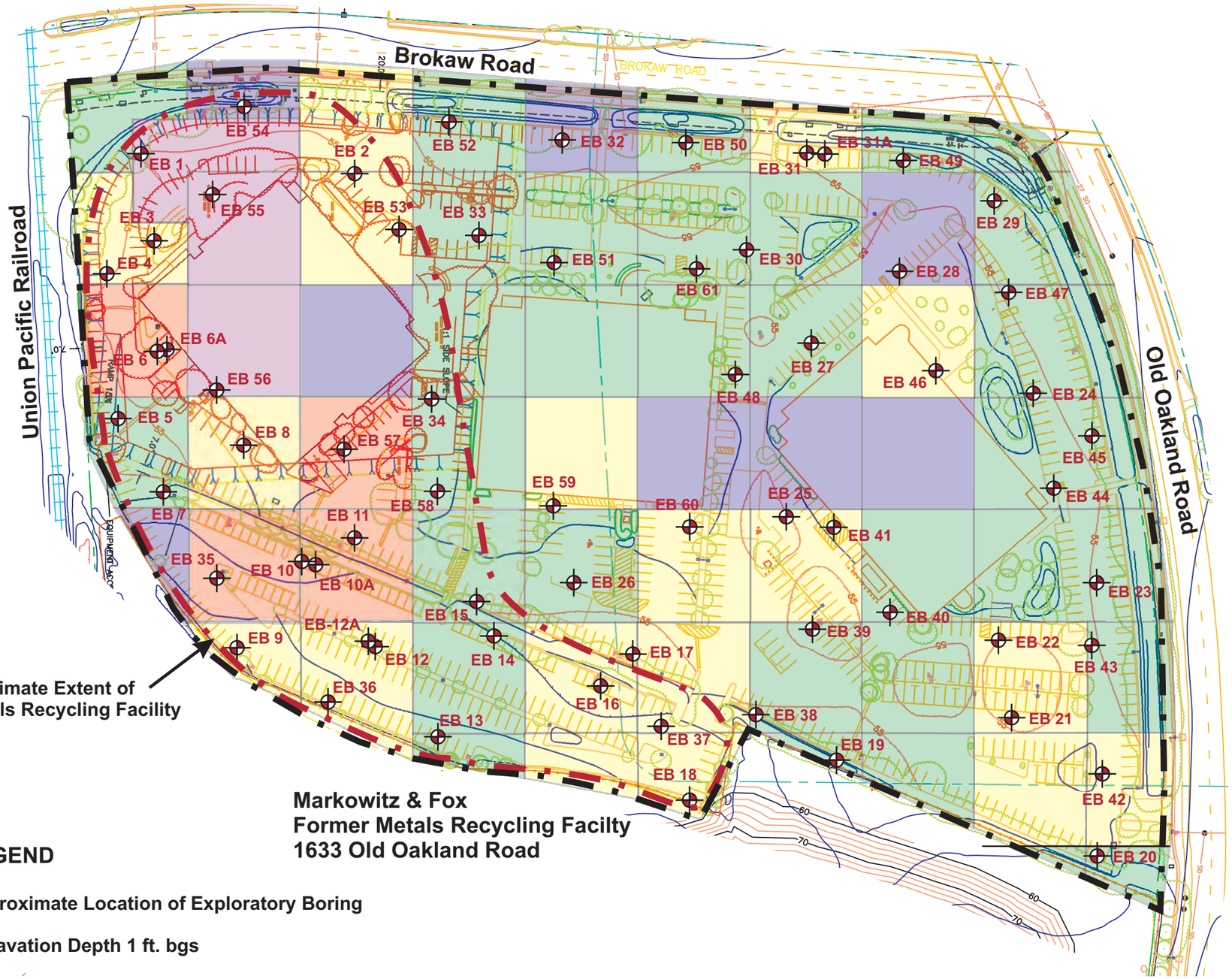
Note: Base map provided by Charles W. Davidson Co., January 2006

Project Number	110-4-3
Figure Number	Figure 6
Drawn By	MGV
Date	August 2007

Boring Locations and Total DDT Distribution in Soil

1040 - 1080 Brokaw Road
San Jose, CA

CORNERSTONE EARTH GROUP



LEGEND

- Approximate Location of Exploratory Boring
- Excavation Depth 1 ft. bgs
- Excavation Depth 2 ft. bgs
- Excavation Depth 3 ft. bgs
- Excavation Depth 4 ft. bgs
- Depth Greater than 5 ft

Note: Base map provided by Charles W. Davidson Co., January 2006

Project Number	110-4-3
Figure Number	Figure 7
Date	August 2007
Drawn By	MGV

Site Plan and Boring Locations

1040 - 1080 Brokaw Road
San Jose, CA

CORNERSTONE EARTH GROUP

APPENDIX A

MAY 14, 2002 SAN JOSE FIRE DEPARTMENT INSPECTION REPORT

RECORD OF INSPECTION

SUPPLEMENT

San Jose Fire Department
Four North Second Street
Suite 1100
San Jose, CA 95113-1305

File Number: 407960 PAGE 1 OF 1

Conducted by: Code Enforcement ☐ ☐ Engineering; HazMat ☒ ☐ Line

Type of Inspection: F/S Permit ☐ ☐ One-Time permit; HazMat Permit ☐ ☒ Non-permitted ☐ FDIC

Employee No. 00228

Street Number	Dir.	Street Name	Type	Zip	Building Unit
1080	E	Brokaw	St	95133	

NOTICE OF FIRE AND SAFETY HAZARDS AND/OR PERMITS REQUIRED

You are hereby notified that an inspection of your premises has disclosed that the following permits are required and/or that corrections are required for the following violations of the following provisions of Title 19, Title 23, Title 24, or Title 25 of the California Code of Regulations, Chapter 6.7 and 6.95 of the California Health and Safety Code, or the San Jose Municipal Code.

CODE SECTION	P/V	DESCRIPTION	APPR	DATE
7902.1.8.2.1	V	Tank is unapproved/unlisted. Tank shall not		
P-3579		be used to store hazardous materials.		
99-117634-HZ				
		Tank is associated with backup generator.		
		Tank was tagged out by SJFD & locked		
		out by AT&T.		
		LEL 0%, O_2 4% 5/14/02 1015 hrs		

TIME	2					NO FEE
DATE	5/14/02					
BILL? Y/N	N					
O.D.C. INC.						

ORDER TO COMPLY

As such conditions are contrary to law, you are hereby required to correct said conditions immediately upon receipt of this notice.

An inspection to determine whether or not you have complied with this notice will be conducted on or after 10/9 days.

Failure to comply with the foregoing order by the date of reinspection may cause a CITATION to be issued for the penalties provided by law for such violations and may also render you liable for all suppression costs that might occur in the event of a fire.

X Owner/Agent | X Michael P. Lepisto Hazmat Inspecting Officer (Print Name, Assignment) | X Inspecting Officer (Signature) | Date

340-14.sjco (REV. 5/96)

APPENDIX B

ANALYTICAL DATA SUMMARY TABLES

Table 1A. Analytical Results of Selected Soil Samples
Petroleum Hydrocarbons, VOCs, and PAHs

(concentrations in parts per million)

Sample Number	Depth* (feet)	TPHmo	TPHd	TPHg	BTEX	MTBE	VOCs	Fluoranthene[1]
EB-1	0 - ½	4.16	<2.0	NA	NA	NA	NA	NA
EB-2	0 - ½	38.1	<2.0	NA	NA	NA	NA	NA
EB-3	0 - ½	7.79	<2.0	NA	NA	NA	NA	0.0052
EB-3	1 ½ - 2	<4.0	<2.0	NA	NA	NA	NA	NA
EB-4	0 - ½	8.79	2.28	NA	NA	NA	NA	NA
EB-4	16 ½ – 17	<4.0	<2.0	<0.10	<0.010	<0.010	ND	<0.005
EB-5	0 - ½	11.7	<2.0	NA	NA	NA	NA	<0.025
EB-6	0 - ½	49.2	<2.0	NA	NA	NA	NA	NA
EB-6	1 ½ - 2	12	<2.0	NA	NA	NA	NA	NA
EB-7	0 - ½	36.9	<2.0	NA	NA	NA	NA	NA
EB-8	0 - ½	40.0	<2.0	NA	NA	NA	NA	NA
EB-9	0 - ½	9.59	<2.0	NA	NA	NA	NA	NA
EB-10	0 - ½	224	4.52	NA	NA	NA	NA	<0.50
EB-10	1 – 1 ½	141	<4.0	NA	NA	NA	NA	NA
EB-11	0 - ½	110	2.52	NA	NA	NA	NA	NA
EB-12	0 - ½	72.3	<2.0	NA	NA	NA	NA	NA
EB-12B	18 – 18 ½	6.39	<2.0	<0.10	<0.020	<0.010	ND	<0.005
EB-13	0 - ½	387	<8.0	NA	NA	NA	NA	<0.10
EB-13	1 – 1 ½	<4.0	<2.0	NA	NA	NA	NA	NA
EB-14	0 - ½	301	<6.0	NA	NA	NA	NA	NA
EB-15	0 - ½	61.2	2.36	NA	NA	NA	NA	NA
EB-16	0 - ½	744	<20	NA	NA	NA	NA	NA
EB-17	0 - ½	31.7	<2.0	NA	NA	NA	NA	NA
EB-18	0 - ½	21.0	<2.0	NA	NA	NA	NA	NA
EB-18	1 – 1 ½	8.41	<2.0	NA	NA	NA	NA	NA
Residential Screening Level		500[2]	100[2]	100[2]	Various	0.023[2]	---	40[2]

1 Other PAHs were not detected above their laboratory reporting limits
2 CHHSLs not established; Environmental Screening Levels (ESLs) SF Bay RWQCB, February 2005
< Indicates that the compound was not detected at or above the stated laboratory reporting limit
NA Indicates sample was not analyzed
ND Indicates that the compounds were not detected at or above the laboratory reporting limits
* Depth below top of soil below asphalt and baserock. Sample depths for borings EB-1 through EB-18 listed on laboratory data sheets were from top of asphalt; asphalt/baserock observed was approximately 1 foot thick. Depths for borings EB-1 through EB-18 listed in tables have been adjusted.

Table 1B. Analytical Results of Selected Soil Samples Pesticides and PCBs

(concentrations in parts per million)

Sample Number	Depth* (feet)	DDT[1,2]	Dieldrin[2]	Endrin[2]	PCBs[3]
EB-1	0 - ½	0.103	<0.010	<0.010	<0.10
EB-2	0 - ½	1.550	<0.080	<0.080	1.7
EB-2	1 – 1 ½	0.179	<0.002	<0.002	<0.10
EB-3	0 – ½	0.311	<0.020	<0.020	0.18
EB-3	1 – 1 ½	0.469	<0.020	<0.020	0.29
EB-4	0 – ½	6.300	<0.10	<0.10	<0.10
EB-4	1 – 1 ½	0.0146	<0.002	<0.002	NA
EB-4	16 ½ - 17	0.0069	<0.002	<0.002	<0.10
EB-5	0 – ½	0.511	<0.020	<0.020	0.26
EB-6	0 – ½	2.770	<0.10	<0.10	1.6
EB-6	1 – 1 ½	3.400	<0.20	<0.20	0.20
EB-6A	2 ½ - 3	1.177	0.14	<0.040	1.4
EB-7	0 – ½	0.0384	<0.002	<0.002	<0.10
EB-8	0 – ½	2.000	<0.10	<0.10	<0.10
EB-9	0 – ½	1.510	<0.10	<0.10	3.1
EB-9	1 – 1 ½	0.1024	<0.002	<0.002	<0.1
EB-10	0 – ½	1.630	<0.10	<0.10	7.5
EB-10	1 – 1 ½	3.770	<0.20	<0.20	3.2
EB-10A	2 ½ - 3	6.05	<0.040	<0.040	<0.10
EB-11	0 – ½	1.250	<0.080	<0.080	0.52
EB-11	1 – 1 ½	0.814	<0.002	<0.002	NA
EB-12	0 – ½	4.210	<0.20	<0.20	1.41
EB-12	1 – 1 ½	3.32	<0.010	<0.010	4.8
EB-12B	18 – 18 ½	0.0034	<0.002	<0.002	<0.10
EB-13	0 – ½	1.270	<0.080	<0.080	1.0
EB-13	1 – 1 ½	0.0258	<0.010	<0.010	<0.10
EB-14	0 – ½	0.368	<0.010	<0.010	1.4
EB-15	0 – ½	2.560	<0.20	<0.20	1.2
EB-15	1 – 1 ½	0.0352	<0.002	<0.002	<0.10
EB-16	0 – ½	0.343	<0.020	<0.020	0.75
EB-17	0 – ½	<0.002	<0.002	<0.002	<0.10
EB-18	0 – ½	5.700	<0.40	<0.40	0.65
EB-18	1 – 1 ½	0.310	<0.020	<0.020	<0.10
EB-19	0 – ½	<0.002	<0.002	<0.002	NA
EB-20	0 – ½	0.0071	<0.002	<0.002	NA
EB-20	1 – 1 ½	0.0032	<0.002	<0.002	NA
EB-21	0 – ½	0.0049	<0.002	<0.002	NA
EB-22	0 – ½	0.0221	<0.002	<0.002	NA
EB-23	0 – ½	0.084	<0.004	<0.004	NA
EB-23	1 – 1 ½	0.0075	<0.002	<0.002	NA
EB-24	0 – ½	2.500	<0.20	<0.20	NA
EB-24	1 – 1 ½	0.0065	<0.002	<0.002	NA
EB-25	0 – ½	0.0082	<0.002	<0.002	NA
EB-26	0 – ½	<0.080	<0.080	<0.080	NA

Table 1B. Analytical Results of Selected Soil Samples Pesticides and PCBs

(concentrations in parts per million)

Sample Number	Depth* (feet)	DDT	Dieldrin[2]	Endrin[2]	PCBs[3]
EB-27	0 – ½	0.154	<0.010	<0.010	NA
EB-28	0 – ½	3.770	<0.20	<0.20	NA
EB-29	0 – ½	5.150	<0.20	<0.20	NA
EB-29	1 – 1 ½	0.032	<0.008	<0.008	NA
EB-30	0 – ½	3.290	<0.16	<0.16	NA
EB-30	1 – 1 ½	0.065	<0.002	<0.002	NA
EB-31	0 – ½	8.000	<0.50	<0.50	NA
EB-31	1 – 1 ½	1.11	<0.020	<0.020	NA
EB-31A	2 ½ - 3	<0.010	<0.010	<0.010	NA
EB-32	0 – ½	0.120	<0.010	<0.010	NA
EB-32	1 – 1 ½	0.0094	<0.002	<0.002	NA
EB-33	0 – ½	3.100	0.13	<0.10	NA
EB-33	1 – 1 ½	0.0613	<0.002	<0.002	NA
EB-34	0 – ½	0.0060	<0.002	<0.002	NA
EB-34	1 – 1 ½	0.0049	<0.002	<0.002	NA
EB-35	0 – ½	0.658	<0.020	<0.020	0.32
EB-35	1 – 1 ½	0.216	<0.008	<0.008	NA
EB-35	2 - 2 ½	16.93	<0.040	<0.040	<0.50
EB-35	3 ½ - 4	<0.010	<0.010	<0.010	NA
EB-36	0 – ½	3.02	<0.10	<0.10	2.4
EB-36	1 – 1 ½	11.943	<0.020	<0.020	NA
EB-36	2 - 2 ½	0.0235	<0.002	<0.002	<0.10
EB-37	0 – ½	1.40	0.290	0.074	7.5
EB-37	1 – 1 ½	7.04	1.60	0.38	NA
EB-37	2 - 2 ½	0.266	0.060	0.015	1.7
EB-38	0 – ½	1.11	<0.020	<0.020	NA
EB-38	1 – 1 ½	<0.002	<0.002	<0.002	NA
EB-39	0 – ½	<0.002	<0.002	<0.002	NA
EB-39	1 – 1 ½	<0.002	<0.002	<0.002	NA
EB-40	0 – ½	0.16	<0.010	<0.010	NA
EB-40	1 – 1 ½	<0.002	<0.002	<0.002	NA
EB-41	0 – ½	0.89	<0.10	<0.10	NA
EB-41	1 – 1 ½	0.30	<0.040	<0.040	NA
EB-42	0 – ½	0.0073	<0.002	<0.002	NA
EB-42	1 – 1 ½	0.0083	<0.002	<0.002	NA
EB-43	0 – ½	1.44	<0.10	<0.10	NA
EB-43	1 – 1 ½	<0.002	<0.002	<0.002	NA
EB-44	0 – ½	0.79	<0.080	<0.080	NA
EB-44	1 – 1 ½	0.003	<0.002	<0.002	NA
EB-45	0 – ½	7.5	<0.40	<0.40	NA
EB-45	1 – 1 ½	0.381	<0.040	<0.040	NA
EB-46	0 – ½	1.66	<0.050	<0.050	NA
EB-46	1 – 1 ½	2.49	<0.050	<0.050	NA
EB-47	0 – ½	0.029	<0.010	<0.020	NA

Table 1B. Analytical Results of Selected Soil Samples Pesticides and PCBs

(concentrations in parts per million)

Sample Number	Depth* (feet)	DDT[1,2]	Dieldrin[2]	Endrin[2]	PCBs[3]
EB-47	1 – 1 ½	<0.002	<0.002	<0.002	NA
EB-48	0 – ½	2.93	<0.20	<0.20	NA
EB-48	1 – 1 ½	0.015	<0.002	<0.002	NA
EB-49	0 – ½	0.084	<0.008	<0.008	NA
EB-49	1 – 1 ½	<0.024	<0.002	<0.002	NA
EB-50	0 – ½	8.3	<0.40	<0.40	NA
EB-50	1 – 1 ½	0.0295	<0.002	<0.002	NA
EB-51	0 – ½	1.93	<0.10	<0.10	NA
EB-51	1 – 1 ½	0.017	<0.002	<0.002	NA
EB-52	0 – ½	0.0087	<0.002	<0.002	<0.10
EB-52	1 – 1 ½	<0.002	<0.002	<0.0002	<0.10
EB-53	0 – ½	1.597	<0.080	<0.080	1.0
EB-53	1 – 1 ½	1.72	0.088	<0.080	<0.20
EB-54	0 – ½	2.90	0.20	<0.80	7.1
EB-54	1 – 1 ½	0.550	0.055	<0.010	NA
EB-54	2 - 2 ½	0.0023	<0.002	<0.002	<0.10
EB-55	0 – ½	0.19	<0.010	<0.010	0.48
EB-55	1 – 1 ½	0.559	<0.020	<0.020	NA
EB-55	2 - 2 ½	1.453	<0.040	<0.040	0.60
EB-55	3 ½ - 4	1.24	NA	NA	NA
EB-56	0 – ½	0.720	<0.040	<0.040	0.50
EB-56	1 – 1 ½	1.59	<0.10	<0.10	NA
EB-56	2 - 2 ½	0.674	0.050	<0.040	1.6
EB-56	3 ½ - 4	0.220	NA	NA	NA
EB-57	0 – ½	0.127	<0.008	<0.008	0.16
EB-57	1 – 1 ½	0.302	<0.010	<0.010	NA
EB-57	2 - 2 ½	0.401	<0.020	<0.020	0.46
EB-58	0 – ½	0.290	<0.010	<0.010	0.28
EB-58	1 – 1 ½	<0.002	<0.002	<0.002	NA
EB-58	2 - 2 ½	<0.002	<0.002	<0.002	<0.10
EB-59	0 – ½	2.93	<0.10	<0.10	NA
EB-59	1 – 1 ½	0.089	<0.008	<0.008	NA
EB-60	0 – ½	6.1	<0.20	<0.20	NA
EB-60	1 – 1 ½	3.11	<0.20	<0.20	NA
EB-61	0 – ½	12.5	<0.40	<0.40	NA
EB-61	1 – 1 ½	0.0417	<0.002	<0.002	NA
Residential CHHSL[3]		1.7	0.035	21	0.089

1 Total DDT = 4,4'-DDT + 4,4'DDE + 4,4'-DDD
2 Other organochlorine pesticides were not detected above their laboratory reporting limits
3 California Human Health Screening Level – California EPA, January 2005
< Indicates that the compound was not detected at or above the stated laboratory reporting limit
NA Indicates sample was not analyzed
* Depth below top of soil below asphalt and baserock. Sample depths for borings EB-1 through EB-34 listed on laboratory data sheets were from top of asphalt; asphalt/baserock observed was approximately 1 foot thick. Depths for borings EB-1 through EB-34 listed in tables have been adjusted.

Table 1C. Analytical Results of Selected Soil Samples Metals

(concentrations in parts per million)

Sample Number	Depth* (feet)	Arsenic[1]	Barium[1]	Cadmium[1]	Chromium[1]	Cobalt[1]	Copper[1]	Lead[1]	Nickel[1]	Vanadium[1]	Zinc[1]	Mercury[1]
EB-1	0 - ½	12	170	<1.0	50	14	62	18	81	36	74	0.10
EB-2	0 - ½	43	170	3.7	60	17	190	340	100	40	410	0.68
EB-2	1 – 1 ½	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-3	0 – ½	33	160	1.3	59	16	<5.0	180	110	34	67	0.10
EB-3	1 ½ - 2	15	220	7.8	84	18	44	240	160	36	360	<0.10
EB-4	0 – ½	140	170	5.2	55	15	160	440	96	39	66	0.10
EB-4	1 – 1 ½	<1.7	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA
EB-4	16 ½ - 17	8.9	250	<1.0	52	17	58	10	91	38	73	<0.10
EB-5	0 – ½	22	110	1.0	53	23	140	95	94	61	120	0.13
EB-6	0 – ½	59	160	3.0	67	17	<5.0	220	130	35	1400	0.30
EB-6	1 – 1 ½	64	180	2.9	61	16	80	270	110	38	240	0.15
EB-6A	2 ½ - 3	42	NA	NA	NA	NA	NA	250	NA	NA	NA	NA
EB-7	0 – ½	8.8	180	<1.0	57	16	36	16	110	40	68	0.10
EB-8	0 – ½	46	190	2.6	93	19	110	290	140	35	300	0.23
EB-9	0 – ½	39	190	1.5	62	18	71	160	120	39	73	<0.10
EB-9	1 – 1 ½	13	NA	NA	NA	NA	NA	26	NA	NA	NA	NA
EB-10	0 – ½	3.6	160	<1.0	43	11	27	12	64	37	45	0.10
EB-10	1 – 1 ½	41	220	5.0	140	21	270	530	180	39	440	0.47
EB-10A	2 ½ - 3	5.7	NA	NA	NA	NA	NA	7.4	NA	NA	NA	NA
EB-11	0 – ½	77	150	3.4	71	17	120	430	130	32	130	0.27
EB-11	1 – 1 ½	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-12	0 – ½	41	170	2.0	61	16	82	160	100	37	130	0.17
EB-12	1 – 1 ½	66	NA	NA	NA	NA	NA	330	NA	NA	NA	NA
EB-12B	18 – 18 ½	11	74	<1.0	44	9.1	18	6.2	76	24	42	<0.10
EB-13	0 – ½	85	150	3.8	61	15	210	400	120	33	550	0.53
EB-13	1 – 1 ½	6.0	260	<1.0	62	19	44	15	110	45	85	<0.10
EB-14	0 – ½	15	220	7.8	84	18	216	240	160	36	360	0.62
EB-15	0 – ½	76	130	3.0	85	18	95	370	130	34	97	0.13
EB-15	1 – 1 ½	8.9	NA	NA	NA	NA	NA	14	NA	NA	NA	NA
EB-16	0 – ½	23	180	1.2	60	16	66	76	110	37	110	0.23
EB-17	0 – ½	7.4	140	<1.0	50	16	40	11	90	38	72	<0.10
EB-18	0 – ½	88	160	3.9	54	14	110	190	87	34	150	0.10
EB-18	1 – 1 ½	46	170	1.8	49	15	40	39	85	36	71	0.10

Table 1C. Analytical Results of Selected Soil Samples Metals

(concentrations in parts per million)

Sample Number	Depth* (feet)	Arsenic[1]	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	Mercury
EB-19	0 – ½	7.5	NA	NA	NA	NA	NA	11	NA	NA	NA	0.12
EB-20	0 – ½	8.5	NA	NA	NA	NA	NA	11	NA	NA	NA	<0.10
EB-20	1 – 1 ½	7.6	NA	NA	NA	NA	NA	9.6	NA	NA	NA	0.10
EB-21	0 – ½	39	NA	NA	NA	NA	NA	27	NA	NA	NA	0.12
EB-21	1 – 1 ½	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-22	0 – ½	8.3	NA	NA	NA	NA	NA	11	NA	NA	NA	0.10
EB-23	0 – ½	22	NA	NA	NA	NA	NA	21	NA	NA	NA	0.12
EB-23	1 – 1 ½	10	NA	NA	NA	NA	NA	12	NA	NA	NA	0.13
EB-24	0 – ½	57	NA	NA	NA	NA	NA	120	NA	NA	NA	0.17
EB-24	1 – 1 ½	<1.7	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA
EB-25	0 – ½	8.2	NA	NA	NA	NA	NA	11	NA	NA	NA	0.12
EB-26	0 – ½	2.0	NA	NA	NA	NA	NA	9.0	NA	NA	NA	0.12
EB-27	0 – ½	12	NA	NA	NA	NA	NA	14	NA	NA	NA	0.13
EB-28	0 – ½	74	NA	NA	NA	NA	NA	240	NA	NA	NA	0.13
EB-29	0 – ½	56	NA	NA	NA	NA	NA	130	NA	NA	NA	0.15
EB-29	1 – 1 ½	8.3	NA	NA	NA	NA	NA	12	NA	NA	NA	0.13
EB-30	0 – ½	65	NA	NA	NA	NA	NA	210	NA	NA	NA	0.45
EB-30	1 – 1 ½	12	NA	NA	NA	NA	NA	15	NA	NA	NA	NA
EB-31	0 – ½	130	NA	NA	NA	NA	NA	420	NA	NA	NA	0.25
EB-31	1 – 1 ½	47	NA	NA	NA	NA	NA	160	NA	NA	NA	NA
EB-31A	2 ½ - 3	8.2	NA	NA	NA	NA	NA	10	NA	NA	NA	NA
EB-32	0 – ½	60	NA	NA	NA	NA	NA	44	NA	NA	NA	0.17
EB-32	1 – 1 ½	28	NA	NA	NA	NA	NA	18	NA	NA	NA	0.18
EB-33	0 – ½	57	NA	NA	NA	NA	NA	260	NA	NA	NA	0.48
EB-33	1 – 1 ½	<1.7	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA
EB-34	0 – ½	8.1	NA	NA	NA	NA	NA	11	NA	NA	NA	0.17
EB-34	1 – 1 ½	7.7	NA	NA	NA	NA	NA	11	NA	NA	NA	0.18
EB-35	0 – ½	31	NA	NA	NA	NA	NA	190	NA	NA	NA	NA
EB-35	1 – 1 ½	12	NA	NA	NA	NA	NA	160	NA	NA	NA	NA
EB-35	2 - 2 ½	120	NA	NA	NA	NA	NA	660	NA	NA	NA	NA
EB-35	3 ½ - 4	10	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-36	0 – ½	40	NA	NA	NA	NA	NA	280	NA	NA	NA	NA
EB-36	1 – 1 ½	110	NA	NA	NA	NA	NA	420	NA	NA	NA	NA

Table 1C. Analytical Results of Selected Soil Samples Metals

(concentrations in parts per million)

Sample Number	Depth* (feet)	Arsenic[1]	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	Mercury
EB-36	2 - 2 ½	68	NA	NA	NA	NA	NA	35	NA	NA	NA	NA
EB-36	3 ½ - 4	8.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-37	0 – ½	17	NA	NA	NA	NA	NA	160	NA	NA	NA	NA
EB-37	1 – 1 ½	42	NA	NA	NA	NA	NA	210	NA	NA	NA	NA
EB-37	2 - 2 ½	9.8	NA	NA	NA	NA	NA	19	NA	NA	NA	NA
EB-38	0 – ½	36	NA	NA	NA	NA	NA	92	NA	NA	NA	NA
EB-38	1 – 1 ½	6.8	NA	NA	NA	NA	NA	9.4	NA	NA	NA	NA
EB-39	0 – ½	6.8	NA	NA	NA	NA	NA	10	NA	NA	NA	NA
EB-39	1 – 1 ½	7.1	NA	NA	NA	NA	NA	9.6	NA	NA	NA	NA
EB-40	0 – ½	33	NA	NA	NA	NA	NA	25	NA	NA	NA	NA
EB-40	1 – 1 ½	8.0	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-41	0 – ½	29	NA	NA	NA	NA	NA	69	NA	NA	NA	NA
EB-41	1 – 1 ½	37	NA	NA	NA	NA	NA	75	NA	NA	NA	NA
EB-42	0 – ½	88	NA	NA	NA	NA	NA	130	NA	NA	NA	NA
EB-42	1 – 1 ½	40	NA	NA	NA	NA	NA	24	NA	NA	NA	NA
EB-43	0 – ½	11	NA	NA	NA	NA	NA	12	NA	NA	NA	NA
EB-43	1 – 1 ½	7.2	NA	NA	NA	NA	NA	10	NA	NA	NA	NA
EB-44	0 – ½	31	NA	NA	NA	NA	NA	130	NA	NA	NA	NA
EB-44	1 – 1 ½	9.1	NA	NA	NA	NA	NA	9.8	NA	NA	NA	NA
EB-45	0 – ½	65	NA	NA	NA	NA	NA	240	NA	NA	NA	NA
EB-45	1 – 1 ½	7.9	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-46	0 – ½	29	NA	NA	NA	NA	NA	170	NA	NA	NA	NA
EB-46	1 – 1 ½	31	NA	NA	NA	NA	NA	130	NA	NA	NA	NA
EB-47	0 – ½	21	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-47	1 – 1 ½	7.8	NA	NA	NA	NA	NA	9.2	NA	NA	NA	NA
EB-48	0 – ½	47	NA	NA	NA	NA	NA	160	NA	NA	NA	NA
EB-48	1 – 1 ½	18	NA	NA	NA	NA	NA	13	NA	NA	NA	NA
EB-49	0 – ½	9.4	NA	NA	NA	NA	NA	12	NA	NA	NA	NA
EB-49	1 – 1 ½	8.3	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-50	0 – ½	110	NA	NA	NA	NA	NA	370	NA	NA	NA	NA
EB-50	1 – 1 ½	7.6	NA	NA	NA	NA	NA	12	NA	NA	NA	NA
EB-51	0 – ½	43	NA	NA	NA	NA	NA	210	NA	NA	NA	NA
EB-51	1 – 1 ½	18	NA	NA	NA	NA	NA	15	NA	NA	NA	NA
EB-52	0 – ½	9.6	NA	NA	NA	NA	NA	14	NA	NA	NA	NA

Table 1C. Analytical Results of Selected Soil Samples Metals

(concentrations in parts per million)

Sample Number	Depth* (feet)	Arsenic[1]	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	Mercury
EB-52	1 – 1 ½	7.3	NA	NA	NA	NA	NA	9.2	NA	NA	NA	NA
EB-53	0 – ½	37	NA	NA	NA	NA	NA	230	NA	NA	NA	NA
EB-53	1 – 1 ½	64	NA	NA	NA	NA	NA	370	NA	NA	NA	NA
EB-54	0 – ½	26	NA	NA	NA	NA	NA	480	NA	NA	NA	NA
EB-54	1 – 1 ½	13	NA	NA	NA	NA	NA	260	NA	NA	NA	NA
EB-54	2 - 2 ½	6.8	NA	NA	NA	NA	NA	9.6	NA	NA	NA	NA
EB-55	0 – ½	29	NA	NA	NA	NA	NA	110	NA	NA	NA	NA
EB-55	1 – 1 ½	12	NA	NA	NA	NA	NA	45	NA	NA	NA	NA
EB-55	2 - 2 ½	32	NA	NA	NA	NA	NA	270	NA	NA	NA	NA
EB-55	3 ½ - 4	10	NA	NA	NA	NA	NA	86	NA	NA	NA	NA
EB-56	0 – ½	35	NA	NA	NA	NA	NA	150	NA	NA	NA	NA
EB-56	1 – 1 ½	41	NA	NA	NA	NA	NA	210	NA	NA	NA	NA
EB-56	2 - 2 ½	26	NA	NA	NA	NA	NA	240	NA	NA	NA	NA
EB-56	3 ½ - 4	48	NA	NA	NA	NA	NA	220	NA	NA	NA	NA
EB-57	0 – ½	21	NA	NA	NA	NA	NA	83	NA	NA	NA	NA
EB-57	1 – 1 ½	19	NA	NA	NA	NA	NA	110	NA	NA	NA	NA
EB-57	2 - 2 ½	22	NA	NA	NA	NA	NA	130	NA	NA	NA	NA
EB-58	0 – ½	27	NA	NA	NA	NA	NA	110	NA	NA	NA	NA
EB-58	1 – 1 ½	7.7	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-58	2 - 2 ½	7.1	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
EB-59	0 – ½	42	NA	NA	NA	NA	NA	72	NA	NA	NA	NA
EB-59	1 – 1 ½	100	NA	NA	NA	NA	NA	15	NA	NA	NA	NA
EB-60	0 – ½	91	NA	NA	NA	NA	NA	420	NA	NA	NA	NA
EB-60	1 – 1 ½	160	NA	NA	NA	NA	NA	540	NA	NA	NA	NA
EB-61	0 – ½	72	NA	NA	NA	NA	NA	320	NA	NA	NA	NA
EB-61	1 – 1 ½	11	NA	NA	NA	NA	NA	15	NA	NA	NA	NA
Residential CHHSL[2]		0.07	5,200	1.7	17/100,000[3]	660	3,000	150	1,600	530	23,000	18

1 Other CAM 17 metals were not detected above their laboratory reporting limits
2 California Human Health Screening Level – California EPA, January 2005
3 Chromium VI/Chromium III
< Indicates that the compound was not detected at or above the stated laboratory reporting limit
NA Indicates sample was not analyzed
* Depth below top of soil below asphalt and baserock. Sample depths for borings EB-1 through EB-34 listed on laboratory data sheets were from top of asphalt; asphalt/baserock observed was approximately 1 foot thick. Depths for borings EB-1 through EB-34 listed in tables have been adjusted.

Table 2A. Analytical Results of Selected Groundwater Samples Petroleum Hydrocarbons and VOCs
(concentrations in parts per billion)

Sample ID	Date	TPHo	TPHd	TPHg	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Xylenes[1]	MTBE[1]
GW-1	8/8/2007	<318	<159	<50	<0.500	<0.500	<0.500	<1.50	<0.500
GW-2	8/9/2007	<500	428	<50	<0.500	2.24	<0.500	2.46	<0.500
Drinking Water MCL[2]		NE	NE	NE	1	150	700	NE	NE

1 Other VOCs not detected
2 Maximum Contaminant Level (MCL), CDHS - March 2005
< Not detected at or above laboratory reporting limit
NE Not Established

Table 2B. Analytical Results of Selected Groundwater Samples Metals, Pesticides, and PCBs
(concentrations in parts per billion)

Sample ID	Date	Antimony[1]	Arsenic[1]	Barium[1]	Molybdenum[1]	Selenium[1]	Vanadium[1]	Zinc[1]	Mercury[1]	Pesticides	PCBs
GW-1	8/8/2007	<10	49	91	<10	18	6.4	<5	<0.2	ND	ND
GW-2	8/9/2007	**12**	20	290	14	28	6.4	5.4	0.22	ND	ND
Drinking Water MCL[2]		6	50	1,000	NE	50	NE	5000[3]	2	NA	NA

1 Other CAM 17 metals were not detected above their laboratory reporting limits
2 Primary Maximum Contaminant Level (MCL), CDHS - March 2005
3 Secondary Maximum Contaminant Level (MCL), CDHS - March 2005
< Not detected at or above laboratory reporting limit
ND Not detected at or above reporting limits
NE Not Established
NA Not Applicable
BOLD Concentration exceeds MCL

CORNERSTONE EARTH GROUP

APPENDIX C

SCREENING OF REMEDIAL ACTION ALTERNATIVES

Alternative		Screening Criteria		
Number	**Name**	**Effectiveness**	**Implementability**	**Ten Year Estimated Cost with 20% Contingency**
1	**No Action**	Not effective; it does not meet the remedial action objective.	Not implementable; will not receive regulatory approval.	$0
2	Institutional Actions and Capping with Existing Improvements	Effective in reducing risk to human health, but risk is not eliminated.	Implementable;	$12,000
3	Soil Excavation and Off-Haul	Effective; impacted soil removed from site for appropriate disposal.	Implementable;	$10.3 million
4	Excavation, Consolidation and Capping	Effective in reducing risk to human health, but risk is not eliminated.	Implementable;	$0.9 million

CORNERSTONE EARTH GROUP

APPENDIX D

OPINION OF ESTIMATED REMEDIATION COSTS

Alternative 2
Capping with Existing Improvements

Item	Frequency of Events	Cost Per Event	10-Year Cost
Preparation of Health and Safety Plan, and Soil Management Plan	1	$5,000	$5,000
Deed Restriction	1	$5,000	$5,000
	Subtotal		$10,000
	Contingency (20%)		$2,000
	Approximate Total*		**$12,000**

*The total approximated amount rounded up to the next significant figure

Alternative 3
Excavation of Impacted Material and Off-Site Disposal

Item	Frequency of Events	Cost Per Event	10-Year Cost
Preparation of Dust Control and Erosion Control Plan	1	$5,000	$5,000
Engineering Oversight and Verification Sampling During Removal Activities, Removal Action Implementation/ Completion Report	1	$200,000	$200,000
Board of Equalization – Generator Fees	1	$100,000	$100,000
Excavate, Load, Haul and Dispose of Class I Soil (CalHaz)	1	$7,000,000	$7,000,000
Provide and Place Imported Clean Soil	1	$1,200,000	$1,200,000
	Subtotal		$8,405,000
	Contingency (20%)		$1,700,000
	Approximate Total*		**$10.2 million**

*The total approximated amount rounded up to the next significant figure

CORNERSTONE EARTH GROUP

Alternative 4
Excavation, Consolidation and Encapsulation

Item	Frequency of Events	Cost Per Event	10-Year Cost
Preparation of Health and Safety Plan, Dust Control Plan, and Soil Management Plan	1	$5,000	$5,000
Engineering Oversight and Verification Sampling During Removal Activities, Removal Action Implementation/Completion Report	1	$200,000	$200,000
Excavate and Consolidate On-Site Impacted Soil in New Consolidation Cell	1	$400,000	$400,000
Construct cap over New Consolidation Cell for On-Site Soil	1	$100,000	$100,000
Deed Restriction	1	$5,000	$5,000
	Subtotal		$710,000
	Contingency (20%)		$142,000
	Approximate Total*		**$0.9 Million**

*The total approximated amount rounded up to the next significant figure

APPENDIX E

NOTICE OF EXEMPTION

CALIFORNIA ENVIRONMENTAL QUALITY ACT
RESPONSE ACTION
NOTICE OF EXEMPTION
CHECKLIST

The preliminary review for exemption begins with an examination of the types of exemption options available under the California Environmental Quality Act (CEQA)[1] and the Guidelines[2], and whether the project would fall within the definition of those options. While a project may qualify for several exemptions, two primary CEQA exemptions are available for DTSC approval of routine response action projects: Class 30 Categorical Exemption and General Rule Exemption. Based on the information provided in the project documents (e.g., Removal Action Workplan), this NOE Checklist should be completed to determine if the project qualifies for a CEQA exemption. Consultation with staff of the Office of Planning & Environmental Analysis (OPEA) may be necessary for determining the appropriateness of the proposed exemption and potentially complex (e.g., biological or cultural sensitive) issues. All supporting materials (e.g., facts, expert opinion, technical studies, databases, or other substantial evidence) for the completed Checklist should be referenced/discussed/included in the project documents or files.

PART 1. SITE BACKGROUND

Project Title: Proposed Brokaw Site, Removal Action Workplan

Project Location: The Site consists of two contiguous land parcels located at 1040, 1060, and 1080 East Brokaw Road, San Jose, California, in the Berryessa Planning Area of the City. The Berryessa Planning Area is bounded by I-880 to the west, the San Jose City Limit to the east, Landess Avenue to the north, and Berryessa Road to the south. The project site is bounded by East Brokaw Road to the north, 1633 Oakland Road to the south, the Union Pacific Railroad tracks to the west, and Oakland Road to the east.

County: Santa Clara

Project Description (Type of Project Documents and Proposed Remedies): This project involves the Department of Toxic Substances Control's (DTSC's) approval of a Removal Action Workplan (RAW) which will be carried out at the Proposed Brokaw Road Site (Site) for the excavation and on-site consolidation of soils impacted with metals, pesticides, total petroleum hydrocarbons, and PCB. The RAW has been prepared for the Site as required by the California Health and Safety Code sections 25323.1 and 25356.1(h).

Site Acreage: approximately 12-acres

Current Site Figures: There are currently three two-story commercial buildings onsite.

Current Property Owner: Markovits & Fox, Inc. is the current property owner.

Name of Project Proponent (Person or Agency) Carrying Out Project: Cornerstone Earth Group, consultant for Markovits & Fox, Inc.

Current Land Uses: Current or previous land uses include the existing two-story buildings, part of the former Markovits & Fox metal recycling facility, and agriculture (including row crops and orchards).

Proposed Land Uses: The future redevelopment plans for the Site include a new retail center and a new road.

Surrounding Land Uses: Surrounding land uses consist primarily of commercial. The adjacent site (1633 Oakland Road) is planned for redevelopment as high density residences.

[1] Pub. Resources Code, div. 13, § 21000 et seq
[2] Cal. Code Regs., tit. 14, § 15000 et seq

Sensitive Receptors, Biological or Cultural Resources: The closest distance from the impacted areas to a nearby sensitive receptor (e.g., residence and apartment) is approximately 470 feet. According to the Fox Property General Plan Amendment Environmental Impact Report (November 2006), the Site contains no known biologically or culturally significant resources nor is the Site located in an area designated as biologically or culturally significant. In the event cultural resources are found in the course of the project activities, work will be suspended while a qualified cultural resources specialist makes an assessment of the area and arrangements are made to preserve any resources that are located. If human remains are discovered at the Site, no further disturbance will occur in the location where the remains are found, and the County Coroner will be notified pursuant to Health and Safety Code section 7050.5. The Coroner will determine disposition within 48 hours. (Public Resources Code, section 5097.98).

Recent Site Investigations and Results: A Soil Quality Investigation of the Site was conducted during late 2005. A subsequent Groundwater Quality Investigation was conducted in during the Summer of 2007.

Sources of Contamination: The sources of the contamination are the former metal recycling facility which operated on the western portion of the Site (1040 East Brokaw Road) from 1964 up to approximately the mid-1980s, when the existing commercial building was built. Contamination at the Site can also be attributed to the historical agricultural use of the Site. The entire Site was used as a pear orchard prior to 1957, when development of the former metal recycling facility began. The eastern and central portions of the Site (1060 and 1080 East Brokaw Road) were not developed as part of the metal recycling facility and continued to be utilized for agriculture (row crops) until the site was developed with the two existing two-story commercial building.

Depth to Groundwater and Impact: Depth to regional groundwater was reportedly approximately 8 feet below ground surface (BGS). However, groundwater investigations conducted at the Site indicate that groundwater is encountered between 12 and 30 feet BGS. The 2007 Groundwater Quality Investigation indicated that the groundwater is slightly impacted by total petroleum hydrocarbon as diesel. None of the other Chemicals of Concern concentrations were detected higher than the Maximum Contaminant Levels.

Date of Agency Determination: DTSC determined on the January 31, 2008 remedial investigation approval that a response action was required at the Site to address the potential health and environmental risks posed by the presence of the identified soil contaminations.

Chemicals of Concern (COC): Under the RAW, the COC for the Site include; lead, chromium, cadmium, nickel, arsenic, total DDT, total petroleum hydrocarbons as motor oil (TPHmo), and PCB.

Areas of Concern: Elevated levels of: lead, up to 660 parts per million (ppm); cadmium up to 7.8 ppm; arsenic up to 140 ppm; total DDT up to 17 ppm; total petroleum hydrocarbon as motor oil up to 744 ppm; and PCB up to 7.5 ppm were detected in soils from surface to four (4) feet below ground surface (BGS) at specified areas of the Site that pose a potential threat to human health and the environment.

Response Action Objectives (RAOs): The proposed response action at the Site focuses on the excavation and consolidation of soils impacted with the COCs to reduce the overall footprint of the Area of Concern. The consolidation area will be capped and deed restricted with a Land Use Convent filed with the County of Santa Clara, reducing the threat to human health and the environment. The response action objectives (RAOs) have been established that are protective of human health and the environment and reduce the potential exposure to shallow impacted soil encountered at the Site. The RAO is to excavate all impacted soil that exceeds the human health risk criteria, based on the DTSC soil screening levels, consolidate and cap it, to prevent exposure to the excessive COC(s). Areas outside of the consolidation area will be cleaned up to unrestricted levels.

Cleanup Levels (CLs): The cleanup levels (CL) responsive to this RAO are; 146 ppm for lead, 8.95 ppm for cadmium, 148 ppm for nickel, 21 ppm for arsenic, 1 ppm for total DDT, 100 ppm for TPHd, 500 ppm for TPHmo, and 1 ppm for PCB.

Depth of Contamination: Depth of excavation typically will range up to 5 feet BGS.

Waste Volume: The estimated total excavated volume is estimated to be approximately 43,000 cubic yards. The total volume is expected to be consolidated and capped on-site. Therefore, no waste is anticipated to be transported away from the Site.

Project Schedule and Duration: Excavation, sampling, consolidation, and capping activities are expected to take at least 1 year due to the unrelated building demolition (site preparation) that is necessary to complete the project.

Site Security Measures: During the proposed excavation, no unauthorized persons (e.g. passerbys and tenants of 1060 East Brokaw building) will be allowed in the working exclusion and control zones of the Site. In addition, the Site is currently surrounded by a chain link fence to prevent unauthorized entry.

Health and Safety Measures: All field work will be completed by properly trained and equipped hazardous waste workers.

Dust Control: Excavation areas will be controlled with physical barriers (e.g., perimeter fencing), soil wetting and air monitoring (at property perimeter and work area) to avoid or control dust generation. Water will be used to control any fugitive dust from blowing onto other properties. In times of high wind conditions (e.g., wind speed in excess of 25 miles per hour), all excavation activities will cease and the Site will be stabilized. These dust control measures are consistent with the rules and best management practice requirements of the Bay Area Air Quality Management District.

Construction Control Measures: Impacted soil will be removed with a backhoe, shovels or other types of earth moving equipment. As soil is excavated, it will be temporarily stored in staging areas onsite until the consolidation area is prepared. At the staging areas, all excavated soils will be placed on an impermeable barrier and covered with tarps or other proper materials to prevent any run-on and/or dust generation. If significant rainfall is anticipated, the staging areas will be bermed to contain any run-off. During non-excavation hours, excavated soil stockpiles will be covered with plastic sheeting or other proper materials. Additional field applications will involve installation of a temporary physical barrier (e.g., kuma cap) that minimizes movement of materials from the Site by wind, water, or any other mechanism.

Waste Management Measures: Hazardous waste criteria are to determine how waste will be transported and disposed of. However, the RAW does not require offsite transportation or disposal of any hazardous waste directly associated with the project. Excavated soil will be consolidated and capped onsite and engineering controls (i.e. capping) and institutional controls (i.e. land use covenant) will be applied to the consolidation area. Based on the Site cleanup goals, prior to stockpiling/staging, the excavated soil will be segregated to the extent possible to avoid any mixture of soil meeting the Site cleanup goals and soil exceeding the Site cleanup goals. This segregation will minimize the volume of soil consolidated and its associated handling cost. The soil segregation will be based upon the site specific cleanup goals and the available sampling data. Soil exceeding the cleanup goals will be consolidated and capped in a predetermined location.

Transportation Measures: Offsite transportation of excavated soil is not anticipated. However, if offsite transportation is necessary; all hazardous soils will be shipped by a registered hazardous waste hauler under manifests or proper shipping documents to an approved Class 1 or Class II. All hazardous and non-hazardous waste soils will be shipped in tarped trucks. All vehicles will be decontaminated and inspected prior to leaving the work area to ensure that their loads are secure and contaminated soil is not tracked off-site. Transportation of contaminated soils will be on arterial streets (Oakland and East Brokaw Roads) and/or freeways (I-5, I-880 and U.S. 101) minimizing any potential impact on the local neighborhood. Trucks will be staged to avoid impacts on the local streets and timed to avoid rush traffic hours. No more than 30 trucks per day will be allowed.

Confirmation Sampling: Upon completion of the excavation work, confirmation sampling will be conducted to verify that all soils containing the COC at concentrations greater than the cleanup levels have been removed. Excavation will continue until the RAO has been achieved, i.e., until the COC in Site soil (outside of the consolidation area) is found to be less than the cleanup levels.

Major Components of the Project Document: The RAW includes an Excavation Plan, Engineering Evaluation/Cost Analysis, Health and Safety Plan, Quality Assurance Project Plan. The Remedial Design Implementation Plan will include Air Monitoring and Dust Control Plan, waste segregation procedures, and the consolidation cell construction and cap design.

PART 2. CEQA EXEMPTION STATUS: *(Select one that is applicable)*

__X__ A. **Class 30 Categorical Exemption**: A Class 30 Categorical Exemption (as specified in CCR, title 14, section 15330) shall meet the general qualification requirements and does not have any general exception condition.

General Exceptions to Class 30 (as specified in CCR, title 14, section 15300.2): ***(Select all that are applicable)***

_____ 1. Cumulative Impact: The cumulative impact of successive projects of the same type on the same place, over time is significant (see Section _____ of the RAW).

_____ 2. Significant Effect: There is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances (see Section _____ of the RAW).

_____ 3. Scenic Highways: The project may result in damage to scenic resources, including but not limited to, trees, historical buildings, rock outcroppings, or similar resources, within an officially designated State scenic highway. This does not include improvements which are required as mitigation by an adopted negative declaration or certified EIR (see Section _____ of the RAW).

_____ 4. Cortese Lists: The project is located on a site which is included on any list compiled pursuant to section 65962.5 of the Government Code. Verify through the web link http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm. (See Section _____ of the RAW).

_____ 5. Historical Resources: The project may cause a substantial adverse change in the significance of a historical resource (see Section _____ of the RAW).

Class 30 General Qualifications (as specified in CCR, title 14, section 15330): *(**Select all that are applicable**)*

__X__ 1. The project is a minor cleanup action costing $750,000 which is less than $1 million (see Section 4.2.3.3 of the RAW).

_____ 2. The project is consistent with applicable state and local environmental permitting requirements including, but not limited to: ***(Select all that are applicable)***

- _____ a. offsite disposal (see Section _____ of the RAW),
- _____ b. air quality rules such as those governing volatile organic compounds (see Section _____ of the RAW),
- _____ c. water quality standards, e.g., waste discharge requirements or storm water discharge requirements by the State Water Resources Control Board (SWRCB)or an appropriate Regional Water Quality Control Board(RWQCB) (see Section _____ of the RAW), and
- _____ d. (Type in site-specific situations) (see Section _____ of the RAW),

and approved by the regulatory body with jurisdiction over the site.

__X__3. The project will not require the onsite use of a hazardous waste incinerator or thermal treatment unit (see Section _____ of the RAW).

__X__4. The project will not require the relocation of residences or businesses (see Section 4.2.4 of the RAW).

__X__5. The project will not involve the potential release into the air of volatile organic compounds as defined in Health and Safety Code section 25123.6 (see Section 4.2.4 of the RAW).

_____ B. **General Rule Exemption**: It can be seen with certainty that there is no possibility that the project may have a significant effect on the environment, because of the relatively small waste volume (approximately _____), low level of work activity (_____, e.g., minor excavation and disposal), short project duration (_____, e.g., approximately five working days), and control measures associated with excavation and off-site disposal of the contaminated soils at the Site (see Section _____ of the RAW).

General Rule Exemption General Qualifications [as specified in CCR, title 14, section 15061(b)(3)]: *(Select all that are applicable)*

_____ 1. The activity is covered by the general exemption rule that CEQA applies only to projects which have potential for causing a significant effect on the environment.

PART 3. <u>OTHER CONSIDERATIONS WHY THE PROJECT IS EXEMPT</u>: ***(Select all that are applicable)***

_____ A. The Removal Action Workplan (RAW) has been prepared to support the decision for a land use covenant (LUC) at the Site. The LUC will restrict uses of the Site to _____ (e.g., school operations and related day care center activities) only and prohibit use of the Site as _____ (e.g., a residence, hospital, or other similar sensitive land use). The LUC will also require operation and maintenance (O&M) activities of annual inspection and reporting for DTSC's oversight, to ensure the integrity and long-term protectiveness of the LUC. This LUC removal action will not have a significant effect on the environment because the LUC will not result in any physical activities at the Site (see Section _____ of the RAW).

__X__B. As required by California Code of Regulations, title 22, division 39, section 67391.1(b), the RAW clearly (1) specifies that the limitations or controls will be incorporated into an appropriate LUC; and (2) includes a description of the implementation and enforcement provisions, including, but not limited to, frequency of owner inspections, frequency of DTSC inspections, owner reporting requirements; necessary to ensure the integrity and long-term protectiveness of the LUC (see Section 6.7 of the RAW).

_____ C. (Type in site-specific situations, e.g., air monitoring, noise/dust control, transportation plan) (see Section _____ of the RAW).

PART 4. <u>NOE DETERMINATION:</u> ***(Select one that is applicable)***

☒ The project qualifies for an exemption. The Project Manager should begin preparation of draft a draft NOE using a suitable NOE template.

☐ The project does not qualify for any exemption specified in CEQA or the CEQA Guidelines. The Project Manager should begin preparation of draft Initial Study following guidance provided in the *<u>California Environmental Quality Act Initial Study Workbook</u>*.

PART 5. NOE PROCESS MONITORING AND ASSISTANCE

OPEA will monitor the NOE process to ensure DTSC statewide consistency and compliance with the requirements of CEQA and the Guidelines. Questions concerning this NOE Checklist or specific requests for NOE assistance can be directed to Guenther W. Moskat, Chief - OPEA at gmoskat@dtsc.ca.gov or (916) 322-8955 for assignment to an Environmental Planner.

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth St., Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Site Mitigation and Brownfield Use Program
700 Heinz Avenue, Suite 200
Berkeley, California 94710

Project Title: Removal Action Workplan

Project Location: The project is located at 1040, 1060, and 1080 East Brokaw Road, San Jose, 95131, Santa Clara County.

Project Description: Approval of a Removal Action Workplan (RAW) by the Department of Toxic Substances Control (DTSC) pursuant to Health & Safety Code, chapter 6.8 as submitted on March 10, 2008 by Cornerstone Earth Group, on behalf of the Riding Group. The RAW focuses on soil excavation, consolidation, installation of a containment cap, and the implementation of a land use covenant (LUC) to mitigate soil impacted with excessive levels of metals, Dichloro-Diphenyl-Trichloroethane (DDT), total hydrocarbons (TPH), and polychlorinated biphenyl (PCB) onsite. The purpose of the project is to mitigate impacted soils that exceed the project-specific human health risk criteria to minimize human exposure to and migration of the identified chemicals of concern (COCs). The estimated volume of impacted soils is 43,000 cubic yards. The cleanup levels for these COCs are: 146 ppm for lead, 8.95 ppm for cadmium, 148 ppm for nickel, 21 ppm for arsenic, 1 ppm for total DDT, 100 ppm for TPHd, and 500 ppm for TPHmo. Cleanup levels are based on the December 2003 Human Health Risk Assessment prepared for the adjacent Oakland Road Site (1633 Oakland Road, San Jose CA). The engineering controls include installation of a containment cap over the consolidation area. Upon completion of the RAW, the engineering controls remedy requires long-term operation and maintenance (O&M) activities and land use covenant (LUC). Prior to site certification, an O&M Agreement and land use covenant (LUC) between the property owner and DTSC is required to implement the O&M activities in accordance with an approved O&M Plan under DTSC oversight Project activities will commence in the Spring 2008 and are expected to take approximately 12 months to complete.

Name of Public Agency Approving Project: California Environmental Protection Agency, Department of Toxic Substances Control

Name of Person or Agency Carrying Out Project: Proponent, Markovits & Fox, Inc., 14125 Capri Drive, Los Gatos, California 95032. Contractor, Cornerstone Earth Group, 1259 Oakmead Parkway, Sunnyvale, California 94085.

Exemption Status:

☒ Class 30 Categorical Exemption: Cal. Code Regs., tit. 14, §15330
☐ General Rule: Cal. Code Regs., tit. 14, §15061(b)(3)

Reasons Why Project is Exempt:

DTSC has determined that the project is a Class 30 categorical exemption project (as provided in California Code of Regulations, title 14, sections 15300.2 and 15330) and is, therefore, exempt from the provisions of California Environmental Quality Act (CEQA) and the Guidelines for the following reasons:

1. The project is a cleanup action to be taken to prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of a hazardous waste or substance.
2. The project is a removal action costing $1 million or less.
3. The project will not be located on a site which is included on any list compiled pursuant to Cal. Gov. Code § 65962.5 (http://calepa.ca.gov/sitecleanup/corteselist/default.htm)
4. The project will not have a significant effect on the environment due to unusual circumstances.
5. The project will not result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway.
6. The project will not cause a substantial adverse change in the significance of a historical resource.
7. The project will not require onsite use of a hazardous waste incinerator or thermal treatment unit.

8. The project will not require the relocation of residences or businesses.
9. The project will not involve the potential release into the air of volatile organic compounds as defined in Health and Safety Code section 25123.6.
10. The cumulative impact of successive projects of the same type on the same place, over time, if there are any, will not be significant.
11. The project will be consistent with applicable State and local environmental permitting requirements including, but not limited to: (a) offsite disposal; (b) water quality standards, e.g., waste discharge requirements or storm water discharge requirements issued by the State Water Resources Control Board or an appropriate Regional Water Quality Control Board; (c) air quality rules such as those governing volatile organic compounds and approved by the regulatory body with jurisdiction over the Site.

Evidence to support the above reasons is documented in the project file record, available for inspection at:

Department of Toxic Substances Control
Site Mitigation and Brownfield Reuse Program
700 Heinz Avenue
Berkeley, California 94710

APPROVALS

Xavier Bryant	Hazardous Substances Scientist	510-540-3835
Project Manager Name	Project Manager Title	Phone #
Barbara J Cook		4/23/08
Branch Chief Signature		Date
Barbara Cook	Supervising Hazardous Substances Engineer II	510-540-3843
Branch Chief Name	Branch Chief Title	Phone #

TO BE COMPLETED BY OPR/SCH ONLY
Date NOE Filed:

APPENDIX F

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

PUBLIC COMMENTS RECEIVED ON THE DRAFT REMOVAL ACTION WORKPLAN AND NOTICE OF EXEMPTION FOR THE BROKAW ROAD SITE APRIL 2008

I. Introduction

The purpose of this document is to respond to comments received regarding the draft Removal Action Workplan (draft RAW), and the Notice of Exemption, the Brokaw Road Site, located at 1040, 1060, and 1080 East Brokaw Road, San Jose, Santa Clara County, California. No comments were received during a 30-day public comment period which ran from March 17, 2008 through April 16, 2008.

Notices of the comment period were placed in the information repository located at the San Jose City Public Library, Educational Park Branch, Resource Section, located at 1770 Educational Park Drive, San Jose, California. A Public Notice was also published in the San Jose Mercury Newspaper on March 17, 2008. A fact sheet, dated March 2008, which discusses the draft RAW and Notice of Exemption, was mailed to local residents and other interested parties on March 14, 2008. Copies of the fact sheet and display advertisement are included in Attachment A.

The draft RAW proposed the excavation of soil exceeding residential and/or background concentrations of Chemicals of Concern (COC) detected at the Site and consolidating it into a smaller area (consolidation cell) at the Site. Confirmation sampling will be performed to verify that soils exceeding the established cleanup goal have been excavated. Furthermore, under the selected remedy impacted soil from the Old Oakland Road Site, as measured by the same criteria, would also be consolidated into the consolidation cell. Consolidating the impacted soils from the two Sites would allow unrestricted land use for the remaining portion of the Brokaw Road Site and the entire Old Oakland Road Site. The selected remedy also requires that a Land Use Covent (LUC) be executed for the consolidation cell on the Brokaw Site, restricting its land use to commercial or industrial and requiring any excavation activities disturbing the capped soil have prior approval from the Department of Toxic Substances Control.

The purpose of this Responsiveness Summary is to present a written response by DTSC to the comments received on the draft RAW. DTSC did not receive any comments on the draft RAW or the Notice of Exemption. This Responsiveness Summary is included in the Final RAW.

This Responsiveness Summary is organized as follows:

- Section I is the introduction.
- Section II lists the comments received and provides responses to those comments.
- Attachment A provides copies of the Fact Sheet and display advertisements.

Copies of the Final RAW and other site-related documents are available for review at:
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721
(510) 540-3800

Hours: By appointment
Monday through Friday
8:00 a.m. to 5:00 p.m.
(closed on State holidays)

II. Comments and Responses

DTSC did not receive any comments on the draft RAW during the 30-day comment period.

4/22/08

Prepared by: Xavier Bryant, Project Manager — Date
Northern California Coastal
Cleanup Operations Branch

4/23/08

Approved by: Barbara J. Cook, P.E., Chief — Date
Northern California Coastal
Cleanup Operations Branch

RESPONSIVENESS SUMMARY

DRAFT REMOVAL ACTION WORKPLAN
PRECISION MEDIA SITE

ATTACHMENT A

Fact Sheet and Display Advertisement

Fact Sheet, March 2008

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

The mission of the Department of Toxic Substances Control is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

Brokaw Road Site Removal Action Workplan Available For Review

The Department of Toxic Substances Control (DTSC) is announcing a 30-day public comment period for a draft plan to excavate contaminated soil and consolidate the soil at the Brokaw Road Site (Site). The draft plan, called a Removal Action Workplan or RAW, is for the Brokaw Road Site located at 1040, 1060, and 1080 East Brokaw Road in San Jose, California. (See Site Map on page 4.)

Why Cleanup Is Necessary

Elevated levels of chemicals were detected in the soil at the Brokaw Road Site above Residential Standards. The chemicals include metals, such as arsenic and lead, and other chemicals, such as DDT, PCBs and petroleum hydrocarbons from diesel and motor oil. These elevated levels of chemicals can cause adverse health effects, therefore, DTSC recommends that the Brokaw Road Site prepare a cleanup plan to excavate and consolidate the contaminated soil to protect the future occupants of the property. DTSC will oversee the cleanup action and ensure that it is performed in a manner that does not harm human health or the environment.

A draft RAW has been prepared for the Brokaw Road Site. The Draft RAW and other related project documents for this site are available for review and public comment at the locations listed on page 3. Your participation is encouraged during the 30-day public comment period. We will make a final decision after all public comments have been reviewed and considered.

PUBLIC NOTICE PERIOD

March 17, 2008 to April 16, 2008

We encourage you to review and comment on the draft RAW for the Brokaw Road Site. The public comment period is from March 17, 2008 to April 16, 2008. Please submit written comments in the enclosed postage paid envelope postmarked by April 16, 2008. E-mail comments must be received no later than 5:00 pm on April 16, 2008. Please submit written comments to:

Xavier Bryant, DTSC Project manager,
700 Heinz Avenue, Berkeley, California 94710
or by e-mail Xbryant@dtsc.ca.gov

For information regarding public involvement, contact Richard A Perry, Public Participation Specialist by email, rperry@dtsc.ca.gov or phone (510) 540-3910.

Si desea información en español, comuniquese con Jacinto Soto al

510-540-3842 o número gratis 1-866-495-5651

State of California

CalEPA

History and Operations at the Site

In 1957, Markovits & Fox, Inc. purchased a 30-acre pear orchard that continued to operate until 1963. In 1963 most of the orchard was redeveloped as a metal recycling facility, which began operation in 1964. The north eastern portion of the property located at 1060 and 1080 East Brokaw Road remained undeveloped and continued in agricultural use until 1998. The metals recycling operations included sorting, shredding, and compressing of metals.

During construction of the facility, a waste consolidation cell was excavated approximately 330 feet by 120 feet and 15 feet deep in the western portion of the site. A consolidation cell is a method for final disposal of solid waste on land. In this case construction and operation waste was placed in the consolidation cell. Solid wastes disposed of in the consolidation cell include: paper and plastic packaging, wire, metal shavings, wood, glass, concrete, tires, and cloth. Wastes were disposed of in the consolidation cell until approximately 1970. The wastes were placed in layers covered by soil; with each layer compacted. The consolidation cell was capped with soil and then paved over in the early 1970's The western portion of the site remained unpaved and was used for the bulk storage of metal scrap. The remainder of the site was paved with asphalt or concrete

In the early 1980s, after the construction of Brokaw Road the northern portion, north of the railroad spur, was divided from the metal recycling operation and was redeveloped with a commercial office building at 1040 East Brokaw Road. The central and eastern portions of the site, 1060 and 1080 East Brokaw Road remained undeveloped, until the late 1990s, when the two existing commercial office buildings were constructed.

Environmental Investigations

Based on site remedial investigations conducted in November and December 2005 and June 2007, soil contamination caused from the past industrial and agricultural uses of the site was found to be impacting the soil and groundwater at the site

Proposed Cleanup Options

The following four cleanup options have been considered for this site. Complete details of the removal action alternatives are listed in Section 4 of the Draft RAW.

Alternative 1 – No Action: This alternative consists of conducting no remedial work at the site. Consideration of the "no action" alternative is required by law and serves as a comparison to other alternatives.

Alternative 2 – On-Site Capping and Land Use Covent (LUC): Under this alternative, the existing asphalt areas and building foundations would be maintained over the entire site and would serve to eliminate direct-contact exposure to soil This alternative leaves the contaminated soil on the site. A LUC would be required to restrict future land use and construction activities at the site.

Alternative 3 – Soil Excavation and Off-Site Disposal for Unrestricted Land-use: Under this alternative, the contaminated soil would be excavated and disposed of off-site. Sampling would occur to confirm that remaining soil is below residential construction goals. The excavation would be backfilled with DTSC approved clean soil. Future land use would not have any restrictions.

Alternative 4 – Excavation, Consolidation, and On-Site capping: Under this alternative, on-site soils and soils from the adjacent 1633 Old Oakland Road parcel with chemicals of concern exceeding unrestricted cleanup goals will be excavated and consolidated in a consolidation cell constructed in the northern portion of the site. The new consolidation cell will be approximately 15 feet deep.
Approximately 43,000 cubic yards of on-site soil and approximately 65,000 cubic yards of soil from 1633 Old Oakland Road will be consolidated in the consolidation cell. A soil cap of at least 2-feet thick would then be placed over the new consolidation cell.

The future uses of the consolidation cell area would be limited to commercial/industrial uses

DTSC Recommendation

Based on careful analysis of the options, DTSC recommends Alternative 4, excavation, consolidation, and capping. This alternative protects human health and the environment, is permanent and has a reasonable cost.

If Alternative 4 is selected, the contaminated soil will be dug out using backhoes, bulldozers, shovels or other type of earth moving equipment. The soil will be temporarily stockpiled onsite until construction of the consolidation cell is complete. The contaminated soil will then be placed in the consolidation cell and the surface of the consolidation cell will be capped with at least two feet of clean fill and an asphalt or concrete finish. After the contaminated soil is excavated, soil samples will be collected to verify that the contaminated soil has been removed and placed into the consolidation cell. The consolidation area will be deed restricted, limiting future uses to commercial or industrial. Groundwater monitoring will be required.

Safety & Dust Control during Cleanup

If Alternative 4 is selected, the following actions will be implemented during this process to ensure public safety and minimize dust:

- Installing temporary fencing with windscreens for security and dust control
- Driving all vehicles at slow speeds while on the property
- Spraying of work areas with clean water to control dust
- Truck tires entering and exiting the site will be brushed to remove soils and debris
- Monitoring the air at the site to ensure the amount of dust stays at safe levels

Proposed Transportation Route for Trucks

The traffic impact associated with this project if Alternative 4 is approved is expected to be minimal. The following truck route will be followed: Highway 101, right onto Brokaw Road, right on Oakland Road to Highway 101 or by Interstate 880, left onto Brokaw Road. The site cleanup activities will be conducted Monday thru Saturday between 9 AM to 4 PM.

California Environmental Quality Act

In compliance with the California Environmental Quality Act (CEQA), DTSC has prepared a draft Notice of Exemption (NOE) for this project. The NOE states that the proposed cleanup will not have a significant negative effect on human health and the environment because of the relatively short duration and the controlled way in which the contaminated soils will be dug out, consolidated on-site and contained by capping in the consolidation area.

Next Steps

At the close of the public comment period, DTSC will review and consider all comments received and make any necessary revisions to the Draft RAW prior to final approval. Also, a Response to Comments document will be mailed to everyone who makes a comment or requests one. The site cleanup is expected to start in spring 2008, and may take up to one year to complete. This includes demolition of the existing buildings. After the excavation portion of the cleanup process is completed, soil testing will be completed to confirm cleanup goals have been reached.

Where to Find the Documents

The Draft RAW and other related documents for the Brokaw Site are available for review at the following locations:

San Jose Library, Educational Park Branch
(Resource Section)
1770 Educational Park Drive
San Jose, California
Phone: (408) 272-3662 Call for available hours

Department of Toxic Substances Control
File Room
700 Heinz Avenue
Berkeley, CA 94703
Call for an appointment at (510) 540-3800
Hours: 8 a.m. – 5 p.m. Monday – Friday

Site documents are also available at: www.envirostor.dtsc.ca.gov. For your review, a computer is available in the DTSC file room for your use.

Who to Contact for Information

If you have any questions about the project or cleanup activities, please contact:

Xavier Bryant, DTSC Project Manager
(510) 540-3835 or by e-mail xbryant@dtsc.ca.gov

Richard A Perry, DTSC Public Participation
(510) 540-3910 or by e-mail rperry@dtsc.ca.gov

Members of the media, please contact:
Jeanne Garcia, DTSC Public Information Officer
(818) 717-6573 or by e-mail jgarica1@dtsc.ca.gov

Notice to Hearing-Impaired Individuals

TDD users can use the California Relay Service at (888) 877-5378. Please ask to speak to Richard Perry at (510) 540-3910.

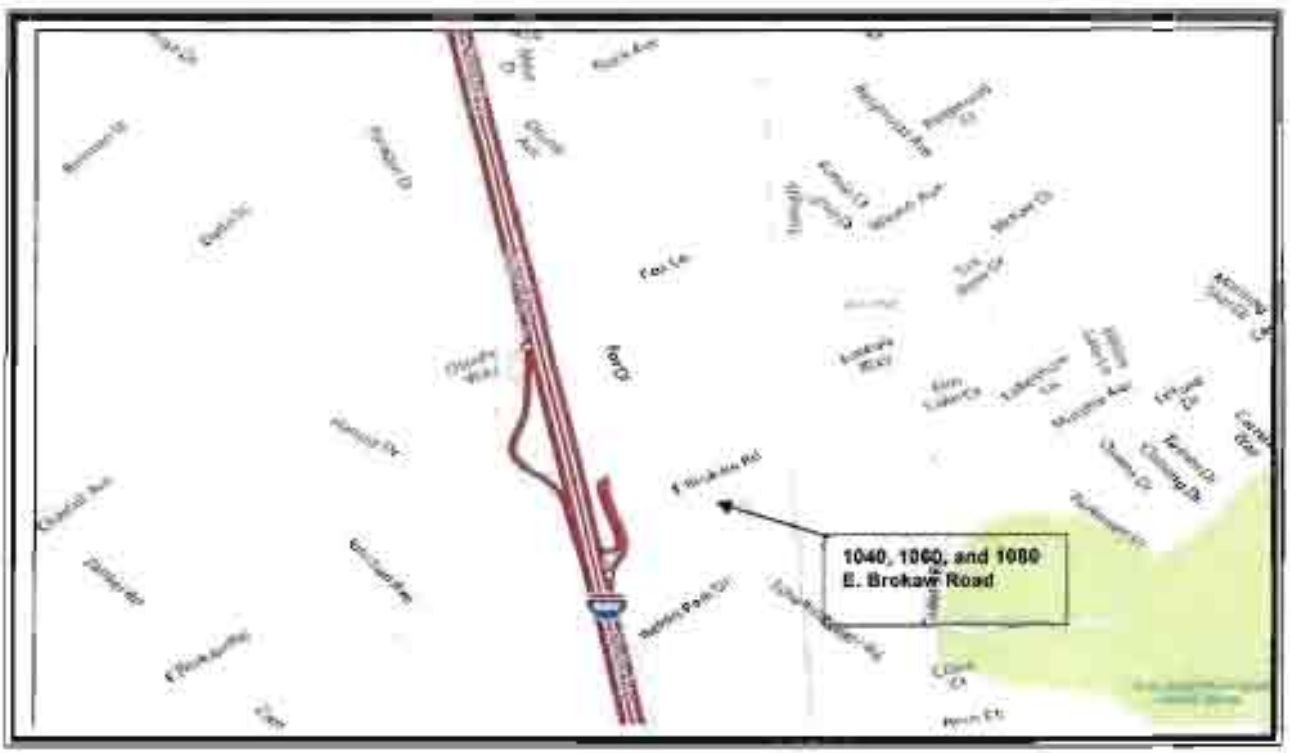


Figure 1
Brokaw Site Map

4:10, 7:40. Untraceable 1:30, 4:25, 7:15, 9:40. Welcome Home Roscoe Jenkins 1, 1:55, 3:50, 5, 6:50, 7:55, 9:55.

12:30, 1:35, 2:30, 3:30, 4:30, 5:30, 7:10, 8:30, 9:30, 10:30. Juno 11:35, 2:05, 4:40, 7:15, 9:55. Meet the Spartans 11:40, 1:55, 4:10, 6:25, 8:45, 10:50. Rambo 10:35, 10:40. The Spiderwick

Butterfly (La Scaphandre et le papillon) 1:40, 4:25, 7:10, 10. In Bruges 12:40, 2:10, 3:30, 4:50, 6:10, 7:30, 8:50, 10:05. Juno 12:20, 2:35, 4:55.

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CHECK THE ONLINE GUIDE FOR TIMETABLE AND SHOWTIMES

NOTICE OF PUBLIC COMMENT PERIOD
DRAFT REMOVAL ACTION WORKPLAN
FOR BROKAW ROAD SITE

San Jose, California

PUBLIC COMMENT PERIOD

March 17, 2008 through April 16, 2008

WHAT'S BEING PROPOSED?

The Department of Toxic Substances Control (DTSC) announces a 30-day public comment period on a proposed cleanup plan, called a draft Remedial Action Plan or draft RAW, prepared for a site located at 1040, 1060 and 1080 East Brokaw Road (site) in San Jose, California.

Environmental investigations conducted for the purposes of future redevelopment of the site indicate that the soil in some on-site locations and groundwater beneath the site contain metals, pesticides and petroleum hydrocarbons.

The draft RAW describes previous investigations conducted at the site, evaluates cleanup options and recommends a preferred method to cleanup site soils and groundwater. The preferred method includes excavation, consolidation and on-site capping of soils. Under this alternative, 43,000 cubic yards of on-site soil and 65,000 cubic yards of soil from the adjacent 1633 Old Oakland Road parcel will be excavated and buried in a consolidation cell constructed in the northern portion of the site; the new consolidation cell will be approximately 15 feet deep. A soil cap of at least two-feet thick would then be placed over the new consolidation cell and the cap would be inspected annually to ensure its integrity. The future uses of the consolidation cell area would be limited to commercial/industrial uses.

A Notice of Exemption (NOE) for the draft RAW has been prepared in accordance with the California Environmental Quality Act (CEQA). The NOE states that it is DTSC's finding that the proposed cleanup would have no impact on the environment or community.

WHY THIS NOTICE?

The purpose of this notice is to provide you with the opportunity to learn more about the project and to provide comments to DTSC, concerning the proposed soil removal action, within thirty (30) days of this notice.

WHERE DO I GET MORE INFORMATION?

The draft RAW, NOE, and other site-related documents are available for public review at the information repositories listed below:

San Jose Library
Education Park Branch – Resource Section
1770 Educational Park Drive
San Jose, California
(408) 272-3662

Department of Toxic Substances Control – File Room
700 Heinz Avenue
Berkeley, California 94710
(510) 540-3800

HOW DO I PARTICIPATE?

The public is invited to comment on the Draft RAW and associated NOE during the public comment period which runs from March 17, 2008 to April 16, 2008. Written, electronic and verbal comments will be accepted and should be addressed to the individual below:

Xavier Bryant - Project Manager
Dept. of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710
(510) 540-3835
xbryant@dtsc.ca.gov

All comments must be received and/or postmarked
no later than April 16, 2008

WHO CAN I CONTACT FOR MORE INFORMATION?

For more information about the site and related documents please contact Xavier Bryant, DTSC Project Manager at the address and numbers above. For questions regarding the public participation process please call Richard Perry, DTSC Public Participation Specialist, at (510) 540-3910 or email him at rperry@dtsc.ca.gov. For media inquiries, please contact Jeanne Garcia at (818) 717-6573 or email her at jgarcia1@dtsc.ca.gov.

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DEFINITELY, MAYBE (PG-13) 5-10:20
DOOMSDAY (R) 11:15-12:20-1:55-3:15-4:35-6:50-7:15-8:25-10
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FUNNY GAMES (R) 1:40-4:20-7
SLEEPWALKING (R) 2-4:50-7:3

APPENDIX E-4
BROKAW ROAD REMEDIAL DESIGN AND IMPLEMENTATION PLAN

CORNERSTONE EARTH GROUP

Type of Services	**Remedial Design and Implementation Plan**
Location	**1040, 1060 and 1080 East Brokaw Road San Jose, California**
Client	**Markovits & Fox, Inc.**
Client Address	**14125 Capri Drive Los Gatos, California 95032**
Project Number	**114-1-12**
Date	**July 15, 2009**

PROFESSIONAL GEOLOGIST
PETER M. LANGTRY
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Principal Geologist

REGISTERED PROFESSIONAL ENGINEER
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CORNERSTONE EARTH GROUP

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Type of Services	**Remedial Design and Implementation Plan**
Location	**1040, 1060 and 1080 East Brokaw Road San Jose, California**

SECTION 1: INTRODUCTION

1.1 PURPOSE

This Remedial Design and Implementation Plan (RDIP) provides technical and operational guidelines for the soil mitigation action activities described in the April 29, 2008 Removal Action Workplan (RAW) (Cornerstone Earth Group, 2008) for 1040, 1060, and 1080 East Brokaw Road (Site) in San Jose, California (Figures 1 and 2) (Site). Markovits & Fox, Inc. entered into a voluntary cleanup agreement (VCA) (HSA-A 05/06-194) with the Department of Toxic Substances Control (DTSC) for investigation and remediation of the Site (March 13, 2007).

On-Site cleanup activities will be performed in conjunction with cleanup activities on adjacent 1633 Oakland Road, in accordance with a RAW (Lowney Associates, 2004) and RAW Addendum (TRC Lowney, 2006) approved by DTSC. In addition, a portion of the consolidation cell described in this RDIP extends onto 1633 Oakland Road. For the purpose of this RDIP, 1633 Oakland Road is considered part of the Site.

1.2 SITE BACKGROUND

The Site is located at 1040, 1060, and 1080 East Brokaw Road and 1633 Oakland Road in San Jose, California. The assessor's parcel numbers for the Site are 237-3-61 (1040 East Brokaw Road), 237-3-69 (1060 and 1080 East Brokaw Road) and 237-3-70 (1633 Oakland Road) (Figure 2). The Site currently is occupied by two 2-story commercial buildings, at-grade pavements and landscape areas. The parcel is bounded by East Brokaw Road to the north, Oakland Road to the east, railroad tracks to the west and 1633 Oakland Road to the south.

The first use of 1040 East Brokaw Road appears to have been a pear orchard prior to 1956, when purchased by Markovits & Fox. By 1965 the Site was occupied by row crops. However, a portion of the Markovits & Fox metals recycling facility located at 1633 Oakland Road (off-Site but adjacent to the south) appeared to extend onto the general area of 1040 East Brokaw Road, based on aerial photographs from 1971, 1974 and 1982. The former metals recycling operations reportedly included sorting, shredding, and compressing of ferrous and non-ferrous metals. An area of buried debris associated with the former metals recycling operations formerly was located on 1040 E. Brokaw Road. Prior to construction of the 1040 E. Brokaw Road office building in 1984 the debris was removed and the excavation was backfilled with engineered fill using imported soil and on-site soil.

The 1040 East Brokaw Road building reportedly was occupied by Anthem Electronics (1985 to 1991), Trace Mountain Products, Inc., (1991 to 1998) and Silicon Motion (1999) as offices and an electronics research, development and distribution center (TRC Lowney, 2006). The building was demolished in April through May 2008; this area currently is capped with compacted gravel.

1060 and 1080 East Brokaw Road appeared as orchards prior to 1956 and then row crops from the 1970's until approximately 1980 and remained cleared and vacant until 1998 when the existing buildings were constructed. ST Microelectronics currently occupies the 1060 East Brokaw Road building (1998 to present) for general offices and electronics research and development. The 1080 East Brokaw Road building was occupied by TCI of California (1998-1999), AT&T (2000-2002) and Comcast (2003-2005) for general office space and a data call center. Significant quantities of hazardous materials do not appear to have been used in the three on-Site buildings; diesel fuel for an emergency generator was used at 1080 East Brokaw Road. An approximately 350 gallon above-ground storage tank (AST) formerly used to store diesel fuel is located on-top of the generator. The AST was cleaned and locked-out in 2002 under the City of San Jose Fire Department oversight when the facility was vacated. In addition, there have been no reported releases associated with the diesel AST (TRC Lowney, 2006). The AST will be removed in accordance with regulatory agency requirements when the 1080 East Brokaw Road building is demolished.

1.3 PLANNED DEVELOPMENT

The approximately 3.2-acre 1040 E. Brokaw Road will be combined with 1060 and 1080 E. Brokaw Road and approximately 3 to 4 acres of 1633 Oakland Road and developed into an approximately 13 to 14-acre retail/commercial center, which will include asphalt parking, landscaping and a private open space. The private open space will be a combination of pavements, landscapes and hardscapes. The existing office buildings at 1060 and 1080 E. Brokaw Road will remain for continued commercial use. The property boundary between the E. Brokaw Road parcels and 1633 Oakland Road will be adjusted, as shown on Figure 3. Residences will occupy the remainder of the 1633 Oakland Road parcel (approximately 14 to 15 acres).

A land-use covenant/deed restriction will be placed on Consolidation Cell A (CCA) and Consolidation Cell B (CCB) limiting land use to commercial/retail, parking, landscapes, hardscapes, private roads, and private open space/recreation center uses and prohibiting use as a residence, school, hospital, hospice, or daycare center. In addition, a land-use covenant/deed restriction also will be placed on the remainder of parcel 237-3-69, currently occupied by the 1060 and 1080 E. Brokaw Road office buildings, also limiting land use to commercial/retail, parking, landscapes, hardscapes, private roads, and private open space/recreation center uses and prohibiting use as a residence, school, hospital, hospice, or daycare center.

1.4 SITE CONTAMINATION AND REMEDIAL GOALS SUMMARY

Based on previous Site investigations summarized in the RAW, the chemicals of concern (COCs) identified in Site soil (chemicals exceeding residential screening levels) consist of polychlorinated biphenyls (PCBs), dichloro-diphenyl-trichloroethane (DDT), arsenic, cadmium, chromium, lead, nickel, and total petroleum hydrocarbons in the diesel (TPHd) and motor oil (TPHmo) ranges (Cornerstone Earth

Group, 2008). TPHd was also identified as a COC in ground water. The cleanup goals for COCs identified for the Site are summarized in Table 1.

Table 1. Cleanup Goals

Contaminant	Commercial Cleanup Goal (ppm)	Unrestricted Cleanup Goal (ppm)
Arsenic	21	21
Cadmium	1,255	8.95
Chromium III	117,000	100,000
Lead	750	146
Nickel	20,695	148
Total DDT	10.1	1.0
PCBs	10	1.0
TPHd	100*	100*
TPHmo	1,000	500

* Cleanup goal for TPHd in ground water is 100 ppb

1.5 DESCRIPTION OF SELECTED REMEDIAL ALTERNATIVE

The RAW presented the evaluation of four remedial alternatives for the Site. The selected remedial alternative consists of the consolidation on-Site of soils exceeding unrestricted cleanup goals in consolidation cells (CCA and CCB).

Soil exceeding the unrestricted cleanup goals beneath 1040 E. Brokaw Road was consolidated in CCA prior to construction of the former 1040 E. Brokaw Road building in 1984; the horizontal and vertical extent of this soil are discussed further in Section 2. Soil exceeding unrestricted cleanup goals from 1633 Oakland Road will be placed in CCB by 2010. The consolidation cells will be located in the planned retail, commercial, parking, hardscape and private open space area of the Site (Figure 3).

The office buildings and a portion of the parking areas of 1060 and 1080 E. Brokaw Road will remain in-place for continued commercial use; contaminants of concern previously detected in the soil beneath 1060 and 1080 E. Brokaw Road are capped beneath the existing buildings and adjacent parking areas.

Approximately 5,000 cubic yards of soil from 1040 E. Brokaw Road, approximately 8,000 cubic yards of soil excavated from the parking area on the south side of 1040, 1060 and 1080 E. Brokaw Road, and approximately 75,000 cubic yards of soil excavated from 1633 Oakland Road will be consolidated in CCB (approximate total of 88,000 cubic yards). CCB will be designed to store 95,000 cubic yards of material in the event more impacted soil is encountered than originally anticipated. A low permeability cap would be placed over CCA and CCB in compliance with the requirements of Toxic Substances Control Act (TSCA) 40 CFR Chapter 1 §761.61 (a). Capping, land use covenants, and Operation and Maintenance Plan (OMP) would be limited to the area of the consolidation cell. After placement of the cap there would be no

significant contact with underlying soil. No long-term management plans would be required for areas other than the consolidation cell. Additional details regarding the engineering design of CCB are presented in Sections 3.11.4 and 3.11.5.

The following institutional controls and monitoring will be implemented for the consolidation cell area.

- A land-use covenant/deed restriction will be placed on the consolidation cell areas. Land overlying the consolidation cell would be limited to retail/commercial use, parking area, landscaping, private roads, and private passive open space/recreation center by a deed restriction. The deed restriction will prohibit sensitive land use such as a residence, school, hospital, hospice, or daycare center.

- An Operations and Maintenance Agreement (OMA) and Operations and Maintenance Plan (OMP) would be required to provide guidelines for the management of residual contaminants in soil in the consolidation cell area. The OMP will include a Site Management Plan (SMP). The SMP will include practices and work procedures for activities involving the impacted material; access limitations; safety measures for future maintenance and/or construction workers; as well as notification processes to future occupants or contractors that may perform intrusive earthwork. In addition, the SMP would include a discussion of long-term risk to human health and long-term compliance with the OMP including an annual inspection of the cap by DTSC staff. The SMP also will include storm water pollution controls, which must be implemented in accordance with the site-specific storm water pollution prevention plan (SWPPP).

- A Site-specific health and safety plan would be required to be prepared prior to initiation of subsurface construction activities at the Site. Construction workers at the Site would be required to have the appropriate California Occupational Safety and Health Administration (OSHA) health and safety training (40-hour HAZWOPER training).

- Ground water quality will be evaluated in the consolidation cell area for a minimum of one year.

SECTION 2: APRIL 2008 SOIL QUALITY EVALUATION – 1040 E. BROKAW ROAD

The April 29, 2008 RAW described the location of the consolidation cell within the footprint of 1040 E. Brokaw Road (CCA). In accordance with the RAW, soil quality was evaluated during April 2008 to help determine the depth of soil with COCs detected above the unrestricted Site cleanup goals within the consolidation cell footprint.

2.1 SUBSURFACE EXPLORATION AND SOIL SAMPLING

Our field geologist directed a subsurface investigation, logged, and sampled 45 exploratory borings to a depth of approximately 15 feet. One boring was drilled for each approximately 2,500 square feet of consolidation cell excavation area using an approximately 50 by 50 foot grid. The subsurface investigation was performed using a hydraulic coring rig equipped with a dual-wall core-sampler. Soil samples collected from the upper approximately 5 to 8 feet were selected for laboratory analyses; deeper soil samples were analyzed, as needed, to help determine the total depth of soil with COCs exceeding unrestricted Site cleanup goals. The approximate boring locations are shown on Figure 4.

2.1.1 Subsurface Materials

Fill generally consisting of gravel, gravely clay and silty clay was observed in exploratory borings located generally within the footprint of the former 1040 E. Brokaw Road office building. Fill depths beneath the former building ranged from approximately 7 feet to greater than 15 feet, the total depth explored. Native soils observed consisted of brown to olive brown clay. Ground water was not observed in the borings.

An approximately 1-foot thick layer of debris was observed at a depth of approximately 11 feet in boring B1. The debris generally consisted of plastic fragments and some metal shavings. The debris was not encountered in any other borings, including borings C1, B2 or A2, located approximately 50 to 75 feet east, south and southwest. Boring B1 was located near the perimeter of the exploration area; no borings were located between boring B1 and E. Brokaw Road approximately 30 feet to the north of the boring. Mr. Marvin Fox of Markovits & Fox reported that debris was removed prior to the construction of the former office building at 1040 E. Brokaw Road. The thin layer of debris observed appears to be a pocket of remnant debris that is limited in lateral and vertical extent. Based on the nature of the debris observed and the limited extent of the debris, the debris is not likely a significant source of methane or a significant threat to ground water quality. No further investigatory work is recommended.

2.2 LABORATORY ANALYSES

Soil samples collected at a depth of approximately 1 to 1 ½ foot and subsequent 1 foot depth intervals from each boring were submitted to a state certified laboratory. Based on the previous investigation, arsenic and/or lead were typically elevated along with the other contaminants of concern. To help reduce analytical costs, the soil samples collected from the upper five depth intervals in each boring were analyzed for total lead and arsenic (EPA Test Method 6000). Based on these initial results, the shallowest soil sample from each boring that did not exceed the unrestricted cleanup goals for arsenic and lead was analyzed for the remaining contaminants of concern: cadmium, chromium III and nickel (EPA Test Method 6000), polychlorinated biphenyls (PCBs) (EPA Test Method 8082), organochlorine pesticides (EPA Test Method 8081), and total petroleum hydrocarbons in the diesel (TPHd) and motor oil (TPHmo) ranges (EPA Test Method 8015). However, as discussed in Section 2.3, additional deeper soil samples were analyzed to help determine the vertical extent of soil exceeding Site cleanup goals. The analytical results are summarized in Table 1 in the Data Table section of the document.

2.3 DISCUSSION OF APRIL 2008 RESULTS

Based on the analytical data, COCs were detected in soil in the area of the former 1040 E. Brokaw Road office building to depths of up to 15 feet. COCs detected above Site unrestricted cleanup goals were primarily arsenic, lead and nickel. In addition, DDT was detected above the unrestricted cleanup goal in one out of 77 samples (C5 at 11 feet) and PCBs were detected above the unrestricted clean up goal of 1 ppm (up to 3 ppm) in six out of 77 samples (B3 at 7 ½ feet; B5 at 6 ½ feet; B5 at 8 ½ feet; C5 at 11 feet; C5 at 12 feet; and D7 at 9 feet). The vertical extent of COCs detected above Site cleanup goals appears to have been defined 34 out of 50 borings. To reduce analytical costs, not all the deepest samples from the borings were analyzed for all the COCs.

TPHd and TPHmo were detected above unrestricted and commercial cleanup goals in soil samples collected from depths of approximately 3 ½, 4 ½ and 7 feet from boring F3. The maximum concentrations detected were 747 ppm TPHd and 18,200 ppm TPHmo. Based on laboratory analyses of soil samples collected from depths of approximately 9, 11 and 14 feet from boring F3 and from soil samples collected from exploratory borings in adjacent grids (E2, F2, G2, G3, G4, F4, E4, and E3), the lateral extent of diesel and oil impacted soil appears limited.

As discussed in Section 3, because of the depth of soil impacted with COCs detected above unrestricted Site cleanup goals, the soil in the area of the former E. Brokaw Road office building will be left in-place as CCA. Because of the low solubility of the COCs detected, the soil is not expected to significantly impact ground water quality. The impacted soil that will remain in-place has been on-Site at least since the construction of former 1040 E. Brokaw Road in 1984. Based on laboratory analyses of ground water grab samples GW-1 and GW-2 collected in 2007 from 1040 E. Brokaw Road, the presence of the COCs detected in this soil does not appear to be a significant threat to ground water quality, with the possible exception of the petroleum hydrocarbons detected in boring F3 (discussed further below). The approximate locations of ground water grab samples GW-1 and GW-2 are shown on Figure 2. Laboratory analyses of the two ground water grab samples did not detect gasoline range hydrocarbons, volatile organic compounds (VOCs), organochlorine pesticides, or PCBs. Arsenic, barium, molybdenum, selenium, vanadium, and zinc were detected at concentrations below drinking water standards. Antimony was detected in one of the ground water samples above the drinking water standard but below the aquatic habitat environmental screening level (ESL); other 17 California Assessment Manual (CAM) metals were not detected (Cornerstone Earth Group, 2007).

TPHd was detected in ground water grab sample GW-2 at 428 parts per billion (ppb). The GW-2 ground water grab sample was collected approximately 300 feet southwest (down-gradient) of boring F3. TPHd was not detected in the GW-1 ground water grab sample. The TPHd concentration detected appears similar to the concentrations detected in or near the debris pit area on adjacent 1633 Oakland Road (Cornerstone Earth Group, 2007) and does not appear to be a significant concern. As discussed in Section 3.7.1, limited soil removal/disposal will be performed at the location of boring F3, where TPHd and TPHmo were detected above Site cleanup goals. In addition, as described in Section 3.14, ground water monitoring will be performed after construction of the new consolidation cell.

SECTION 3: REMEDIAL DESIGN AND IMPLEMENTATION

This section describes the implementation and specific Site controls to be taken during the mitigation activities, including security measures, contaminant control, permits and plans, field documentation, waste segregation, decontamination areas, air monitoring, dust control, confirmation sampling, and consolidation cell construction/capping.

3.1 PHASING/STAGING OF WORK

This project will be implemented in two stages; details of the implementation are provided in the following sections.

Soil exceeding unrestricted cleanup goals will be excavated from the location of CCB and temporarily stockpiled on-Site. Underlying clean soil then will be excavated to a depth of approximately 15 feet and

stockpiled on-Site for future use as unrestricted fill. Impacted soil then will be backfilled into CCB up to approximately 2 feet below final grade. CCA and CCB will be capped as discussed in Section 3.11.6.

An on-Site landscape strip along E. Brokaw Road and a portion of the west property boundary will remain in-place due to City of San Jose restrictions regarding the removal of the existing trees. In addition, the office buildings on 1060 and 1080 E. Brokaw Road will remain for continued commercial office use. These areas will be included in the deed restriction and will be managed in accordance with the Site Management Plan (SMP) approved by the DTSC (Section 3.15).

3.2 SITE PREPARATION, PERMITTING AND SCHEDULE

The anticipated schedule for implementation of this work is planned to occur during either the typically non-rainy months of 2009 or 2010, as summarized below.

- Excavation and Stockpiling Impacted Soil CCB Footprint – July/August 2009
- Excavation of Underlying Clean Soil to a Depth of Approximately 15 Feet – August 2009 to September 2010*
- Placement of CCB Soil and placement of clayey cap over CCA and CSB – September 2009 to September 2010*

* Note: Schedule depends on PG&E to abandon active natural gas lines. Due to this limitation, work could extend into 2010.

Regular work hours will be from 7:00 a.m. to 7:00 p.m., Monday through Friday.

3.3 HEALTH AND SAFETY PLAN FOR REMOVAL ACTION

A Site-specific health and safety plan (HSP) was prepared to establish health and safety protocols for personnel working in the impacted areas; the HSP was prepared as part of the RAW for 1633 Oakland Road (Lowney Associates, 2004). Because the cleanup activities will be performed in conjunction with the cleanup on 1633 Oakland Road, the HSP will be used for the Site. This HSP, presented in Appendix A, meets federal and California Occupational Safety and Health Administration (OSHA) standards for hazardous materials operations (29 CFR 1910.120 and CCR Title 8 Section 5192).

The contractor performing the on-Site remedial work will also prepare a health and safety plan that will cover their specific operations; it will incorporate the HSP. Contractors will be responsible for the health and safety of their employees. The contractor's health and safety plan will establish health and safety protocols for contractor personnel in accordance with federal and California OSHA standards for hazardous waste operations. The contractor will also have appropriate licenses and training for hazardous waste operations.

- The HSP prepared by the contractor will, at a minimum, include the DTSC approved HSP as well as the following items.
- The level of personal protection that will be used during remedial activities.

- Air monitoring and decontamination procedures.

3.4 EQUIPMENT DECONTAMINATION

Contractors whose vehicles and construction equipment contact impacted soil are required to clean the equipment prior to leaving the Site. A gravel decontamination pad shall be established near the construction exit. Soil will be removed from the equipment and vehicles before leaving the Site. Cleaning methods used may include dry methods, such as brushing, scraping, or vacuuming. If dry methods are not effective, wet methods, such as steam cleaning or pressure-washing, will be used. The contractor, however, will be required to contain and appropriately manage rinse water.

The gravel from the decontamination pad will be placed into the consolidation cell or removed for appropriate off-Site disposal.

3.5 STORM WATER POLLUTION CONTROLS

Storm water pollution controls must be implemented in accordance with the Site-specific storm water pollution prevention plan (SWPPP).

3.6 EXCAVATION DE-WATERING

Based on the depth to ground water beneath the Site, ground water is not expected to be encountered during the construction of the consolidation cell. Therefore, excavation de-watering is not anticipated. If water does pond in the excavation, samples of the ponded water will be collected and analyzed for COCs as described in Section 2.7.5. If COCs are not detected or are detected below cleanup goals and drinking water standards, the ponded water may be pumped from the excavation and used as dust control if approved by DTSC staff. If COCs are detected above cleanup goals and/or drinking water standards, appropriate discharge and/or disposal alternatives will be evaluated.

As described in Section 3.11.3, sand layers were observed at a depth of approximately 12 to 14 feet in exploratory borings drilled in the east portion of the Site. As an added precaution to reduce the likelihood of perched water coming into contact with the consolidated soil, low-permeability clayey soil will be backfilled and compacted along the base of the excavation in areas where sand layers are observed, if any.

3.7 EXCAVATION AND MANAGEMENT OF SOIL ABOVE UNRESTRICTED CLEANUP GOALS

3.7.1 Excavation of Soil Exceeding Unrestricted Cleanup Goals

Based on previous sampling results, soil with COCs detected above Site cleanup goals will be excavated by an appropriately licensed contractor under the full time observation of a staff engineer or geologist from Cornerstone Earth Group. The contractor's on-Site employees will be required to have 40-hour OSHA safety training. The excavation area and preliminary depths (based on analytical data to date) for CSB are shown on Figure 5. To evaluate the preliminary excavation depths, a 100-foot grid was used. The maximum depth of a COC detected in a sample within a grid was used to establish the excavation

depth within a grid, with the depth approximately ½ to 1 foot deeper than the maximum detected. Several grids did not have data points; the depths in these grids were the approximate average of the adjacent grids. Final depth of excavation in the unrestricted portion of the Site (outside the consolidation cell) will be based on laboratory analyses of verification soil samples collected from the excavation. The depth of excavation of soil exceeding unrestricted cleanup goals within the consolidation cell may be estimated before excavation, as described in Section 2.7.2. Excavated soil will be temporarily stockpiled on-Site.

As discussed in Section 2, soil with TPHd and TPHmo was detected above the residential and commercial cleanup goals in boring F3, drilled in April 2008 on the north side of the former 1040 E. Brokaw Road office building. To remove this soil, an approximately 20 foot by 20 foot area centered on the location of boring F3 will be excavated to a depth of approximately 10 feet. If TPHd or TPHmo are detected above Site cleanup goals, additional soil will be excavated and additional verification soil samples collected/analyzed until cleanup goals are achieved. The excavated soil will be removed for appropriate off-Site disposal.

Soil will also be excavated to a depth of approximately 2 feet below original grade from the north portion of 1040 E. Brokaw Road (see Figure 3), where soil with COCs detected above cleanup goals will remain in-place, to allow for the placement of a minimum 2-foot thick cap, as discussed in Section 3.11.

CSB extends onto 1633 Oakland Road (Figure 3). Soil with COCs exceeding Site cleanup goals remains in-place on 1633 Oakland Road to the north and west of the former consolidation cell removed in 2008 and beneath the interim stockpile; removal of this soil will be performed in accordance with the April 14, 2005 RDIP for 1633 Oakland Road (Lowney Associates, 2005).

3.7.2 Verification Sampling – Consolidation Cell Area

Verification soil samples either will be collected before or after performing the soil removal.
If the verification sampling is performed before the excavation, exploratory borings will be advanced in the planned consolidation cell area for collection/analysis of soil samples. One boring will be drilled to a depth of approximately 10 feet for each approximately 2,500 square feet of consolidation cell excavation area (using an approximately 50 by 50 foot grid).

Soil samples collected from the upper approximately 8 feet will be selected for laboratory analyses. It is anticipated that three to five soil samples collected from the upper 8 feet will be selected for analyses. The deepest sample in which all COCs are detected below unrestricted cleanup goals will be selected as the approximate excavation depth within the grid. In addition, in accordance with the DTSC's guidance for re-use of soil as fill on residential sites, one discrete soil sample will be collected from the exploratory borings for each approximately 1,000 cubic yards of underlying soil to be excavated for the construction of the consolidation cell.

If verification sampling is performed after excavation, soil exceeding site cleanup goals in the new consolidation cell footprint will be excavated and temporarily stockpiled by the environmental contractor for future re-location into the consolidation cell. Initial excavation depths will be based on previous analytical data; this soil will not be sampled/analyzed since it has previously been identified to exceed Site unrestricted cleanup goals. Excavated soil exceeding unrestricted cleanup goals will be stockpiled on 1040 E. Brokaw Road. Stockpiling procedures are summarized in Section 3.7.7.

The “clean” soil excavated from below the surface soil in the new consolidation cell area will be stockpiled separately and evaluated for on-Site re-use. This soil will be stockpiled on top of plastic on-Site or on 1633 Oakland Road. To evaluate soil excavated during construction of the new consolidation cell for re-use (i.e. “clean” soil beneath the impacted surface soil), stockpiled soil samples will be collected with consideration of the DTSC Advisory for fill material. Four discrete soil samples will be collected from the first 1,000 cubic yards of stockpiled material, with one sample from each additional 1,000 cubic yards. Stockpiled soil that exceeds Site unrestricted cleanup goals, if any, will be placed into the new consolidation cell instead of being re-used as general fill on-Site.

Verification samples also will be collected from sidewalls in approximately 50 foot intervals where the consolidation cell intersects property boundaries. The property boundary sidewall samples will be collected where the 50 foot grid intersects the property boundaries. Soil will not be excavated beyond the property limits.

In addition, verification soil samples will be collected from the over-excavation area located at former boring F3. One verification soil sample will be collected from each sidewall and one verification soil sample will be collected from the base of the excavation. If COCs are detected in these verification soil samples above Site cleanup goals, additional soil will be excavated and new verification samples will be collected/analyzed, as appropriate.

Verification sampling protocol is presented in Section 3.7.6.

3.7.3 Final Verification Sampling – Unrestricted Portion of the Site

Verification testing in the unrestricted portion of the site (outside the consolidation cell) will be conducted by Cornerstone Earth Group during excavation of impacted soil to help verify unrestricted cleanup goals have been reached.

The final verification soil samples will be collected outside the new consolidation cell footprint using a 30-foot grid in the impacted soil excavation areas. After excavation, one verification soil sample will be collected from the base of the excavation at each grid intersection. In addition, sidewall samples will be collected from each location where a grid line intersects a sidewall along a property boundary. Sidewall samples will not be collected from the south property boundary since the sidewall will be contiguous with the soil removal area of 1633 Oakland Road. Verification sampling protocol is presented in Section 3.7.6.

3.7.4 Final Verification Sampling – Locations with Detected PCBs Above 1 PPM

Analytical results of previous investigations detected PCBs above 1 ppm at 12 locations on-Site. In general accordance with Toxic Substance Control Act (TSCA) guidelines, verification soil samples will be collected from these locations where soil exceeding the unrestricted cleanup goals is removed. Nine verification soil samples will be collected at each of the locations where greater than 1 ppm PCBs were detected. The verification soil samples will be collected using a 5-foot grid centered on the former sample location. In accordance with TSCA protocol, the nine soil samples from each location will be submitted to a state certified laboratory and composited into one soil sample for analysis, discussed in Section 2.6.4.

Verification sampling protocol is presented in Section 2.7.6. This sampling may be performed before Site excavation activities.

3.7.5 Laboratory Analyses of Final Verification Soil Samples

Final verification soil samples will be submitted to a state certified laboratory and analyzed for contaminants of concern identified for the Site (arsenic, cadmium, chromium III, lead, nickel, total DDT, PCBs, TPHd, and TPHmo). The verification samples will be analyzed for PCBs (EPA Test Method 8082), arsenic, cadmium, chromium (III), lead, and nickel (EPA Test Method 6000), organochlorine pesticides, including DDT (EPA Test Method 8081), TPHd and TPHmo (EPA Test Method 8015M).

The 9-point composite verification soil samples collected from locations where PCBs were previously detected above 1 ppm will be analyzed only for PCBs (EPA Test Method 8082).

The five verification soil samples collected from the excavation located at boring F3 will be analyzed for TPHd and TPHmo (EPA Test Method 8015M).

The analytical results may be statistically evaluated in accordance with EPA SW-846 to evaluate whether a sufficient number of samples have been collected to establish that Site cleanup goals have been achieved. Areas where verification sample results exceed cleanup goals, if any, will be over-excavated by an additional approximately ½ foot by an appropriately licensed contractor. Additional verification sampling will be performed as discussed above.

3.7.6 Verification Sampling Protocol

Locations of verification soil samples will be identified with stakes that are labeled with the sample identification number. The approximate sample locations will also be recorded using GPS (sub-meter accuracy).

Verification soil samples will be collected in brass or stainless steel liners using hand sampling equipment. If verification sampling is performed within the new consolidation cell area before soil removal, these verification soil samples will be collected using a hydraulic coring rig equipped with a dual wall sampling system. The exterior steel casing is used to drive the probe and remains in the boring while the inner casing is used to retrieve the soil samples. Soil samples will be collected continuously in acetate liners. Following completion, the outer casing is retracted and the boring backfilled to the surface using lean cement.

The ends of the liners will be covered in aluminum foil or Teflon film, fitted with plastic end caps, taped, and labeled with a unique identification number. The samples then will be placed in an ice- chilled cooler, and transported to a state-certified analytical laboratory with chain of custody documentation.

Sampling equipment will be cleaned with laboratory grade detergent and rinsed with distilled water or steam cleaned between sample points.

3.7.7 Stockpiling

Excavated soil will be stockpiled on-Site on top of and covered by an “impermeable” liner (6 mil) to reduce infiltration by rainwater and contamination of underlying soil. If the stockpile is located on pavement, then a liner is not required beneath the pile. If a stockpile will remain on-Site greater than 48 hours, sandbags will be placed around the stockpile to secure the plastic sheeting. While remaining on-Site, stockpiles will be checked daily to verify that they are adequately covered.

3.8 AIR MONITORING

Air monitoring for the contaminants at the Site will be performed to document worker exposures and off-Site migration of dust and contaminants, if any, during activities that significantly disturb impacted soil (i.e. excavation, loading and compacting). The HSP (Appendix A) describes the air monitoring that will be performed (Section 8.0 of the HSP). The project Health and Safety Officer (HSO) may also upgrade the personal protective equipment (PPE) and/or perform personal air monitoring, depending on conditions observed.

Perimeter air monitoring will be conducted at the Site to document the effectiveness of dust control measures. Perimeter monitoring will include the periodic collection of air samples at one upwind location and two downwind locations during excavation and placement/compaction of soil with COCs exceeding Site cleanup goals. Samples will be analyzed for arsenic, lead, nickel, and PCBs. For the metallic compounds, samples will be collected using pre-calibrated pumps to draw air through MCE collection media. Samples are to be analyzed using OSHA ID Method 125 (metals by ICP) and/or the equivalent NIOSH method.

For PCB compounds, samples will be collected approximately once per week while excavating and placement/compaction of soils with COCs exceeding Site cleanup goals. Air samples will be collected using pre-calibrated pumps to draw air through sorbent collection media composed of quartz glass fiber filter (particulate phase) and a puff sorbent bed (vapor phase). These samples will be analyzed using EPA Method TO10 or the equivalent NIOSH Method 5503.

Real time monitoring of total dusts (<10 µm diameter) will be conducted daily throughout the duration of the project during activities that may significantly disturb impacted soil. The monitoring will be performed using three DataRAM PDR-1000 particulate monitors. These meters log the detected airborne dust concentrations. The locations of the meters will be determined by the field geologist or engineer in the field. The wind direction and time of observation will be recorded in the field and the sampling location will be modified during the day if significant changes in wind direction are readily observed. The particulate meters will be monitored by the field engineer or geologist to evaluate if excessive dust is migrating off-Site. Each time the meters are checked, the differences between the average upwind dust concentration and the average downwind concentration will be compared to the ambient air quality standard of 150 µg/m³ (8-hour average) for respirable dust. If this standard is exceeded, increased dust control measures will be implemented.

In addition to perimeter monitoring, personal exposure monitoring will be conducted by the environmental contractor daily during the first week of the project. Breathing zone samples will be collected and analyzed for arsenic, lead, nickel, and PCBs using the OSHA and NIOSH methods mentioned above.

The two most soil-exposed workers (assumed to be the excavator operators and/or ground level excavation supervisors) will be selected for exposure monitoring. After the first week, assuming favorable results, exposure monitoring will be reduced to a frequency of once per week for one selected individual for the rest of the project.

In summary, perimeter dust monitoring and air sampling stations will be established around the Site. For worker protection, the dust action level of 1.0 mg/m^3 will be used during excavation activities. Details on the calculation of the action levels are presented in the HSP (Appendix A).

3.9 DUST CONTROL

Construction activities, such as clearing, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over disturbed soil surfaces may generate dust and particulate matter whenever exposed soil surfaces are dry. Since it is known that surface soil excavated for the project likely contains contaminants, it is important that construction dust be minimized. To accomplish this task, the contractor will follow the following dust control measures. The dust control program will be performed by the excavation contractor in accordance with BAAQMD rules and regulations.

An effective means of dust control will be utilized to minimize the generation of dust associated with the earthwork activities, including by truck traffic onto and off the Site, and the effects of ambient wind traversing exposed soil. All construction contractors will be required to prepare and implement a detailed dust control plan during all phases of construction that contact contaminated soil. Dust control measures utilized at the Site may include the following:

- Providing equipment and staffing during normal working hours for watering of all exposed or disturbed soil surfaces sufficient to suppress dust plumes.
- Using dust suppressant additives in the water, which can be a small amount of ordinatry liquid detergent.
- Covering or wetting of stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Misting or spraying water while excavating soil and loading transportation vehicles.
- Minimizing drop heights while loading/unloading excavated soil.
- Sweeping adjacent streets of all soil and debris from the Site.
- Treating inactive portions of the construction Site that have exposed soil surfaces with an approved dust suppressant, covering them, or hydro seeding.
- Suspending earth moving or other dust producing activities during periods of high winds whenever dust control measures are unable to prevent visible dust plumes.

Watering to control dust must not result in ponded water or runoff. If runoff occurs, it must be contained on-Site.

3.10 SITE CONTROL

Site control procedures are established to help control the potential spread of contamination from the Site. For field operations, a three-zoned approach will be implemented by the excavation contractor where possible. The three zones include the exclusion zone, contamination reduction zone, and the support/staging areas. The areas of the Site where contaminated material is being excavated, stockpiled, capped, and/or loaded will be considered exclusion zones. Exclusion zone (work area) boundaries will be delineated in the field using plastic orange fencing material or similar fencing; will be appropriately labeled with signage; and will be controlled by the general contractor's Site Safety Officer. The contamination reduction zones will be established at locations on-Site where dust, debris, and soil can be removed from equipment and transportation vehicles leaving the exclusion zones and will be marked using construction tape and stakes and appropriately labeled with signage. The support/staging zone will be set up on-Site to provide for administrative and support functions.

The Site will be accessed from 1633 Oakland Road where similar soil removal activities will be in progress. The entire 1040 E. Brokaw Road parcel and CCB area will be considered an exclusion zone. The contaminant reduction and support/staging areas will be located at 1633 Oakland Road.

Vehicles and equipment entering and exiting the Site will enter/exit Oakland Road through a gate located along the eastern property boundary of 1633 Oakland Road. The gate will be designated as an entrance and exit. Unauthorized individuals will be required to remain outside the exclusion zones or will be escorted immediately from the Site.

The contamination reduction area has already been established and is located at the entrance/exit on adjacent 1633 Oakland Road. Dust, debris, and soil will be removed from equipment and transportation vehicles prior to leaving the project. Depending on whether the soil is wet from rain, decontamination methods may consist of dry decontamination methods (brushing and vacuuming), or wet contamination methods (steam cleaning and/or high-pressure washing), or combinations of these without the use of detergents. Details of decontamination methods are discussed in the HSP (Appendix A).

Decontamination water, if any, will be collected inside the contamination reduction area. The water will be pumped into a holding tank. Samples of the water will be collected and analyzed for Site COCs. If no COCs are detected, the water will be used for on-Site dust control. If analytical results show that the water contains elevated concentrations of contaminants, the water and sediment, if necessary, will be removed from the Site for appropriate disposal.

The contamination reduction areas and excavation work zones will be clearly defined in the field with orange plastic fencing or similar material. Access to the Site will be restricted until remedial activities are complete. Equipment will not be allowed to drive on known contaminated areas; these areas will be identified in the field by wooden stakes and flagging. Loading activities, if any, will be performed on a gravel pad. If any excavators or trucks enter a contaminated area they will be decontaminated before leaving the area. The gravel will either be placed into the on-Site consolidation cell or removed for appropriate off-Site disposal.

The support/staging area will be set up on the Site to provide for administrative and support functions (command post, first-aid station, rest area, truck staging, etc.) necessary to keep the field activities running smoothly. The support area will be established prior to the beginning of remedial activities.

The entire property would remain fenced. Access and egress will be controlled via gates. The gates will be locked after working hours. Access to the contaminated portions of the Site will be limited to authorized personnel. Access to the Site will be posted with a sign that reads: "Warning, This Site contains chemicals known to the state of California to cause cancer or other reproductive toxicity – Authorized Personnel Only." In addition, signs will be posted at the entrance instructing visitors to sign in at the project staging area.

3.11 EXCAVATION, CONSOLIDATION AND CAPPING OF CONTAMINATED SOIL

The following is a description of the implementation plan for excavation, consolidation, and capping of the contaminated soil.

3.11.1 Construction Equipment

Excavators and/or scrapers are likely to be used to excavate the soil and place in temporary stockpiles. Loaders may be used for transporting soil from the excavators and temporary stockpiles to the consolidation cell. Scrapers may be used for access corridor maintenance during the excavation activities. Water trucks will be used for dust control. Closed-top tanks also will be on-Site for storage of rinsate generated during wet decontamination, when necessary.

3.11.2 Excavation Procedures

A contractor with a hazardous substance removal and remedial action certificate will perform removal and transport of the contaminated soil. A field engineer or geologist will observe the excavation activities on a full-time basis, providing guidance when necessary. This work will also be performed in accordance with the recommendations of the Geotechnical Engineer of Record. If remediation occurs during a rainy season, erosion and sediment control measures will be performed as discussed in the Storm Water Pollution Prevention Plan (SWPPP). In addition, the dimensions and depth of the consolidation cell will be surveyed by a California licensed surveyor.

3.11.3 Design of Consolidation Cell Depth

To evaluate the depth of the consolidation cell, 13 borings were drilled on January 21 and 24, 2008. The borings were drilled at four locations identified as SB-1, SB-2, SB-3, and SB-4 on Figure 2. Borings SB-3 and SB-4 were located within the proposed Stage I consolidation cell. Each location consisted of three or four borings that were drilled to various depths between approximately 25 to 40 feet. Temporary PVC casings with screens in the lower 5 feet were placed in each boring. The temporary borings at SB-1, SB-3 and SB-4 were monitored for ground water for several hours and were grouted the same day; the temporary casings at SB-2 were monitored for one week before the borings were grouted. Shallow ground water was encountered at depths of approximately 21 to 25 feet in the SB-1 and SB-2 borings. Ground water did not infiltrate into the SB-3 and SB-4 borings.

Additional ground water depth evaluation was performed in August 2008 (Cornerstone Earth Group, 2008). This work included the drilling and logging of exploratory borings at six selected locations on the south portion of the 1040, 1060 and 1080 E. Brokaw Road (Figure 2). At each location, one 15 foot deep (P-1A, P-2A, P-3A, P-4A, P-5A and P-6A) and one 20 foot deep (P-1B, P-2B, P-3B, P-4B, P-5B and P-6B) peizometer were installed. The 20 foot deep borings were logged at 5-foot intervals in the upper 10 feet and continuously below a depth of 10 feet. The piezometers were completed with 2-inch diameter PVC casing with screen intervals in the lower 5 feet of each casing. Sand packs were placed around the screen intervals. An approximately 1-foot thick cap of bentonite was placed on top of the sand packs and the remainder of the annular spaces were filled with cement grout to the ground surface. Water resistant well head boxes flush with the adjacent pavement were placed on each piezometer.

Soils encountered generally consisted of silty clay to the maximum depth explored. However, clayey sand layers that appeared generally less than several inches thick (although two layers observed ranged from 1 to 2 feet in thickness) were observed interbedded with the silty clay beginning at a depth of approximately 12 to 14 feet. No free ground water was observed at the time of drilling. However, the sand layers appeared to contain more moisture in borings P1-B and P2-B than in P5-B and P6-B.

Based on the January and August 2008 data, ground water in the area of CCB appears to be greater than approximately 25 feet deep. The surface elevation in the CBB area ranges from approximately 55 feet above mean sea level (msl) near Oakland Road to approximately 57 feet above msl near the west property boundary. Therefore, as a conservative measure, the base of CCB will be constructed to an elevation ranging from approximately 40 to 42 feet above msl. The consolidation cell depth will be approximately 15 feet below existing grade, which appears to be at least approximately 5 feet above the top of the shallow water yielding zone. As noted above, clayey sand layers were observed at a depth of approximately 12 to 14 feet in the east portion of the CSB area. If sand layers are observed in the excavation sidewalls, low permeability clayey soil will be compacted along the base of the sidewalls where the clayey sand layers are exposed to help reduce the potential for perched ground water to come into contact with the consolidated soil.

Based on the soil type (silty clay [CL]), the depth to ground water, and the low solubility of the COCs detected, there does not appear to be a significant risk to ground water quality from the planned consolidation cell with a base at approximately 5 feet above the shallow ground water.

3.11.4 CCB Sidewall Slopes

The sidewalls of consolidation cell CCB will be sloped at a 3:1 (horizontal to vertical) in the upper 10 feet in areas where future buildings may extend over the consolidation cell boundary. Below a depth of 10 feet the sidewall will be sloped at 1:1. In areas where no structures will span the consolidation cell edge, such as the boundary between 1633 Oakland Road and consolidation cell CCB, the sidewall of the consolidation cell will be sloped at 1:1. Based on the soil types and the planned sidewall sloping, no shoring is required.

3.11.5 Subgrade Preparation and Backfill Compaction

After excavation of the consolidation cell is complete, and prior to backfilling, the excavation subgrade will be scarified to a depth of 6 inches, moisture conditioned (allowing to dry if moisture content exceeds optimum or wetting if moisture is below optimum), and compacted as described below. Because ground water is expected to be at least 5 feet below the base of the excavation, subgrade stabilization measures are not anticipated to be needed due to ground water; however, if the subgrade is more than about 3 percent over the laboratory optimum moisture content, the subgrade may become unstable due to repetitive equipment tire loads. The use of stabilization fabrics or geogrid may be necessary to bridge over unstable subgrade and continue the backfilling operation. A member of our staff will observe the subgrade preparation operation and provide additional recommendations, as necessary.

The contaminated soil to be consolidated in CCB will be placed in loose lifts 8 inches thick or less and compacted in accordance with ASTM D1557 (latest version) requirements as shown in the table below. In general, clayey soils will be compacted with sheepsfoot equipment and sandy/gravelly soils with vibratory equipment. Each lift of fill and all subgrade will be firm and unyielding under construction equipment loading in addition to meeting the compaction requirements. A Cornerstone representative will perform field moisture/density testing to document the compaction of the fill.

Table 2: Compaction Requirements

Description	Material Description	Minimum Relative[1] Compaction (percent)	Moisture[2] Content (percent)
General Fill (within upper 5 feet)	On-Site Expansive Soils	87 – 92	>3
	On-Site Low Expansion Soils	90	>1
General Fill (below a depth of 5 feet)	On-Site Expansive Soils	95	>3
	On-Site Low Expansion Soils	95	>1

1 – Relative compaction based on maximum density determined by ASTM D1557 (latest version)
2 – Moisture content based on optimum moisture content determined by ASTM D1557 (latest version)

3.11.6 Capping Procedures

The contractor will place a minimum approximately 1 foot thick clayey soil cap designed in compliance with TSCA 40 CFR Section 761.61(7) requirements over CCA and CCB. Prior to development, in pavement areas, the clayey cap will be covered by the asphalt pavement and baserock section. Prior to development, in building areas, the clayey cap will be covered by building pad soil and concrete floors. A layer of orange geotextile fabric will be placed prior to development on the clayey cap as an indicator for the presence of the underlying consolidated soil.

Landscaping over the consolidation cells will be placed in raised planter beds that do not disturb the underlying clayey cap.

3.12 TRANSPORTATION AND DISPOSAL PROCEDURES

Approximately 150 cubic yards of petroleum impacted soil is expected to be excavated from the area of boring F3 and removed for off-Site disposal (Section 3.7.1). The off-Site transportation and disposal will be performed in general accordance with the Transportation Plan included with the April 14, 2005 RDIP prepared for 1633 Oakland Road (Lowney Associates, 2005).

3.13 CAP MONITORING AND OBSERVATION

Cap monitoring will include observation of the cap for breaks that could allow surface water to migrate into the consolidated material. The cap will be observed for erosion, holes, or other changes to the cap integrity. The cap observation and maintenance schedule and requirements will be outlined in the Operation and Maintenance Plan (OMP) for the site.

3.14 GROUND WATER MONITORING

To monitor potential impact to ground water quality from the new consolidation cell, ground water grab samples will be collected from three exploratory borings or ground water monitoring wells located near the anticipated down-gradient boundary of the consolidation cells. The proposed sample or well locations are shown on Figure 3.

The exploratory boring/grab ground water sampling will be performed quarterly for a minimum of one year. The ground water grab samples collected from the exploratory borings will be analyzed for TPHg, TPHd, and benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Test Method 8015M/8020); arsenic, cadmium, chromium III, lead, and nickel (EPA Test Method 6000); organochlorine pesticides and PCBs (EPA Test Method 8081/8082). If the final sampling event does not show COCs above the ground water cleanup goals (MCLs or ESLs), the monitoring will be discontinued with prior DTSC approval.

3.15 LONG-TERM MONITORING

Long-term monitoring includes precautions that will be taken to reduce long-term risks to human health and the environment from residual COCs in soil and ground water.

- A site management plan (SMP) will be prepared and submitted to the DTSC for their approval.
- Procedures will be developed to inform workers and contractors who may contact Site soils about the SMP.
- A land use covenant will be implemented to restrict Site use in the consolidation cell area. The land use covenant will require the restricted portion of the property be limited to commercial/retail, parking area, landscaping, private roads, and private passive open space/recreation center uses and will prohibit use as a residence, school, hospital, hospice, or daycare center. The land use covenant will be filed with the County of Santa Clara Assessor's Office. Long term monitoring will consist of an approved OMA and OMP with the DTSC. Included activities will include annual cap observations and 5-year Site remediation approved by DTSC.

- Any disturbance or modification of cap maintenance must have the prior approval of the DTSC.

- If construction or maintenance activities extend through the cap into underlying contaminated soil, the soil will be managed as described in the SMP. Contractors will be required to dispose excavated soil at an appropriate off-Site facility. In addition, any activity that encounters the contaminated soil beneath the cap will be documented in a Soil Management Report (SMR). The purpose of the SMR is to document that the SMP protocols were followed. The SMR will be required to document the final volume of soil excavated, final soil disposal location, re-capping the excavation area in accordance with the RDIP and health risk precautions taken during construction activities.

SECTION 4.0: COMPLETION/IMPLEMENTATION REPORT AND CERTIFICATION

After construction of the CCB and capping CCA and CCB, a final removal action completion/implementation report will be prepared documenting the results of the action, describing any deviations from the approved RAW or RDIP, and summarizing our conclusions and recommendations. This report also will document the results of the action, describe any deviations from the approved RAW or RDIP, summarize our conclusions and recommendations, and request certification from the DTSC that remedial actions have been appropriately implemented. In addition, the report will include an as-built description of the consolidation cells, including surveyed coordinates of the new consolidation cells to be used for the deed restriction. Conclusions and recommendations will be based on readily available information, observations of existing conditions, and interpretation of the analytical data. The report will include Site plans showing all sampling locations, copies of laboratory reports, and copies of all disposal documentation.

SECTION 5.0: LIMITATIONS

This report was prepared for the use of Markovits & Fox, Inc. and DTSC. Cornerstone Earth Group makes no warranty, expressed, or implied, except that our services have been performed in accordance with environmental principals generally accepted at this time and location. We are not responsible for data presented by others.

SECTION 6.0: REFERENCES

Cornerstone Earth Group. February 26, 2008. Draft Removal Action Workplan, 1040, 1060 and 1080 East Brokaw Road, San Jose, California.

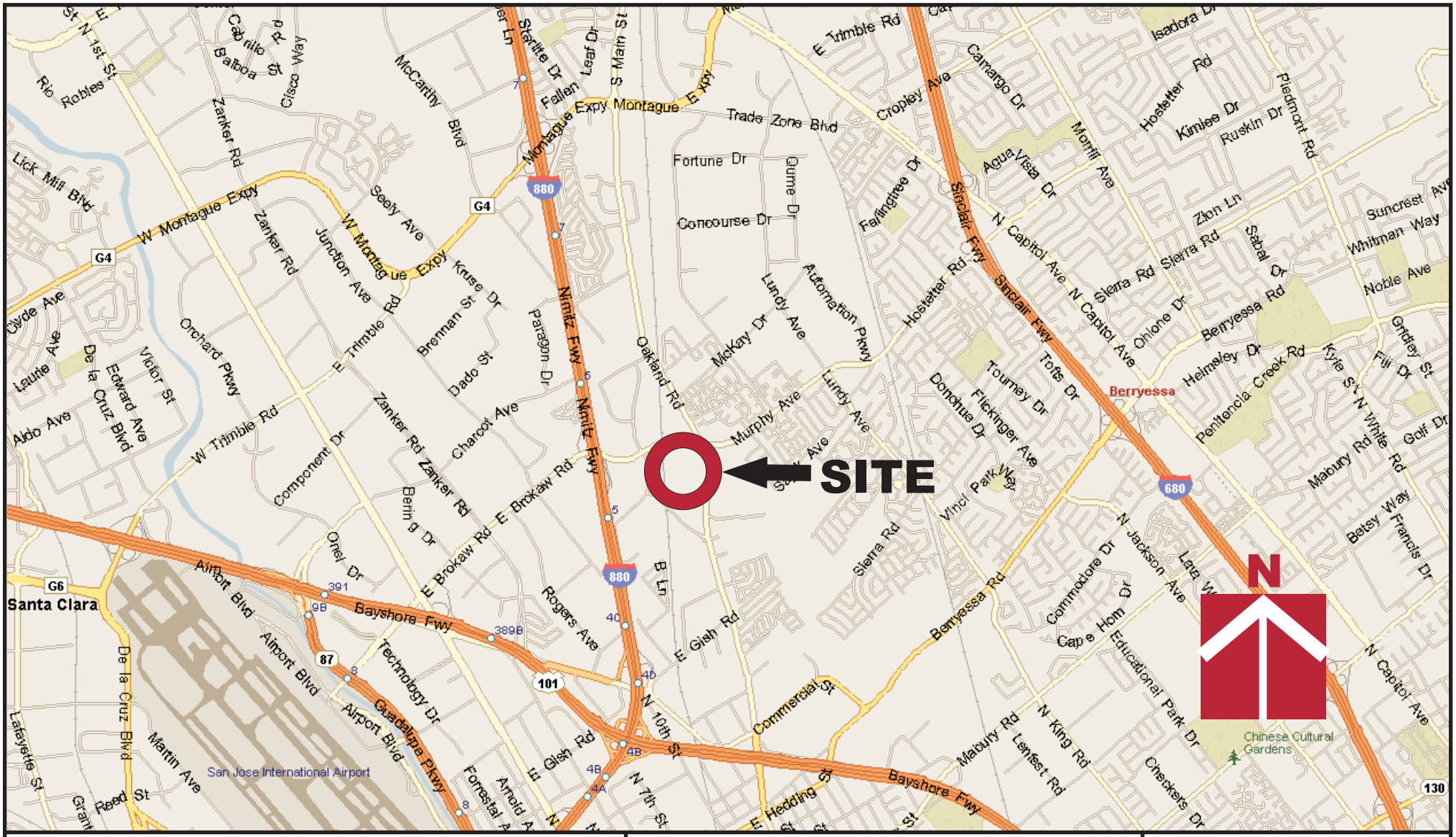
Cornerstone Earth Group. September 16, 2008. Consolidation Cell Depth and Implementation Schedule, 1040, 1060 and 1080 E. Brokaw Road, San Jose, California.

Lowney Associates. November 10, 2004. Removal Action Workplan, 1633 Oakland Road, San Jose, California

Lowney Associates. April 14, 2005. Remedial Design and Implementation Plan, 1633 Oakland Road, San Jose, California

TRC Lowney. April 25, 2006. Phase I Environmental Site Assessment, 1040, 1060, and 1080 E. East Brokaw Road, San Jose, California

TRC Lowney, July 18, 2006. Removal Action Workplan Addendum and Supplemental Soil Quality Evaluation, 1633 Old Oakland Road, San Jose, California



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Vicinity Map

1040, 1060 and 1080 E. Brokaw Road
1633 Oakland Road
San Jose, CA

Project Number	114-1-12
Figure Number	Figure 1
Date	February 2009
Drawn By	FLL

P1-A Approximate location of piezometer

SB-1 Approximate location of temporary piezometer (January 2008)

GW-2 Approximate location of ground water grab sample (August 2007)

N

0 200 400

APPROXIMATE SCALE (FEET)

Project Number 114-1-12

Figure Number Figure 2

Date May 2009

Drawn By FLL

Site Plan

1040, 1060 and 1080 E. Brokaw Road
1633 Oakland Road
San Jose, CA

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Consolidation Cell A (CCA)

Consolidation Cell B (CCB)

Approximate location of proposed ground water sample location (monitoring wells and exploratory borings)

Cross section (Figure 6)

N

0 200 400

APPROXIMATE SCALE (FEET)

Project Number 114-1-12

Figure Number Figure 3

Date June 2009

Drawn By FLL/MGV

Consolidation Cell Areas

1040, 1060 and 1080 E. Brokaw Road
1633 Oakland Road
San Jose, CA

CORNERSTONE EARTH GROUP

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Aprl 2008 Exploratory Boring Locations

1040, 1060 and 1080 E. Brokaw Road
1633 Oakland Road
San Jose, CA

Project Number	114-1-12
Figure Number	Figure 4
Date	February 2009
Drawn By	FLL

LEGEND

- Approximate Location of Exploratory Boring
- Excavation Depth 1 ft. bgs
- Excavation Depth 2 ft. bgs
- Excavation Depth 3 ft. bgs
- Excavation Depth 4 ft. bgs
- Depth Greater than 5 ft

Note: Base map provided by Charles W. Davidson Co., January 2006

Project Number	114-1-12
Figure Number	Figure 5
Date	June 2009
Drawn By	MGV

Preliminary Excavation Plan
Soil Exceeding Unrestricted Cleanup Goals

Remedial Design and Implementation Plan
1040 - 1080 Brokaw Road
San Jose, CA

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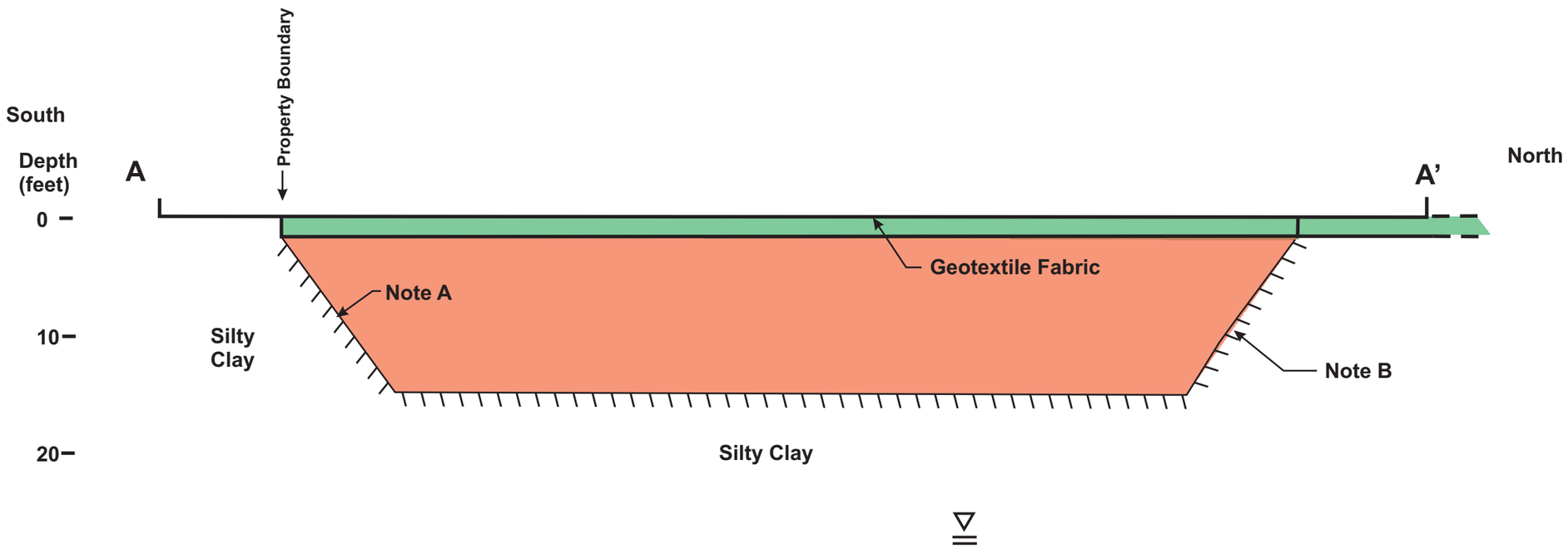

Note A: Slope is 1:1

Note B: Slope is 3:1 in upper 10 feet and vertical below 10 feet.

Approximate depth to shallow ground water

Cap, minimum 1 foot thick

Consolidation Cell B (CCB)

Scale: Horizontal 1" = 40 feet
Vertical 1" = 10 feet

Project Number 114-1-12

Figure Number Figure 6

Drawn By MGV

Date June 2009

Consolidation Cell Cross Section A-A'

Remedial Design and Implementation Plan
1040 - 1080 Brokaw Road
San Jose, CA

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ANALYTICAL DATA TABLE

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Table 1. Analytical Results of Selected Soil Samples
(Concentrations in ppm)

Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
A2	4/21/2008	2.5	14	1.3	40	20	82	0.023	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
A2	4/21/2008	3.5	19	---	---	11	---	---	---	---	---	---	---	---	---	---	---
A2	4/21/2008	4.5	10	---	---	10	---	---	---	---	---	---	---	---	---	---	---
A2	4/21/2008	6	6.8	---	---	8.7	---	---	---	---	---	---	---	---	---	---	---
A2	4/21/2008	7	7.1	---	---	9.9	---	---	---	---	---	---	---	---	---	---	---
A3	4/23/2008	2	**25**	---	---	100	---	---	---	---	---	---	---	---	---	---	---
A3	4/23/2008	3	7.7	<1	48	17	79	0.00379	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
A3	4/23/2008	4	7	---	---	9.6	---	---	---	---	---	---	---	---	---	---	---
A3	4/23/2008	5.5	5.7	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---
A3	4/23/2008	6.5	5.4	---	---	8	---	---	---	---	---	---	---	---	---	---	---
A4	4/23/2008	2.5	**71**	---	---	130	---	---	---	---	---	---	---	---	---	---	---
A4	4/23/2008	3.5	7.8	<1	48	12	79	0.00302	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	4.73
A4	4/23/2008	4.5	6.5	---	---	10	---	---	---	---	---	---	---	---	---	---	---
A4	4/23/2008	6	7	---	---	11	---	---	---	---	---	---	---	---	---	---	---
A4	4/23/2008	7	5.4	---	---	9.4	---	---	---	---	---	---	---	---	---	---	---
A4	4/23/2008	12	7.3	<1	46	8.7	80	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
A5	4/24/2008	2	4.1	---	---	5.8	---	---	---	---	---	---	---	---	---	---	---
A5	4/24/2008	3	**120**	---	---	21	---	---	---	---	---	---	---	---	---	---	---
A5	4/24/2008	4	**46**	---	---	16	---	---	---	---	---	---	---	---	---	---	---
A5	4/24/2008	7.5	6.8	<1	46	9.8	83	0.01665	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
A5	4/24/2008	8.5	6.6	---	---	10	---	---	---	---	---	---	---	---	---	---	---
A6	4/24/2008	1	**33**	---	---	**200**	---	---	---	---	---	---	---	---	---	---	---
A6	4/24/2008	2	7.9	<1	48	12	82	0.0048	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
A6	4/24/2008	3	7.1	---	---	11	---	---	---	---	---	---	---	---	---	---	---
A6	4/24/2008	4	7.3	---	---	11	---	---	---	---	---	---	---	---	---	---	---
A6	4/24/2008	7	6.4	---	---	8.7	---	---	---	---	---	---	---	---	---	---	---
B1	4/21/2008	4	20	---	---	21	---	---	---	---	---	---	---	---	---	---	---
B1	4/21/2008	7	7.8	---	---	29	---	---	---	---	---	---	---	---	---	---	---
B1	4/21/2008	8	**35**	---	---	56	---	---	---	---	---	---	---	---	---	---	---
B1	4/21/2008	9	7.4	<1	41	9.6	79	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
B1	4/21/2008	11	**23**	1.6	42	130	72	0.998	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	7.02
B2	4/21/2008	2	**27**	---	---	36	---	---	---	---	---	---	---	---	---	---	---
B2	4/21/2008	3	8	---	---	11	---	---	---	---	---	---	---	---	---	---	---
B2	4/21/2008	4	**36**	---	---	**780**	---	---	---	---	---	---	---	---	---	---	---
B2	4/21/2008	6.5	**34**	---	---	22	---	---	---	---	---	---	---	---	---	---	---
B2	4/21/2008	7.5	**38**	---	---	16	---	---	---	---	---	---	---	---	---	---	---
B2	4/21/2008	8.5	12	<1	41	15	72	0.02176	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
B3	4/25/2008	1	21	---	---	80	---	---	---	---	---	---	---	---	---	---	---
B3	4/25/2008	2	**54**	---	---	**200**	---	---	---	---	---	---	---	---	---	---	---
B3	4/25/2008	3	**37**	---	---	100	---	---	---	---	---	---	---	---	---	---	---
B3	4/25/2008	4	9.2	---	---	23	---	---	---	---	---	---	---	---	---	---	---
B3	4/25/2008	5.5	**31**	---	---	**260**	---	---	---	---	---	---	---	---	---	---	---
B3	4/25/2008	7.5	**30**	3.6	70	**340**	120	0.744	<0.1	<0.2	<0.1	<0.1	<0.1	**3.22**	<0.1	<20	**988**
B3	4/25/2008	9.5	**36**	1.8	46	76	78	0.49448	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
B3	4/25/2008	12	**25**	1.6	48	15	83	0.23215	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.121	<2	<4
B4	4/22/2008	1.5	**43**	---	---	140	---	---	---	---	---	---	---	---	---	---	---
B4	4/22/2008	2.5	<1.7	---	---	6.6	---	---	---	---	---	---	---	---	---	---	---

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Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
B4	4/22/2008	3.5	15	---	---	110	---	---	---	---	---	---	---	---	---	---	---
B4	4/22/2008	4.5	<1.7	---	---	3.2	---	---	---	---	---	---	---	---	---	---	---
B4	4/22/2008	5.5	<1.7	---	---	48	---	---	---	---	---	---	---	---	---	---	---
B4	4/22/2008	12.5	**27**	2	44	95	79	0.4173	<0.1	<0.2	<0.1	<0.1	<0.1	0.442	<0.1	2.27	104
B4	4/22/2008	13.5	---	2.2	65	---	110	0.5609	<0.1	<0.2	<0.1	<0.1	<0.1	0.318	<0.1	<2	12.8
B4	4/22/2008	14.5	---	1.8	58	---	92	0.3238	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	0.163	3.37	33.8
B5	4/25/2008	1.5	**51**	---	---	**190**	---	---	---	---	---	---	---	---	---	---	---
B5	4/25/2008	2.5	14	---	---	**240**	---	---	---	---	---	---	---	---	---	---	---
B5	4/25/2008	3.5	**74**	---	---	**290**	---	---	---	---	---	---	---	---	---	---	---
B5	4/25/2008	4.5	16	---	---	**370**	---	---	---	---	---	---	---	---	---	---	---
B5	4/25/2008	5.5	10	---	---	**260**	---	---	---	---	---	---	---	---	---	---	---
B5	4/25/2008	6.5	16	1.6	74	130	140	0.3627	<0.1	<0.2	<0.1	<0.1	<0.1	**1.2**	<0.1	<2	97.1
B5	4/25/2008	8.5	**30**	1.8	84	120	140	0.3129	<0.1	<0.2	<0.1	<0.1	<0.1	**1.74**	<0.1	<2	23.6
B5	4/25/2008	11.5	16	<1	56	60	96	0.3745	<0.1	<0.2	<0.1	<0.1	<0.1	0.427	<0.1	<2	17.6
B6	4/24/2008	1.5	3.3	---	---	6.4	---	---	---	---	---	---	---	---	---	---	---
B6	4/24/2008	2.5	10	---	---	18	---	---	---	---	---	---	---	---	---	---	---
B6	4/24/2008	3.5	**66**	---	---	**280**	---	---	---	---	---	---	---	---	---	---	---
B6	4/24/2008	4.5	6.4	<1	50	16	76	0.02994	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
B6	4/24/2008	7.5	8.6	---	---	10	---	---	---	---	---	---	---	---	---	---	---
B6	4/24/2008	13	8	<1	51	11	92	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
B7	4/24/2008	1.5	**70**	---	---	**210**	---	---	---	---	---	---	---	---	---	---	---
B7	4/24/2008	2.5	15	<1	50	13	83	0.00778	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
B7	4/24/2008	3.5	7.8	---	---	11	---	---	---	---	---	---	---	---	---	---	---
B7	4/24/2008	4.5	5.4	---	---	7.6	---	---	---	---	---	---	---	---	---	---	---
B7	4/24/2008	7	6	---	---	7.8	---	---	---	---	---	---	---	---	---	---	---
C1	4/21/2008	3.5	7.6	<1	38	10	66	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
C1	4/21/2008	4.5	5.9	---	---	7.7	---	---	---	---	---	---	---	---	---	---	---
C1	4/21/2008	7	7	---	---	9.5	---	---	---	---	---	---	---	---	---	---	---
C1	4/21/2008	8	7.8	---	---	10	---	---	---	---	---	---	---	---	---	---	---
C1	4/21/2008	9	7	---	---	8.7	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	1.5	**40**	---	---	**210**	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	2.5	19	---	---	87	---	---	---	---	---	---	---	---	---	---	<4
C2	4/22/2008	3.5	5.5	---	---	19	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	4.5	**33**	---	---	**280**	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	5.5	**31**	---	---	**430**	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	6.5	4.8	---	---	**200**	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	7.5	**22**	---	---	**540**	---	---	---	---	---	---	---	---	---	---	---
C2	4/22/2008	8.5	7.1	<1	47	10	78	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
C2	4/22/2008	11.5	7.5	<1	48	9.8	78	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4

CORNERSTONE EARTH GROUP

Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
C3	4/25/2008	1.5	19	---	---	58	---	---	---	---	---	---	---	---	---	---	28.6
C3	4/25/2008	2.5	16	---	---	44	---	---	---	---	---	---	---	---	---	---	---
C3	4/25/2008	3.5	19	---	---	69	---	---	---	---	---	---	---	---	---	---	---
C3	4/25/2008	4.5	17	---	---	64	---	---	---	---	---	---	---	---	---	---	---
C3	4/25/2008	5.5	**22**	---	---	76	---	---	---	---	---	---	---	---	---	---	---
C3	4/25/2008	7.5	4.4	<1	93	14	**360**	0.00688	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	---
C3	4/25/2008	9.5	**27**	1.6	45	99	77	0.3033	<0.1	<0.2	<0.1	<0.1	<0.1	0.865	<0.1	<2	<4
C3	4/25/2008	12	14	1.6	74	**150**	110	0.2976	<0.1	<0.2	<0.1	<0.1	<0.1	0.529	<0.1	<2	56.8
C4	4/22/2008	1.5	19	---	---	66	---	---	---	---	---	---	---	---	---	---	---
C4	4/22/2008	2.5	<1.7	<1	170	4.6	**960**	0.02629	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
C4	4/22/2008	3.5	<1.7	---	---	9.9	---	---	---	---	---	---	---	---	---	---	---
C4	4/22/2008	4.5	<1.7	---	---	2.6	---	---	---	---	---	---	---	---	---	---	---
C4	4/22/2008	7	<1.7	---	---	1	---	---	---	---	---	---	---	---	---	---	---
C5	4/23/2008	2	**74**	---	---	**260**	---	---	---	---	---	---	---	---	---	---	---
C5	4/23/2008	3	<1.7	---	---	6.8	---	---	---	---	---	---	---	---	---	---	---
C5	4/23/2008	4	11	---	---	46	---	---	---	---	---	---	---	---	---	---	---
C5	4/23/2008	6	<1.7	---	---	2.1	---	---	---	---	---	---	---	---	---	---	---
C5	4/23/2008	7	<1.7	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---
C5	4/23/2008	11	**71**	6.8	74	**420**	130	**1.269**	<0.1	<0.2	<0.1	<0.1	<0.1	**1.51**	<0.1	<2	117
C5	4/23/2008	12	**24**	1.5	50	87	92	0.2971	<0.1	<0.2	<0.1	<0.1	<0.1	**1.56**	<0.1	2.27	20.4
C5	4/23/2008	13	21	1.8	64	110	100	0.2488	<0.1	<0.2	<0.1	<0.1	<0.1	0.343	<0.1	<8	285
C5	4/23/2008	14	**25**	1.4	52	47	89	0.1458	<0.1	<0.2	<0.1	<0.1	<0.1	0.19	<0.1	<2	6.36
C6	4/24/2008	2.5	**31**	---	---	**700**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	3.5	**110**	---	---	**390**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	4.5	**33**	---	---	**320**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	6	**29**	---	---	**160**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	7	17	---	---	**420**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	8	3.5	---	---	19	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	9	**23**	---	---	**160**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	10.6	**30**	---	---	**150**	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	11.5	**23**	---	---	63	---	---	---	---	---	---	---	---	---	---	---
C6	4/24/2008	13.5	**29**	---	---	120	---	---	---	---	---	---	---	---	---	---	---
C7	4/24/2008	2.5	7.1	---	---	**160**	---	---	---	---	---	---	---	---	---	---	---
C7	4/24/2008	3.5	<1.7	<1	200	21	**1,200**	0.11531	<0.1	<0.2	<0.1	<0.1	<0.1	0.197	<0.1	<2	6.75
C7	4/24/2008	4.5	7.6	<1	44	12	74	0.00308	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
C7	4/24/2008	5.5	5.8	---	---	8.2	---	---	---	---	---	---	---	---	---	---	---
C7	4/24/2008	6.5	6.5	---	---	9.1	---	---	---	---	---	---	---	---	---	---	---
D1	4/21/2008	2	**45**	---	---	17	---	---	---	---	---	---	---	---	---	---	---
D1	4/21/2008	3	9.6	<1	37	11	65	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D1	4/21/2008	4	7.2	---	---	9	---	---	---	---	---	---	---	---	---	---	---
D1	4/21/2008	5.5	7.1	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---
D1	4/21/2008	6.5	7.3	---	---	8.9	---	---	---	---	---	---	---	---	---	---	---
D2	4/22/2008	3.3	<1.7	<1	<5	6.2	<5	0.05663	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D2	4/22/2008	3.8	<1.7	---	---	5.9	---	---	---	---	---	---	---	---	---	---	---
D2	4/22/2008	4.5	<1.7	---	---	2	---	---	---	---	---	---	---	---	---	---	---
D2	4/22/2008	7.2	<1.7	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---
D2	4/22/2008	8	<1.7	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---

CORNERSTONE EARTH GROUP

Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
D3	4/22/2008	2.5	<1.7	<1	290	7.8	**1,300**	0.05016	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D3	4/22/2008	3.5	<1.7	---	---	6.4	---	---	---	---	---	---	---	---	---	---	---
D3	4/22/2008	4.5	<1.7	---	---	2	---	---	---	---	---	---	---	---	---	---	---
D3	4/22/2008	5.5	<1.7	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---
D3	4/22/2008	6.5	<1.7	---	---	11	---	---	---	---	---	---	---	---	---	---	---
D4	4/23/2008	1.5	**30**	---	---	65	---	---	---	---	---	---	---	---	---	---	---
D4	4/23/2008	2.5	**62**	---	---	**190**	---	---	---	---	---	---	---	---	---	---	---
D4	4/23/2008	3.5	2.5	<1	200	14	**680**	0.0152	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D4	4/23/2008	4.5	<1.7	---	---	1.3	**1,400**	---	---	---	---	---	---	---	---	---	---
D4	4/23/2008	7	<1.7	---	---	1.8	**1,200**	---	---	---	---	---	---	---	---	---	---
D4	4/23/2008	11.5	17	1.2	51	45	82	0.06473	<0.1	<0.2	<0.1	<0.1	<0.1	0.116	<0.1	<2	<4
D5	4/25/2008	2	**79**	---	---	**200**	---	---	---	---	---	---	---	---	---	---	---
D5	4/25/2008	3	<1.7	<1	290	3.8	**1,500**	0.01363	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D5	4/25/2008	4	<1.7	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---
D5	4/25/2008	5	<1.7	---	---	2.8	---	---	---	---	---	---	---	---	---	---	---
D5	4/25/2008	6	<1.7	---	---	5.1	---	---	---	---	---	---	---	---	---	---	---
D5	4/25/2008	11	21	1.4	51	76	84	0.4484	<0.1	<0.2	<0.1	<0.1	<0.1	0.406	<0.1	<2	17.3
D6	4/25/2008	2	<1.7	---	---	8.4	---	---	---	---	---	---	---	---	---	---	---
D6	4/25/2008	3	<1.7	---	---	5.8	---	---	---	---	---	---	---	---	---	---	---
D6	4/25/2008	4	<1.7	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---
D6	4/25/2008	6	<1.7	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---
D6	4/25/2008	7	<1.7	---	---	2.2	---	---	---	---	---	---	---	---	---	---	---
D6	4/25/2008	11	19	1.4	49	66	86	0.5301	<0.1	<0.2	<0.1	<0.1	<0.1	0.474	<0.1	2.97	37.3
D7	4/24/2008	3	<1.7	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---
D7	4/24/2008	4	<1.7	<1	180	2.1	**1,400**	0.00906	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D7	4/24/2008	6	<1.7	<1	250	5.1	**1,700**	0.01189	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D7	4/24/2008	7	<1.7	<1	280	6.7	**1,600**	0.02114	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
D7	4/24/2008	8	19	1.1	45	55	82	0.0541	<0.1	<0.2	<0.1	<0.1	<0.1	0.156	<0.1	<2	97.3
D7	4/24/2008	9	12	1.2	61	**400**	99	0.108	<0.3	<0.6	<0.3	<0.3	<0.3	**2.84**	<0.3	53.2	233
E1	4/21/2008	2	**33**	---	---	**180**	---	---	---	---	---	---	---	---	---	---	---
E1	4/21/2008	3	7.8	<1	42	11	74	0.0923	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
E1	4/21/2008	4	6.8	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---
E1	4/21/2008	7.5	6	---	---	8.2	---	---	---	---	---	---	---	---	---	---	---
E1	4/21/2008	8.5	7.3	---	---	13	---	---	---	---	---	---	---	---	---	---	---
E2	4/22/2008	2.5	**85**	---	---	**490**	---	---	---	---	---	---	---	---	---	---	---
E2	4/22/2008	3.5	9	1.2	39	9.2	65	0.00727	<0.1	<0.2	<0.1	<0.1	<0.1	0.112	<0.1	<2	<4
E2	4/22/2008	4.5	6	---	---	7.8	---	---	---	---	---	---	---	---	---	---	---
E2	4/22/2008	7	5.4	---	---	7.4	---	---	---	---	---	---	---	---	---	---	---
E2	4/22/2008	8	7	---	---	9.8	---	---	---	---	---	---	---	---	---	---	---
E2	4/22/2008	12.5	6.2	<1	36	8	63	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
E3	4/25/2008	1.5	21	---	---	74	---	---	---	---	---	---	---	---	---	---	---
E3	4/25/2008	2.5	18	<1	44	29	73	0.2501	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	---
E3	4/25/2008	3.5	<1.7	---	---	5.4	---	---	---	---	---	---	---	---	---	---	19.5
E3	4/23/2008	4.5	<1.7	<1	360	2.9	**1,400**	0.03677	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	---
E3	4/23/2008	7	<1.7	---	---	2.8	**2,000**	---	---	---	---	---	---	---	---	---	<4
E3	4/23/2008	8	---	---	---	---	**1,200**	---	---	---	---	---	---	---	---	---	---

CORNERSTONE EARTH GROUP

Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
E4	4/23/2008	1	**41**	---	---	**160**	---	---	---	---	---	---	---	---	---	---	---
E4	4/23/2008	2	**36**	---	---	120	---	---	---	---	---	---	---	---	---	---	---
E4	4/23/2008	3	<1.7	<1	350	5	**1,500**	0.0106	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
E4	4/23/2008	4	<1.7	---	---	1.8	**1,700**	---	---	---	---	---	---	---	---	---	---
E4	4/23/2008	5.5	<1.7	---	---	4.9	**1,500**	---	---	---	---	---	---	---	---	---	---
E5	4/23/2008	2	16	---	---	100	---	---	---	---	---	---	---	---	---	---	---
E5	4/23/2008	3	21	---	---	47	---	---	---	---	---	---	---	---	---	---	---
E5	4/23/2008	4	<1.7	<1	250	4.6	**1,100**	0.00991	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	5.23
E5	4/23/2008	7	<1.7	---	---	1.8	**1,500**	---	---	---	---	---	---	---	---	---	---
E5	4/23/2008	8	<1.7	---	---	1.6	**1,700**	---	---	---	---	---	---	---	---	---	---
E5	4/23/2008	12.5	6.3	<1	45	9.4	89	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
E6	4/25/2008	2	**31**	---	---	110	---	---	---	---	---	---	---	---	---	---	---
E6	4/25/2008	3	<1.7	<1	220	6.1	**1,100**	0.4442	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
E6	4/25/2008	4	<1.7	---	---	9	---	---	---	---	---	---	---	---	---	---	---
E6	4/25/2008	6.5	<1.7	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---
E6	4/25/2008	7.5	<1.7	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---
E7	4/24/2008	2	**25**	---	---	**170**	---	---	---	---	---	---	---	---	---	---	---
E7	4/24/2008	3	<1.7	---	---	**290**	---	---	---	---	---	---	---	---	---	---	---
E7	4/24/2008	4	16	1.2	49	95	85	0.1384	<0.1	<0.2	<0.1	<0.1	<0.1	0.24	<0.1	<2	9.45
E7	4/24/2008	6.5	5.5	---	---	8.4	---	---	---	---	---	---	---	---	---	---	---
E7	4/24/2008	7.5	5	---	---	7.5	---	---	---	---	---	---	---	---	---	---	---
F1	4/21/2008	3.5	9.5	<1	35	9.6	62	0.00636	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F1	4/21/2008	4.5	8.9	---	---	9.4	---	---	---	---	---	---	---	---	---	---	---
F1	4/21/2008	7	7.5	---	---	9.4	---	---	---	---	---	---	---	---	---	---	---
F1	4/21/2008	8	6.4	---	---	8	---	---	---	---	---	---	---	---	---	---	---
F1	4/21/2008	9	6.4	---	---	8.1	---	---	---	---	---	---	---	---	---	---	---
F2	4/22/2008	3	**73**	---	---	**270**	---	---	---	---	---	---	---	---	---	---	---
F2	4/22/2008	3.5	**76**	---	---	68	---	---	---	---	---	---	---	---	---	---	---
F2	4/22/2008	4.5	6.9	<1	38	9.9	65	0.0037	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F2	4/22/2008	5.5	6.9	---	---	9.6	---	---	---	---	---	---	---	---	---	---	---
F2	4/22/2008	6.5	9.2	---	---	17	---	---	---	---	---	---	---	---	---	---	---
F2	4/22/2008	11.5	8.5	<1	52	12	80	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F3	4/23/2008	1.5	4.8	---	---	6.1	---	---	---	---	---	---	---	---	---	---	---
F3	4/23/2008	2.5	**36**	---	---	**270**	---	---	---	---	---	---	---	---	---	---	---
F3	4/23/2008	3.5	14	<1	42	34	71	0.0788	<1	<2	<1	<1	<1	<1	<1	**433**	**12,100**
F3	4/23/2008	4.5	6	---	---	30	---	---	---	---	---	---	---	---	---	**747**	**18,200**
F3	4/23/2008	7	6.1	---	---	18	---	---	---	---	---	---	---	---	---	**440**	**10,600**
F3	4/23/2008	9	---	---	---	---	---	---	---	---	---	---	---	---	---	<2	<4
F3	4/23/2008	11	---	---	---	---	---	---	---	---	---	---	---	---	---	4.3	11.7
F3	4/23/2008	14	---	---	---	---	---	---	---	---	---	---	---	---	---	<2	<4
F4	4/23/2008	2.5	**23**	---	---	120	---	---	---	---	---	---	---	---	---	---	---
F4	4/23/2008	3.5	**41**	---	---	93	---	---	---	---	---	---	---	---	---	---	---
F4	4/23/2008	4.5	<1.7	<1	270	6.2	**1,300**	0.02334	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F4	4/23/2008	7	<1.7	---	---	2.6	**1,500**	---	---	---	---	---	---	---	---	---	---
F4	4/23/2008	8	<1.7	---	---	16	**1,400**	---	---	---	---	---	---	---	---	---	---
F4	4/23/2008	11	6.6	<1	46	9.6	78	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4

CORNERSTONE EARTH GROUP

Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
F5	4/23/2008	1	21	---	---	58	---	---	---	---	---	---	---	---	---	---	---
F5	4/23/2008	2	**28**	---	---	47	---	---	---	---	---	---	---	---	---	---	---
F5	4/23/2008	3	<1.7	<1	340	4.6	**1,500**	0.01933	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F5	4/23/2008	4	<1.7	---	---	4.4	**1,200**	---	---	---	---	---	---	---	---	---	---
F5	4/23/2008	7	<1.7	---	---	4.8	**1,200**	---	---	---	---	---	---	---	---	---	---
F6	4/24/2008	1.5	3.5	---	---	6	---	---	---	---	---	---	---	---	---	---	---
F6	4/24/2008	2.5	21	---	---	91	---	---	---	---	---	---	---	---	---	---	---
F6	4/24/2008	3.5	5.5	<1	38	9.1	64	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F6	4/24/2008	4.5	5.9	---	---	9.8	---	---	---	---	---	---	---	---	---	---	---
F6	4/24/2008	7	4	---	---	7.8	---	---	---	---	---	---	---	---	---	---	---
F6	4/24/2008	11.5	4.7	<1	38	8.9	68	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F7	4/24/2008	1.5	**50**	---	---	**180**	---	---	---	---	---	---	---	---	---	---	---
F7	4/24/2008	2.5	20	1.1	51	52	100	0.68311	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
F7	4/24/2008	3.5	6.3	---	---	9.9	---	---	---	---	---	---	---	---	---	---	---
F7	4/24/2008	4.5	5.2	---	---	7.8	---	---	---	---	---	---	---	---	---	---	---
F7	4/24/2008	6	5.1	---	---	8.2	---	---	---	---	---	---	---	---	---	---	---
G1	4/21/2008	2	3.2	<1	17	5.1	29	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	171
G1	4/21/2008	3	6.7	---	---	9.8	---	---	---	---	---	---	---	---	---	---	---
G1	4/21/2008	4	6.4	---	---	11	---	---	---	---	---	---	---	---	---	---	---
G1	4/21/2008	5.5	7.1	---	---	10	---	---	---	---	---	---	---	---	---	---	---
G1	4/21/2008	6.5	6.4	---	---	8.7	---	---	---	---	---	---	---	---	---	---	---
G2	4/22/2008	1.5	**40**	---	---	**230**	---	---	---	---	---	---	---	---	---	---	---
G2	4/22/2008	2.5	8.2	<1	39	10	66	<0.002	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
G2	4/22/2008	3.5	8.2	---	---	15	---	---	---	---	---	---	---	---	---	---	---
G2	4/22/2008	4.5	7.2	---	---	11	---	---	---	---	---	---	---	---	---	---	---
G2	4/22/2008	7	7.7	---	---	10	---	---	---	---	---	---	---	---	---	---	---
G3	4/22/2008	1	**110**	---	---	34	---	---	---	---	---	---	---	---	---	---	---
G3	4/22/2008	2	11	---	---	12	---	---	---	---	---	---	---	---	---	---	---
G3	4/22/2008	3	**55**	---	---	**290**	---	---	---	---	---	---	---	---	---	---	---
G3	4/22/2008	4	7.6	<1	38	10	66	0.00256	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
G3	4/22/2008	5.5	7.1	---	---	9.6	---	---	---	---	---	---	---	---	---	---	---
G4	4/25/2008	1.6	**52**	---	---	**470**	---	---	---	---	---	---	---	---	---	---	---
G4	4/25/2008	2.5	**170**	---	---	**290**	---	---	---	---	---	---	---	---	---	---	---
G4	4/25/2008	3.5	12	<1	45	33	74	0.01839	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
G4	4/25/2008	4.5	8.4	---	---	9.6	---	---	---	---	---	---	---	---	---	---	---
G5	4/25/2008	0.5	**77**	---	---	**220**	---	---	---	---	---	---	---	---	---	---	---
G5	4/25/2008	1.5	**58**	---	---	**180**	---	---	---	---	---	---	---	---	---	---	---
G5	4/25/2008	2.5	**34**	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---
G5	4/25/2008	3.5	**74**	---	---	**200**	---	---	---	---	---	---	---	---	---	---	---
G5	4/25/2008	4.5	5.8	<1	160	49	**920**	0.1774	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	**1.3**	<2	5.18
G6	4/24/2008	1.5	**32**	---	---	**170**	---	---	---	---	---	---	---	---	---	---	---
G6	4/24/2008	2.5	8.8	<1	48	12	78	0.0127	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
G6	4/24/2008	3.5	7.1	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---
G6	4/24/2008	4.5	7.6	---	---	9	---	---	---	---	---	---	---	---	---	---	---
G6	4/24/2008	5.7	7.1	---	---	9	---	---	---	---	---	---	---	---	---	---	---

CORNERSTONE EARTH GROUP

Sample ID	Date	Depth (feet)	Arsenic	Cadmium	Chromium	Lead	Nickel	DDT Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TPHd	TPHo
G7	4/24/2008	1	4.2	<1	29	6.1	50	<0.008	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	4.04	44
G7	4/24/2008	2	6	---	---	10	---	---	---	---	---	---	---	---	---	---	---
G7	4/24/2008	3	5.2	---	---	9.7	---	---	---	---	---	---	---	---	---	---	---
G7	4/24/2008	4	5.6	---	---	10	---	---	---	---	---	---	---	---	---	---	---
G7	4/24/2008	7	6.3	---	---	9.1	---	---	---	---	---	---	---	---	---	---	---
H1	4/21/2008	1	**30**	---	---	76	---	---	---	---	---	---	---	---	---	---	---
H1	4/21/2008	2	7.3	<1	36	9.2	65	0.00211	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
H1	4/21/2008	3	6.3	---	---	8.5	---	---	---	---	---	---	---	---	---	---	---
H1	4/21/2008	6	7.2	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---
H1	4/21/2008	7	6.6	---	---	8.2	---	---	---	---	---	---	---	---	---	---	---
H2	4/22/2008	1.5	**86**	---	---	**280**	---	---	---	---	---	---	---	---	---	---	---
H2	4/22/2008	3.5	**45**	---	---	**150**	---	---	---	---	---	---	---	---	---	---	---
H2	4/22/2008	4.5	13	---	---	11	---	---	---	---	---	---	---	---	---	---	---
H2	4/22/2008	7	**28**	---	---	34	---	---	---	---	---	---	---	---	---	---	---
H2	4/22/2008	8	17	2.2	37	27	63	0.0196	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
H3	4/22/2008	1.5	**29**	---	---	**270**	---	---	---	---	---	---	---	---	---	---	---
H3	4/22/2008	2.5	16	1.4	38	12	64	0.0134	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<4
H3	4/22/2008	3.5	7.9	---	---	10	---	---	---	---	---	---	---	---	---	---	---
H3	4/22/2008	4.5	7.8	---	---	9.5	---	---	---	---	---	---	---	---	---	---	---
H3	4/22/2008	5.5	9.7	---	---	13	---	---	---	---	---	---	---	---	---	---	---
Cleanup Goal[1]			21	8.95	100,000	146	148	1	1	1	1	1	1	1	1	100	500

1 Unrestricted Cleanup Goal
< Not detected at or above laboratory reporting limit
--- Not Analyzed
BOLD Concentration exceeds cleanup goal

APPENDIX A

JUNE 25, 2004 HEALTH AND SAFETY PLAN FOR SITE REMEDIATION

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

Health and Safety Plan
For Site Remediation

1633 Old Oakland Road

San Jose, California

This report has been prepared for:

Markovits and Fox
14125 Capri Drive, Suite 4, Los Gatos, California 95032

June 25, 2004
Project No. 1564-2

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HEALTH AND SAFETY PLAN
1633 OLD OAKLAND ROAD
SAN JOSE, CALIFORNIA

1.0 INTRODUCTION

Lowney Associates has developed this Health and Safety Plan (HSP) to inform the Remediation Contractor's personnel of the potential hazards associated with implementing the soil remediation project at the approximately 18-acre site located at 1633 Old Oakland Road in San Jose, California (Site) (Figure 1). The proposed remediation contractor is Pacific States Environmental, Inc., and the proposed remediation program includes limited excavation for off-site disposal, and excavation, consolidation and capping for soils in areas being excavated for unrestricted use. The duration of excavation, consolidation, and capping operations is expected to last approximately two weeks.

It should be recognized that this Site is unique; conditions can occur that may affect the health and safety of on-Site workers. If additional subsurface risks (buried tanks, drums etc.) are encountered and/or suspected, the Site Safety Officer (SSO) will be notified immediately and work must be stopped until appropriate actions can be taken.

1.1 Project Background

Markovits & Fox, Inc. purchased the site in 1957. Prior to the purchase of the property, a pear orchard occupied it. Development began on-site in 1963 and the former metals recycling facility began operations in 1964. The facility ceased operation in March 2000. Processing equipment and scrap metal were removed by an outside recycling contractor (SimsMetal America). The metals recycling operations historically have included sorting, shredding, and compressing of ferrous and non-ferrous metals. Site structures consisted of two mills, two warehouse/storage buildings, an office building, a wire chopping building, truck scales and adjacent office, a building (water table) used to separate residual wire casings, a vehicle and equipment maintenance shop, wire sorting and bailing structures, three railroad spurs, and outdoor processing equipment. The majority of the site is paved with concrete or asphalt, with the exception of the most westerly portion of the property.

The surrounding uses of land include the San Jose Municipal Golf Course to the east, commercial properties and Coyote Creek to the south, railroad tracks and commercial properties to the west, and commercial properties to the north that transition to residential use approximately ¼ mile to the north.

SimsMetal America collected soil samples from selected areas on-site to evaluate environmental conditions prior to their removal of equipment for re-use at their facilities. Soil samples were collected on March 23 and 24, 2000 from the surface to approximately 1 foot at 30 on-site locations. Laboratory analysis of soil samples collected from the most westerly portion of the site detected elevated concentrations of chromium (up to 430 parts per million (ppm), copper (up to 1,920 ppm), lead (up to 1,140 ppm), and zinc (up to 59,000 ppm). Some of the concentrations detected exceeded California's hazardous waste limits. In addition, chromium was detected in two soil samples collected from near the aluminum shredder and in one soil sample

collected on the west side of the water table above the Federal EPA Preliminary Remedial Goal (PRG) for industrial sites. Elevated levels of polychlorinated byphenyls (PCBs) were detected in three soil samples collected from the most westerly portion of the site (SimsMetal America, 2000).

Lowney Associates has investigated the site between June 2000 and February 2003. Site investigations to date have included the completion of 142 soil borings, 3 test pits, 4 groundwater-monitoring wells, and the completion of 13 soil vapor probes. The Lowney investigations have resulted in the collection and analysis of 333 soil samples, 15 soil vapor samples, and 12 groundwater samples. A complete description of the Lowney Soil and Groundwater quality investigations is provided in the *Removal Action Work Plan for 1633 Old Oakland Road, San Jose California*. Tables 1 and 2 below summarize site chemical information developed by the Lowney Investigations. The chemical information includes frequency of detection, range of concentrations detected, site wide average concentrations, and locations of the maximum detected concentrations.

Table 1. Site Wide Analytical Summary

Chemical	Frequency of Detection	Range of Detected Concentrations	Average Concentration	Location of the Maximum	PRG-Residential
Soil Chemicals		(mg/kg)	(mg/kg)		(mg/kg)
PCBs (1254 & 1260)	80/170	0.052 – 93	4.39	SB-34	0.22
PAHs (total)	1/36	8.5	NM	SB-29	NE
Benzo(a)pyrene	1/36	0.64	NM	SB-29	0.062
Benzo(b)fluoranthene	1/36	0.66	NM	SB-29	0.62
Benzo(a)anthracene	1/36	0.72	NM	SB-29	0.62
Phenanthrene	1/36	1.9	NM	SB-29	NE
Pyrene	1/36	1.6	NM	SB-29	23,000
Chrysene	1/36	0.98	NM	SB-29	62
Fluorene	1/36	2	NM	SB-29	2,700
TPHd	25/36	1.2 – 3,600	177.6	SB-97	NE
TPHo	7/36	69 – 3,600	1347	SB-52	NE
Oil & Grease	17/56	54 – 5,800	829	SB-27	NE
Trichloroethene	1/10	0.015	NM	SB-40	0.053
DDT(t)	31/46	0.0093 – 14.3	1.8	SB-101	1.7
Aldrin	1/46	0.026	NM	SB-87	0.029
Endrin	8/46	0.018 – 0.65	0.15	SB-103	18
Endrin ketone	2/46	0.027 – 0.089	0.058	SB-90	NE
g-chlordane	1/46	0.054	NM	SB-87	1.6
Arsenic	121/121	2.1 – 450	30.2	SB-47	0.39
Barium	39/39	57 – 200	134	SB-15	5,400
Cadmium	68/71	0.51 – 21	1.8	SB-34	37
Chromium[a]	108/108	23 – 100,000	1366	EB-27	210
Cobalt	39/39	8.5 – 20	10.8	SB-15	900
Copper	103/103	19 – 3,300	136	SB-87	3,100
Nickel	105/105	38 – 58,000	717	EB-27	1,600
Mercury	56/65	0.052 – 1.1	0.13	SB-28	23
Molybdenum	3/39	1.1 – 4.8	2.6	SB-15	390
Lead	306/ 319	3.6 – 46,000	452	EB-13	400 150 (Cal)
Vanadium	39/39	23 – 57	29.5	SB-7	550
Zinc	72/73	31 – 3,200	205	EB-33	23,000
Soil Gas Chemicals		(volume %)	(volume %)		(volume %)
Methane	5/5	2.5 – 25.0	6.95	VS-1, VS-4	NE
Groundwater Chemicals		(ug/l)	(ug/l)		(ug/l)[b]
Iso-propylbenzene	1/3	2.9	NM	MFW-2	660
Naphthalene	1/3	2.7	NM	MFW-2	6.2
TPH(gasoline)	3/12	210-1,800	NM	MFW-2	NE
TPH(diesel)	5/15	150 – 4,600	NM	MFW-2	NE
Vinyl chloride	3/15	1.7	NM	MFW-1	0.02

Table Notes: a. For total chromium, PRG assumes 1:6 ratio of Chromium VI to Chromium III. NE= not established, NM = not meaningful. b. Tap water PRG.

Table 2. Soil Gas Chemicals

Chemical	Frequency of Detection	Concentration Range (ug/m^3)	95% UCL Conc. (ug/m^3)	Location of the Maximum	PRG (ug/m^3)
Acetone	9/10	<45 - 610	302	SV1-20	370
Benzene	8/10	<14 - 260	135	SV-7	0.25
2-Butanone	5/10	<54 - 140	65.7	SV1-5	1,000
Carbon Disulfide	2/10	<54 - 120	62.1	SV-3	730
Chlorobenzene	1/10	<5.1 - 24	15.2	SV-7	62
Chloroethane	3/10	<3 – 83	37.9	SV-7	2.3
Cyclohexane	6/10	<63 – 690	411	SV-3	21,000
1,1 dichloroethene	3/10	<17 – 430	126	SV-1-10	0.038
Trans 1,2-dichloroethene	1/10	<18 - 75	43.6	SV-1-10	73
1,1 – dichloroethane	3/10	<4.5 - 360	103	SV-1-10	520
Cis -1,2 dichloroethene	5/10	<17 - 880	301	SV-1-10	37
1,3 dichlorobenzene	1/10	<26 – 8	14.1	SV-5	3.3
Ethanol	9/10	<36 – 2,600	1212	SV-3	NE
Ethyl benzene	5/10	<18 – 3,600	1350	SV-7	1,100
Ethyl toluene	2/10	<84 - 500	219	SV-7	NE
Freon 11[a]	1/10	<24 – 8	13.4	SV-5	730
Freon 12[b]	3/10	<5.5 - 170	57.5	SV-1-10	210
Freon 114[c]	3/10	<7.8 - 83	39.1	SV-1-10	730
Heptane	5/10	<71 – 1,700	775	SV-5	NE
Hexane	8/10	<66 – 1,600	782	SV1-5	210
Methylene chloride	3/10	<3.9 - 260	65.0	SV-1-5	4.1
4-methyl 2- pentanone	1/10	<70 - 400	169	SV-5	NE
MTBE	2/10	<61 – 3,300	1218	SV-2	3,100
2-propanol	9/10	<46 – 2,400	1130	SV-3	NE
Propylene	1/10	<7.7 – 1,400	17.0	SV-1-20	NE
Toluene	9/10	<18 - 370	216	SV-7	400
1,1,1- trichloroethane	1/10	<6.1 – 88	25.4	SV-1-10	1,000

(Continued)

Table 2. Soil Gas Chemicals (continued)

Chemical	Frequency of Detection	Concentration Range (ug/m^3)	95% UCL Conc. (ug/m^3)	Location of the Maximum	PRG (ug/m^3)
Trichloroethene	3/10	<6 - 750	247	SV1-10	1.1
1,2,4-trimethylbenzene	7/10	<22 - 250	130	SV-5	6.2
1,3,5-trimethylbenzene	2/10	<21 - 150	83.5	SV-7	6.2
M,p-Xylene	8/10	<20 – 1,900	766	SV-7	730
o-Xylene	6/10	<20 - 540	256	SV-7	730
Vinyl chloride	7/10	<12 - 850	305	SV-1-10	0.22

Notes: a. Freon 11= trichlorofluoromethane.
b. Freon 12 = dichlorodifluoromethane
c. Freon 114 = 1,2 dichlorotetrafluoroethane, ambient air PRG based on Freon 11.

Excavation operations will involve soil contact and result in soil disturbance. In the areas to be excavated, arsenic was detected between 3 to 39 mg/kg, chromium from 59 – 260 mg/kg, nickel from 92 to 990 mg/kg, lead from 110 to 2,000 mg/kg, DDT from 2.14 to 5.4 mg/kg, oil and grease from 230 – 3,200 mg/kg, and PCBs from 8.5 to 93 mg/kg.

Other potential COCs detected during site investigations may also be encountered during remedial activities. Other COCs encountered that exceed screening levels will be handled during excavation operations in the same manner as for the COCs listed below. In addition, the concentrations of volatile organic compounds (vocs) detected during the soil gas investigation of the refuse pit will not contribute to onsite ambient exposure risks (See Section 3.1.1).

The primary chemicals of concern (COCs) for soil addressed in this HSP include arsenic, chromium, nickel, lead, DDT, petroleum hydrocarbon compounds, and polychlorinated biphenyls (PCBs).

1.2 Scope of Work

Limited excavation for off-site disposal will be conducted at four selected areas of the site that contain soil concentrations of PCBs greater than 10 mg/kg. In addition, soil exceeding site cleanup goals for unrestricted use will be excavated and consolidated in a consolidation cell near the existing consolidation cell (debris pit). The new consolidations cell will be excavated to a depth of approximately 8 feet with a surface area of approximately 350,000 square feet in the area located north and east of the existing consolidation cell. The maximum depths of the excavations are approximately two feet to three feet below the ground surface (bgs) and the total amount of soil to be excavated for off-site disposal is approximately 500 cubic yards. Excavated soil for off-site disposal will be directly loaded into end dump trucks. Stockpiling will be necessary for soil excavated for consolidation in the consolidation cell therefore, it will be completed in manner that minimizes the migration of contaminants from stockpiled

soils. The expected duration of the excavation, consolidation, and capping project is two weeks. The number of employees involved is expected to be four total.

After excavation operations, the consolidated soil will be capped with a 1-foot thick soil cap that complies with TSCA section 761.61(a)(7).

All work will be conducted during daylight hours. In the event that additional illumination is required, it will be provided in accordance with 8 CCR 5192 (c) (4) (A and C).

2.0 PROJECT SAFETY AUTHORITY

2.1 Health and Safety Personnel

This HSP also will be provided to our remediation subcontractor; the subcontractor will be responsible for the health and safety of their employees.

2.1.1 Safety Officer

Mr. Peter Timmerman (925-803-4333 office, 925-200-7811 cell) is the Health and Safety Officer (HSO) responsible for the health and safety activities for Pacific States Environmental Contractors. The HSO is an individual who is responsible to the employer and has the authority, training, experience, and knowledge necessary to implement the Site HSP and verify compliance with applicable safety and health requirements. Lowney Associates will be solely responsible for the health and safety of their employees. Lowney Associates employees will include Peter Langtry, Mark Arniola, and Daniel Hernandez. The HSO must verify that all on-Site personnel are qualified, trained, and prepared to implement the HSP and safely perform the planned site work. Field personnel should be required to indicate in writing that they have read and understand the provisions of the HSP. As the Project Industrial Hygienist, Mr. D.W. Hernandez, CIH, will provide technical support to Mr. Timmerman.

Safe work practices will be emphasized during safety meetings to be conducted by the HSO and implemented throughout the project.

2.1.2 Project Manager

Mr. Peter Langtry (501-267-1970) is Lowney Associates' project manager (PM). Lowney Associates' responsibilities consist of providing oversight during site remediation and collecting any verification soil samples.

The PM will be responsible for coordinating with the contractor and documenting that Lowney Associates on-site employees are following this HSP.

2.2 Enforcement of the HSP

Enforcement of the policies and practices of the HSP will be the responsibility of the HSO and PM. The HSO has the authority to suspend work in the area of the Site where the provisions of the HSP are not being met. The HSO also shall inform the PM in writing about individuals whose conduct is not consistent with the requirements of this HSP.

2.3 Evaluation of Effectiveness

The HSO shall evaluate the effectiveness of the HSP. As applicable, deficiencies and associated corrective actions must be documented and a written summary evaluation prepared and maintained on-Site.

3.0 HAZARD ASSESSMENT AND CONTROL MEASURES

This HSP provides standard operating procedures for personnel involved in activities that may expose them to chemical hazards in the areas of impacted soil. Physical hazards also exist. For example, the equipment that will be used to complete Site excavation and capping presents a potential for physical hazards.

Field personnel are required to control chemical exposure primarily through the use of safe work practices and engineering controls (see Sections 4.0, 5.0, 6.0, and 7.0). The working conditions will be assessed using a combination of visual observations and air monitoring techniques (see Section 8.0).

3.1 Chemical Hazards

The COCs at the Site include arsenic, chromium, nickel, lead, DDT, petroleum hydrocarbon compounds, and PCBs. Chemical hazards associated with the Site soils are summarized in Table 3, as are the maximum concentrations of the COCs detected in soil samples. Table 3 also includes the Cal/OSHA Permissible Exposure Limits (PELs), concentrations in air that would be immediately dangerous to life and health (IDLH), potential exposure pathways, and symptoms of acute exposure.

Table 3. Health Hazard Information for Constituents of Concern

COC	Maximum Concentration Detected During Ri (mg/kg)(1)	PEL(2)	IDLH(4)	Routes Of Entry(5)	Acute Exposure Symptoms(5) & Chronic Effects
Arsenic	450	0.01 mg/m^3 8-hour TWA	NA	Inhalation, dermal, ingestion	Nasal and respiratory irritation, digestive distress. Carcinogenic (skin, lung)
Chromium	100,000	0.01 mg/m^3 (Cr VI) 0.5 mg/m^3 (Cr III)	30 mg/m^3 (Cr VI) NE (Cr III)	Inhalation, dermal, ingestion	Nasal and respiratory irritation, decreased pulmonary function, fibrosis. Cr IV is associated with Nasal and respiratory irritation, nasal septum perforation, liver and kidney damage, skin ulcers, allergic dermatitis. Cr IV is considered carcinogenic (lung)

Continued

Table 3. Health Hazard Information for Constituents of Concern (Continued)

COC	Maximum Concentration Detected During Ri (mg/kg)(1)	PEL(2)	IDLH(4)	Routes Of Entry(5)	Acute Exposure Symptoms(5) & Chronic Effects
Nickel	58,000	1 mg/m^3 0.1 mg/m^3	NE	Inhalation, dermal, ingestion	Nasal and respiratory irritation, allergic dermatitis. Nasal and Lung cancer.
Lead	46,000	0.05 mg/m^3 8-hour TWA 0.03 mg/m^3 Action Level	100 mg/m^3	Inhalation, ingestion	Irritation of mucous membranes, weakness, weight loss, abdominal pain, anemia, colic. Adverse effects of the nervous and reproductive systems, blood-forming organs.
Total DDT: (DDT,DDE DDD)	14.3	1 mg/m3	NE	Inhalation, dermal contact, ingestion	Paresthesia of the tongue, lips face, tremor, apprehension, dizziness, confusion, convulsions. Chronic exposure may result in adverse effects of the skin, kidneys, liver and nervous system. DDT compounds are suspected carcinogens.
TPH (diesel and oil range)	5,800 (oil) 3,600(diesel)	5 mg/m^3 (as mineral oil)	NA	Inhalation, dermal contact, ingestion	Irritation eyes, nose, and throat. Increase sensitivity to sunlight, dermatitis. Liver and kidney effects.
PCB	93	1 mg/m^3 (42% Cl) 0.5 mg/m^3 (54% Cl) 8-hour TWA	5 mg/m^3	Inhalation, ingestion, dermal contact	Irritated eyes, liver damage, chloracne, and transient visual disturbances. PCB compounds are suspected carcinogens.

Table notes: a. PELs for Nickel 1 mg/m3 for insoluble compounds, 0.1 mg/m3for soluble compounds
(1) mg/kg = milligrams of contaminant per kilogram of soil.
(2) PEL = Permissible Exposure Limit given in Title 8, CCR, Section 5155.
(3) mg/m3 = milligrams per cubic meter.
(4) IDLH = Immediately Dangerous to Life and Health.
(5) Routes of entry and acute exposure to symptoms given in NIOSH *Pocket Guide to Chemical Hazards* (U.S. Department of Health and Human Services, June 1997), and Chemical Hazards of the Workplace (Procter and Hughes).
*Note: Because an individual may not be exhibiting the acute health effects of lead, they still may be exposed to hazardous levels.

The PELs listed in Table 1 are identified as the time-weighted average (TWA_8) concentrations for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers repeatedly may be exposed without adverse health effects (Title 8, CCR, Section 5155), unless otherwise noted. The IDLH values represent a maximum level from which a person could escape within 30 minutes, without suffering escape-

impairing symptoms or irreversible health effects (NIOSH Pocket Guide to Chemical Hazards). The concentrations of the COCs reported in the impacted soil are based on a weight-to-weight volume ratio. The airborne criteria listed above (PELs and IDLH) are reported as a weight-to-volume ratio in air, and therefore are not directly comparable to the soil concentrations.

3.1.1 Exposure Pathways

The main exposure pathways for the COCs in the soil include incidental ingestion, inhalation of windblown dust, and direct skin contact (dermal contact) with soil during the field activities. Wind blown dust exposures (during excavation) are not assumed to be insignificant since these activities have the potential to generate significant dust concentrations if not properly controlled. However, during site capping, moisture conditioning prior to placement of clean fill will significantly reduce the potential for dust generation.

With respect to the VOCs detected in site soil gasses within the refuse pit, significant concentrations were not detected relative to occupational exposure standards. Since all soil gas chemicals detected were below respective PELs/TLVs, significant exposures will not occur. The VOCs must first diffuse through the vadose zone and flux into the ambient air where additional dilution will take place.

Dermal absorption and ingestion pathways must be mitigated by following safe work practices and through the use of personal protective equipment (PPE).

3.1.2 Arsenic

Arsenic is a widespread contaminant at the Site. Arsenic can affect the body via inhalation (i.e., dust) and ingestion and dermal exposure pathways. Overexposure can result in irritation of the stomach, intestines, skin, throat and lungs. Chronic overexposure can cause damage to the blood, skin and nervous systems. The EPA has identified arsenic as a probable human carcinogen. The overall potential for occupationally significant arsenic exposure during field excavation and capping activities is expected to be low. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression-if necessary) and personal protection.

3.1.3 Lead

Lead can affect the body via inhalation and ingestion pathways. Overexposure can result in weakness in the fingers, wrists, and/or ankles. Chronic overexposure can cause severe damage to the blood-forming, nervous, urinary, and reproductive systems. The overall potential for significant lead exposure during excavation is expected to be moderate to high. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression), safe work practices, and PPE.

3.1.4 PCBs

PCBs can affect the body via inhalation, ingestion and dermal contact pathways. Overexposure can result in irritated eyes and skin, and liver damage. Acneform dermatitis (chloracne) has been associated with exposure to PCB compounds. Chronic overexposure has been associated with chloracne, brown pigmentation of the skin and nails, increased eye discharge, visual disturbance, gastrointestinal symptoms and liver damage. In addition reproductive effects and cancer are also associated with chronic exposure. The overall potential for significant exposure during site excavation activities is expected to be moderate. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression), safe work practices, and PPE.

3.1.5 Petroleum Hydrocarbons

The primary petroleum hydrocarbons detected in site soils are higher molecular weight oil and grease range hydrocarbons. Overexposure can result in irritated eyes, skin, and respiratory system. Skin contact can result in dermatitis and increased sensitivity to sunlight. The overall potential for significant hydrocarbon exposure during site excavation activities is expected to be low. Exposures will be minimized during field operations using safe work practices and PPE.

3.1.6 DDT

DDT can affect the body via inhalation, ingestion and dermal contact pathways. Overexposure can result in irritated eyes and skin, and liver damage. High exposures can result in nervous system effect that includes paresthesias, tremor, and convulsions. In addition liver and kidney effects, and cancer are also associated with chronic exposure. The overall potential for significant exposure during site excavation activities is expected to be low. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression), safe work practices, and PPE.

3.1.7 Nickel

Nickel can affect the body primarily via inhalation and dermal contact pathways. Overexposure can result in irritated eyes and respiratory irritation. Skin exposure to some nickel compounds is associated dermatitis (skin eruptions and ulcers) resulting from sensitization to nickel. High inhalation exposures to some nickel compounds are associated with nasal and lung cancer. The overall potential for significant exposure during site excavation activities is expected to be low. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression), safe work practices, and PPE.

3.1.8 Chromium

Chromium can affect the body primarily via inhalation, ingestion, and dermal contact pathways. Risks associated with exposure are primarily associated with the chemical form of chromium. Chromium II and III compound are less toxic and associated with upper respiratory irritation and decreased pulmonary function. Chromium VI compounds are severe irritants of the respiratory system and skin. In industrial settings, Chromium VI compounds have caused perforated nasal septum, pulmonary

edema, gastric pains, kidney damage, primary irritant dermatitis, and lung cancer. Chromium VI compounds have not been detected on-site. The overall potential for significant exposure to chromium compounds during site excavation activities is expected to be low. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression), safe work practices, and PPE.

3.2 Physical Hazards

Physical hazards associated with excavation and site capping activities, include noise, heat-related disorders, slips, trips, falls, falling objects, flying debris, electrical shock, buried utilities, and overhead power lines. Proper lock out /tag out procedures in compliance with all applicable federal, state, and local regulations will be observed for field maintenance and repair activities on all machinery utilized on the site.

3.2.1 Noise Hazards

Noise-generating equipment will be used during field activities. Elevated noise levels could constitute a hearing hazard and interfere with communication. Field personnel will be protected from noise levels exceeding 85 dBA with appropriate personal protective equipment. Noise hazards will be addressed in accordance with 8 CCR, Article 105.

3.2.2 Heavy Equipment Hazards

Heavy equipment can pose significant hazards to on-Site employees. The SSO will ensure that motor vehicles meet the requirements specified in the Department of Industrial Relations, General Industry Safety Orders and Construction Safety Orders (8 CCR Division 1, Chapter 4, Subchapters 4 and 7). The following safe work practices are to be followed during work around heavy equipment.

- Never walk directly behind or to the side of heavy equipment without the operator's knowledge. Be aware of the location and operation of heavy equipment; do not assume that the operator is aware of keeping track of your presence.
- While working on-Site, wear reflective/visible safety vests, maintain visual contact with the operator at all times, and remain alert.
- All heavy equipment must be fitted with audible reversing signals mandated by OSHA.
- Unless a spotter is present to guide the operator, equipment with obstructed rear view will have an audible alarm that sounds when moving in the reverse direction.
- Establish hand signals with the operator when verbal communication is not possible.
- Whenever excavation or other operations are conducted in tight quarters, the equipment contractor should make provisions for another person to help guide the operator's movements.

- All non-essential personnel will be kept out of work areas.
- On-Site employees will wear appropriate PPE while on-Site.

3.2.3 Heat-Related Disorders

This project is anticipated to occur during the summer/fall months, with anticipated completion in September 2004. Since heavy physical labor is not intended during site excavation activities, heat stress is not an anticipated hazard; however, the remediation sub-contractor is responsible for monitoring their workers for signs and symptoms of heat stress. Water should be provided on-Site and the contractors' Site supervisor should have first aid/CPR training and be familiar with the early signs of heat related disorders, and appropriate treatment procedures.

3.2.4 Slips, Trips, and Falls

Slipping, tripping, and falling are the most common sources of injuries at these types of sites. These injuries can be prevented by proper Site control measures, safe work practices, and by keeping the work area free from obstructions. Tailgate safety briefings will be held by the HSO prior to each day's field activities to identify specific Site locations of concern (slippery surfaces, steep grades, or uneven terrain), and to specify work practices and controls necessary to avoid or eliminate the hazards in those areas.

3.2.5 Buried Utilities

Prior to excavation of selected areas, a utility locator will be used to clear the boring locations. In addition, buried utilities at the Site will be identified through Underground Service Alert (USA).

If buried utilities, such as natural gas piping, are damaged during excavation activities, the area should be immediately evacuated and Emergency 911 should be immediately notified. The SSO should notify all on-Site employees of the rupture and the area of the release should be evacuated.

3.2.6 Muscular-Skeleton Injury Hazards

Field activities may require some lifting of heavy objects. No one should attempt to lift large, heavy (greater than 50 pounds), or cumbersome objects without assistance. All on-Site employees who are generally called upon to do frequent lifting are instructed in proper lifting procedures.

3.2.7 Biological Hazards

The biological hazards that may be encountered include spiders and bees. A first aid kit to treat minor skin irritations, stings, and bites will be maintained at the Site.

3.2.8 Overhead Utilities

Overhead utilities and power lines are not present at the site. However, if they become present, elevated superstructures (drill rigs, pile drivers, back hoe, scaffolding, ladders, cranes, etc) shall remain a distance of 10 feet away from utility

lines and 20 feet away from power lines. Distance from utility/power lines may be adjusted by the SSHO depending upon actual voltage of lines.

3.2.9 Ionizing Radiation

According to site owners, ionizing radiation sources have never been used onsite for any purpose (thickness gages, measurement devices, scanning/density gauges, etc.) nor have metallic radioactive sources ever been recycled onsite. Lowney Associates has no reason to believe that ionizing radiation is a potential hazard onsite.

4.0 SAFETY EQUIPMENT, PERSONAL HYGIENE, AND SANITATION

4.1 Personal Protective Equipment (PPE)

PPE and clothing are used to isolate individuals from the COCs and physical hazards. The minimum level of protection for workers within the exclusion zone is generally Level C (as defined by the EPA [July 1998]) and should include the following:

1. Tyvek work coveralls, and boot coverings
2. Reflective/visible safety vests
3. Work gloves
4. Steel-toed boots with over-the-ankle protection
5. Safety glasses, as necessary
6. Hard hat, as necessary
7. Hearing protection, as necessary
8. Half face air-purifying respirators equipped with HEPA (P100) cartridges

If site conditions warrant a further reduction in the level of protection to Level D that includes the following:

1. Tyvek work coveralls, and boot coverings
2. Reflective/visible safety vests
3. Work gloves
4. Steel-toed boots with over-the-ankle protection
5. Safety glasses, as necessary
6. Hard hat, as necessary
7. Hearing protection, as necessary

Level B will not be required for this job.

4.2 Respiratory Protection

Respiratory protection will include ½ face air-purifying respirators equipped with HEPA (P100) cartridges only. Organic and vapor phase contaminants are not expected in significant concentrations at the soil excavation areas. The debris consolidation cell (location where vapors were detected) will not be disturbed. No change out schedule for organic vapor cartridges is required.

4.3 Sanitation

Potable water, toilet facilities, and washing facilities will be provided at the Site.

5.0 SITE CONTROL

This section provides a description of the Site control areas that must be established during excavation and capping activities. Lowney Associates' and contractors' employees will indicate their presence at the Site by signing in and out on a daily basis. Site control procedures are established to control the potential spread of contamination from the Site. Access and egress will be controlled via gates. The gates that provide site access will be locked after working hours. Signs instructing visitors to check in at the project support area will be posted at all entrances to the Site.

For field operations, a three-zoned approach will be implemented where possible. The three zones include the exclusion zone, contamination reduction zone, and the support/staging area. In addition to the areas described below, an evacuation-meeting place will be designated before operation begins, based on the field activity planned. Communication between field personnel and off-Site parties will proceed using cellular telephones and radios.

5.1 Exclusion Zone and Work Areas

The areas of the Site that are being excavated and capped will be considered "Exclusion Zones." Access to these work areas must be controlled by the HSO. Unauthorized personnel and visitors shall not be allowed access to the site. Work-area boundaries will be delineated in the field using construction tape and stakes. PPE (see Section 4.0) is required for personnel within the work areas. All personnel will enter and exit the "Exclusion Zone" through the "Contamination Reduction Zone" and "Support Zone." Eating, drinking, smoking, chewing tobacco, or applying cosmetics is prohibited in the "Exclusion Zone."

Any item taken into the "Exclusion Zone" becoming visibly dirty will be assumed to be contaminated, and must be decontaminated in the "Contamination Reduction Zone" before the item leaves the area. Equipment, and materials brought into the "Exclusion Zone" should remain in the "Exclusion Zone" until no longer necessary to the project, and/or until properly decontaminated.

Each access route to the "Exclusion Zone" must be posted with signs that read:

WARNING **CONTAMINATED WORK AREA** **POISON** **NO SMOKING OR EATING**	**WARNING** **This Site is contains chemicals known to the State of California to cause cancer or other reproductive toxicity.** **AUTHORIZED PERSONNEL ONLY**

5.2 Contamination Reduction Zones

The "Contamination Reduction Zones" will be established on-Site such that dust, debris, and soil are removed from equipment and transportation vehicles leaving the exclusion zones. Depending on whether the soil is wet from rain, decontamination methods may consist of dry decontamination methods (brushing and vacuuming), or

wet decontamination methods (steam cleaning and/or high-pressure washing), or a combination of these without the use of detergents.

The "Contamination Reduction Zone" must contain at a minimum:

1. Methods for equipment decontamination (wash basins for tools, brushes, etc.).

2. A decontamination pad consisting of drain rock over plastic sheeting will be constructed for excavation and other large (grading) equipment to be decontaminated. If water is required for decontamination, the pad will be constructed in a fashion to prevent runoff and collection of the decon rinse water.

3. Plastic sheeting in which to place and segregate reusable equipment.

4. Washbasins, scrub brushes, and a water source for the decontamination of reusable equipment.

5. Emergency response and first aid equipment, including eye/body wash accommodations, first aid kits, and fire extinguishers.

6. Clearly marked trash barrels or drums with plastic liners for the placement and disposal of expendable items such as gloves and protective clothing.

All personnel and equipment exiting the "Exclusion Zone" will do so through the "Contamination Reduction Zone." The specific use of this zone must be reviewed during the Site-specific training conducted by the SSO.

5.3 Support/Staging Zone

The "Support/Staging Zone" will be set up on-Site to provide for administrative and support functions (command post, first-aid station, rest area, truck staging, etc.) necessary to keep the field activities running smoothly. The contractor shall provide potable water and wash facilities for the field personnel in this location. The "Support/Staging Zone" will be established prior to the beginning of remedial activities.

5.4 Visitors

All visitors desiring to gain access to any part of the Site will be required to announce themselves at the project support area and indicate their presence at the Site in the visitor log book. The HSO should be notified immediately upon the arrival of any visitors. Additionally, visitors will be required to read and indicate in writing their understanding of this HSP.

Visitors are expected to comply with all local, state, and federal training regulations and medical surveillance requirements and to provide their own PPE. Visitors failing to adhere to the provisions of this HSP will not be allowed access to the Site.

6.0 DECONTAMINATION PROCEDURES

6.1 Equipment Decontamination

Decontamination procedures must be performed to reduce the physical transfer of impacted materials from the project area. Before being removed from the Site, all vehicles and equipment with visible accumulations of soil that are potentially contaminated must be thoroughly rinsed/hosed down with water and/or scrubbed to remove residual soil. Equipment decontamination must take place in the "Contamination Reduction Zone."

Washtubs with soap and water and rinse tubs should be provided for cleaning of reusable equipment–if necessary.

Decontamination water will be collected in an on-Site collection receptacle located within the "Contamination Reduction Zone."

Decontamination water will be stored on-Site in 55-gallon drums or baker tanks for future disposal.

6.2 Personnel Decontamination

Workers should minimize the amount of dirt or dust on their hands, face, clothing, or shoes. If any of these are visibly soiled, they must be cleaned. Shoes with visible accumulations of soil must be cleaned with a brush and water. These activities must be performed prior to leaving the "Contamination Reduction Zone."

Personnel decontamination will include removing coveralls, work gloves, and washing hands and face prior to eating drinking, smoking, or leaving the "Contamination Reduction Zone." At the end of the day, used coveralls (if utilized) must be stored and must remain on-Site (not taken home).

PPE and other equipment should be cleaned (i.e., brushed off) as appropriate prior to disposal. These items are not considered hazardous waste and are not expected to be disposed at a hazardous waste facility.

In the event that emergency life-saving first aid and/or medical treatment are required, decontamination procedures should be omitted. Site personnel should accompany the contaminated victims to the medical facility to advise on matters involving decontamination.

6.3 Spill Containment

The Site activities will result in impacted soil disturbances; therefore, spillage during excavation and loading (or stockpiling) must be controlled. Use of plastic sheeting at loading areas and/or stockpiling areas will be required to contain spilled soil. In addition, spill containment may be a concern during the decontamination of excavation equipment and grading equipment if significant wash and rinse water is required for decontamination.

7.0 DUST CONTROL

Dust control measures are anticipated to be required for excavation, consolidation and capping. A water truck will be used to moisten site soils to ensure that visible dust is not emitted during soil excavation and capping.

8.0 AIR MONITORING

8.1 Excavations

Personal exposure and perimeter fence line air monitoring for Lead and Nickel will be required during site excavation and consolidation activities. In addition, assuming maximum soil concentrations of PCB compounds (93 mg/kg) and a total dust concentration of 5 mg/m^3 generated during excavation, the potential to exceed ambient PRG concentrations for PCBs (3.4 x 10^{-3} ug/m^3) is indicated. Therefore perimeter monitoring for PCB compounds will also be required. With respect to occupational exposure standards, due to the low vapor pressures of sorbed PCB compounds and expected maximum total dust generation (5 mg/m^3), significant airborne exposures to PCBs will not occur.

When excavations are to be conducted in close proximity to the existing consolidation cell (debris pit), monitoring for combustible gases will be conducted. For combustible gases, a site action level of 20 percent of the LEL is established for purposes of stopping work. If in the highly unlikely case that the AL is reached, all work will be stopped, workers will be moved to an upwind location, and the Project Industrial Hygienist will be summoned. The Project Industrial Hygienist will provide direction, remedial recommendations, and additional technical support to reduce potential risks.

Prior to mobilization, the remediation contractor will provide a detailed air-monitoring plan to include sampling and analytical methods, equipment calibration, and the proposed laboratory that will conduct analysis.

8.2 Site Perimeter Action Levels for Total Dust

The total dust concentrations required to generate air concentrations of chemicals that exceed their respective No Significant Risk Level (NSRL) or Chronic Reference Exposure Concentration (REL) are summarized in the Table 4 below. A site action level of 1.0 mg/m3 for total dust at the perimeter of the site will be protective to offsite receptors.

Table 4.

Chemical	NSRL or Chronic Reference Exposure Level (ug/m3)	Maxim mum Soil Concentration (mg/kg)	Total Dust Equivalent Action Level[1] (mg/m3)
PCBs	0.005	93	54
Arsenic	0.003	450	6.7
Lead	0.025	46,000	0.54
Nickel	0.05 (REL)	58,000	0.86

Table notes: 1. Assumes that the chemical present in total dust is proportional to the maximum detected concentration in soil. NSRL =California Prop65 No Significant Risk Level

8.3 Total Dust Action Levels for Occupational Exposure

Permissible exposure levels for all chemicals of concern will not be exceeded at any reasonably high total dust concentration. Therefore, based on the average concentrations of the chemicals of concern in soil, a total dust concentration in the workers breathing zone of 1 mg/m3 (based on nuisance dust) will be set as a stop work action level.

Table 5.

Chemical	Permissible Exposure Level (mg/m3)	Maximum and (Average) Soil Concentrations (mg/kg)	Total Dust Equivalent Action Level[1] (mg/m3)
PCBs	0.5	93 (4.4)	5376
Arsenic	0.01	450 (30)	22
Lead	0.05	46,000 (450)	0.65
Nickel	0.1	58,000 (717)	1.7
Chromium	0.5	100,000 (1366)	5

Table notes: 1. Assumes that the chemical present in total dust is proportional to the maximum detected concentration in soil.

8.4 Capping

For capping, impacted surface soils will be pre-moistened to minimize the generation of impacted dusts while grading equipment is used to place clean fill material. Perimeter monitoring will consist of the use of aerosol monitors (MIE PDR 1000s or equivalent) to qualitatively measure and record total dust levels generated at the fence lines. In addition minirams can also be used to periodically monitor total respirable dust in workers' breathing zones during capping activities.

9.0 TRAINING AND MEDICAL SURVEILLANCE

The HSO must conduct a safety briefing at the beginning of the project to ensure that on-Site workers understand the provisions of the HSP. Health and safety training and hazard communication must be implemented as addressed below and in accordance with each contractor's site-specific health and safety plan. All personnel must be familiar with the provisions of this HSP and verify in writing that they have read it and understand it.

9.1 HAZWOPER Training

All training will be in accordance with all applicable federal, state, and local regulations. Employees conducting excavation within the "Exclusion Zone" with exposure or potential exposure to chemical hazards must have completed a 40-Hour HAZWOPER training course, as well as training in accordance with 8 CCR 1532.1, including respirator and personal protective equipment training. A minimum of three days of actual field experience under the direct supervision of a trained, experienced supervisor also is required. This training or an approved refresher course must be current (within the last 12 months).

9.2 Site-Specific Training Program

A site-specific training program must be instituted prior to on-Site work. Attendees at all meetings must be documented by signature. The site-specific training relating to impacted soil must include discussion of the following:

1. The health effects (acute and chronic) of the chemical and physical hazards that may be encountered at the Site
2. Proper control measures for the chemical and physical hazards that may be encountered
3. Proper personal hygiene procedures
4. Decontamination of equipment and personnel
5. Vehicle and tool decontamination procedures
6. Emergency procedures

9.3 First Aid/CPR Training

At least one person with first aid and cardio-pulmonary resuscitation (CPR) training will be on-Site at all times. This person will be identified by the HSO.

9.4 Medical Surveillance Requirements

On-Site employees are required to participate in the Medical Surveillance Program. All medical surveillance requirements will be in accordance with all applicable federal, state, and local regulations. All field personnel must have completed either a baseline or annual medical monitoring examination within 12 months of their assignment to the Site. Only medically qualified personnel, as determined by the examining physician, will be permitted to conduct field activities.

9.4.1 Site Specific Medical Monitoring

Field personnel will not undergo specific tests prior to beginning field activities. All field personnel have had baseline medical monitoring, including annual audiometric testing (audiograms).

9.4.2 Exposure/Injury Medical Support

All employees who suffer an illness, injury, or chemical exposure during the course of field activities are required to see a physician. The physician responsible for conducting the employee's medical surveillance examinations will be notified and consulted to determine the type(s) of tests required to accurately monitor the employee. Workers may return to work only with written approval of the physician.

10.0 EMERGENCY AND CONTINGENCY PLANNING

10.1 Relevant First Aid Procedures

Minor injuries, including minor cuts, scrapes, and abrasions should be treated on-Site. If an injured individual requires further attention, the individual should be immediately transported to the nearest hospital. A map illustrating the route to the nearest emergency medical facility (Figure 3) must be present on-Site. *All accidents, without regard to severity, must be reported in writing to the HSO and the PM within 24 hours.*

10.2 Emergency Treatment

When transporting an injured person to a hospital, this HSP must be taken with the injured person to assist medical personnel with diagnosis and treatment.

In all cases of chemical overexposure, standard procedures are to be followed as outlined below for poison management, first aid, and, if applicable, CPR. The following are four different routes of exposure and their respective first aid/poison management procedures.

1. **Ingestion:** CALL THE POISON CONTROL CENTER AT 911 FOR INSTRUCTIONS.

2. **Inhalation: Move the person from the contaminated environment.** Initiate CPR if necessary. Call, or have someone call, for medical assistance. If necessary, transport the victim to the nearest hospital as soon as possible.

3. **Skin Contact: Immediately wash off skin with a large amount of water.** Remove any contaminated clothing and rewash skin using soap, if available. Transport the injured person to a medical facility if necessary.

4. **Eyes: Hold eyelids open and rinse the eyes immediately with copious amounts of water for 15 minutes.** If possible, have the person remove his/her contact lenses (if worn). Never permit the eyes to be rubbed. Trans-port the injured person to a hospital as soon as possible.

10.3 Evacuation Procedures

Various emergencies may warrant a Site evacuation. Although these conditions are not anticipated, they may include fire, explosion, chemical release, or other event that could cause personal injury. Emergency evacuation procedures must be discussed in the contractor's Site-specific HSP.

10.4 Emergency Services and Contact Telephone Numbers

In the event of an emergency, the nearest emergency services to the Site are located at San Jose Medical Center, CA. The San Jose Medical Center is located at 675 E. Santa Clara Street, in San Jose, between 14th Street and 17th Street. Figure 3 shows the hospital route map.

If an injury is serious enough to require ambulance medical transport or the fire department, immediately call 911.

The Lowney Associates project personnel who must be contacted in the event of an emergency is Project Manager Peter Langtry (510-267-1970) or SSO Pete Timmerman (925-200-7811). Additional emergency numbers are provided below:

Ambulance (Paramedics)	911
Hospital.	(408) 998-3212
Poison Control Center	(800) 662-9886
Fire/Police Department	911
Chemtrec	(800) 424-9300
Project Industrial Hygienist (D.W. Hernandez)	(408) 292-3266
	(408) 390-2154(cell)
California Office of Emergency Services	(800) 852-7550
Cal/EPA Toxic Substances Control Division	(510) 540-2043
Regional Water Quality Control Board.	(510) 464-1255
U.S. Environmental Protection Agency	(415) 974-8076
California Highway Patrol.	(916) 327-3310
Bay Area Air Quality Management District	(415) 771-6000
National Response Center	(800) 424-8802

11.0 ACCIDENT PREVENTION, INVESTIGATION, AND REPORTING

The remediation subcontractor's site-specific HSP must include a discussion of accident prevention measures, investigation, and reporting procedures to be implemented at the Site.

The HSO and PM will investigate accidents to on-Site employees. All accidents, no matter how small, must be reported to the HSO and PM within 24 hours of occurrence.

Injuries to Lowney Associates personnel will be reported to Lowney Associates' PM.

12.0 INTERNAL AND EXTERNAL COMMUNICATIONS

Methods for internal and external communication should be addressed in the contractor's site-specific HSP. Generally, cellular telephones will be used to communicate. Lowney Associates' personnel also will have a radio for communication between Lowney personnel. Although excavation and grading equipment may generate excessive noise, cellular telephones should be an adequate means of communication. An air horn, however, should be maintained on-Site as a means of notifying on-Site personnel of an emergency. Procedures for using the air horn should be established on the first day of work and reviewed frequently as well as the emergency evacuation routes and meeting locations in the event of an emergency.

13.0 REFERENCES

American Conference of Governmental Industrial Hygienists. March 1, 1998. *2000 TLVs® and BEIs®. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.*

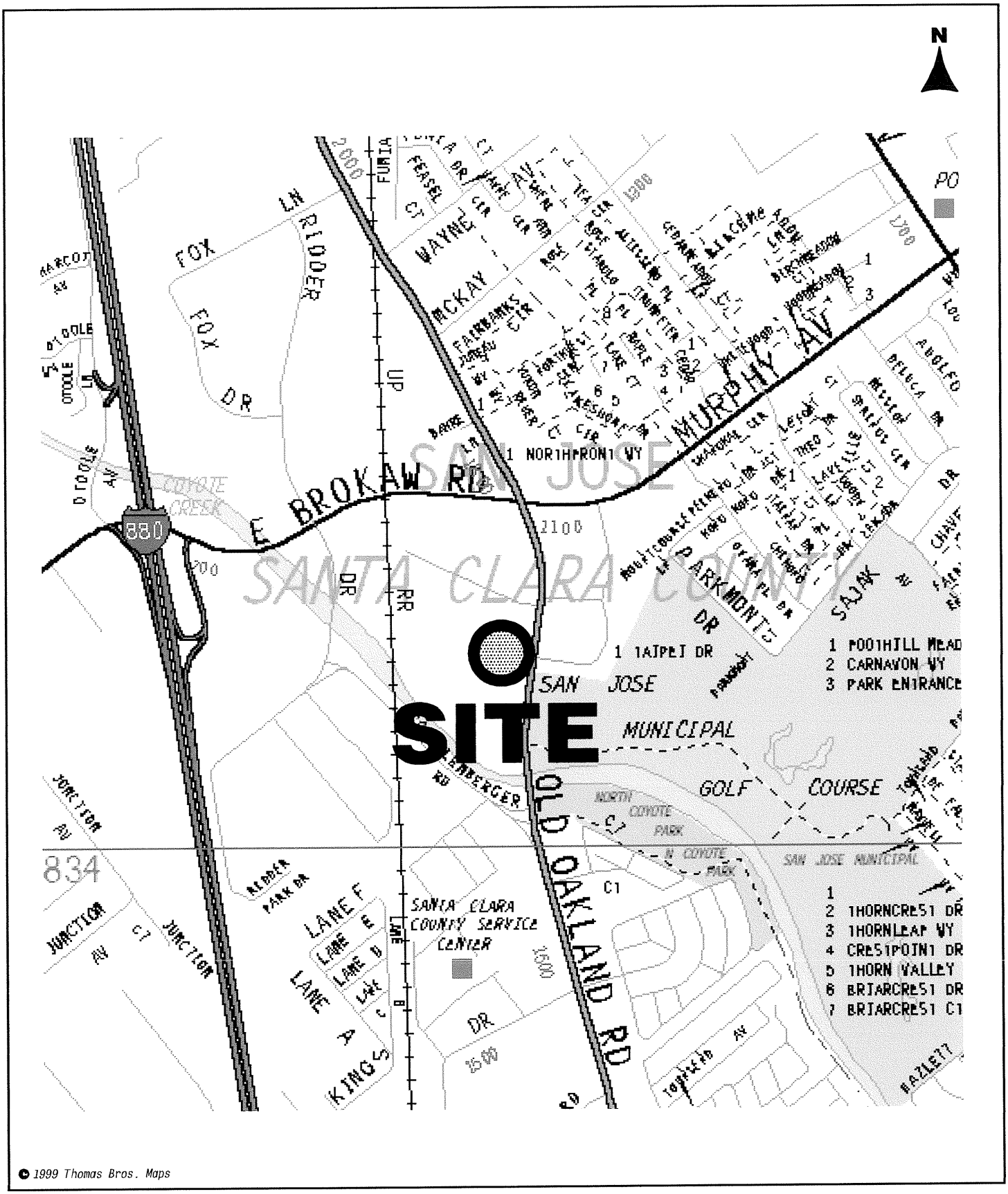
American Industrial Hygiene Association. 1997. *The Occupational Environment-Its Evaluation and Control, reprint 1998.*

California Department of Industrial Relations. March 7, 1997. *Cal/OSHA Construction Safety Orders, Lead, Section 1532.1.*

California Department of Industrial Relations. *Hazardous Waste Operations and Emergency Response, Section 5192.*

California Department of Industrial Relations. *Hazard Communication, Section 5194.*

National Institute of Occupational Safety and Health. June 1997. *NIOSH Pocket Guide to Chemical Hazards.*



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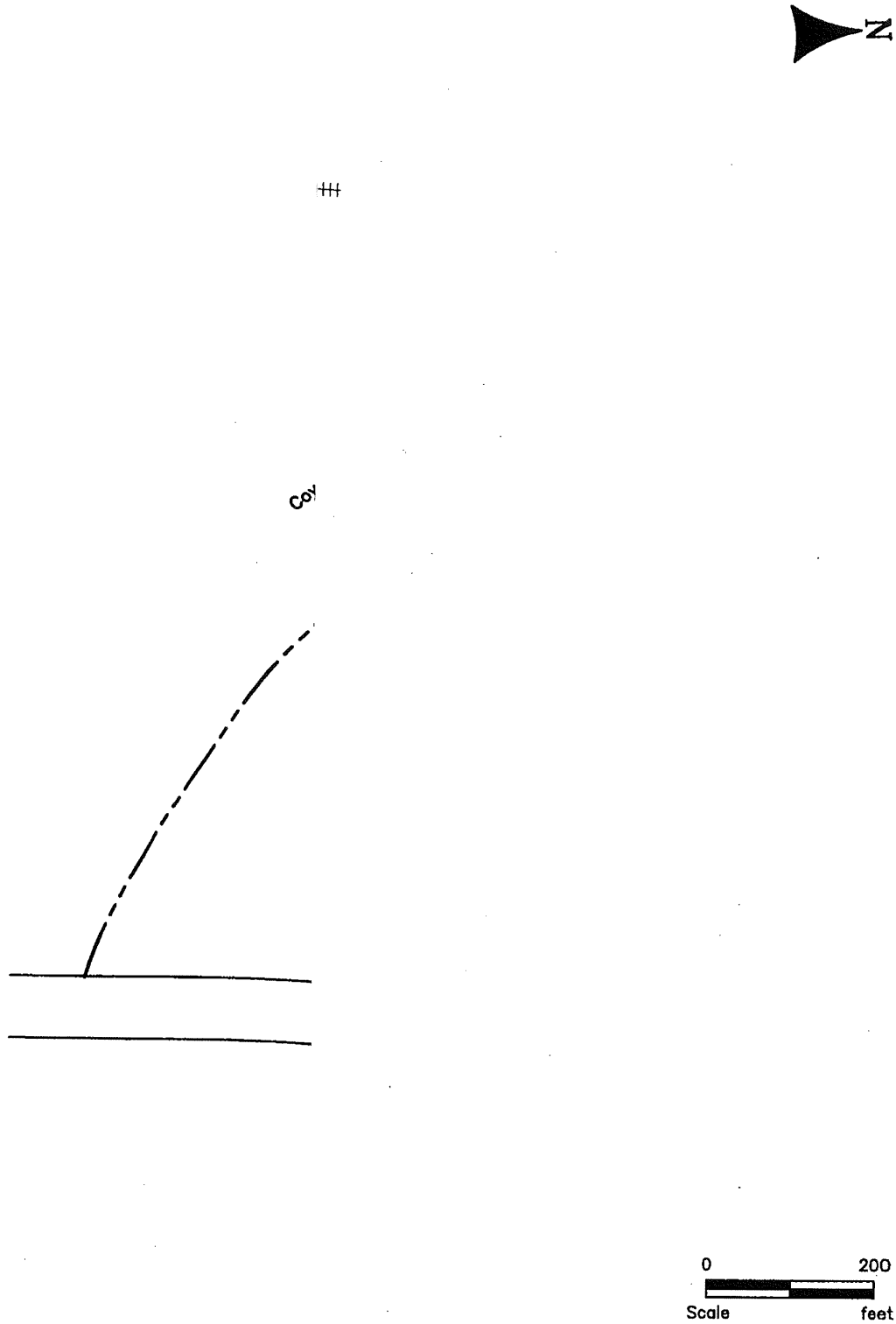
4/02*EB

VICINITY MAP

1633 OLD OAKLAND ROAD
San Jose, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 1
1564-2



SITE PLAN

1633 OLD OAKLAND ROAD
San Jose, California

LEGEND

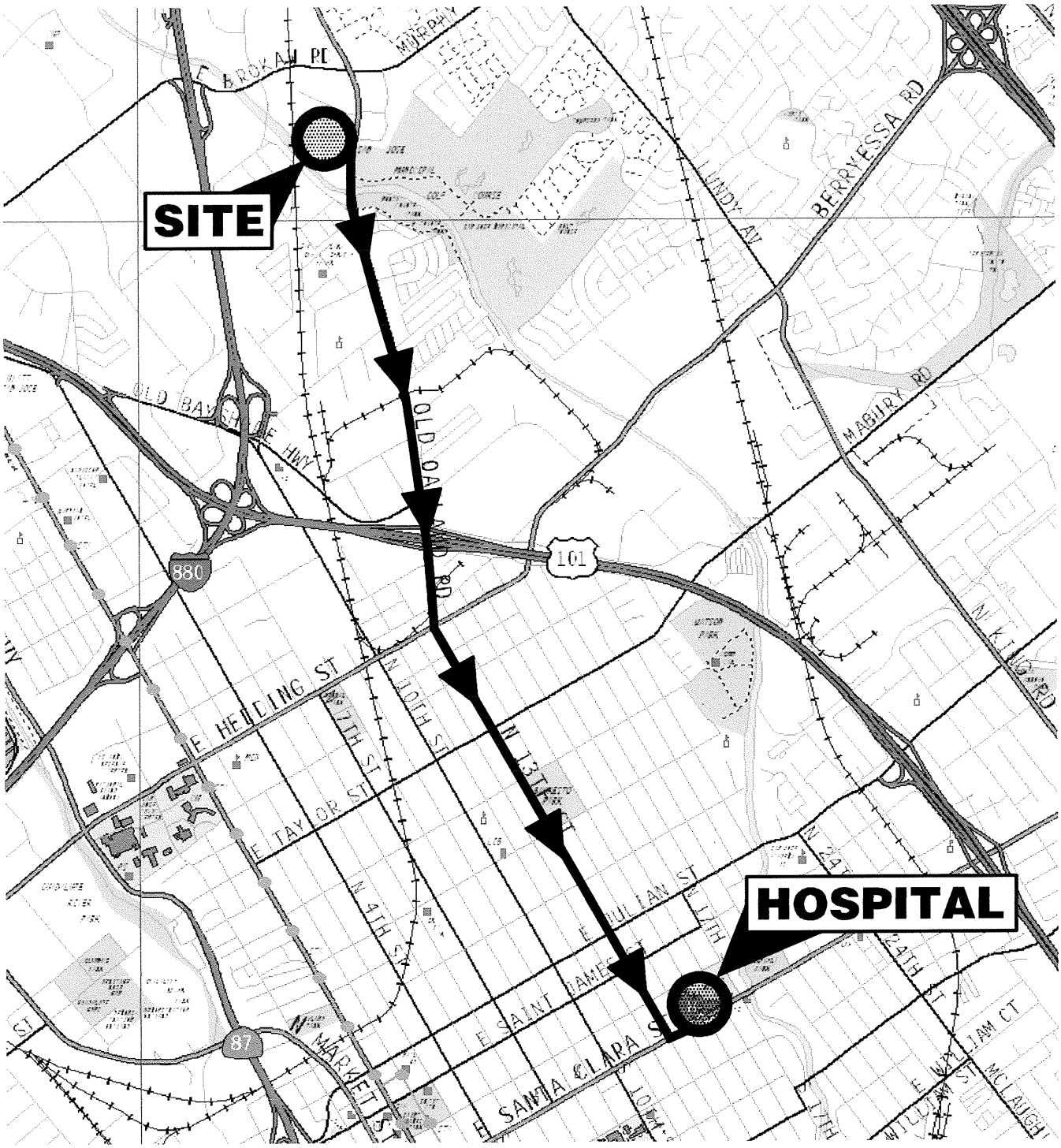
- Approximate location of buried refus
- Property Boundary

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 2

1564-2

9/01 EB



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ROUTE TO NEAREST HOSPITAL

1633 OLD OAKLAND ROAD
San Jose, California

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 3
1564-2

APPENDIX E-5
VICINITY HAZARDOUS MATERIALS REVIEW

CORNERSTONE
EARTH GROUP

May 14, 2007
Project No. 118-1-1

Prepared For: Mr. Will Burns
DAVID J. POWERS & ASSOCIATES
1885 The Alameda, Suite 204
San Jose, CA 95126

Re: Vicinity Hazardous Materials Review
1633 Old Oakland Road and 1040, 1060 and 1080 East Brokaw Road
San Jose, California

Dear Mr. Burns:

In this letter, we present our evaluation of potential hazardous materials usage located within an approximately ½-mile radius of 1633 Old Oakland Road and 1040, 1060 and 1080 East Brokaw Road (Site) and large quantity hazardous materials usage within a 1-mile radius of the Site.

The Site is located in a mainly commercial area; residential developments also are present in the general vicinity. Development of the Site for residential and retail use is being planned.

The objective of this study was to attempt to identify usage of significant quantities of hazardous materials in the area surrounding the Site that could significantly impact occupants of the planned development in the unlikely event of a catastrophic release.

Scope of Services

To attempt to identify significant hazardous materials usage located within an approximately ½-mile radius of the Site and large quantity hazardous materials usage within a 1-mile radius, we performed the following tasks:

- Drive-by survey of properties located within a radius of approximately ½-mile of the Site to note readily observable facilities that appear likely to use, handle, or store significant quantities of hazardous materials.
- A cursory review of recent aerial photography of the site vicinity.
- Acquisition and review of a regulatory agency database report to assist in the identification of nearby facilities that use hazardous materials. Available information regarding facilities that are subject to the California Accidental Release Program (CalARP) from a county list dated February 2006 also was reviewed.
- Review of files for selected facilities at the San Jose Fire Department. Selected copies of available documents reviewed are attached to this letter.

- Preparation of this letter presenting the results of our study. This letter includes a discussion of identified, nearby significant hazardous materials usage, chemical inventory data, a vicinity map, and selected copies of the records obtained and reviewed.

Site Vicinity Reconnaissance

On April 18, 2007, our representative conducted a drive-by survey of properties located within a radius of approximately ½-mile of the Site to note readily observable facilities that appeared likely to use, handle, or store significant quantities of hazardous materials. Readily observable outdoor storage of materials, posted hazardous materials placards, observed business types and facility size were considered during this reconnaissance. Identified facilities are included in Table 1.

In addition, we performed a cursory review of recent aerial photography available online at www.maps.google.com to attempt to identify facilities located between ½-mile and 1-mile from the site that may use or store large quantities of hazardous materials. This review identified two facilities with large above ground petroleum storage facilities: Shell Oil Products at 2165 O'Toole and Kinder Morgan San Jose Terminal at 2150 Kruse Drive.

Agency Database Report Review

A regulatory agency database report was obtained from a firm specializing in the computerized search of environmental regulatory databases. This report was reviewed to assist in the identification of nearby facilities that use hazardous materials. A copy of the agency database report is attached in Appendix A.

CalARP Facility Review

CalARP regulates facilities that have a greater than threshold quantity of a regulated hazardous material in a process. The County Department of Environmental Health administers this program. A review of readily available information regarding facilities within Santa Clara County that are subject to CalARP regulations indicates that three of these facilities are within approximately ½ to 1 mile from the Site: Univar at 2256 Junction Avenue, Airdrome Orchards, Inc. at 610 E. Gish Road, and Hill Brothers Chemical Company at 410 Charcot Avenue. No CalARP facilities were listed within approximately ½ mile of the Site.

CalARP requires a facility with hazardous materials above Title 19 threshold levels to develop the following: Hazard Assessment, Prevention Elements, a Management System, and an Emergency Response Program. The Hazard Assessment includes evaluating serious accident scenarios that could lead to accidental releases and the off-site consequences of those releases.

Fire Department File Review

Based on the above tasks, the facilities listed in Table 1 were identified as candidates for further research. To obtain facility-specific information on hazardous materials usage, available files at the San Jose Fire Department (SJFD) were reviewed. Our review focused on obtaining the most recent

available Hazardous Materials Management Plans and chemical inventories for these facilities. Note that in some cases, the most recent available documents were several years old or were not readily available.

The locations of the identified facilities (shown by number) relative to the Site are shown on Figure 1. Copies of pertinent documents obtained from the SJFD are attached; a brief summary of chemicals used at these facilities is included in Table 1. Please review the appendix for more specific details on chemical inventories.

Table 1. Summary of Potential Hazardous Materials Usage in the Site Vicinity

Facility Number and Name	Address & Approximate Distance From Site	Site Drive-by Observations	Summary of Chemical Inventories from Fire Department Review*
1) Probe 2000 and KMIC Technologies	1015 and 1019 East Brokaw Road <0.1 miles	Adjacent commercial facility	A hazardous materials management plan was not available. A Fire Department Inspection form (April 14, 2005) noted only a flammable liquids storage cabinet in the shipping/receiving warehouse area.
2) Santa Clara County Roads and Airports Department	1505 Schallenberger Road <0.1 miles	Fuel storage tanks and maintenance facility noted.	Based on a January 1, 2007 chemical inventory, this facility stores a variety of hazardous materials, including: Acetylene (1,560 cu. ft.) Argon & Carbon Dioxide (260 cu. ft.) Oxygen (1,230 cu. ft.) Ethylene glycol (440 gallons) Diesel fuel (10,500 gallons) Gasoline (20,000 gallons) Anhydrous calcium chloride (1,680 lbs) Aqua ammonia (2 gallons) Propane (590 gallons) Glyphosate (4,416 lbs) Methanol (4,500 gallons) Various oils and lubricants (several hundred gallon quantities are common) Various paints and other cleaners
3) Santa Clara County Service Center	1555 Berger Drive 0.2 miles	Facility service center.	Based on a August 7, 2006 chemical inventory, this facility stores a variety of hazardous materials, including: Freon R-12 (180 lbs) Freon R-22 (1,800 lbs) Freon 408 (1,200 lbs) Freon r-134A (1,400 lbs) Freon 502 (300 lbs) Various paints, oils, lubricants, cleaners, are noted; typical quantities are less than 100 gallons. Compressed gases also are noted in quantities of up to 1,300 cubic feet.
4) San Jose Mercury News	750 Ridder Park Drive 0.2 miles	Outdoor storage facilities and NFPA placard noted at large commercial/industrial plant.	Based on a May 25, 2006 hazardous materials management plan, this facility stores a variety of hazardous materials, including: Diesel fuel (~12,500 gallons) Gasoline (24,000 gallons) Oils and lubricants (~2,000 gallons)

			Sulfuric acid (600 gallons) Other chemicals include a variety of acids, bases, photo finishers and developers, cleaners, inks, compressed gases, solvents and refrigerents. Quantities from 55 gallons to several hundred gallons are common. Cardox (Carbonic Anhydride) also is reportedly stored in a quantity of 18 tons.
5) Praxair	1785 Old Oakland Road 0.25 miles	Compressed gas storage tanks	Based on a October 2002 chemical inventory, this facility stores a variety of hazardous materials, including: Argon Gas (1320 cu. ft.) Nitrogen Gas (1640 cu. ft.) Oxygen Gas (1320 cu. ft.) Liquid Nitrogen (51,190 gallons) Liquid Argon (994 gallons) Helium Gas (660 cu. ft.) Hydrogen Gas (660 cu. ft.) Acetylene Gas (1980 cu. ft.)
6) Santa Clara County Vector Control	1551 Berger Drive 0.4 miles	Vector control facility.	Based on a October 31, 2006 chemical inventory, this facility stores a variety of hazardous materials. Various pesticides were noted at quantities up to approximately 100 pounds (for solids) or 240 gallons (for liquids). Small quantities of petroleum hydrocarbons also were listed.
7) Con Agra Foods	1744 Junction Avenue 0.4 miles	Apparent manufacturing facility. National Fire Protection Association (NFPA) placard noted.	Based on a January 24, 2006 hazardous materials management plan, this facility stores a variety of hazardous materials. Nitrogen, oxygen and argon were reported at up to 675 cu. ft. Various oils, lubricants, cleaning compounds, acids and bases, among others, were listed as being stored in quantities typically of 100 gallons or less. Floor cleaners and sanitizers (solids) were noted in quantities of up to 900 pounds.
8) Teltec Corp dba Gorilla Circuits	1497 Berger Drive 0.45 miles	Apparent manufacturing facility.	Based on a 2003 chemical inventory, this facility stores a variety of hazardous materials including various developers, fixers, etching compounds, strippers, metal containing compounds, acids, and bases, among others. Most compounds appear to be stored in quantities of 20 to 100 gallons. Some are stored in greater amounts.
9) NXP/Philips Semiconductor	1101 McKay Drive 1109 McKay Drive 1110 Ringwood Ct. 0.5 miles	Outdoor machinery and apparent manufacturing facility.	Based on a March 2004 hazardous materials management plan, this facility stores a variety of hazardous materials including: Spent solvents (5 gallons) Acetone (2 gallons) Isopropyl Alcohol (6 gallons) Liquid nitrogen (240 gallons) Corrosive solid debris (25 gallons)
10) Teikoku Pharma USA	1718 Ringwood Avenue 0.5 miles	NFPA placard noted on relatively large commercial building.	Based on a July 5, 2006 chemical inventory, this facility stores a variety of acids, bases, solvents, pharmaceutical compounds, and compressed gases, among others.
11) Airdome Orchards, Inc.	610 E. Gish Road 0.6 miles	Noted as a CalARP facility.	This facility reportedly stores up to 3,500 cubic feet of anhydrous ammonia used in a cooling system and a variety of other hazardous materials including acetylene, argon, oxygen, diesl, motor oil, propane, ethylene, mineral spirits, acids and bases, amongst others. A 1993 report titled "Hazard Assessment of Airdome Orchards Ammonia Refrigeration System" was prepared for the facility. Discharge rates for a worst case scenario of a release of ammonia were estimated at 8801 lbs/minute to 15711 lbs/minute.
12) Hill Brothers Chemical Company	410 Charcot Avenue 0.8 miles	Noted as a CalARP facility.	Based on a July 10, 2003 hazardous materials management plan, this facility stores a variety of hazardous materials.

13) Kinder Morgan San Jose Terminal	2150 Kruse Drive 0.8 miles	Large above ground tanks noted on aerial photographs.	No HMMP was readily available at the SJFD. An Internet search for facility information indicates the presence of 32 refined petroleum product tanks with a total capacity of 996,800 barrels. Fuel/ethanol blending, detergent additive systems and truck loading racks are noted to be present. Fuel is apparently transferred to the facility by the Concord to San Jose 10 inch pipeline.
14) Univar USA, Inc.	2256 Junction Avenue 0.9 miles	Noted as a CalARP facility.	Based on a April 2004 hazardous materials management plan, this facility stores a variety of hazardous materials.
15) Shell Oil Products	2165 Otoole Avenue 1 mile	Large above ground tanks noted on aerial photographs.	This facility stores gasoline, diesel, ethanol, ethylene glycol, fuel additives and other products. In above ground tanks with capacities of up to 5 million gallons.

* Note that not all chemicals are listed in this summary. See appendix for more detailed chemical inventories.

Conclusions

Based on the evaluation of hazardous materials usage described above, there are several nearby facilities that appear to store significant quantities of hazardous materials. We recommend preparing a Hazard Assessment to evaluate a hypothetical catastrophic release of hazardous materials from nearby facilities and their potential impacts to the proposed mixed-use development. For the preparation of a Hazard Assessment, a toxicologist would evaluate the chemicals used at each facility listed above based on their toxicity, physiochemical properties and quantities. Similar usages would be grouped. For example, Kinder Morgan and Shell Oil store bulk fuel products in above ground tanks; Airdome Orchards stores anhydrous ammonia; and several hi-tech companies have a similar chemical inventory of solvents, strippers, acids and bases. Based on similar types of chemical inventories, selected facilities (based on chemical inventory, wind direction and distance from the project Site) would be modeled to evaluate the impact of hypothetical releases on the proposed development.

Additionally, three facilities were identified within approximately 1 mile of the Site that are subject to CalARP regulations. Hazard Assessments required by CalARP regulations were not readily available from the San Jose Fire Department's electronic document retrieval system. Available Hazard Assessments for these facilities have been requested from the County of Santa Clara Department of Environmental Health. These Hazard Assessments should be reviewed to further evaluate potential impacts to the proposed development from a catastrophic release of hazardous materials from these CalARP facilities.

Note that in addition to the facilities listed in Table 1, numerous commercial properties were observed within the reconnaissance area that appeared likely to use or store hazardous materials. These facilities included various automotive related businesses, machine shops, sheet metal fabricators and welders, among others. Although hazardous materials likely are used at these properties, based on the types and quantities of hazardous materials that are typically associates with such businesses and our observations, these facilities do not appear to pose a significant threat to the proposed Site development; thus, SJFD files were not reviewed for these facilities. However, if a greater degree of confidence is desired, files for these facilities could be reviewed.

Closure

This letter has been prepared for the sole use of David J. Powers & Associates. As with all assessments, the extent of information obtained is a function of client demands, time limitations, and budgetary constraints. We cannot be held responsible for the accuracy of information obtained in SJFD files or from the regulatory database. Our professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally accepted environmental principles and practices at this time and location. No warranties are either expressed or implied.

Thank you for choosing us to assist you. If you have any questions, please call and we will be glad to discuss them with you.

Sincerely,

Cornerstone Earth Group, Inc.

Peter M. Langtry, P.G., C.E.G.
Principal Geologist

Ron Helm, C.E.G., R.E.A.II
Principal Geologist

Copies: Addressee (3)

Attachment: Figure 1- Site Map
Appendices: Regulatory Agency Database Report
Selected Records obtained from SJFD

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CORNERSTONE EARTH GROUP

Site Map	Project Number 118-1-1
1633 Old Oakland Road San Jose, California	Figure Number Figure 1
	Date May 2007 / Drawn By MGV

CORNERSTONE
EARTH GROUP

APPENDICES – REGULATORY AGENCY DATABASE SEARCH REPORT
SELECTED RECORDS OBTAINED FROM SJFD

Copies of the appendices for the Vicinity Hazardous Materials Review are on file with the Department of Planning, Building, and Code Enforcement and are available for review during normal business hours.

APPENDIX E-6
SCREENING LEVEL VICINITY HAZARDOUS MATERIALS RISK ASSESSMENT

CORNERSTONE EARTH GROUP

Type of Services	**Screening Level Vicinity Hazardous Materials Risk Assessment**
Location	**1633 Old Oakland Road**
	San Jose, California
Client	**David J. Powers & Associates**
Client Address	**1885 The Alamea, Suite 204**
	San Jose, California 95126
Project Number	**118-1-2**
Date	**July 20, 2007**

DRAFT

Daniel W. Hernandez, C.I.H., R.E.A.
Senior Project Toxicologist

Peter M. Langtry, P.G., C.E.G.
Principal Geologist

Ron L. Helm, C.E.G., R.E.A.II
Principal Geologist

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APPENDIX B – SCREENING LEVEL MODEL OUTPUT

Type of Services	**Screening Level Vicinity Hazardous Materials Risk Assessment**
Location	**1633 Old Oakland Road** **San Jose, California**

SECTION 1: INTRODUCTION

This report presents the results of the Screening Level Vicinity Hazardous Materials Risk Assessment performed at 1633 Old Oakland Road, San Jose, California (Site). This work was performed for David J. Powers & Associates in accordance with our May 17, 2007 Agreement (Agreement). Cornerstone Earth Group, Inc. (Cornerstone) understands that a mixed use development is proposed for the Site.

1.1 PURPOSE

We performed this Screening Level Vicinity Hazardous Materials Risk Assessment to evaluate selected hypothetical catastrophic release of hazardous materials from nearby facilities and their potential impacts to the proposed mixed-use development. The May 14, 2007 letter prepared by Cornerstone identified the usage of significant quantities of hazardous materials in the general area surrounding the Site that could significantly impact future residents of the proposed development in the unlikely event of such a catastrophic release. Table 1 in the May 2007 letter provided a general description of chemical inventories, the name and address of each facility and the approximate distance from the Site. This screening level risk assessment is a follow-up to that letter and should be considered an addendum to the May 14, 2007 document.

1.2 MODELING

The Screening Level Hazardous Materials Risk Assessment used screening level computer aided dispersion algorithms to evaluate potential project impacts. Specifically, the ALOHA CAMEO program was used to conduct a screening level evaluation of potential impacts to the future Site development, assuming catastrophic releases of hazardous substances from nearby surrounding facilities. In accordance with U.S. EPA and Cal/EPA Guidelines, potential risks were estimated using conservative worst-case hypothetical chemical releases that were evaluated to be representative of the surrounding industrial operations. Worst-case releases are generally defined as the loss of entire contents over a ten-minute period. In addition, and in accordance with U.S. EPA and Cal/EPA Guidelines, all releases were modeled using stable meteorological conditions. During stable meteorological conditions and low wind speeds, the

vertical and horizontal dispersion of a release is minimized, resulting in higher predicted downwind concentrations.

1.2 ERPG AND IDLH

Predicted downwind impacts are compared to emergency planning concentration criteria. The Bay Area Air Quality Management District (BAAQMD) recommends the use of Emergency Response Planning Guidelines exposure level 2 (ERPG-2) as criteria for evaluating significant impact. In addition, the U.S. EPA generally defines “distance to toxic endpoint” in the Risk Management Program (RMP) for off-site consequent analysis as the ERPG-2 concentration. In the absence of ERPG guidelines, the U.S. EPA has recommended 1/10 of the Immediately Dangerous to Life and Health (IDLH) concentrations for planning purposes. ERPGs and IDLH definitions are provided below.

Emergency Response Planning Guidelines (ERPGs) are values developed by the American Industrial Hygiene Association to assist emergency response personnel planning for accidental or intentional catastrophic chemical releases to the community. Due to the variability of human responses over a wide range of concentrations, AIHA cautions that ERPGs should not be expected to protect everyone, but should be applicable to most individuals in the general public. In addition, it must be recognized that in all populations, there are hypersensitive individuals who will show adverse responses at exposure concentrations far below levels at which most individuals normally would respond. ERPGs are defined below:

ERPG-1
The ERPG exposure level 1 is defined as the maximum airborne concentration that nearly all individuals could be exposed to for up to 1 hour without experiencing more than mild, transient adverse health effects or without perceiving a clearly defined objectionable odor.

ERPG-2
The ERPG exposure level 2 is defined as the maximum airborne concentration that nearly all individuals could be exposed to for up to 1 hour without experiencing or developing irreversible or other serious side effects of symptoms that could impair an individual’s ability to take protective action.

ERPG-3
The ERPG exposure level 3 is defined as the maximum airborne concentration that nearly all individuals could be exposed to for up to 1 hour without experiencing or developing life-threatening health effects.

IDLH
Immediately Dangerous to Life and Health (IDLH) concentrations represent maximum concentrations from which, in the event of a respirator failure, one could escape within 30 minutes without a respirator and without experiencing an escape impairing or irreversible health effects. IDLHs are assumed to be applicable to healthy adult workers in the work place and do not take into account exposure of more sensitive individuals.

SECTION 2: POTENTIAL CHEMICALS OF CONCERN AND RELEASE SCENARIOS

From a risk assessment perspective, the primary emphasis is to identify chemicals that are likely to have off-site consequences if catastrophically released. Generally, chemicals that are acutely toxic, exist in a form that readily allows off-site transport (after release) and are used/stored in sufficient quantities are assumed to represent potential Chemicals of Concern (COCs).

Eight release scenarios were chosen. The scenarios appear improbable but should be considered possible. Releases were assumed to occur outside and were modeled assuming urban dispersion coefficients: wind speed of 1.5 meters per second, atmospheric stability class F (stable conditions) and an outside temperature of 70 degrees Fahrenheit.

In addition, the scenarios selected were also deemed representative of the potential risks posed by facility chemicals not included. Therefore, not all solvents identified were considered for release risks.

The COCs identified at each facility and the selected facility release scenarios are summarized below.

San Jose Mercury News (750 Ridder Park Drive)

The Mercury News facility, located approximately 0.2 mile from the Site, reported a 575-gallon quantity of liquid propane. Other chemicals of potential interest included gasoline (below ground storage) and 55-gallon quantity of petroleum distillates. The selected hazardous materials release scenario is a worst-case release of propane. ALOHA was used to simulate Site impacts using worst–case meteorology and wind speed to estimate plume centerline concentrations from the point of release.

Con Agra Foods (1744 Junction Avenue)

Located approximately 0.4 miles from the Site, ConAgra reported 50-gallon quantities of methylene chloride (waste solvent). The selected hazardous materials release scenario assumes a methylene chloride spill into a 200-square foot secondary containment, forming an evaporating pool. ALOHA was used to simulate Site impacts using worst–case meteorology and wind speed to estimate plume centerline concentrations from the point of release.

Gorilla Circuits (1497 & 1509 Berger Drive)

Gorilla Circuits is located approximately 0.45 miles from the Site. The selected hazardous materials release scenario assumes that a 55-gallon drum of hydrochloric acid (42 % solution) is accidentally spilled, forming an evaporating pool that emits hydrogen chloride gas. ALOHA was used to simulate Site impacts using worst–case meteorology and wind speed to estimate plume centerline concentrations from the point of release. ALOHA was used to simulate Site impacts using worst–case meteorology and wind speed to estimate plume centerline concentrations from the point of release.

Airdrome Orchards (610 E. Gish Road)

This facility, located approximately 0.6 miles from the Site, reported 3,500 cubic feet of liquefied ammonia. However, a prior review of the facility records (Toxichem, May 5, 2006) indicated that the quantity of ammonia was approximately 4,344 pounds. Based on the Risk Management Plan (RMP) produced for this facility, the distance from this facility to the toxic endpoint (ERPG-2) for a worst-case release of ammonia is reportedly 0.6 of a mile. The worst-case release is defined as the loss of the entire contents of the tank over a 10-minute period.

The alternative release scenario (a more likely release) reported by this facility indicated that the distance to the toxic endpoint concentration resulting from a compressor shaft seal leak was estimated at approximately 0.1 miles.

For a conservative evaluation of potential offsite impacts, this assessment incorporates ALOHA to simulate a worst-case release of 4,344 pound of ammonia.

Hills Brothers Chemical Co. (410 Charcot Avenue)

This facility is approximately 0.8 miles from the Site. The COCs identified at this facility include 10,000 gallons of ammonium hydroxide (30%) and 325,000 cubic feet of ammonia. Ammonium hydroxide and ammonia are selected for ALOHA worst-case simulations.

Univar USA, Inc. (2256 Junction Avenue)

Located at 2256 Junction Avenue, this facility is approximately 0.9 miles from the Site. The hazardous materials inventory indicated large quantities of a variety chemicals listed by hazard class (chemical specific information was not provided). However, methyl bromide and Vikane (sulfuryl fluoride) were identified. In addition, while maximum amounts were described, container sizes were not.

A prior review of the facility prepared RMP at Santa Clara County (Toxichem March 20, 2007) indicated that this facility did not accurately report quantities of methyl bromide stored; methyl bromide quantities are likely overstated. However, five release scenarios were identified in this facility's RMP documentation. These scenarios included one worst-case release and four alternative releases. The worst-case release was identified as a release of 500 pounds of hydrofluoric acid (70% solution). A distance of approximately 0.3 mile to the toxic endpoint was calculated by the facility using the U.S. EPA RMPComp Model.

The alternative releases assumed spills of hydrochloric acid, aqueous ammonia, formaldehyde and hydrofluoric acid. The distances to the toxic endpoints for each of these chemicals (also calculated using RMPComp) were estimated at approximately 0.1 mile or less.

For a conservative evaluation of potential off-site impacts, this assessment incorporates ALOHA to simulate a worst-case release of 55-gallons of 70% hydrofluoric acid solution.

Shell Oil Company (2165 O'Toole Avenue)

The Shell facility, located approximately 1 mile from the Site, has a 5,000,000 gallon gasoline tank. The hypothetical worst-case release event is a sudden release of fuel into a diked area, approximately 111,000 ft^2 in size. Assuming a tank diameter of 131 feet, the area of the evaporating pool would be approximately 97,500 ft^2. In this scenario, the evaporating pool would generate flammable vapors for approximately 30-minutes (assumes emergency response within 30-minutes).

This release is unique because of the large volume of gasoline, which consists of hundreds of different hydrocarbon compounds. ALOHA can model pure substances and has limited capabilities with respect to large volumes released. Therefore, this release was modeled in two ways. First, the Automated Resource for Chemical Hazard Incident Evaluation (ARCHIE) was used to estimate the release rate from an evaporating pool and the potential consequences of a vapor cloud explosions. However, since ARCHIE does not offer a choice for either urban or rural dispersion conditions, U.S. EPA SCREEN3 was also used to estimate off-site consequences for an area source using urban dispersion conditions.

SECTION 3: SUMMARY OF SCREENING LEVEL RISK ASSESSMENT MODELING

The results of this screening level modeling indicate that in an unlikely event of a worst-case release during worst-case atmospheric conditions, the Site could be impacted by hazardous materials. Table 1 below summarizes the results of the screening level modeling.

Table 1. Summary of Screening Level Risk Assessment Modeling

Approximate Release Location	Estimated Maximum Threat Zone	Estimated Maximum Project Outdoor Concentration[a]	Emergency Planning Guidelines (ppm)
San Jose Mercury News (0.2 mile from Site)			
Propane Release (575 gallons liquid)	NS	NA	1 psi
Peak Overpressure from vapor cloud explosion	447 ft	499 ppm	2,000 ppm (10% LEL)
Flammable Area of Vapor Cloud			
Con Agra (0.4 miles from Site)			
Solvent Release (Assumes 55 gallons of methylene chloride spilled into 200 ft^2 containment)	0.03 miles (ERPG-2)	10.2 ppm	IDLH = 2300 ERPG2 = 750 ERPG3 = 4000

Continued.

Table 1, continued.

Approximate Release Location	Estimated Maximum Threat Zone	Estimated Maximum Project Outdoor Concentration[a]	Emergency Planning Guidelines (ppm)
Gorilla Circuits (0.45 miles from Site)			
Hydrochloric acid Release (Assumes 55 gallons of 42% solution spilled into 200 ft^2 containment)	0.36 miles (ERPG-2)	12.6 ppm	IDLH = 50 ERPG2 = 20 ERPG3 = 150
Airdrome Orchards (0.6 miles from Site)			
Ammonia Release (4344 pounds)	1.3 miles (ERPG-2)	542 ppm	IDLH = 300 ERPG2 = 150 ERPG3 = 750
Hills Brothers Chemical (0.8 miles from Site)			
Ammonia Release (325,000 cubic feet)	0.67 miles (ERPG-2)	111 ppm	IDLH = 300 ERPG2 = 150 ERPG3 = 750
Ammonium Hydroxide (Assumes release of 10,000 gallons 30% solution into 1,000 square feet of containment)	0.44 miles (ERPG-2)	53 ppm	IDLH = 300 ERPG2 = 150 ERPG3 = 750
UNIVAR USA (0.9 miles from Site)			
Hydrofluoric Acid Release (Assumes 55 gallons of 70% solution spilled into 400 square feet of containment)	0.21 miles (ERPG-2)	1.6 ppm	IDLH = 30 ERPG2 = 20 ERPG3 = 50
Shell Oil Products (1.0 miles from Site)			
Gasoline release (assumes 5,000,000 gallons released into 97,500 ft^2 containment)			
Distance to Toxic Endpoint[b]	0.98 miles (ERPG-2)	291 ppm	IDLH = 500 ERPG2 = 300 ERPG3 = 1000
Peak Overpressure from vapor cloud explosion[c]	Some Minor Damage Expected	NA	NA
Flammable Area of Vapor Cloud[d]	0.27 miles	NC	13,000 ppm (LFL)

Table 1 notes.
All releases assume U.S. EPA Worst-Case conditions: loss of container contents over 10-minute period, Stability Class F and Wind Speed of 1.5 meters per second.
Bold = significant impact.
NS= Not significant, NA = Not applicable, NC = not calculated by Model used.
a. The maximum outdoor concentration is the concentration predicted at the project exterior after the plume reaches the Project (ALOHA or SCREEN3 model).
b. Modeled using SCREEN3, toxicity criteria (as toluene) assume that toluene is equipotent to gasoline.
c. Modeled using ARCHIE, see output for estimated damage description
d. Modeled using Archie that appears to incorporate rural dispersion coefficients

SECTION 4: DISCUSSION

Modeling predicts that the greatest potential for a significant impact to the Site appears to be associated with a catastrophic and accidental release of ammonia at Airdrome Orchards or a catastrophic and accidental release of gasoline at Shell Oil.

The Airdrome Orchards facility, located approximately 0.6 miles south of the Site, is not in the prevailing upwind direction (prevailing wind reportedly is from the northwest). In addition, this facility reported a 0.6-mile distance to the Toxic Endpoint in their RMP. The differences from that calculation to the estimate presented in Table 1 above is most likely due to the storage of the ammonia in an interior mechanical room; a release to the interior would be passively attenuated. Further, as shown below in Table 2, a more likely release alternative scenario identified by this facility will not have a significant impact to the Site during periods of calm weather. Table 2 below compares predicted worst-case impacts to impacts predicted during differing conditions and release assumptions.

Table 2. Summary of Screening Level Risk Assessment Modeling (Alternate Assumptions) – Airdrome Orchards

Release Location	**Estimated Maximum Threat Zone**	**Estimated Maximum Project Outdoor Concentration[a]**	**Emergency Planning Guidelines (ppm)**
Airdrome Orchards (0.6 mile from the Project)			
1. Worst-Case Ammonia Release during worst-case conditions (4344 pounds)	1.3 miles (ERPG-2)	542 ppm	IDLH = 300 ERPG2 = 150 ERPG3 = 750
2. Worst Case Ammonia Release during normal conditions (4344 pounds)	0.36 miles (ERPG-2)	56 ppm	IDLH = 300 ERPG2 = 150 ERPG3 = 750

Table notes: a. The estimated maximum outdoor concentration is the concentration predicted at the Site's exterior after the plume reaches the Site (ALOHA model). Normal conditions assume atmospheric Stability Class D and wind speed of 3.0 meters per second.

Shell Oil is located approximately 1 mile to the northwest from the Site. The modeled toxic endpoint distance is just less than 1 mile.

These facilities have programs and engineering controls in place that would reduce the likelihood of a catastrophic release. The particular risk at any “location” in the vicinity of the Airdrome Orchards and Shell Oil is based on: (1) the likelihood of an event that compromises the integrity of the tank/piping system such that the COC is released; (2) the relative likelihood of release size and amount; (3) the likelihood that in place engineering features fail to mitigate the leaking COC; (4) the likelihood that there is an operational failure to initiate emergency shut-down and plant level emergency procedures; (5) the likelihood that first responders fail to or are unable to respond in a timely fashion; (6) the likelihood that wind is blowing towards the location; and (7) the likelihood that atmospheric conditions and wind speed are not conducive to rapid dispersion of the released. Similar arguments can be made for any releasing facility.

We conclude that the facilities identified in Table 1, including Airdrome Orchards and Shell Oil, appear not to pose unacceptable risks to the proposed mixed use development of the Site.

SECTION 5: UNCERTAINTY

Cornerstone performed this screening level modeling to support David J. Powers & Associates in evaluating the impact to the Site from selected catastrophic releases of hazardous materials from nearby facilities. David J. Powers & Associates understands that no modeling assessment can wholly eliminate uncertainty regarding the impact to the Site from accidental and catastrophic releases of hazardous materials. This screening level risk assessment modeling is intended to reduce, but not eliminate, uncertainty regarding the potential for impacts to the Site from such catastrophic releases. David J. Powers & Associates understands that the extent of information obtained for the modeling is based on the reasonable limits of time and budgetary constraints.

The primary uncertainties associated with this assessment included the selection of facilities and chemicals for evaluation, the size of each release, assumptions concerning release location, vapor pressures of released liquids, assumed area of liquid spills, and atmospheric conditions during the release.

Information regarding facilities and the chemicals used, stored and generated at these facilities were based on information readily available in public records. Therefore, the accuracy and completeness of the information cannot be assessed. Cornerstone cannot verify the accuracy or completeness of this data, nor is Cornerstone obligated to identify mistakes or insufficiencies in the information obtained.

With respect to chemical selection, chemicals were selected based on volumes and recognized toxicity and/or flammability. The chemicals selected appeared representative of potential release risks posed by each facility.

A significant source of uncertainty is associated with the Univar and Gorilla Circuits chemical inventories. The Univar inventory was difficult to evaluate due to the way in which chemicals were reported (no information concerning container sizes). However, the potential risks were assessed based our experience. The information provided for Gorilla Circuits was largely illegible.

Other sources of uncertainty include the assumptions concerning the areas of various spilled liquids and the use of surrogates to simulate chemicals spilled. In general, the greater the area of an evaporating pool, the greater the emission rate of the substance, and the greater the distance of offsite impacts.

Finally, atmospheric conditions considered assumed worst-case conditions. The conditions modeled generally represent nighttime or dark cloudy conditions (periods of calm) during which vertical and horizontal dispersion of the contaminant plume is minimized. These conditions generally occur at a low percentage of the time over any yearly time period. Further, all releases assumed that the Site was located plume centerline, downwind, at the time of the release. Wind speed and wind direction vary over time.

This report, an instrument of professional service, was prepared for the sole use of David J. Powers & Associates and may not be reproduced or distributed without written authorization from Cornerstone. It is valid for 180 days. Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.

APPENDIX A – REFERENCES

AIHA 2005. The AIHA 2005 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Handbook. American Industrial Hygiene Association Fairfax, Virginia.

Handbook of Chemical Hazard Analysis Procedures. Federal Emergency Management Agency, U.S. Department of Transportation, U.S. Environmental Protection Agency. Federal Emergency Management Agency Publications Office 500 C Street, S.W. Washington, DC 20472.

SCREEN3 Users Guide. U.S. EPA Office of Air Quality Planning and Standards Emissions, Monitoring, and Analysis Division Research Triangle Park, North Carolina 27711.

Toxichem May 5, 2006. Draft Preliminary Risk Appraisal, San Jose Conservation Corps 1560 Berger Drive, San Jose, CA.

Toxichem March 20, 2007. Addendum to the Draft Screening Level Chemical Risk Appraisal Former Hyundai Site, Montague Expressway, San Jose, CA.

U.S. EPA Risk Management Program Guidance for Offsite Consequence Analysis. U.S. EPA Office of Solid Waste and Emergency Response. April 1999. (EPA 550-B-99-009)

Appendix D Technical Background Document, U.S. EPA Risk Management Program Guidance for Offsite Consequence Analysis. U.S. EPA Office of Solid Waste and Emergency Response. April 1999. (EPA 550-B-99-009)

APPENDIX B – SCREENING LEVEL MODEL OUTPUT

SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1009 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: PROPANE Molecular Weight: 44.10 g/mol
TEEL-1: 2100 ppm TEEL-2: 2100 ppm TEEL-3: 2100 ppm
IDLH: 2100 ppm LEL: 20000 ppm UEL: 95000 ppm
Ambient Boiling Point: -43.9° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Direct Source: 57.5 gallons/min Source Height: 0
Source State: Liquid
Source Temperature: equal to ambient
Release Duration: 10 minutes
Release Rate: 239 pounds/min
Total Amount Released: 2,386 pounds
Note: This chemical may flash boil and/or result in two phase flow.

THREAT ZONE:
Threat Modeled: Flammable Area of Vapor Cloud
Model Run: Heavy Gas
Red : 53 yards --- (12,000 ppm = 60% LEL = Flame Pockets)
Note: Threat zone was not drawn because effects of near-field patchiness make dispersion predictions less reliable for short distances.
Yellow: 149 yards --- (2,000 ppm = 10% LEL)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.2 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 499 ppm
Indoor: 39.3 ppm

Flammable Threat Zone

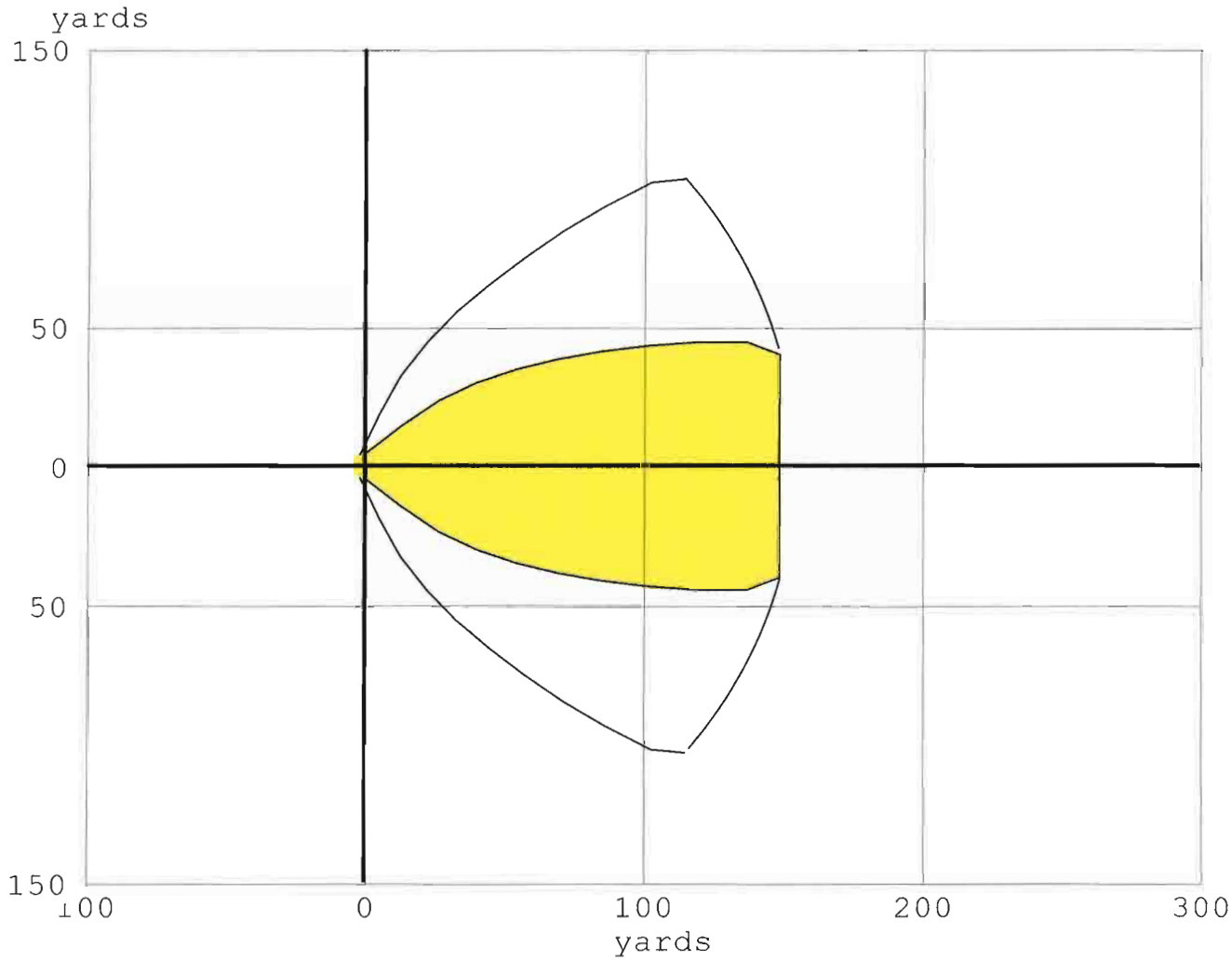
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: PROPANE

Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Threat Modeled: Flammable Area of Vapor Cloud
Model Run: Heavy Gas
Red : 53 yards --- (12,000 ppm = 60% LEL = Flame Pockets)
Note: Threat zone was not drawn because effects of near-field patchiness make dispersion predictions less reliable for short distances.
Yellow: 149 yards --- (2,000 ppm = 10% LEL)



>= 12,000 ppm = 60% LEL = Flame Pockets (not drawn)
>= 2,000 ppm = 10% LEL
Confidence Lines

Concentration at Point

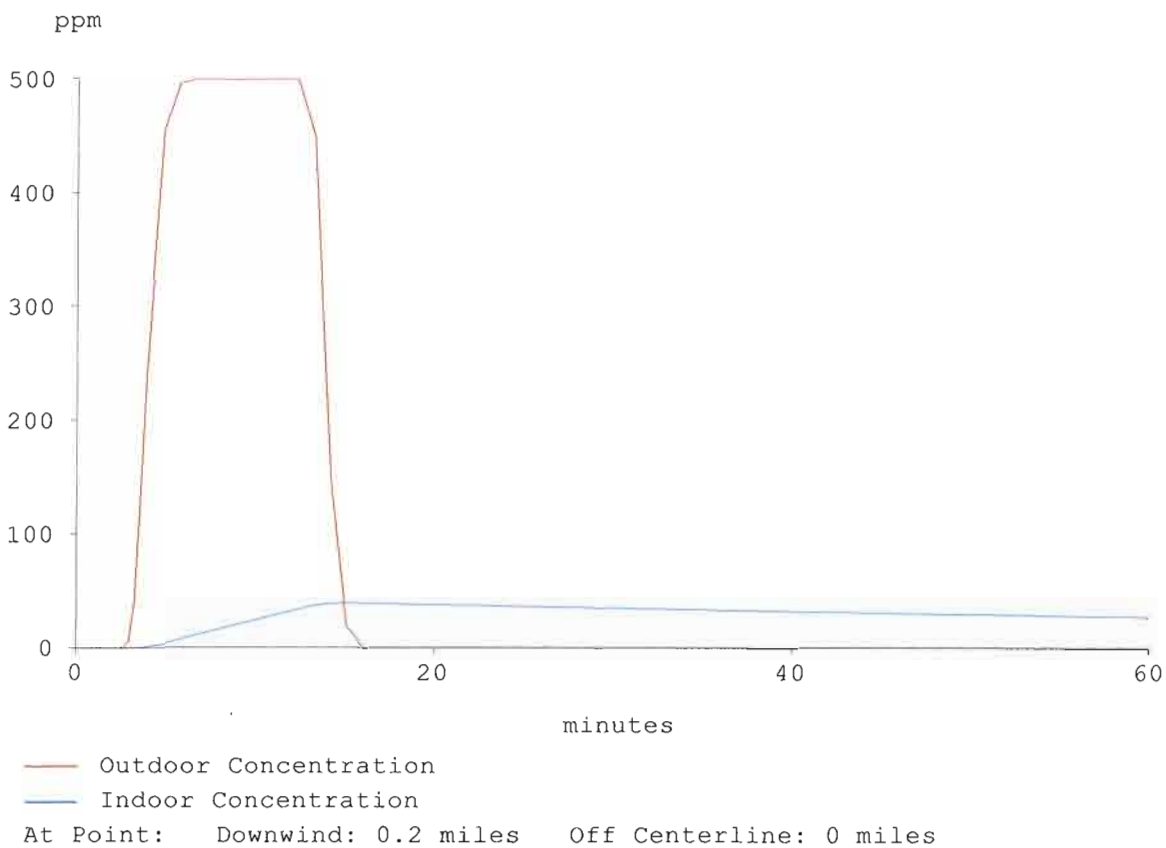
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: PROPANE

Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Heavy Gas
Concentration Estimates at the point:
Downwind: 0.2 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 499 ppm
Indoor: 39.3 ppm



SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1009 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: PROPANE Molecular Weight: 44.10 g/mol
TEEL-1: 2100 ppm TEEL-2: 2100 ppm TEEL-3: 2100 ppm
IDLH: 2100 ppm LEL: 20000 ppm UEL: 95000 ppm
Ambient Boiling Point: -43.9° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Direct Source: 57.5 gallons/min Source Height: 0
Source State: Liquid
Source Temperature: equal to ambient
Release Duration: 10 minutes
Release Rate: 239 pounds/min
Total Amount Released: 2,386 pounds
Note: This chemical may flash boil and/or result in two phase flow.

THREAT ZONE:
Threat Modeled: Overpressure (blast force) from vapor cloud explosion
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Heavy Gas
Red : LOC was never exceeded --- (1.0 psi = shatters glass)

THREAT AT POINT:
Overpressure Estimate at the point:
Downwind: 0.2 miles Off Centerline: 0 miles
There is no significant overpressure at the point selected.

Overpressure (Blast Force) Threat Zone ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: PROPANE

Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Threat Modeled: Overpressure (blast force) from vapor cloud explosion
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Heavy Gas
Red : LOC was never exceeded --- (1.0 psi = shatters glass)

Threat Modeled: Overpressure (blast force) from vapor cloud explosic
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Heavy Gas
Red : LOC was never exceeded --- (1.0 psi = shatters glass)

Overpressure at Point

ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: PROPANE

Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Heavy Gas
Overpressure Estimate at the point:
Downwind: 0.2 miles Off Centerline: 0 miles
There is no significant overpressure at the point selected.

There is no significant overpressure at the point selected.

At Point: Downwind: 0.2 miles Off Centerline: 0 miles

SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1009 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: DICHLOROMETHANE Molecular Weight: 84.93 g/mol
ERPG-1: 200 ppm ERPG-2: 750 ppm ERPG-3: 4000 ppm
LEL: 159000 ppm UEL: 191000 ppm
Carcinogenic risk - see CAMEO
Ambient Boiling Point: 103.5° F
Vapor Pressure at Ambient Temperature: 0.49 atm
Ambient Saturation Concentration: 494,506 ppm or 49.5%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Evaporating Puddle (Note: chemical is flammable)
Puddle Area: 200 square feet Puddle Volume: 55 gallons
Ground Type: Default soil Ground Temperature: 70° F
Initial Puddle Temperature: Ground temperature
Release Duration: 48 minutes
Max Average Sustained Release Rate: 20.1 pounds/min
(averaged over a minute or more)
Total Amount Released: 608 pounds

THREAT ZONE:
Model Run: Heavy Gas
Red : 49 yards --- (750 ppm = ERPG-2)
Note: Threat zone was not drawn because effects of near-field patchiness
make dispersion predictions less reliable for short distances.

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.4 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 10.2 ppm
Indoor: 2.87 ppm

Toxic Threat Zone ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: DICHLOROMETHANE
Carcinogenic risk - see CAMEO

Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Heavy Gas
Red : 49 yards --- (750 ppm = ERPG-2)
Note: Threat zone was not drawn because effects of near-field patchiness
make dispersion predictions less reliable for short distances.

Model Run: Heavy Gas
Red : 49 yards --- (750 ppm = ERPG-2)
Note: Threat zone was not drawn because effects of near-field patchi
make dispersion predictions less reliable for short distances.

Concentration at Point

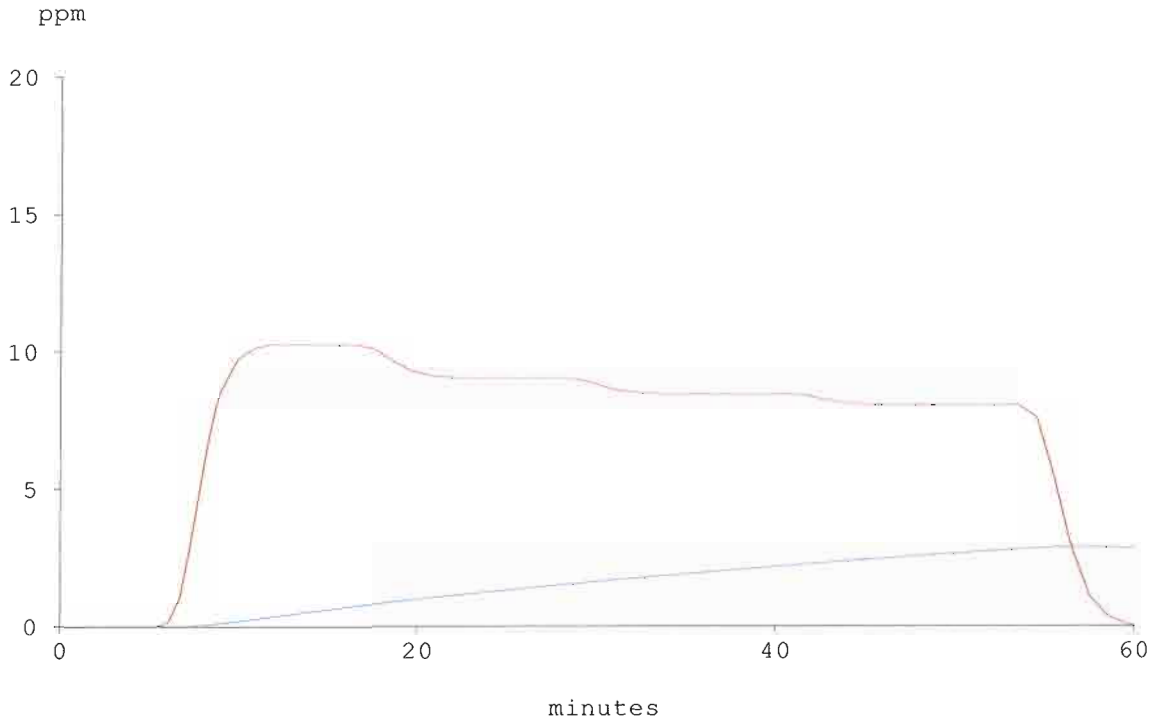
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: DICHLOROMETHANE
Carcinogenic risk - see CAMEO

Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Heavy Gas
Concentration Estimates at the point:
Downwind: 0.4 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 10.2 ppm
Indoor: 2.87 ppm



Outdoor Concentration
Indoor Concentration
At Point: Downwind: 0.4 miles Off Centerline: 0 miles

SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1009 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: HYDROCHLORIC ACID
Solution Strength: 42% (by weight)
Ambient Boiling Point: 70.3° F
Partial Pressure at Ambient Temperature: 0.98 atm
Ambient Saturation Concentration: 988,472 ppm or 98.8%
Hazardous Component: HYDROGEN CHLORIDE
Molecular Weight: 36.46 g/mol
AEGL-1(60 min): 1.8 ppm AEGL-2(60 min): 22 ppm AEGL-3(60 min): 100 ppm
IDLH: 50 ppm

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Evaporating Puddle
Puddle Area: 200 square feet Puddle Volume: 55 gallons
Ground Type: Default soil Ground Temperature: 70° F
Initial Puddle Temperature: Ground temperature
Release Duration: ALOHA limited the duration to 1 hour
Max Average Sustained Release Rate: 15.5 pounds/min
(averaged over a minute or more)
Total Amount Hazardous Component Released: 88.2 pounds

THREAT ZONE:
Model Run: Heavy Gas
Red : 625 yards --- (20 ppm = ERPG-2)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.45 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 12.6 ppm
Indoor: 0.973 ppm

Toxic Threat Zone

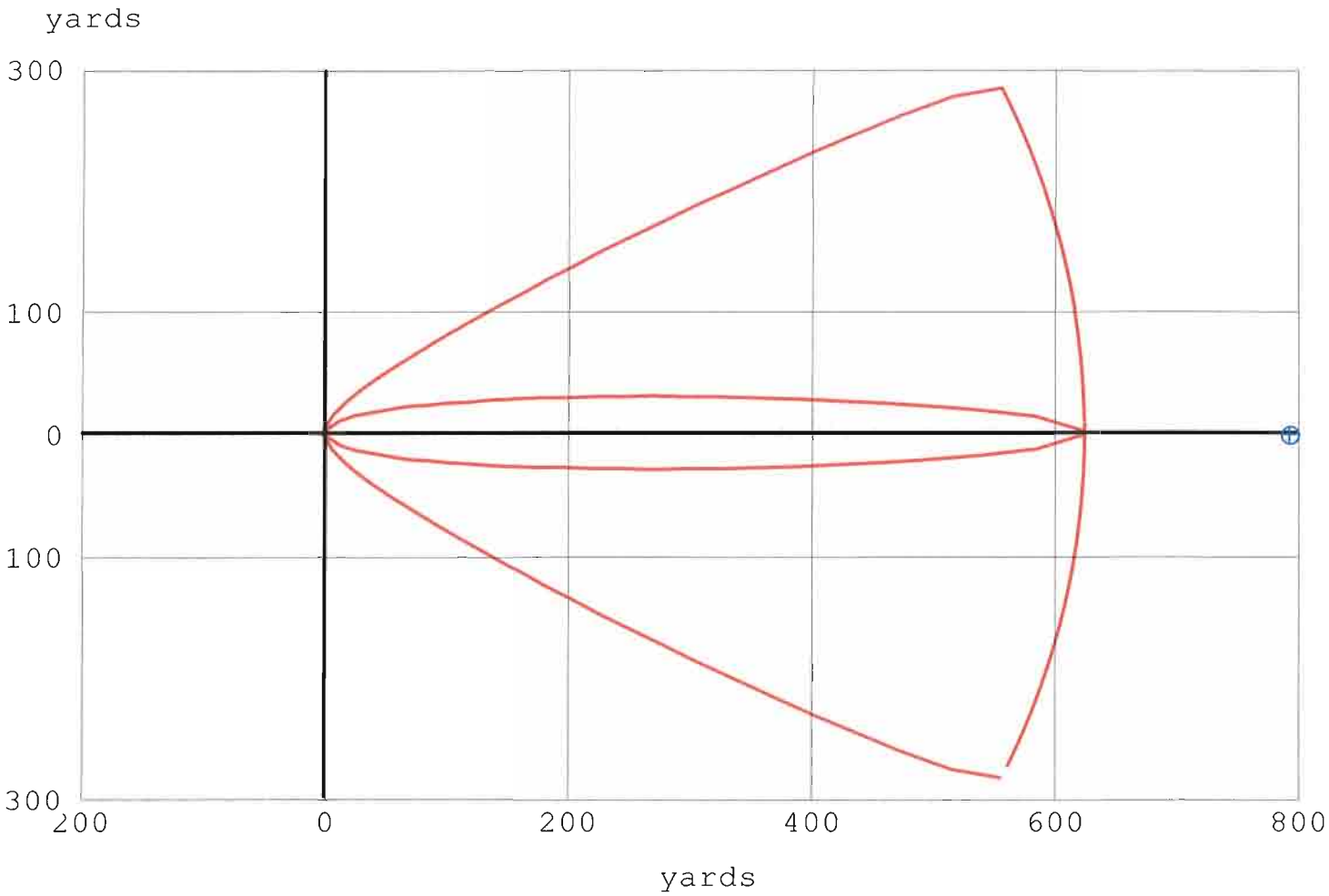
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: HYDROCHLORIC ACID
Solution Strength: 42% (by weight)

Hazardous Component: HYDROGEN CHLORIDE
Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Heavy Gas
Red : 625 yards --- (20 ppm = ERPG-2)



>= 20 ppm = ERPG-2
Confidence Lines

Concentration at Point

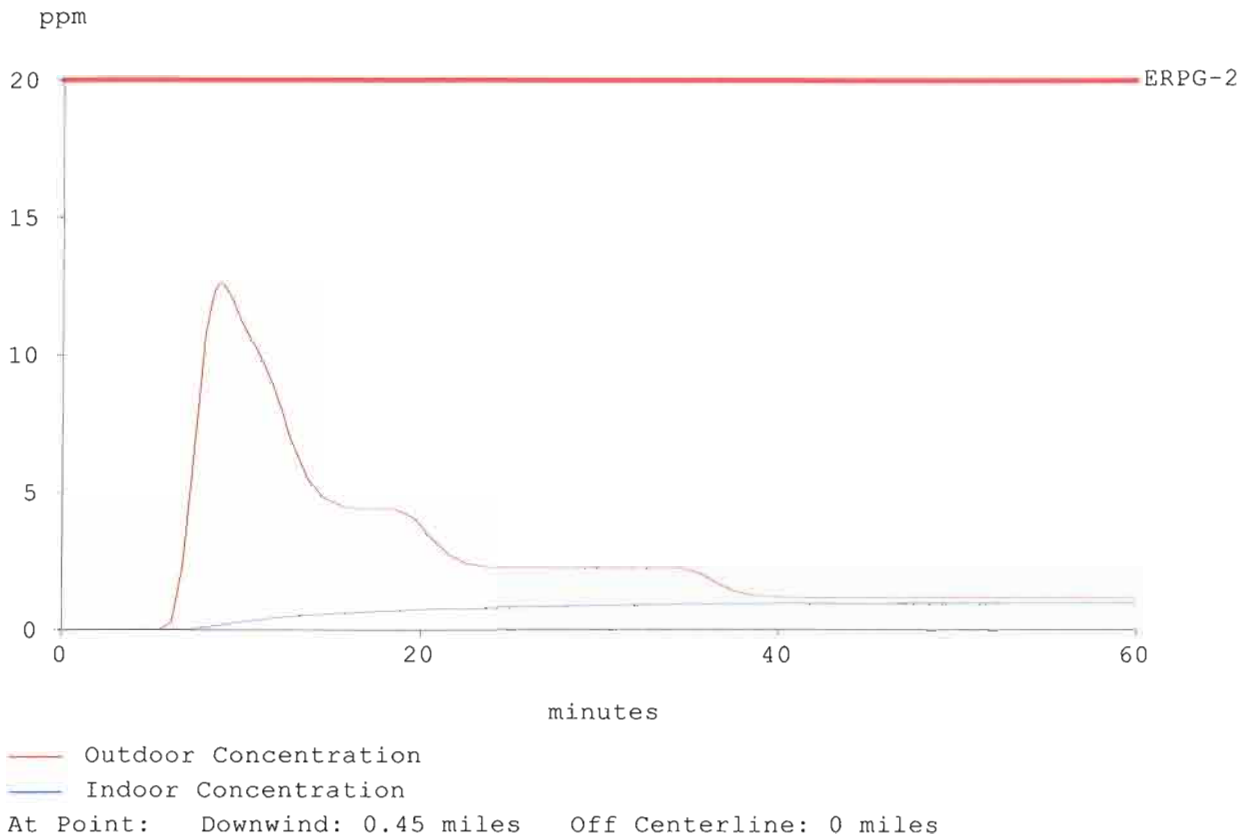
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: HYDROCHLORIC ACID
Solution Strength: 42% (by weight)

Hazardous Component: HYDROGEN CHLORIDE
Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Heavy Gas
Concentration Estimates at the point:
Downwind: 0.45 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 12.6 ppm
Indoor: 0.973 ppm



SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1009 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: AMMONIA Molecular Weight: 17.03 g/mol
ERPG-1: 25 ppm ERPG-2: 150 ppm ERPG-3: 750 ppm
IDLH: 300 ppm LEL: 160000 ppm UEL: 250000 ppm
Ambient Boiling Point: -28.3° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Direct Source: 434.4 pounds/min Source Height: 0
Release Duration: 10 minutes
Release Rate: 434 pounds/min
Total Amount Released: 4,344 pounds
Note: This chemical may flash boil and/or result in two phase flow.
Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
Model Run: Gaussian
Red : 1.3 miles --- (150 ppm = ERPG-2)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.6 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 542 ppm

Concentration at Point

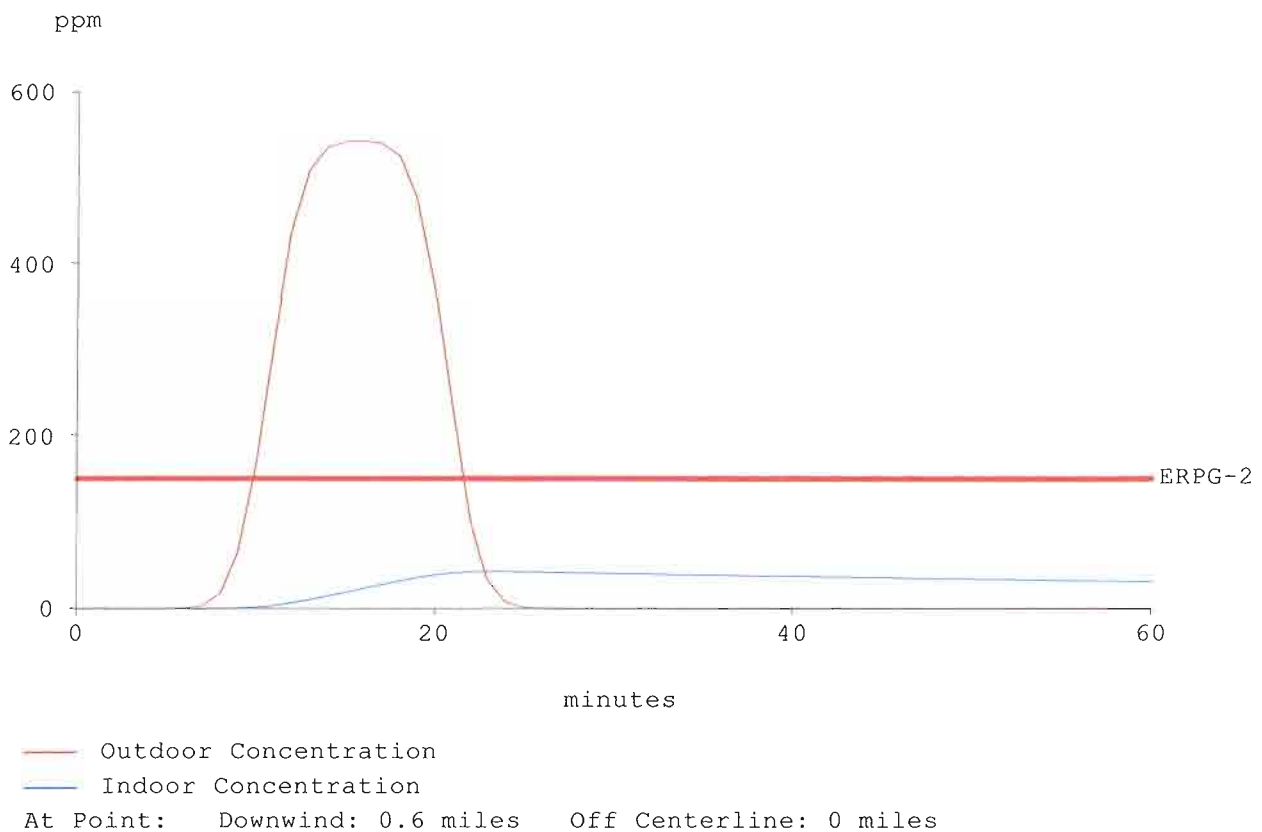
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: AMMONIA

Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Gaussian
Concentration Estimates at the point:
Downwind: 0.6 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 542 ppm



Toxic Threat Zone

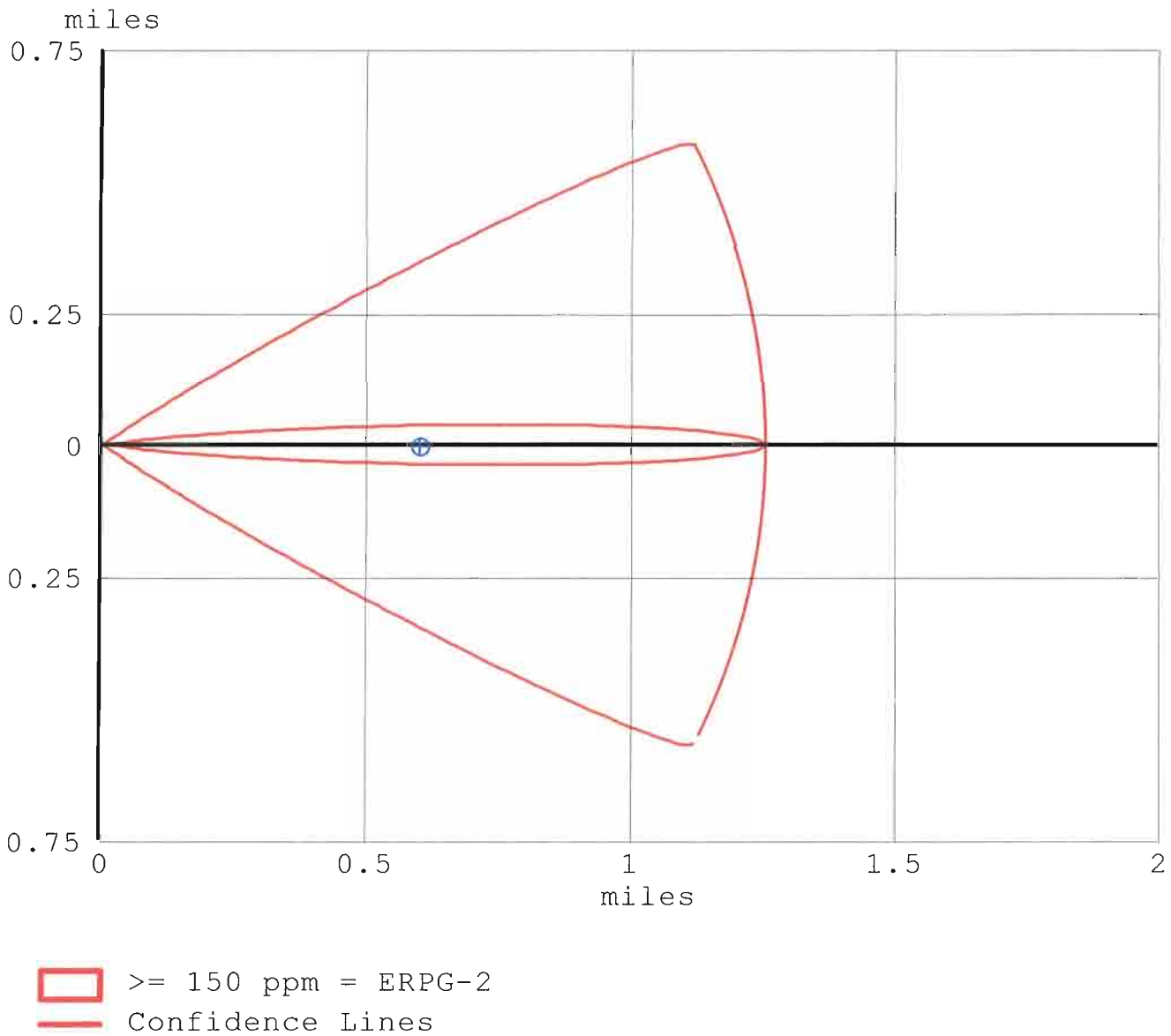
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: AMMONIA

Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Gaussian
Red : 1.3 miles --- (150 ppm = ERPG-2)



Airdrums
Use - alternative

SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 16, 2007 1513 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: AMMONIA Molecular Weight: 17.03 g/mol
ERPG-1: 25 ppm ERPG-2: 150 ppm ERPG-3: 750 ppm
IDLH: 300 ppm LEL: 160000 ppm UEL: 250000 ppm
Ambient Boiling Point: -28.3° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 3 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F Stability Class: D
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Direct Source: 434.4 pounds/min Source Height: 0
Release Duration: 10 minutes
Release Rate: 434 pounds/min
Total Amount Released: 4,344 pounds
Note: This chemical may flash boil and/or result in two phase flow.
Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
Model Run: Gaussian
Red : 626 yards --- (150 ppm = ERPG-2)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.6 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 56.3 ppm

Toxic Threat Zone

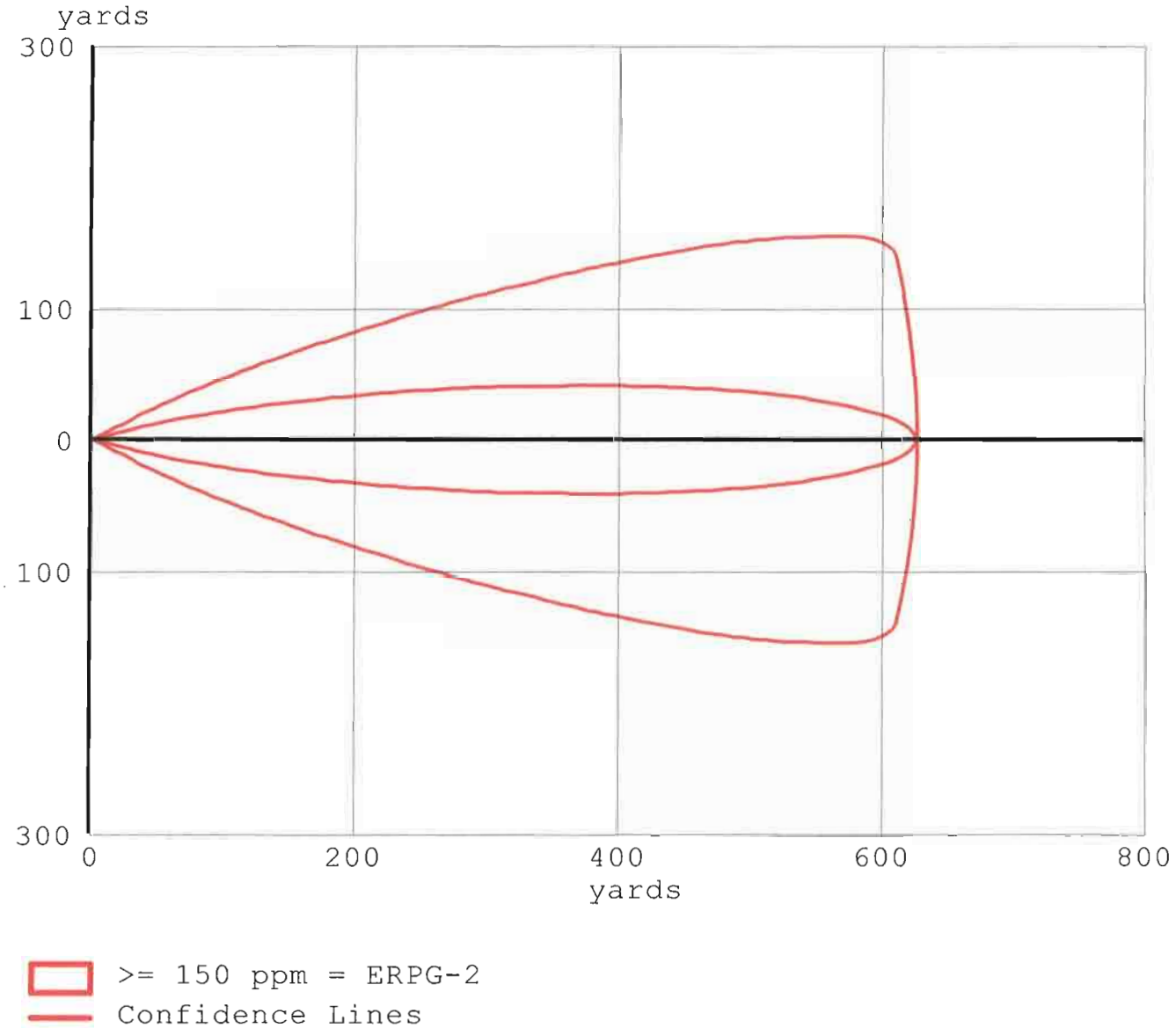
ALOHA® 5.4

Time: July 16, 2007 1513 hours PDT (using computer's clock)

Chemical Name: AMMONIA

Wind: 3 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Gaussian
Red : 626 yards --- (150 ppm = ERPG-2)



Concentration at Point

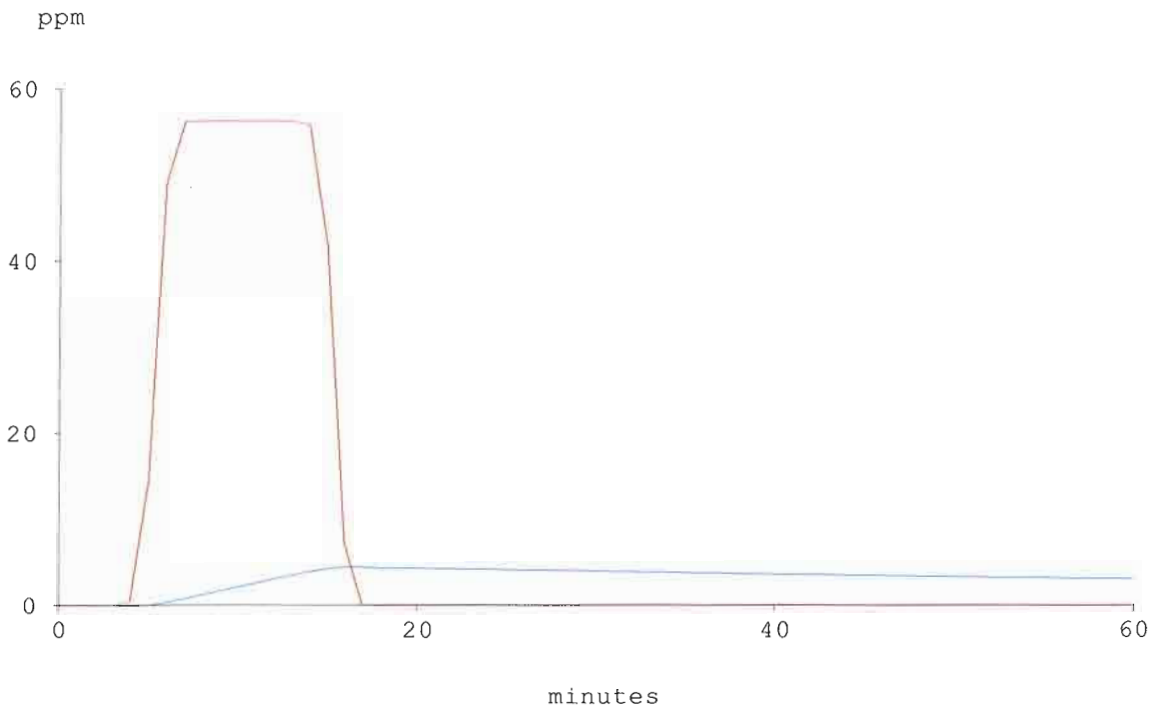
ALOHA® 5.4

Time: July 16, 2007 1513 hours PDT (using computer's clock)

Chemical Name: AMMONIA

Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Gaussian
Concentration Estimates at the point:
Downwind: 0.6 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 56.3 ppm



Outdoor Concentration
Indoor Concentration
At Point: Downwind: 0.6 miles Off Centerline: 0 miles

SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1009 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: AMMONIA Molecular Weight: 17.03 g/mol
ERPG-1: 25 ppm ERPG-2: 150 ppm ERPG-3: 750 ppm
IDLH: 300 ppm LEL: 160000 ppm UEL: 250000 ppm
Ambient Boiling Point: -28.3° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Direct Source: 3250 cubic feet/min Source Height: 0
Source State: Gas
Source Temperature: equal to ambient
Source Pressure: equal to ambient
Release Duration: 10 minutes
Release Rate: 144 pounds/min
Total Amount Released: 1,436 pounds
Note: This chemical may flash boil and/or result in two phase flow.
Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
Model Run: Gaussian
Red : 1175 yards --- (150 ppm = ERPG-2)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.8 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 111 ppm

Toxic Threat Zone

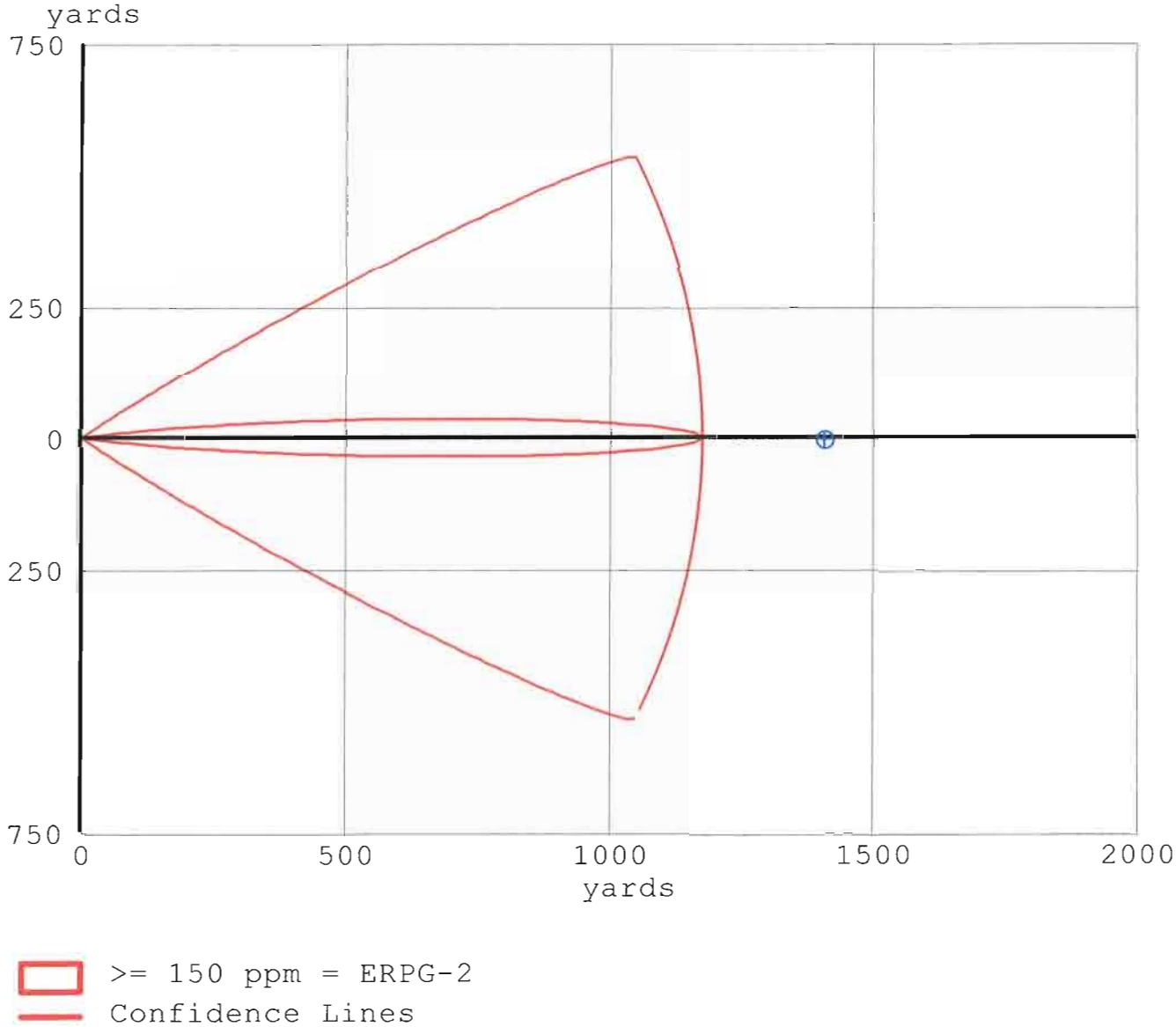
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: AMMONIA

Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Gaussian
Red : 1175 yards --- (150 ppm = ERPG-2)



Concentration at Point

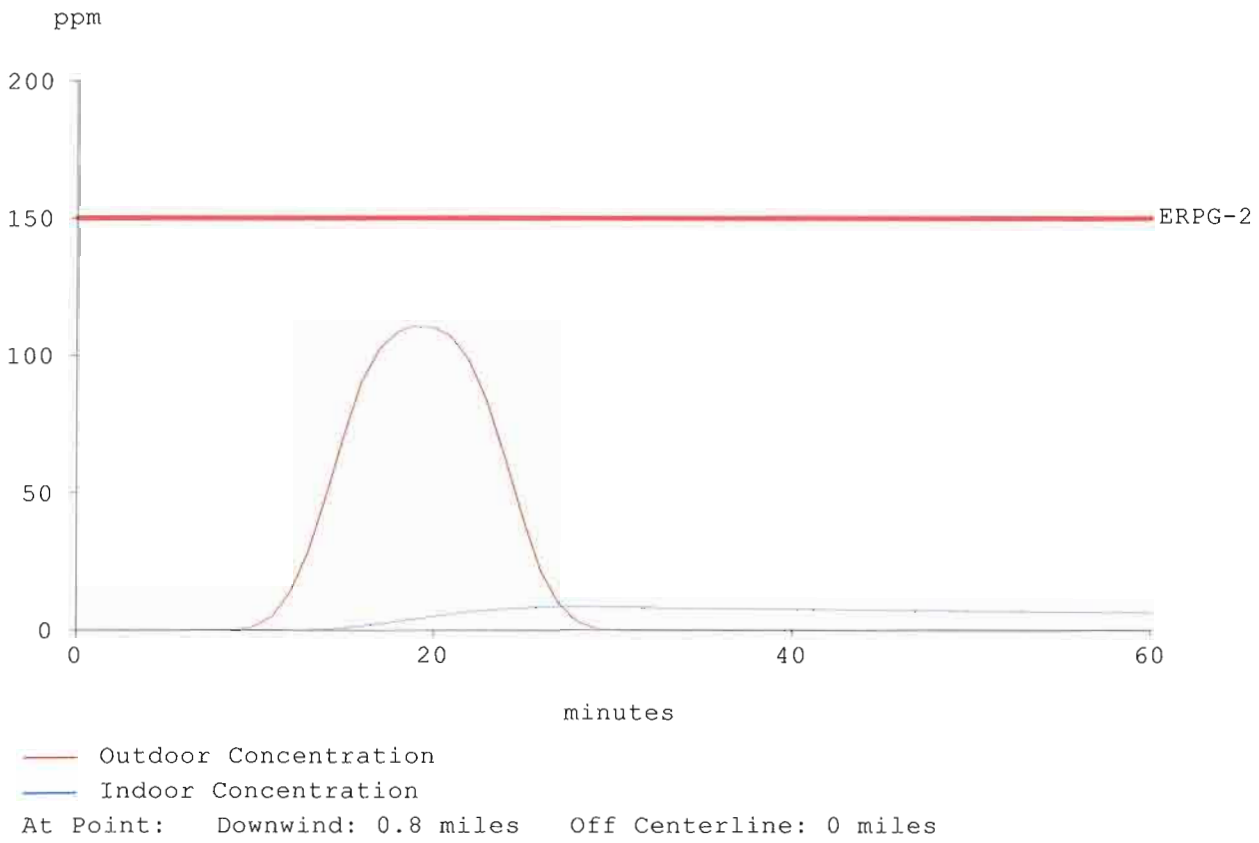
ALOHA® 5.4

Time: July 12, 2007 1009 hours PDT (using computer's clock)

Chemical Name: AMMONIA

Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Gaussian
Concentration Estimates at the point:
Downwind: 0.8 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 111 ppm



SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 12, 2007 1302 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: AQUEOUS AMMONIA
Solution Strength: 30% (by weight)
Ambient Boiling Point: 78.1° F
Partial Pressure at Ambient Temperature: 0.81 atm
Ambient Saturation Concentration: 813,616 ppm or 81.4%
Hazardous Component: AMMONIA Molecular Weight: 17.03 g/mol
ERPG-1: 25 ppm ERPG-2: 150 ppm ERPG-3: 750 ppm
IDLH: 300 ppm LEL: 160000 ppm UEL: 250000 ppm

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Evaporating Puddle (Note: chemical is flammable)
Puddle Area: 1000 square feet Puddle Volume: 10,000 gallons
Ground Type: Default soil Ground Temperature: 70° F
Initial Puddle Temperature: Ground temperature
Release Duration: ALOHA limited the duration to 1 hour
Max Average Sustained Release Rate: 71 pounds/min
(averaged over a minute or more)
Total Amount Hazardous Component Released: 2,446 pounds

THREAT ZONE:
Model Run: Gaussian
Red : 768 yards --- (150 ppm = ERPG-2)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: 0.8 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 52.9 ppm

Toxic Threat Zone

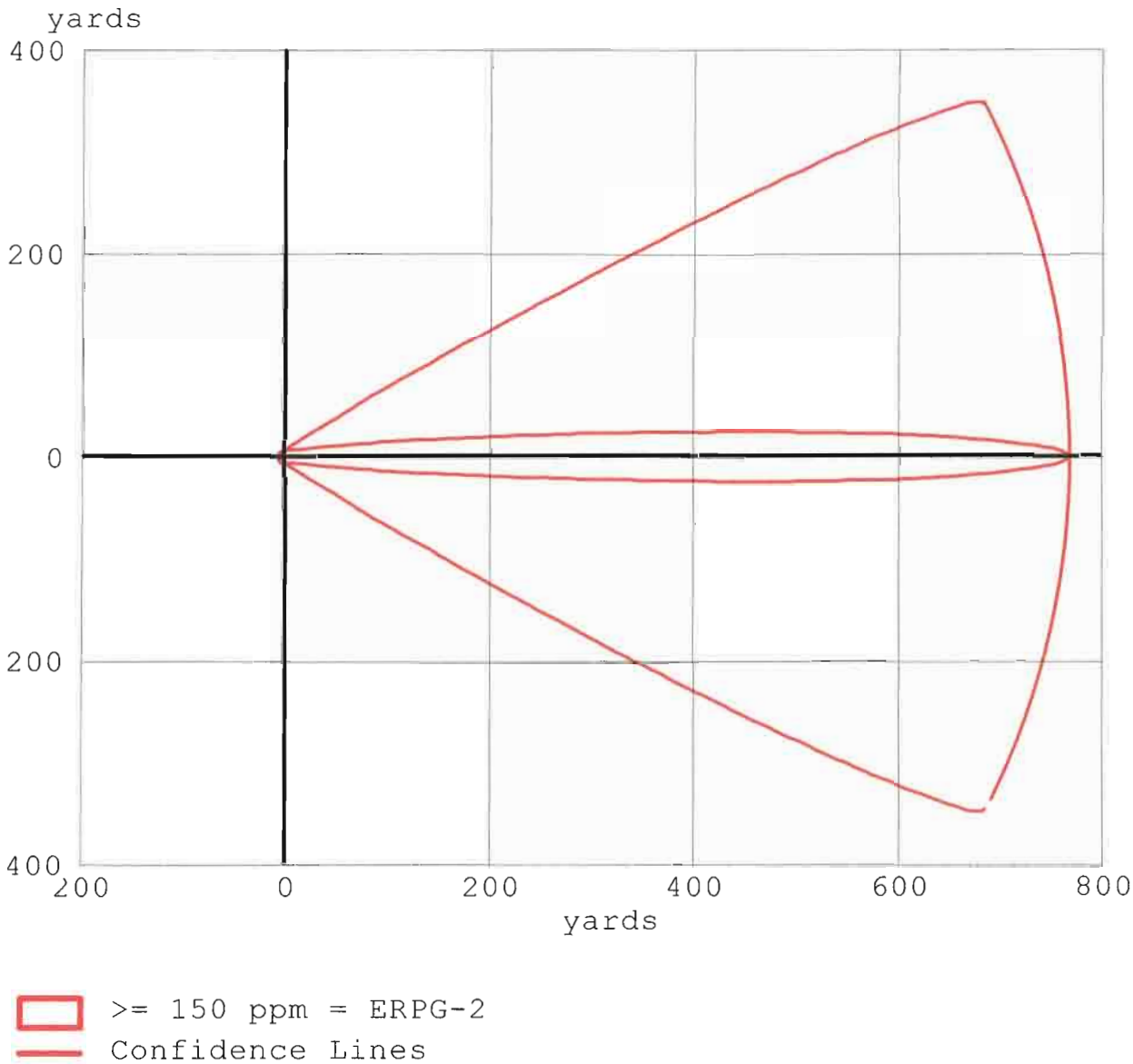
ALOHA® 5.4

Time: July 12, 2007 1302 hours PDT (using computer's clock)

Chemical Name: AQUEOUS AMMONIA
Solution Strength: 30% (by weight)

Hazardous Component: AMMONIA
Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Gaussian
Red : 768 yards --- (150 ppm = ERPG-2)



Concentration at Point

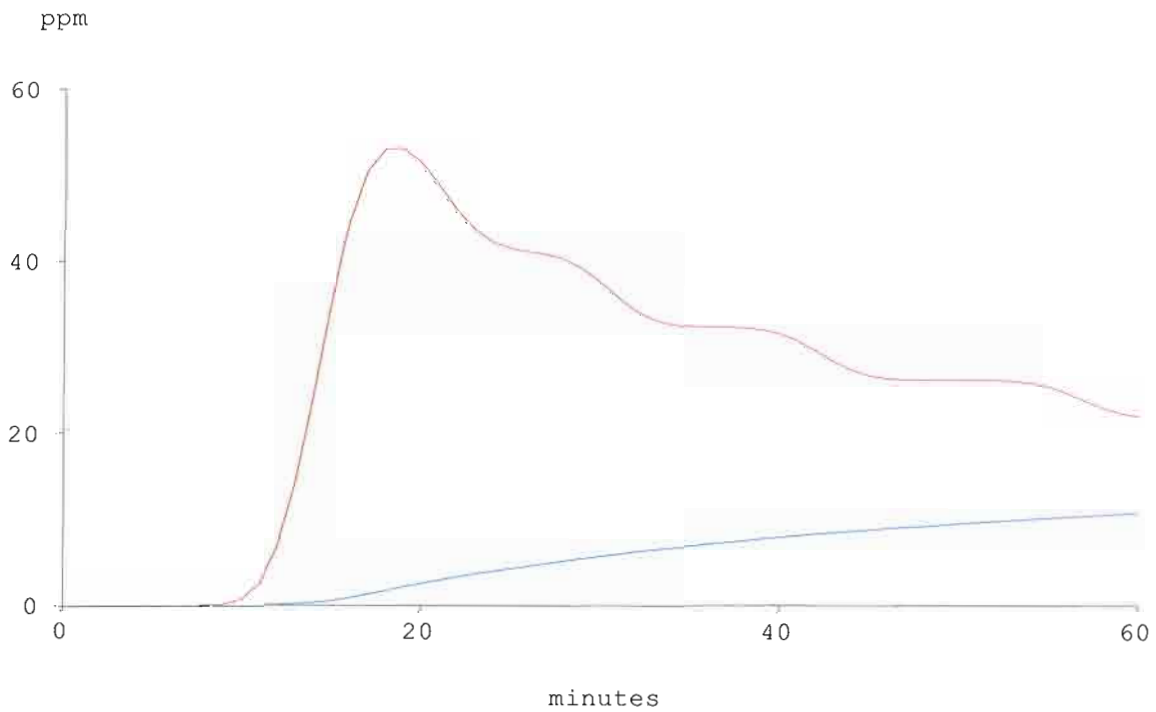
ALOHA® 5.4

Time: July 12, 2007 1302 hours PDT (using computer's clock)

Chemical Name: AQUEOUS AMMONIA
Solution Strength: 30% (by weight)

Hazardous Component: AMMONIA
Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Gaussian
Concentration Estimates at the point:
Downwind: 0.8 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 52.9 ppm



Outdoor Concentration
Indoor Concentration
At Point: Downwind: 0.8 miles Off Centerline: 0 miles

SITE DATA:
Location: SAN JOSE, CALIFORNIA
Building Air Exchanges Per Hour: .5 (user specified)
Time: July 16, 2007 1316 hours PDT (using computer's clock)

CHEMICAL DATA:
Chemical Name: HYDROFLUORIC ACID
Solution Strength: 70% (by weight)
Ambient Boiling Point: 158.9° F
Partial Pressure at Ambient Temperature: 0.16 atm
Ambient Saturation Concentration: 161,016 ppm or 16.1%
Hazardous Component: HYDROGEN FLUORIDE
Molecular Weight: 20.01 g/mol
AEGL-1(60 min): 1 ppm AEGL-2(60 min): 24 ppm AEGL-3(60 min): 44 ppm
IDLH: 30 ppm

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 1.5 meters/second from 0° true at 3 meters
Ground Roughness: urban or forest Cloud Cover: 5 tenths
Air Temperature: 70° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Evaporating Puddle
Puddle Area: 400 square feet Puddle Volume: 55 gallons
Ground Type: Default soil Ground Temperature: 70° F
Initial Puddle Temperature: Ground temperature
Release Duration: ALOHA limited the duration to 1 hour
Max Average Sustained Release Rate: 2.99 pounds/min
(averaged over a minute or more)
Total Amount Hazardous Component Released: 120 pounds

THREAT ZONE:
Model Run: Gaussian
Red : 363 yards --- (20 ppm = ERPG-2)

THREAT AT POINT:
Concentration Estimates at the point:
Downwind: .9 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 1.6 ppm

Concentration at Point

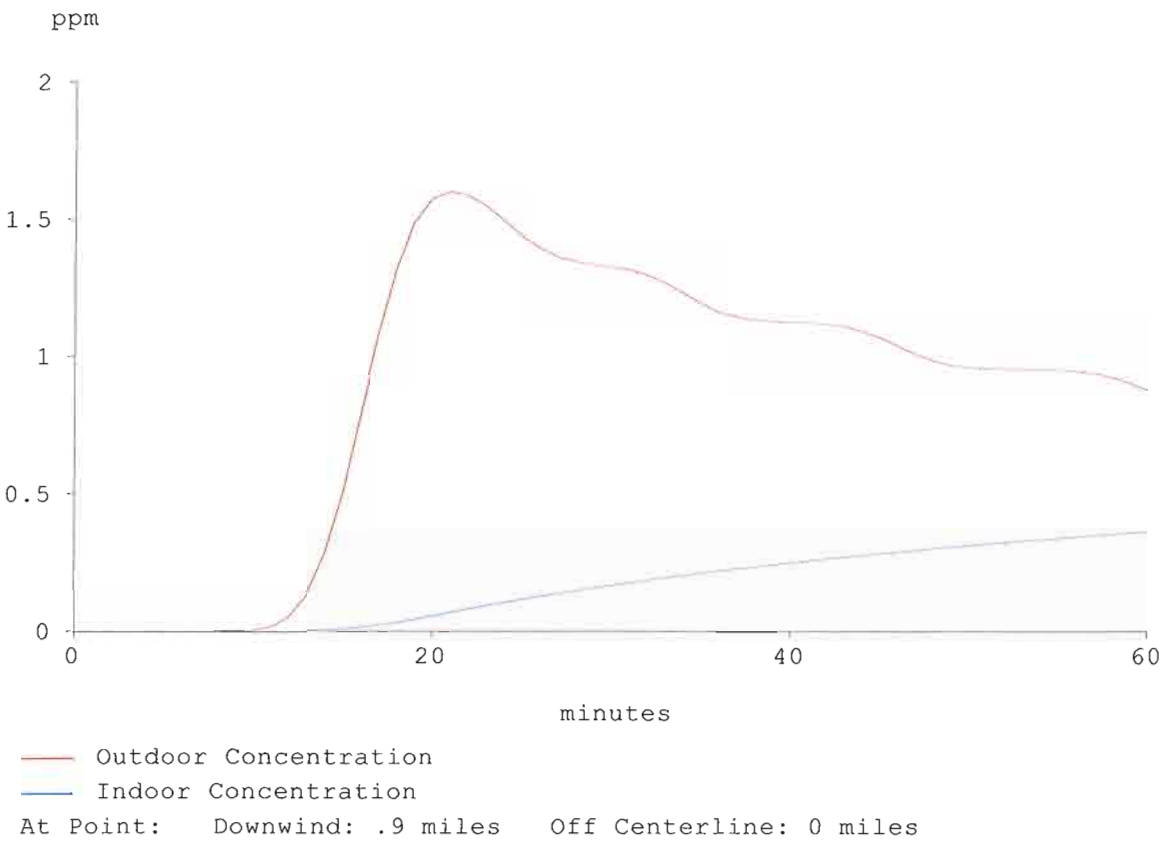
ALOHA® 5.4

Time: July 16, 2007 1316 hours PDT (using computer's clock)

Chemical Name: HYDROFLUORIC ACID
Solution Strength: 70% (by weight)

Hazardous Component: HYDROGEN FLUORIDE
Building Air Exchanges Per Hour: .5 (user specified)

THREAT AT POINT:
Model Run: Gaussian
Concentration Estimates at the point:
Downwind: .9 miles Off Centerline: 0 miles
Max Concentration:
Outdoor: 1.6 ppm



Toxic Threat Zone

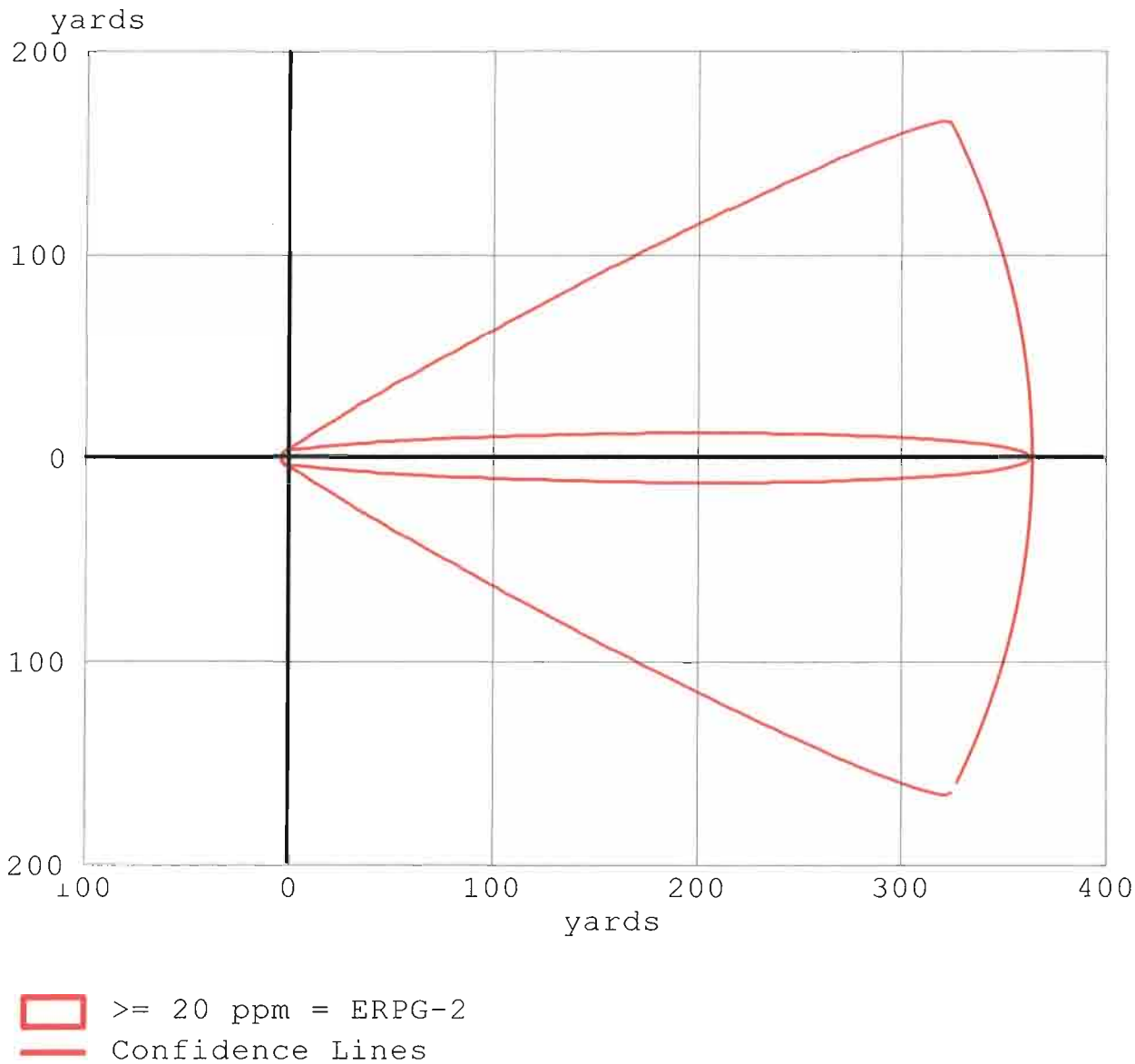
ALOHA® 5.4

Time: July 16, 2007 1316 hours PDT (using computer's clock)

Chemical Name: HYDROFLUORIC ACID
Solution Strength: 70% (by weight)

Hazardous Component: HYDROGEN FLUORIDE
Wind: 1.5 meters/second from 0° true at 3 meters

THREAT ZONE:
Model Run: Gaussian
Red : 363 yards --- (20 ppm = ERPG-2)



Shell 5,000,000 Gallon Gasoline Tank
Release Rate Conversion for SCREEN3 Model Input

ARCHIE Release Rate

lbs/min	Area (ft2)	CF	Area (m2)	lbs/m2-min	lbs/m2-sec	CF	grms/m2-sec
7240	97500	0.0929	9057.75	0.799316	0.013322	454	6.048154

Side of Area	m
	95.17221

SCREEN3 Results

	URBAN		Rural		ARCHIE
Distance (m)	ug/m3	ppm	ug/m3	ppm	ppm
805	3.28E+06	801.96	2.39E+07	5843.55	
1207	1.80E+06	440.1	1.50E+07	3667.5	4779
1609	1.19E+06	290.955	1.04E+07	2542.8	2602

07/16/07
11:46:59

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Gasoline Tank Relase

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =        AREA
   EMISSION RATE (G/(S-M**2)) =     6.05000
   SOURCE HEIGHT (M)          =       .0000
   LENGTH OF LARGER SIDE (M)  =     95.2000
   LENGTH OF SMALLER SIDE (M) =     95.2000
   RECEPTOR HEIGHT (M)        =      2.0000
   URBAN/RURAL OPTION         =       URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** STABILITY CLASS  6 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   1.50 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC            U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
   805.   .3282E+07    6     1.5    1.5 10000.0     .00     39.
  1207.   .1796E+07    6     1.5    1.5 10000.0     .00     32.
  1609.   .1186E+07    6     1.5    1.5 10000.0     .00     45.

      ****************************************
      *** SUMMARY OF SCREEN MODEL RESULTS ***
      ****************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN      .3282E+07      805.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

07/16/07
11:51:18

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Gasoline Release (Rural Disprsion)

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =        AREA
   EMISSION RATE (G/(S-M**2)) =     6.05000
   SOURCE HEIGHT (M)          =       .0000
   LENGTH OF LARGER SIDE (M)  =     95.2000
   LENGTH OF SMALLER SIDE (M) =     95.2000
   RECEPTOR HEIGHT (M)        =      2.0000
   URBAN/RURAL OPTION         =       RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** STABILITY CLASS  6 ONLY ***
*** ANEMOMETER HEIGHT WIND SPEED OF   1.50 M/S ONLY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC            U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
   805.   .2394E+08    6     1.5    1.5 10000.0     .00     44.
  1207.   .1495E+08    6     1.5    1.5 10000.0     .00     45.
  1609.   .1036E+08    6     1.5    1.5 10000.0     .00     45.

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN      .2394E+08      805.        0.

***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

HAZARDOUS MATERIAL = Gasoline
NAME OF DISK FILE = BULK.ASF

*** SCENARIO DESCRIPTION

5 Million Galon Tank

******* LIQUID POOL EVAPORATION RATE/DURATION ESTIMATES

Vapor evolution rate = 7240 lbs/min

******* TOXIC VAPOR DISPERSION ANALYSIS RESULTS

Downwind distance to concentration of 300 ppm
-- at groundlevel = 25953 feet

Note: Minimum computable answer is 33 feet!
Actual hazard distance may be less.

Note: User changed vapor emission duration prior to use of toxic or flammable vapor dispersion model. Final user provided duration was 30 minutes.

Note: See last page of printout for list of results originally computed by ARCHIE.

See attached table(s) for further details.

******* FLAMMABLE VAPOR CLOUD HAZARD RESULTS

For concentration of	1/2 LFL	LFL	
Downwind hazard distance =	2103	1447	feet
Max hazard zone width =	1893	1302	feet
Max weight explosive gas =	50880	34994	lbs
Relative gas/air density =	1.98	1.98	initially
Model used in analysis =	Heavy gas		

******* EXPLOSION HAZARDS: See attached table(s)

HAZARDOUS MATERIAL = Gasoline
NAME OF DISK FILE = BULK.ASF

*** SCENARIO DESCRIPTION

5 Million Galon Tank

******* LIQUID POOL EVAPORATION RATE/DURATION ESTIMATES

Vapor evolution rate = 7240 lbs/min

******* TOXIC VAPOR DISPERSION ANALYSIS RESULTS

Downwind distance to concentration of 300 ppm
-- at groundlevel = 25953 feet

Note: Minimum computable answer is 33 feet!
Actual hazard distance may be less.

Note: User changed vapor emission duration prior to use of toxic or flammable vapor dispersion model. Final user provided duration was 30 minutes.

Note: See last page of printout for list of results originally computed by ARCHIE.

See attached table(s) for further details.

TOXIC VAPOR DISPERSION ANALYSIS RESULTS

Downwind Distance (feet)	Downwind Distance (miles)	Groundlevel Concentration (ppm)	Source Height Concentration (ppm)	Initial Evacuation Zone Width* (feet)
100	.02	1000000	1000000	250
1947	.37	13870	13870	1600
3794	.72	4779	4779	2940
5640	1.07	2602	2602	4290
7487	1.42	1706	1706	5630
9334	1.77	1237	1237	6980
11180	2.12	954	954	8320
13027	2.47	769	769	9660
14873	2.82	639	639	11010
16720	3.17	543	543	12350
18567	3.52	471	471	13700
20413	3.87	414	414	15040
22260	4.22	369	369	16390
24107	4.57	331	331	17730
25953	4.92	300	300	1

*Usually safe for < 1 hour release. Longer releases or sudden wind shifts may require a larger width or different direction for the evacuation zone. See Chapters 3 and 12 of the guide for details. Source height specified by the user for this scenario was 0 feet.

TOXIC VAPOR DISPERSION ANALYSIS RESULTS

Downwind Distance (feet)	Downwind Distance (miles)	Contaminant Arrival Time at Downwind Location (minutes)	Contaminant Departure Time at Downwind Location (minutes)
100	.02	.4	30.7
1947	.37	6.6	43.1
3794	.72	12.7	55.4
5640	1.07	18.9	67.8
7487	1.42	25.1	80.1
9334	1.77	31.2	92.4
11180	2.12	37.4	104.8
13027	2.47	43.6	117.1
14873	2.82	49.8	129.5
16720	3.17	55.9	141.8
18567	3.52	62.1	154.2
20413	3.87	68.3	166.5
22260	4.22	74.4	178.8
24107	4.57	80.6	191.2
25953	4.92	86.8	203.5

CAUTION: See guide for assumptions used in estimating these times.

INPUT PARAMETER SUMMARY

PHYSIOCHEMICAL PROPERTIES OF MATERIAL			
NORMAL BOILING POINT	=	130	degrees F
MOLECULAR WEIGHT	=	100	
LIQUID SPECIFIC GRAVITY	=	.75	
VAPOR PRES AT AMBIENT TEMP	=	5.8	psia
	=	300	mm Hg
TOXIC VAPOR LIMIT	=	300	ppm
CONTAINER CHARACTERISTICS			
TEMP OF CONTAINER CONTENTS	=	70	degrees F
ENVIRONMENTAL/LOCATION CHARACTERISTICS			
AMBIENT TEMPERATURE	=	80	degrees F
WIND VELOCITY	=	3.4	mph
ATMOSPHERIC STABILITY CLASS	=	F	
VAPOR/GAS DISCHARGE HEIGHT	=	0	feet
KEY RESULTS PROVIDED BY USER INSTEAD OF BY EVALUATION METHODS			
AMOUNT DISCHARGED	=	3E+07	lbs
EVAPORATING POOL AREA	=	97500	ft2
KEY RESULTS OVERRIDDEN BY USER AT SOME POINT AFTER COMPUTATION			
VAPOR EVOLUTION DURATION	=	4143.7	minutes

INPUT PARAMETER SUMMARY

PHYSIOCHEMICAL PROPERTIES OF MATERIAL			
NORMAL BOILING POINT	=	130	degrees F
MOLECULAR WEIGHT	=	100	
LIQUID SPECIFIC GRAVITY	=	.75	
VAPOR PRES AT AMBIENT TEMP	=	5.8	psia
	=	300	mm Hg
LOWER FLAMMABLE LIMIT (LFL)	=	1.3	vol%
LOWER HEAT OF COMBUSTION	=	19000	Btu/lb
GAS EXPLOSION YIELD FACTOR	=	.03	
TOXIC VAPOR LIMIT	=	300	ppm
CONTAINER CHARACTERISTICS			
TEMP OF CONTAINER CONTENTS	=	70	degrees F
ENVIRONMENTAL/LOCATION CHARACTERISTICS			
AMBIENT TEMPERATURE	=	80	degrees F
WIND VELOCITY	=	3.4	mph
ATMOSPHERIC STABILITY CLASS	=	F	
VAPOR/GAS DISCHARGE HEIGHT	=	0	feet
KEY RESULTS PROVIDED BY USER INSTEAD OF BY EVALUATION METHODS			
AMOUNT DISCHARGED	=	3E+07	lbs
EVAPORATING POOL AREA	=	97500	ft2
KEY RESULTS OVERRIDDEN BY USER AT SOME POINT AFTER COMPUTATION			
VAPOR EVOLUTION DURATION	=	4143.7	minutes

UNCONFINED VAPOR CLOUD EXPLOSION EFFECTS

DISTANCE FROM EXPLOSION (feet)	EXPECTED DAMAGE
17066	Occasional breakage of large windows under stress.
2405	Some damage to home ceilings; 10% window breakage.
898 - 1557	Windows usually shattered; some frame damage.
898	Partial demolition of homes; made uninhabitable.
231 - 898	Range serious/slight injuries from flying glass/object.
542	Partial collapse of home walls/roofs.
413 - 542	Non-reinforced concrete/cinder block walls shattered.
185 - 479	Range 90-1% eardrum rupture among exposed population.
466	50% destruction of home brickwork.
345 - 413	Frameless steel panel buildings ruined.
301	Wooden utility poles snapped.
248 - 301	Nearly complete destruction of houses.
205	Probable total building destruction.
123 - 169	Range for 99-1% fatalities among exposed populations due to direct blast effects.

Note: The center of an unconfined gas/vapor explosion can be anywhere within the ground area passed over by the cloud or plume. See results of the vapor cloud fire hazard analysis for the maximum downwind distance and maximum width of this area. Explosion is assumed to take place on or near the ground.

TOXIC VAPOR DISPERSION ANALYSIS RESULTS

Downwind Distance (feet)	Downwind Distance (miles)	Groundlevel Concentration (ppm)	Source Height Concentration (ppm)	Initial Evacuation Zone Width* (feet)
100	.02	1000000	1000000	250
1947	.37	13870	13870	1600
3794	.72	4779	4779	2940
5640	1.07	2602	2602	4290
7487	1.42	1706	1706	5630
9334	1.77	1237	1237	6980
11180	2.12	954	954	8320
13027	2.47	769	769	9660
14873	2.82	639	639	11010
16720	3.17	543	543	12350
18567	3.52	471	471	13700
20413	3.87	414	414	15040
22260	4.22	369	369	16390
24107	4.57	331	331	17730
25953	4.92	300	300	1

*Usually safe for < 1 hour release. Longer releases or sudden wind shifts may require a larger width or different direction for the evacuation zone. See Chapters 3 and 12 of the guide for details. Source height specified by the user for this scenario was 0 feet.

TOXIC VAPOR DISPERSION ANALYSIS RESULTS

Downwind Distance (feet)	Downwind Distance (miles)	Contaminant Arrival Time at Downwind Location (minutes)	Contaminant Departure Time at Downwind Location (minutes)
100	.02	.4	30.7
1947	.37	6.6	43.1
3794	.72	12.7	55.4
5640	1.07	18.9	67.8
7487	1.42	25.1	80.1
9334	1.77	31.2	92.4
11180	2.12	37.4	104.8
13027	2.47	43.6	117.1
14873	2.82	49.8	129.5
16720	3.17	55.9	141.8
18567	3.52	62.1	154.2
20413	3.87	68.3	166.5
22260	4.22	74.4	178.8
24107	4.57	80.6	191.2
25953	4.92	86.8	203.5

CAUTION: See guide for assumptions used in estimating these times.

APPENDIX E-7
SCREENING LEVEL VICINITY HAZARDOUS MATERIALS REVIEW

CORNERSTONE EARTH GROUP

Type of Services	**Screening Level Vicinity Hazardous Materials Review**
Location	**1633 Oakland Road and 1040, 1060 and 1080 East Brokaw Road San Jose, California**
Client	**David J. Powers & Associates**
Client Address	**1871 The Alameda, Suite 200 San Jose, California 95126**
Project Number	**118-1-3**
Date	**January 20, 2010**

Stason I. Foster, P.E.
Senior Project Engineer

Ron L. Helm, C.E.G., R.E.A.II
Principal Geologist

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SECTION 3: FINDINGS / CONCLUSIONS 2
SECTION 4: LIMITATIONS 2

APPENDIX A – REGULATORY AGENCY DATABASE REPORT

Type of Services	**Screening Level Vicinity Hazardous Materials Review**
Location	**1633 Oakland Road and 1040, 1060 and 1080 East Brokaw Road San Jose, California**

SECTION 1: INTRODUCTION

This report presents the results of the Screening Level Vicinity Hazardous Materials Review performed at 1633 Oakland Road and 1040, 1060 and 1080 East Brokaw Road, San Jose, California (Site). This work was performed for David J. Powers & Associates in accordance with our May 14, 2009 Agreement (Agreement). Cornerstone Earth Group, Inc. (Cornerstone) understands that a mixed use development is proposed for the Site.

1.1 BACKGROUND / PURPOSE

The Site is located in a mainly commercial area; residential developments also are present in the general vicinity. Development of the Site for residential and retail use is being planned.

A May 14, 2007 letter prepared by Cornerstone identified several facilities in the general area surrounding the Site that use and/or store significant quantities of hazardous materials. Subsequently, Cornerstone performed a Screening Level Vicinity Hazardous Materials Risk Appraisal (July 20, 2007) to model/evaluate selected hypothetical catastrophic hazardous materials releases from nearby facilities and their potential impacts to the proposed on-Site mixed-use development.

The purpose of the current study was to perform a cursory review of nearby facilities to evaluate if hazardous materials use is similar to the conditions reviewed and modeled in 2007 and to opine if similar risk modeling should be performed again.

1.2 SCOPE OF SERVICES

To evaluate current hazardous materials use at facilities located in the general Site vicinity, the following tasks were complete during this study.

- A drive-by survey of properties located within a radius of approximately ½-mile of the Site to note readily observable facilities that appear likely to use, handle, or store significant quantities of hazardous materials.

- Acquisition and review of a regulatory agency database report to assist in the identification of hazardous materials users within approximately 1 mile of the Site.

- Review of files for selected facilities at the San Jose Fire Department or County Health Department if information for the identified facilities was not previously reviewed during the prior studies.

- Preparation of this letter presenting the results of our study.

SECTION 2: HAZARDOUS MATERIAL USER EVALUATION

2.1 SITE VICINITY RECONNAISSANCE

On January 19, 2010, our representative conducted a drive-by survey of properties located within a radius of approximately ½-mile of the Site to note readily observable facilities that appeared likely to use, handle, or store significant quantities of hazardous materials. Readily observable outdoor storage of materials, posted hazardous materials placards, observed business types and facility size were considered during this reconnaissance.

2.2 AGENCY DATABASE REPORT REVIEW

A regulatory agency database report was obtained from a firm specializing in the computerized search of environmental regulatory databases. This report was reviewed to assist in the identification of nearby facilities that use hazardous materials. A copy of the agency database report is attached in Appendix A.

SECTION 3: FINDINGS / CONCLUSIONS

Table 1 in the May 14, 2007 letter prepared by Cornerstone identified several facilities in the general area surrounding the Site that use and/or store significant quantities of hazardous materials. During our January 2010 Site vicinity reconnaissance and agency database review, no additional facilities were identified that appear likely to use, handle, or store significant quantities of hazardous materials.

The Screening Level Vicinity Hazardous Materials Risk Appraisal (Cornerstone, July 2007) concluded that the facilities identified in Table 1, including Airdrome Orchards and Shell Oil, appeared not to pose unacceptable risks to the proposed mixed use development of the Site. Because the current hazardous materials use in the Site vicinity appears similar to the conditions reviewed and modeled in 2007, the prior risk appraisal findings appear valid.

SECTION 4: LIMITATIONS

Cornerstone performed this vicinity hazardous materials review to support David J. Powers & Associates in evaluating the impact to the Site from selected catastrophic releases of hazardous materials from nearby facilities. David J. Powers & Associates understands that no review can wholly eliminate uncertainty regarding the impact to the Site from accidental and catastrophic

releases of hazardous materials. This vicinity hazardous materials review is intended to reduce, but not eliminate, uncertainty regarding the potential for impacts to the Site from such catastrophic releases. David J. Powers & Associates understands that the extent of information obtained is based on the reasonable limits of time and budgetary constraints.
We cannot be held responsible for the accuracy of information obtained in agency files or from the regulatory database report. Our professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally accepted environmental principles and practices at this time and location. No warranties are either expressed or implied.

CORNERSTONE EARTH GROUP

APPENDIX A – REGULATORY AGENCY DATABASE REPORT

Copies of the appendices for the Screening Level Vicinity Hazardous Materials Review are on file with the Department of Planning, Building, and Code Enforcement and are available for review during normal business hours.