2009 OPERATIONS, MAINTENANCE & MONITORING ANNUAL REPORT

DEL AMO WASTE PITS
LOS ANGELES, CALIFORNIA

PREPARED FOR:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PREPARED ON BEHALF OF:

THE DEL AMO RESPONDENTS

PREPARED BY:

C2REM
An Environmental Management & Development Company

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ACRONYMS AND ABBREVIATIONS
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AO	Administrative Order
Annual Report	2009 OM&M Annual Report
ASTM	American Society of Testing and Materials
C_1	Carbon Vessel 1
Cap Gas System	Cap Gas Collection and Treatment System
CO_2	carbon dioxide
COC	constituents of concern
DTSC	Department of Toxic Substances Control
kg	kilograms
lbs	pounds
LEL	lower explosive limit
ND	non-detect
O_2	oxygen
OM&M	operations, maintenance and monitoring
OM&M Manual	Operations, Maintenance and Monitoring Manual
P_{atm}	= atmospheric pressure or a preset value
PID	photo ionization detector
PLC	programmable logic controller
ppm	parts per million
P_r	= pressure at a radial distance, r, from the vapor extraction well
P_w	= pressure at the vapor extraction well.
r	= radial distance from the vapor extraction well
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROI	= radius of influence where pressure is equal to preset value
R_w	= well radius of the vapor extraction well
SCAQMD	South Coast Air Quality Management District
scf	standard cubic feet
scfm	standard cubic feet per minute
SVE/IBT	Soil Vapor Extraction/Insitu Biodegradation Technology
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds
Waste Pits	Del Amo Waste Pits Operable Unit

1.0 INTRODUCTION

This 2009 Operations, Maintenance, and Monitoring (OM&M) Annual Report (Annual Report) has been prepared by C2 REM on behalf of the Del Amo Respondents to summarize the OM&M activities conducted at the Del Amo Waste Pits Operable Unit (Waste Pits) site located in Torrance, California, pursuant to requirements in the *Administrative Order (AO) for Remedial Action, Docket No. 99-08, Del Amo Waste Pits Operable Unit, Torrance, California,* United States Environmental Protection Agency (USEPA), 1999, and the *Operations, Maintenance and Monitoring Manual for the Del Amo Waste Pits Operable Unit, Torrance, California,* Parsons Engineering Science, 1999 (OM&M Manual).

This Annual Report provides a summation of the OM&M activities conducted from January 2009 through December 2009 at the Waste Pits during the 10th year of operation of the Phase I remedy (e.g., multi-layer cap, soil vapor monitoring probes) and the 3rd year operation of the Phase II remedy (i.e., Soil Vapor Extraction/Insitu Biodegradation Technology System [SVE/IBT System]).

This Annual Report includes discussions on:

1) OM&M activities for the Cap Gas Collection and Treatment System (Cap Gas System) and SVE/IBT System;
2) Monthly perimeter well monitoring;
3) Inspections (pursuant to both quarterly requirements, post rain, and seismic events) of the cover system, drainage systems, Cap Gas System, SVE/IBT System and general physical site characteristics;
4) Summaries of maintenance; and,
5) Monument survey results.

The remainder of this Annual Report is outlined in the following sections:

2.0 Site History
3.0 Systems Operation and Monitoring
4.0 Inspections
5.0 Routine Maintenance
6.0 Monument Survey Event
7.0 Conclusions and Recommendations
8.0 References

2.0 SITE HISTORY

The Waste Pits includes Lots 36 and 37 of the Los Angeles County Assessor's Map and is located between Vermont Avenue (to the east) and Normandie Avenue (to the west) (see Figure 1.0). The northern boundary of the property is a Los Angeles Department of Water and Power easement, and the southern boundary is Del Amo Boulevard. There is one

major petroleum and petrochemical pipeline corridor located within the property on the southern boundary of the Waste Pits property.

The Waste Pits includes two adjoining parcels of land (Lots 36 and 37), which contain six small rectangular pits (2-series pits) and three large rectangular impoundments (1-series pits) (see Figure 2.0). Both the 1-series and the 2-series pits were used for the disposal of wastes and waste liquids during operation of a synthetic rubber manufacturing facility. The 2-series pits were located on the western side of Lot 36 and the 1-series pits, 1-B and 1-C, were located on the eastern side of Lot 36. Immediately east of Lot 36 is Lot 37, which contains a former large, rectangular impoundment designated as Pit 1-A. Impacted soils from Pit 1-A were excavated in four phases from 1982 – 1984 to a depth of 6 feet at the east side of the pit and to a depth of 25 feet at the west side of the pit. This excavation process was completed under the direction of the California Department of Health Services with jurisdiction for the Waste Pits under California Environmental Protection Agency's Department of Toxic Substances Control (DTSC).

As outlined in the *Remedial Design Work Plan, Del Amo Pits Operable Unit, Torrance, California*, Dames and Moore, 1998, the USEPA provided oversight for the construction and installation of the Phase I remedy including installation of the SVE wells (a component of the proposed Phase II remedy). The Phase I remedy, which was performed on the 1-series and 2-series pits, consisted of a Resource Conservation and Recovery Act (RCRA) equivalent multi-layer cap, soil vapor monitoring probes, the Cap Gas System, security fences, deed restrictions, and surface and subsurface drainage features. During 2006, the treatment technology for site vapor was selected, designed, and installed. The Phase II remedy, which is the SVE/IBT System, was placed into optimization testing and full-time operation on August 7, 2006.

3.0 SYSTEMS OPERATION AND MONITORING

3.1 CAP GAS SYSTEM OVERVIEW

The Cap Gas System utilizes a series of perforated pipes within the sand layer of the multi-layer cap to extract vapors that may build up beneath the cap. C2 REM conducted the Cap Gas System monitoring activities pursuant to the requirements as approved by the USEPA and as presented in the report entitled *Cap Gas Collection and Treatment Baseline Monitoring and Long-term Monitoring Recommendations Report, Del Amo Waste Pits Operable Unit, Los Angeles County, California,* C2 REM 2000. These monitoring activities were conducted to assess the efficiency of the Cap Gas System in the collection and treatment of fugitive soil vapor emissions from the sand layer within the cap.

The Cap Gas System operates for 4 hours a day (10:00 am - 2:00 pm), 5 days a week (Monday - Friday). The Cap Gas System is controlled via a programmable logic controller (PLC) unit with capabilities for remote start and stop. In an effort to assess the efficiency and performance of the carbon units of the Cap Gas System, semi-monthly monitoring was conducted from four sample locations (i.e., 1) system influent, 2) effluent of the lead carbon vessel, 3) effluent of the secondary carbon vessel, and 4) system effluent).

3.1.1 SEMI-MONTHLY CAP GAS SYSTEM MONITORING RESULTS

During semi-monthly monitoring, a site-dedicated photo ionization detector (PID) (calibrated to 5 parts per million [ppm] benzene) was used to measure total volatile organic compound (VOC) concentrations at each of the four sample locations. As indicated in Table 1.0, influent sample readings ranging from 0.0 ppm to 1.2 ppm, and system effluent readings ranging from 0.0 ppm to 0.3 ppm were recorded during 2009. As outlined in the OM&M Manual and the USEPA-approved carbon bed change-out protocol, system effluent readings greater than 5 ppm require action to assure that the Cap Gas System is operating in compliance. The low concentrations detected at the Cap Gas System effluent were below the 5 ppm compliance action threshold (see Figure 3.0). The field forms used to record results of the semi-monthly Cap Gas System monitoring events are presented in Appendix A.

The guidelines established for carbon change-out of the Cap Gas System state that when VOC concentrations at the effluent are greater than 5 ppm and/or when the lead vessel efficiency (in relation to the system influent) falls within Zone 2 for two consecutive monitoring events or Zone 3 (see Figure 4.0), carbon shall be replaced. The carbon canisters were last changed out on July 8, 2008. The lead vessel efficiency has subsequently remained in Zone 1 for all of 2009.

3.1.2 CAP GAS SYSTEM CONFIRMATION SAMPLING

C2 REM, with the approval of the USEPA (December 4, 2002), has modified the scope and frequency of the annual confirmation sampling event for the Cap Gas System from an annual program to once every 5 years. In addition, South Coast Air Quality Management District (SCAQMD) Method 25.1 has been eliminated from the required list of analyses for collected Cap Gas System samples due to the lack of relevant information obtained from the method, as well as the redundancy of using both SCAQMD Method 25.1 and USEPA Method TO14 (the latter of which provides an adequately detailed analysis of site constituents of concern [COC] and other related compounds).

Based on the approved scope and frequency for confirmation sampling, the next sampling event will be conducted during the second quarter of 2010 (to coincide with the 2nd 5-year review) and thereafter in 2015.

3.2 SVE/IBT SYSTEM OVERVIEW

The SVE/IBT System was placed into optimization testing and full-time operation on August 7, 2006. C2 REM conducted SVE/IBT System monitoring activities pursuant to the requirements as approved by the USEPA and as presented in the report entitled *SVE/IBT Operations, Maintenance and Monitoring Manual*, C2 REM 2006. Additional information regarding the design and construction of the SVE/IBT System can be found in the following documents:

- *Remedial Design Work Plan Addendum,* C2 REM 2005
- *SVE/IBT Pre-Final Design Report Addendum,* C2 REM 2005
- *Process Hazard Analysis Report* ,Webb, Murray, & Associates 2005
- *SVE/IBT Operations, Maintenance, & Monitoring Manual,* C2 REM 2006
- *SVE/IBT Final Design Report,* C2 REM 2006
- *SVE/IBT Construction Quality Assurance Plan,* C2 REM 2006
- *SVE/IBT Remedial Action Workplan,* C2 REM 2006

The SVE/IBT System utilizes the existing extraction/monitoring well network to extract vapors at the outer edges of the Waste Pits and inject re-circulated vapors along with generated oxygen (O_2) to allow for enhanced vadose zone biodegradation to comply with the Record of Decision (ROD). The ROD cleanup goal is to prevent the migration of contaminants, primarily benzene, from the Waste Pits such that they do not contribute a 0.5% increase in concentration to the existing impacted groundwater underlying the Waste Pits.

The SVE/IBT System final design includes injection at four SVE wells (3, 4, 8, and 9) and extraction at nine SVE wells (1, 2, 5, 6, 7, 10, 11, 12, and 20A) in sequence to enhance the natural aerobic degradation observed within the vadose zone (see Figure 5.0).

The SVE/IBT System normally operates 8 hours per day (8:00 am – 4:00 pm), 5 days per week (Monday – Friday). The SVE/IBT System is controlled via a PLC unit with capabilities for remote start and stop as well as alarm/emergency shutdown protocols. The results of both the pre-system and short-term operations are presented in the *Summary of SVE/IBT Pre-System Startup Operations Technical Memorandum,* C2 REM 2007 and the *Summary of SVE/IBT 3-Month Short-Term Operations Technical Memorandum,* C2 REM 2006.

On November 8, 2006, short-term operations ended and the SVE/IBT System has been in long-term OM&M since that date. Results from the 1st year of long-term operations are presented in the *Soil Vapor Extraction Insitu Biodegradation Technology 1 Year Long-Term OM&M Technical Memorandum*, C2 REM 2008, and results from the 2nd year of long-term operations are presented in the *2008 OM&M Annual Report*, C2 REM 2009.

The results from the 3rd year long-term OM&M period for the SVE/IBT System are presented in this Annual Report. Benzene is not the only constituent detected on the site; however, it is detected in concentrations above other constituents of interest (monthly laboratory results for benzene at the inlet of the SVE/IBT System average 22,725 ppm while ethylbenzene averages 480 ppm and toluene averages 63 ppm during this period). Therefore, given that the current SVE/IBT System performance parameters are chemical specific, benzene was selected for discussion purposes. A summary of laboratory data is provided in Table 2.0.

The information collected during this period includes field notes (see Appendix B), laboratory data (see Appendix C), and in-line sensor data (see Appendix D), which are discussed in detail in the following subsections. The analysis of the collected information

indicates that the SVE/IBT System is performing at a level consistent with design parameters.

3.2.1 SVE/IBT SYSTEM OM&M ACTIVITIES

On January 1, 2009, the 3rd year of the long-term OM&M activities began and included semi-monthly field monitoring (see Appendix E) and monthly laboratory sampling of the SVE/IBT System, monthly perimeter well monitoring (wells A, B, C, D, and H), and quarterly full-scale field monitoring of all perimeter, cluster, vacuum performance, and SVE wells (see Appendix F for field monitoring results).

The SVE/IBT System was monitored at the following four stations (see Figure 6.0):

- Station 1 - Influent: (the combined flow of the nine extraction wells);
- Station 2 - Post Ambient Air: the diversion loop (to the granulated activated carbon beds) just after the ambient air intake;
- Station 3 - Carbon Vessel 1 (C_1): at the effluent of the primary carbon vessel; and,
- Station 4 - Effluent: the effluent stack.

These four measurement points were monitored for VOCs, O_2, carbon dioxide (CO_2), and flow rate using hand-held monitoring equipment. Corresponding in-line measurements from the PLC system were also recorded where applicable. The SVE/IBT System in-line sensors record the following parameters: O_2, flow rate, % lower explosive limit (LEL), temperature, relative humidity, and benzene (ppm) (see Figure 6.0 for the location of each in-line sensor). Along with the field monitoring that was conducted, samples were also obtained from the SVE/IBT System enclosure at the four sample stations once a month and analyzed for VOCs using USEPA Method 8260B and for fixed gases (i.e., O_2, CO_2, nitrogen, carbon monoxide, and methane) using American Society of Testing and Materials (ASTM) Method 1946.

Additionally, full-scale field monitoring was conducted quarterly from all cluster, vacuum performance wells, and SVE injection and extraction wells (see Appendix F). Perimeter wells were monitored monthly (wells A, B, C, D, H) and quarterly (wells E, F, G, I, J, K, L) for VOCs, O_2, and CO_2 to ensure that soil vapors do not migrate beyond the areal extent of the cap boundaries (see Figure 5.0 for well locations).[1] The procedures for monitoring the wells included measuring well pressure (inches of water), purging the appropriate well volume and analyzing vapors from each well with a PID calibrated to benzene and a RKI Eagle that measures O_2, LEL, and CO_2.

3.2.1.1 SVE/IBT System Monitoring Results

Based on laboratory results, the benzene concentrations at the inlet ranged from 9,400 ppm to 59,000 ppm with an average of 22,725 ppm. The benzene concentrations at post ambient air ranged from 230 ppm to 4,800 ppm. The benzene concentrations at the outlet

[1] Pursuant to USEPA request (August 15, 2008), C2 REM began monitoring perimeter wells A, B, C, D, and H monthly starting in August 2008.

of C_1 ranged from non-detect (ND) to 3,400 ppm. The benzene concentrations at the effluent were all ND (see Table 2.0). Benzene concentrations at Stations 1-4 demonstrated that the SVE/IBT System was effective in controlling LEL conditions and maintaining acceptable emission limits (i.e., less than 50 ppm) (see Figure 7.0). O_2 concentration at inlet ranged from 9.2% to 16% with an average of 13.1%. CO_2 concentration at inlet ranged from 13% to 18% with an average of 15.1%. In comparison to the 2008 O_2 (16%) and CO_2 (13%) average concentration, the average O_2 concentration decreased while CO_2 increased. This difference may be attributed to different operating scenarios during those times and/or an increase in biodegradation and the microbial population over time. During 2008, the oxygen generator was operated approximately 81% of the time during SVE/IBT System operation compared to 98% of the time in 2009 (see Section 3.2.2 for detailed discussion on operation scenarios).

3.2.1.2 Cluster Well Monitoring Results

The field data collected from the cluster wells during this operation period is presented in Table 3.0. O_2 concentrations ranged from 0% to 23.1% with an average of 17.2%. CO_2 concentrations ranged from 0% to 37% with an average of 5.2%. VOC concentrations ranged from 0 ppm to greater than 15,000 ppm (Note: PID range is 0-15,000 ppm).

The primary function of the cluster wells is to assist in determining vertical soil vapor concentration profiles and evaluate the effectiveness of the SVE/IBT System. However, since the SVE/IBT System has been operating throughout 2009 and the vapors in the subsurface have been mixing, an accurate determination of the concentration of VOCs in each vertical soil profile cannot be assessed. Instead, this data has been used to assess the effectiveness of the SVE/IBT System in increasing the O_2 available for biodegradation. In order to more accurately assess the vertical distribution of VOCs, the SVE/IBT System would need to be shut down for an expanded period of time and allow soil vapor concentrations to rebound prior to monitoring. This data could then be compared to historic data to determine the system's effectiveness and potential for satisfying remedial objectives.

Results from the 2003 baseline laboratory confirmation sampling event are compared with field results obtained during the 3rd year long-term OM&M period in 2009 and presented in Figures 8.0 and 9.0. O_2 levels in 2009 generally continue to show increases compared to the 2003 O_2 levels demonstrating that the SVE/IBT System is effective in the mixing of subsurface airflow and increasing the O_2 available for biodegradation.

3.2.1.3 Vacuum Performance Well Monitoring Results

The field data collected from the vacuum performance wells during this operation period is presented in Table 4.0. O_2 concentrations ranged from 0.2% to 20.9% with an average of 11%. CO_2 concentrations ranged from 0% to 34.4% with an average of 11.2%. VOC concentrations ranged from 0 ppm to greater than 15,000 ppm (Note: PID range is 0-15,000 ppm).

Results from the 2003 baseline laboratory confirmation sampling event are compared with field results obtained during the 3rd year long-term OM&M period in 2009 and presented in Figure 10.0. O_2 levels in 2009 continue to generally show increases compared to the 2003 O_2 levels demonstrating that the SVE/IBT System is effective in the mixing of subsurface airflow and increasing the O_2 available for biodegradation.

The primary function of the vacuum performance wells is to assess radius of influence of the SVE/IBT System. The nature of the SVE/IBT System (e.g., air re-circulation) makes this observation difficult in subareas 1 and 2, and as such C2 REM's use of these wells was to assess the O_2 and vapor distribution between extraction and injection points. In subarea 3, where extraction well 20A is located, no injection is occurring in the vicinity; therefore, the radius of influence from this extraction well was calculated using the following equation:

$$\text{ROI}=R_w*\text{EXP}\left\{\ln\left(\frac{r}{R_w}\right)*\left(\frac{P_{atm}^2-P_w^2}{P_r^2-P_w^2}\right)\right\},$$

where:

ROI = radius of influence where pressure is equal to preset value;
R_w = well radius of the vapor extraction well;
r = radial distance from the vapor extraction well;
P_{atm} = atmospheric pressure or a preset value;
P_r = pressure at a radial distance, r, from the vapor extraction well; and,
P_w = pressure at the vapor extraction well.

There were 2 monitoring locations (I"-1 and J') used to calculate the radius of influence for extraction well 20A. The results are 40.02 feet and 53.36 feet, respectively (see Table 5.0).

3.2.1.4 SVE Well Monitoring Results

The field data collected from the SVE wells during this operation period is presented in Table 6.0. O_2 concentrations ranged from 0% to 24.4% with an average of 8.7%. The SVE wells exhibiting the lowest O_2 concentrations are not connected to the SVE/IBT System and are located in areas not actively targeted for enhanced biodegradation. CO_2 concentrations ranged from 0.6% to 44.2% with an average of 15.6%. VOC concentrations ranged from 0 ppm to greater than 15,000 ppm (Note: PID range is 0-15,000 ppm).

3.2.1.5 Perimeter Well Monitoring Results

The field data collected from the perimeter wells during this operation period is presented in Table 7.0. O_2 concentrations ranged from 8.4% to 20.9% with an average of 16.5%. CO_2 concentrations ranged from 0% to 12.8% with an average of 4.8%. VOC concentrations measured with a PID ranged from 0 ppm to 0.6 ppm with and average of 0.06 ppm.

The continued low concentrations of VOCs detected at the perimeter wells indicate good control of injected air volumes, the cover system is performing as designed, and the contaminated soil vapors are not migrating beyond the cap boundaries (see Figure 11.0).

3.2.2 SVE/IBT SYSTEM OPERATION SUMMARY

During the 1st year long-term OM&M period in 2007, C2 REM tested various operating scenarios to assess the optimal conditions for O_2 utilization. Based on the results from the respirator/helium tracer test conducted by C2 REM from December 5, 2006, through January 2, 2007, conditions in the subsurface can become O_2 saturated causing biodegradation to be suppressed. As a result, the O_2 generator was operated until the subsurface O_2 concentration, as measured by an inline O_2 meter at inlet of the SVE/IBT System, was approximately 18% to 19% and then was shut off in order to observe O_2 utilization rates at various levels. The rates of O_2 utilization were calculated for each O_2 level to determine the optimal conditions. Based on the O_2 in-line sensor at Station 1 during this period, the highest average O_2 utilization rate was 0.0020 at an O_2 concentration of approximately 15%.

During the 2nd year long-term OM&M period in 2008, C2 REM continued to maintain the optimal O_2 concentration of approximately 15% by regulating the operation of the O_2 generator. In 2008, the O_2 generator operated for a total of 1,409 hours to maintain the optimal O_2 level. This is about 81% of the time of the system operation in 2008 in comparison of about 56% in 2007. The increased operation time of the O_2 generator required to maintain the 15% optimal O_2 concentration and the continued increase of CO_2 concentrations in 2008 are strong indications of an increase in biodegradation and an increase of the microbial population.

During the 3rd year long-term OM&M period in 2009, C2 REM operated the O_2 generator for a total of 1754.5 hours. This is about 98% of the time the system operated in 2009 in comparison with about 81% in 2008. The increased operation time of the O_2 generator coupled with the continued increase of CO_2 concentrations in 2009 are strong indications of continued increases in biodegradation and the microbial population (see Figure 12.0).

From January 1, 2009, through December 31, 2009, the SVE/IBT System operated for 1,788 hours out of 2,080 possible operation hours (assuming 8 hours/day, Monday-Friday). Down time during this period was attributed to carbon change-outs, monitoring, and system maintenance (see Table 8.0). The overall operation efficiency during this period was 86%. Total estimated operating parameters are as follows:

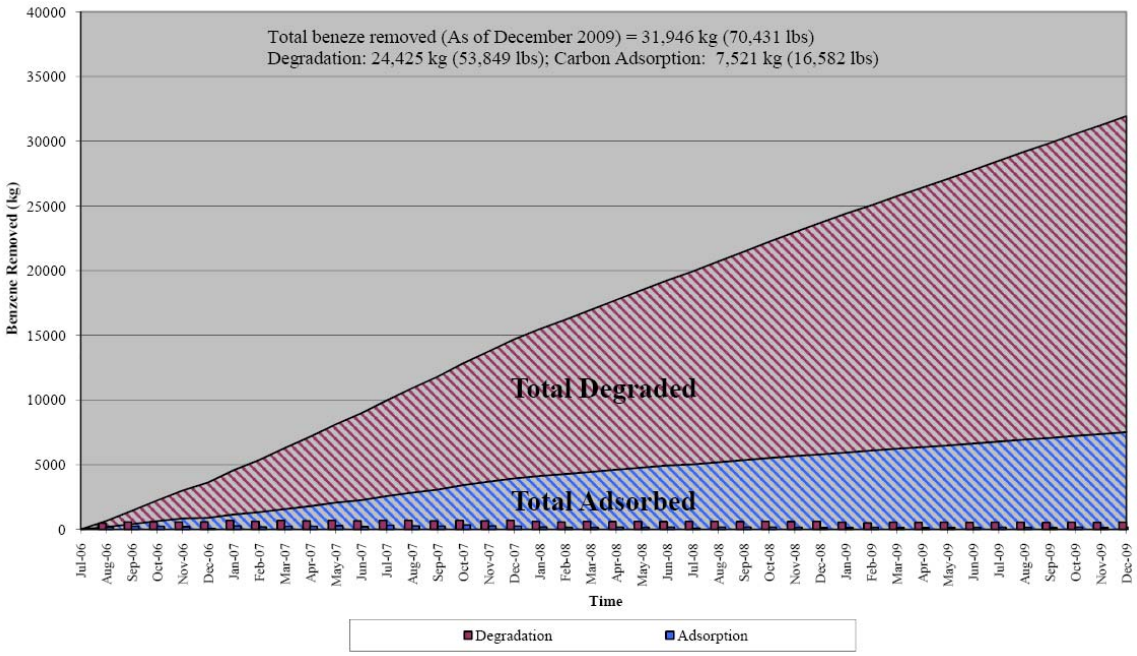
- Injected re-circulated air volume - approximately 4,312,656 standard cubic feet (scf) at an average flow rate of 40.2 standard cubic feet per minute (scfm);
- Generated O_2 gas injected - approximately 505,296 scf at an average flow rate of 4.8 scfm and 91% purity;
- Extracted air volume - approximately 5,138,712 scf at an average flow rate of 47.9 scfm; and,
- Treated air volume - approximately 826,056 scf at an average flow rate of 7.7 scfm.

During this OM&M period, the SVE/IBT System operated in a manner consistent with design parameters and has effectively removed approximately 8,262 kg (18,178 lbs) of benzene via degradation (6,536 kg [14,379 lbs]) and adsorption (1,726 kg [3,799 lbs]). Table 9.0 provides the parameters and calculations used to estimate the total mass of benzene removed through degradation and adsorption. Based on in-line sensor treatment rate data, the SVE/IBT System is adsorbing approximately 7.7 kg/day (17 lbs/day) of benzene through the carbon beds, and is degrading approximately 17.9 kg/day (40 lbs/day) of benzene *insitu* (as measured by O_2 utilization).

Approximately 3,496 kg (7,700 lbs) of VOCs (of which 95% is benzene) were absorbed on both the primary and secondary vessels. There were 10 carbon change-outs conducted during this period for an average of 388 kg (856 lbs) of VOCs adsorbed per carbon change-out (see Table 10.0). The observed carbon usage during this period was approximately a 5:1 carbon to benzene ratio.

Since the startup of the SVE/IBT System on August 6, 2006, approximately 31,946 kg (70,431 lbs) of benzene have been removed from the Waste Pits (approximately 24,425 kg [53,849 lbs] through degradation and approximately 7,521 kg [16,582 lbs] through adsorption to carbon).

Figure 13.0
SVE/IBT System Operation – Total Benzene Removed



4.0 INSPECTIONS

Quarterly inspections with the USEPA, DTSC, or their designee were conducted quarterly in accordance with the OM&M Manual (Section 4.0) on March 27, 2009; June 26, 2009; September 16, 2009; and November 4, 2009, for the cover system, the Cap Gas System, the SVE/IBT System, surface and subsurface water drainage systems, security fences, and access roads (see Appendix G).

Additionally, the SVE well heads, which are capped with blank tee flanges and are not currently connected to the SVE/IBT System, were inspected and monitored for leaks utilizing a PID calibrated to benzene. These inspections are conducted quarterly and will continue at this frequency throughout the SVE/IBT System's operations (see OM&M Manual, Section 6.2.1).

C2 REM conducted post-rain inspection events on February 10, 2009; February 18, 2009; December 8, 2009; and December 14, 2009, to identify matters of concern and/or areas in need of repair. Post-rain inspection events are conducted following periods of heavy rainfall, defined as every rainfall of 1 inch or greater within a 24-hour period.

C2 REM conducted a post-seismic inspection event on May 18, 2009, to identify matters of concern and/or areas in need of repair following an earthquake that occurred on May, 17, 2009. The earthquake was approximately a 4.7 magnitude with an epicenter in Lennox, California, which is approximately 6.5 miles from the site. Post-seismic inspection events are required following a seismic event greater than 4.5 and less than or equal to 6.2 miles from the site. As an additional precaution, the SVE/IBT System was temporarily shut down in order to pressure test the conveyance lines and test for leaks.

The completed inspection forms used during quarterly, post-rain inspection events, and post-seismic events are presented in Appendix G.

4.1 SUMMARY OF COVER SYSTEM INSPECTION EVENTS

During the cover system inspection events, no unusual or significant settlement, erosion, sediment build-up, slope instability, or shifting were observed. A few areas exhibited some evidence of burrowing animals, slight vegetation stress, and minor vertical cracking, which were tended to during routine site maintenance. The temporary above-ground irrigation system, which was installed in July of 2007 to assist with re-establishing the cover system vegetation, has performed well in preventing excessive vegetation die-back. The results of the C2 REM cover system inspection events are presented in Table 11.0. Given that this is the 10th year of operation, a survey of the monuments will take place in 2010.

4.2 SUMMARY OF CAP GAS SYSTEM INSPECTION EVENTS

Inspection of the Cap Gas System included observations of the above-ground components including: air intake and outlet collection headers, inlet and outlet valves, hoses and

fittings, two 55-gallon carbon canisters, an extraction blower, sampling ports, and a moisture separator canister. The results of the Cap Gas System inspection events are presented in Table 12.0. C2 REM did not observe any significant repair/maintenance issues with the Cap Gas System.

4.3 SUMMARY OF SURFACE AND SUBSURFACE DRAINAGE INSPECTION EVENTS

The concrete-lined drainage swales, catch basins, and drainage culverts were visually inspected by C2 REM to identify the presence of cracks, soil slumping, sediment build-up, separation, and the accumulation of vegetative debris (see Tables 13.0 and 14.0). The results of the surface and subsurface drainage inspection events did not reveal any significant issues with cracking, soil slumping, sediment build-up, separation, or the accumulation of vegetation.

4.4 SUMMARY OF SECURITY FENCE AND ACCESS ROAD INSPECTION EVENTS

Visual inspections of the security fence and gates were performed to identify breaks, settlement damage, loose tension, and corrosion (see Table 15.0). The gravel access road was inspected to identify dispersion of gravel, vegetation overgrowth, and excessive growth. C2 REM did not observe any significant repair issues regarding the access road (see Table 16.0). Breaks, damage, and general signs of deterioration of the perimeter fence were repaired as part of routine maintenance.

4.5 SUMMARY OF SVE/IBT INSPECTION EVENTS

Inspection of the SVE/IBT System included visual assessments of system conditions as well as mechanical assessments on an as-needed basis (see Table 17.0). Visual inspections were conducted on above-ground components and included the following:

- SVE wellheads;
- Ball valves;
- Sampling ports;
- Fittings;
- Carbon absorber vessels;
- Blowers A & B;
- O_2 generator;
- System in-line sensors; and,
- PLC and data recorders.

No significant repairs were made to the SVE/IBT System in 2009. Periodic calibration and maintenance were performed on the in-line sensors. Sensors that needed repair were returned to the manufacturer and re-installed following corrective measures (Note: Due to the location and type of sensors, the SVE/IBT System remained operational during sensor repair periods.)

5.0 ROUTINE MAINTENANCE

C2 REM conducted routine system maintenance to: 1) assure that the integrity of the completed containment system is maintained; 2) reduce the probability of malfunction; 3) provide a mechanism for early detection of system failures; 4) repair identified system failures; and, 5) ensure the efficient management of OM&M activities (see Appendix B for field daily reports). Repairs of failed and non-functional components of the Phase I and Phase II remedy were conducted pursuant to Section 10.0 of the OM&M Manual.

5.1 COVER SYSTEM

Routine maintenance of the cover system included control of weeds, vegetation (turf height), and burrowing animals. Regularly scheduled mowing of the California grass mix on the cap and the surrounding areas has maintained the required turf height (maximum grass height of 1 foot) and helped control potential fire outbreaks by eliminating the build-up of dry grass thatch. The occurrence of burrowing animals has been regulated via pest control companies in order to prevent damage to the cover system. Stressed vegetation has been addressed with the installation of an above-ground irrigation system, which was routinely operated by C2 REM field staff throughout 2009.

5.2 GAS COLLECTION AND TREATMENT SYSTEM

C2 REM conducted semi-monthly visual observations of the Cap Gas System's above-ground components and on-site system enclosure to identify potential maintenance requirements and/or repairs. C2 REM staff routinely accessed and viewed the PLC viewer to assure that the mechanical components of the blower motor and control unit were operating as designed to reduce the probability of malfunction.

5.3 SVE/IBT SYSTEM

SVE/IBT components that require routine maintenance and monitoring to ensure proper functioning include inline meters (five O_2, five LEL, five flow/temperature, three temperature, one relative humidity, one pressure sensor, two air-moisture separator level switches, and one effluent PID meters). Also, included in SVE/IBT components is one O_2 generator, two blowers, and four automated check valves. C2 REM performs daily visual confirmation of the functioning and trends of each component through accessing the VNC viewer remotely from the office to assure that these components are operating as designed to reduce the probability of malfunction. C2 REM conducted on-site semi-monthly visual observations of the SVE/IBT System's above-ground components and system enclosure to identify potential maintenance requirements and/or repairs. Routine maintenance items conducted on the SVE/IBT System in 2009 included replacement of sample ports, change-out of carbon, calibration/repair of in-line meters, greasing of the O_2 generator blower, and changing of the O_2 generator belts, and changing of the effluent PID lamp. Additionally, semi-monthly SVE/IBT field monitoring is conducted with field instruments to compare the readings with the in-line meters to assess any significant deviations. Furthermore,

C2 REM performs routine calibration of the O_2, LEL, and effluent PID meters to ensure ideal gas ranges are present in each meter.

5.4 SURFACE AND SUBSURFACE DRAINAGE SYSTEMS

As part of the scheduled landscape and maintenance of the site cover system, the surface and subsurface drainage systems were routinely inspected for any cracking, settlement, and/or debris build-up. C2 REM regularly cleaned the surface drainage swales and catch basins of vegetative debris or sediment build-up. Minor caulking repairs were made to v-ditch joints that showed signs of weathering; however, no additional maintenance or repair of the surface and subsurface drainage systems was required in 2009.

5.5 ACCESS ROAD

The gravel access road was routinely inspected for the dispersion of gravel and/or vegetation overgrowth. The access road was regularly cleared of encroaching vegetative material during scheduled landscape maintenance activities. The existing gravel access road was well-maintained and no repair was required in 2009.

5.6 SECURITY AND PERIMETER FENCE

The perimeter fence was routinely inspected for damage as part of the normal property maintenance. C2 REM regularly repaired sections of the perimeter fence exhibiting stress or structure damage in 2009.

5.7 ON-SITE TRAILERS AND STORAGE BIN

The on-site trailer and storage bin are routinely inspected for damage and incidents of vandalism. C2 REM observed three incidents of vandalism on the property in 2009. There were two incidents that involved spray painting of the on-site trailer while the 3rd involved theft of on-site security cameras. All three instances were remediated and police reports were filed with the proper authorities. Additionally, in an effort to further deter individuals from approaching on-site structures and to protect integral remedial system components, new cameras, motion detection sensors, and an alarm system were installed in 2009.

6.0 MONUMENT SURVEY EVENT

After completion of the final cover system, eight survey monuments were installed at various locations to monitor ground movement and settlement, and to assess when primary consolidation had been reached. The general location of each survey monument is provided on Figure 2.0. C2 REM conducted the last monument survey event on January 10, 2005. These results were compared to the baseline event conducted in 2000 and the comparison showed the cap did not undergo any significant settlement or grade adjustments. Pursuant to the OM&M Manual, after primary consolidation has been reached, the monument survey frequency shall be every 5 years. Therefore, the next monument survey event is scheduled for the 1st quarter of 2010.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Following the 10th year of operation of the Phase I remedy (e.g., multilayer cap, soil vapor monitoring probes) and the 3rd year of operation of the Phase II remedy (i.e., SVE/IBT System), the Waste Pits is in good condition and the implemented remedies are functioning as designed.

The semi-monthly monitoring frequency of the Cap Gas System appears appropriate at this time and no modification is proposed. The cover system and the other associated systems have performed well during the 10th year of operation, and the required inspection requirements and monitoring frequency are adequate to assess whether the remedies for the Waste Pits are functioning as designed.

The analysis of the collected data indicates that the SVE/IBT System is performing at a level consistent with design parameters. Data collected from the PLC unit, laboratory data, and field data support the overall conclusion that the SVE/IBT System is effective and that biodegradation of on-site COCs is occurring. The current estimate is that the SVE/IBT System is degrading approximately 17.9 kg (40 lbs) of benzene per day and adsorbing approximately 7.7 kg (17 lbs) of benzene per day. To date, the SVE/IBT System has removed approximately 31,946 kg (70,431 lbs) of benzene from the Waste Pits (approximately 24,425 kg [53,849 lbs] through degradation and approximately 7,521 kg [16,582 lbs] through adsorption to carbon) (see Figure 13.0).

The monitoring results from the SVE/IBT System show an increase in CO_2 concentrations with an increase in O_2 injection during this period. The increased operation time of the O_2 generator and the continued increase of CO_2 concentrations in 2009 are strong indications of an increase in biodegradation and an increase of the microbial population (see Figure 12.0). The frequencies of field monitoring of the SVE/IBT System, lab sample collection, perimeter well monitoring, and full scale monitoring of cluster, vacuum performance, and SVE wells appear appropriate and no modification is proposed. C2 REM will continue to closely monitor the SVE/IBT System to assess and maintain optimal conditions for O_2 utilization.

Regularly scheduled maintenance and inspection activities have assisted in the early identification of possible repair issues with limited system operation interruption. Issues requiring action were quickly identified, assessed, and rectified in 2009. C2 REM will continue to closely monitor the Phase I and II remedy components in 2010 during routine and non-routine inspections.

Further inspections and monitoring activities for 2010 shall be conducted in accordance with the schedule provided in Table 18.0.

8.0 REFERENCES

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Table 1.0
2009 Semi-Monthly Cap Gas System Monitoring Results
Del Amo Waste Pits

Date	System Influent VOCs (ppm)	Effluent Lead Carbon Vessel VOCs (ppm)	Effluent Secondary Carbon Vessel VOCs (ppm)	System Effluent VOCs (ppm)	Temperature (°F)		Flow (scfm)		Lead Vessel Efficiency Based on PID Readings	System Efficiency Based on PID Readings	Carbon Replacement		
					Influent	Effluent	Influent	Effluent			Zone 1	Zone 2	Zone 3
1/8/2009	0.7	0.2	0.5	0.1	62	106	150	180	71.4%	86%	x		
1/22/2009	0.6	0.1	0.1	0.1	61	111	150	170	83.3%	83%	x		
2/5/2009	1.2	0.2	0.2	0.2	61	110	151	172	83.3%	83%	x		
2/19/2009	0.9	0.1	0	0	62	113	150	187	88.9%	100%	x		
3/5/2009	1	0.3	0.3	0.2	62	115	160	178	70.0%	80%	x		
3/19/2009	0.3	0.1	0.1	0.1	64	114	150	186	66.7%	67%	x		
4/2/2009	0.1	0.1	0	0	65	112	150	184	0.0%	100%	x		
4/16/2009	0.4	0.3	0.2	0.1	70	124	160	170	25.0%	75%	x		
5/14/2009	0.5	0.4	0.1	0	80	135	135	162	20.0%	100%	x		
5/28/2009	0	0.4	0.1	0	79	128	140	160	NA	NA			
6/11/2009	0.5	2.7	2	0	74	113	148	174	0.0%	100%	x		
6/24/2009	0.2	0.6	0.2	0.1	81	132	142	172	0.0%	50%	x		
7/10/2009	0	0.3	0	0	98.5	145	145.5	158.5	NA	NA			
7/23/2009	0.6	0.5	0.3	0.3	86	142	140	150	16.7%	50%	x		
8/6/2009	0.5	0.8	0.3	0.2	85	136	149	166	0.0%	60%	x		
8/20/2009	0.1	0.4	0	0	83	132	148	158.5	0.0%	100%	x		
9/3/2009	0.7	0.8	0.9	0.2	86	138	142	151	0.0%	71%	x		
9/16/2009	0	0.1	0	0	83	134	140	162	NA	NA			
10/8/2009	0.3	0.4	0.2	0.2	79	129	145	163	0.0%	33%	x		
10/22/2009	0.4	0.6	0.2	0.2	78	125	150	165	0.0%	50%	x		
11/4/2009	1.1	0.6	0.6	0.2	73	119	145	178	45.5%	82%	x		
11/23/2009	0.2	0.7	0.1	0	71	117	148	181	0.0%	100%	x		
12/3/2009	0.5	0.5	0	0	67	110	152	177	0.0%	100%	x		
12/15/2009	0.3	0.4	0	0.1	66	110	148	167	0.0%	67%	x		
12/30/2009	0	0	0	0	60	98.5	160	183	NA	NA			

NA: Not Applicable

Table 2.0
Laboratory Data Summary for SVE/IBT System Enclosure (Sample Stations 1-4)
Del Amo Waste Pits

Date	Sample ID	Benzene (ppm)	Oxygen (%)	Carbon Dioxide (%)	Nitrogen (%)
1/22/2009	Inlet (Station 1)	59000	16	13	71
1/22/2009	Inlet Dup (Station 1)	56000	16	13	71
2/19/2009	Inlet (Station 1)	29000	15	14	71
2/19/2009	Inlet Dup (Station 1)	26000	16	13	71
3/19/2009	Inlet (Station 1)	22000	15	14	71
3/19/2009	Inlet Dup (Station 1)	18000	15	14	71
4/16/2009	Inlet (Station 1)	22000	14	14	72
4/16/2009	Inlet Dup (Station 1)	13000	14	14	72
5/14/2009	Inlet (Station 1)	16000	14	14	71
5/14/2009	Inlet Dup (Station 1)	25000	14	15	71
6/11/2009	Inlet (Station 1)	11000	13	15	72
6/11/2009	Inlet Dup (Station 1)	9400	14	15	72
7/23/2009	Inlet (Station 1)	26000	13	14	73
7/23/2009	Inlet Dup (Station 1)	29000	13	14	73
8/20/2009	Inlet (Station 1)	24000	12	15	73
8/20/2009	Inlet Dup (Station 1)	24000	12	15	73
9/29/2009	Inlet (Station 1)	16000	9.6	17	74
9/29/2009	Inlet Dup (Station 1)	16000	9.2	17	74
10/22/2009	Inlet (Station 1)	14000	11	17	72
10/22/2009	Inlet Dup (Station 1)	14000	11	16	72
11/23/2009	Inlet (Station 1)	34000	9.3	18	73
11/23/2009	Inlet Dup (Station 1)	12000	9.5	18	72
12/15/2009	Inlet (Station 1)	17000	16	16	67
12/15/2009	Inlet Dup (Station 1)	13000	11	17	72
1/22/2009	Post Ambient Air (Station 2)	3500	21	1.7	77
2/19/2009	Post Ambient Air (Station 2)	4200	21	1.8	77
3/19/2009	Post Ambient Air (Station 2)	3700	21	1.5	77
4/16/2009	Post Ambient Air (Station 2)	4800	21	1.9	77
5/14/2009	Post Ambient Air (Station 2)	2900	21	1.9	77
6/11/2009	Post Ambient Air (Station 2)	230	21	1.6	78
7/23/2009	Post Ambient Air (Station 2)	3200	21	1.8	77
8/20/2009	Post Ambient Air (Station 2)	2700	21	1.6	78
9/29/2009	Post Ambient Air (Station 2)	2400	20	1.9	78
10/22/2009	Post Ambient Air (Station 2)	2800	20	2.3	78
11/23/2009	Post Ambient Air (Station 2)	3900	20	2.1	78
12/15/2009	Post Ambient Air (Station 2)	2900	20	2.8	77
1/22/2009	Carbon 1 (Station 3)	2700	21	1.6	77
2/19/2009	Carbon 1 (Station 3)	ND	21	1.7	77
3/19/2009	Carbon 1 (Station 3)	ND	21	1.4	78
4/16/2009	Carbon 1 (Station 3)	3400	21	1.8	77
5/14/2009	Carbon 1 (Station 3)	2900	21	1.9	77
6/11/2009	Carbon 1 (Station 3)	ND	21	1.7	78
7/23/2009	Carbon 1 (Station 3)	52	21	1.8	77
8/20/2009	Carbon 1 (Station 3)	ND	21	1.6	78
9/29/2009	Carbon 1 (Station 3)	ND	20	1.6	78
10/22/2009	Carbon 1 (Station 3)	2300	20	2	78
11/23/2009	Carbon 1 (Station 3)	ND	20	2.4	77
12/15/2009	Carbon 1 (Station 3)	1700	20	2.9	77
1/22/2009	Effluent (Station 4)	ND	21	1.5	77
2/19/2009	Effluent (Station 4)	ND	21	1.7	77
3/19/2009	Effluent (Station 4)	ND	21	1.4	77
4/16/2009	Effluent (Station 4)	ND	21	1.9	77
5/14/2009	Effluent (Station 4)	*NA	21	0.84	78
6/11/2009	Effluent (Station 4)	ND	21	1.7	77
7/23/2009	Effluent (Station 4)	ND	21	1.8	77
8/20/2009	Effluent (Station 4)	ND	21	1.6	78
9/29/2009	Effluent (Station 4)	ND	21	ND	79
10/22/2009	Effluent (Station 4)	ND	20	2	78
11/23/2009	Effluent (Station 4)	ND	20	2.5	78
12/15/2009	Effluent (Station 4)	ND	20	2.8	77

ND: Analyte not detected at or above the reporting limit of 1.6 ppm (benzene), 0.1% (carbon dioxide)
Dup: Dupicate samples

***NA**: EPA 8260-VOC analysis could not be performed for the effluent sample collected on 5/14/2009 due to inadequate sample volume in the tedlar air bag.

Table 3.0
Field Data Summary for Quarterly Cluster Well Monitoring Events
Del Amo Waste Pits

Date	Well ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	A"1	0.1	19.3	1.2	-0.04
6/17/2009	A"1	0.1	20.1	1.4	-0.05
9/17/2009	A"1	0	19.3	1.4	-0.15
12/16/2009	A"1	0	19.5	1.2	0
3/26/2009	A"2	0.2	20.5	0	-0.06
6/17/2009	A"2	0.2	20.9	0	-0.1
9/17/2009	A"2	0	20.9	0	-0.15
12/16/2009	A"2	0	20.9	0	-0.1
3/26/2009	A"3	7.5	20.5	0	-0.04
6/17/2009	A"3	5.5	20.9	0	-0.05
9/17/2009	A"3	10.8	20.9	0	-0.05
12/16/2009	A"3	12.8	20.9	0	0
3/26/2009	B"1	> 15000	20.9	13.6	0.98
6/17/2009	B"1	> 15000	23.1	13.6	1
9/17/2009	B"1	> 15000	15	21.6	1.05
12/16/2009	B"1	> 15000	7.5	37	0.75
3/26/2009	B"2	> 15000	19.3	13.8	0.36
6/17/2009	B"2	8000	20.2	14.2	0.4
9/17/2009	B"2	11695	19.3	14.4	0.4
12/16/2009	B"2	> 15000	15.7	20.4	0
3/26/2009	B"3	> 15000	19.8	13.6	0.62
6/17/2009	B"3	7660	21.6	14.2	0.5
9/17/2009	B"3	11800	17	18.8	0.65
12/16/2009	B"3	> 15000	12.2	27.2	0.5
3/26/2009	C"1	1.4	19.7	0	-0.44
6/17/2009	C"1	0.4	20.9	0	-0.36
9/17/2009	C"1	17.5	20.4	0	-0.55
12/16/2009	C"1	1.2	20.9	0	0
3/26/2009	C"2	400	20.1	0	-0.06
6/17/2009	C"2	0.8	20.9	0	-0.08
9/17/2009	C"2	14.1	20.6	0	-0.2
12/16/2009	C"2	0	20.9	0	-0.3
3/26/2009	C"3	100	19.4	0.6	-0.12
6/17/2009	C"3	1	20.7	0	-0.14
9/17/2009	C"3	15	20.5	0	-0.25
12/16/2009	C"3	11.2	20.9	0.4	0
3/26/2009	D"1	400	20.1	0	-0.4
6/17/2009	D"1	1900	20.9	0	-0.44
9/17/2009	D"1	> 15000	10.7	8.6	-0.6
12/16/2009	D"1	> 15000	3.7	18.2	-0.75
3/26/2009	D"2	1.7	20.5	0	-0.2
6/17/2009	D"2	30	20.9	0	-0.2
9/17/2009	D"2	44.7	20.9	0	-0.3
12/16/2009	D"2	3	20.9	0	-0.6
3/26/2009	D"3	> 15000	5.7	15.2	-0.3
6/17/2009	D"3	> 15000	7.8	13.2	-0.34
9/17/2009	D"3	14304	11.5	9.6	-0.45
12/16/2009	D"3	> 15000	11.9	9.4	0
3/26/2009	E"1	0.2	19.8	1.2	-0.02
6/17/2009	E"1	0.4	20.9	0	-0.05
9/17/2009	E"1	0	20.9	0	-0.05
12/16/2009	E"1	0.2	20.9	0	-0.15

Table 3.0
Field Data Summary for Quarterly Cluster Well Monitoring Events
Del Amo Waste Pits

Date	Well ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	E"2	0	19.4	1	-0.02
6/17/2009	E"2	0.3	19.2	1.4	-0.05
9/17/2009	E"2	0	20.6	0.6	-0.05
12/16/2009	E"2	0.1	18.6	1.6	0
3/26/2009	E"3	0.4	20.1	0.2	0
6/17/2009	E"3	0.4	20.9	0	-0.05
9/17/2009	E"3	0.5	20.9	0	-0.05
12/16/2009	E"3	0.2	20.9	0	-0.15
3/26/2009	F"1	0.2	20.9	0	-0.05
6/17/2009	F"1	0.5	20.9	0	-0.02
9/17/2009	F"1	0.6	9.7	9.6	-0.1
12/16/2009	F"1	0	20.9	0	-0.02
3/26/2009	F"2	1.6	20.9	0	-0.05
6/17/2009	F"2	5.5	20.9	0.2	-0.04
9/17/2009	F"2	1.9	20.9	0	-0.15
12/16/2009	F"2	2.3	20.9	0	-0.02
3/26/2009	F"3	2	20.9	0	-0.05
6/17/2009	F"3	10.5	20.9	0	-0.02
9/17/2009	F"3	5.2	20.9	0	-0.1
12/16/2009	F"3	2.6	20.9	0	-0.02
3/26/2009	G"1	0	16.7	4.2	-0.04
6/17/2009	G"1	0.2	16.1	4.2	-0.05
9/17/2009	G"1	0	16.3	3.8	-0.05
12/16/2009	G"1	0.1	16.2	4.4	-0.05
3/26/2009	G"2	0.1	18.8	0.6	-0.02
6/17/2009	G"2	0.2	19.4	1	-0.05
9/17/2009	G"2	0	18.4	1.6	0
12/16/2009	G"2	0	19.8	0.6	-0.05
3/26/2009	G"3	0	20.9	0	0
6/17/2009	G"3	0.2	20	1	-0.01
9/17/2009	G"3	0	13.5	8	-0.05
12/16/2009	G"3	0.3	8.8	14.8	0
3/26/2009	H"1	0.2	20.9	0	-0.05
6/17/2009	H"1	0.6	20.9	0	-0.02
9/17/2009	H"1	0	20.9	0	-0.05
12/16/2009	H"1	0	20.9	0	-0.02
3/26/2009	H"2	0.1	20.9	0	0
6/17/2009	H"2	0.5	20.9	0	-0.02
9/17/2009	H"2	0	20.9	0	-0.05
12/16/2009	H"2	0	20.9	0	-0.03
3/26/2009	H"3	0.1	12.8	7.2	-0.05
6/17/2009	H"3	0.5	12.8	6.6	-0.04
9/17/2009	H"3	0	11.8	6.6	-0.1
12/16/2009	H"3	0	11.4	7.6	-0.03
3/26/2009	I"1	415	0	17.2	-0.15
6/17/2009	I"1	711	0.2	16.4	-0.1
9/17/2009	I"1	1635	0	16.4	-0.15
12/16/2009	I"1	2.4	20.9	0	-0.04
3/26/2009	I"2	1.5	20.6	0	-0.05
6/17/2009	I"2	1.7	20.9	0	-0.03
9/17/2009	I"2	0.4	20.9	0	-0.2
12/16/2009	I"2	0.8	20.9	0	-0.1

Table 3.0
Field Data Summary for Quarterly Cluster Well Monitoring Events
Del Amo Waste Pits

Date	Well ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	I"3	31	5.5	10.4	-0.1
6/17/2009	I"3	14.6	18.3	1.4	-0.06
9/17/2009	I"3	46	5.2	10.2	-0.1
12/16/2009	I"3	4.9	18.3	1.6	-0.02
3/26/2009	J"1	0.4	20.9	0	-0.05
6/17/2009	J"1	1.2	20.9	0	-0.04
9/17/2009	J"1	0	20.9	0	-0.05
12/16/2009	J"1	0	20.9	0	0
3/26/2009	J"2	1.2	20.8	0	0
6/17/2009	J"2	1.8	20.9	0	-0.4
9/17/2009	J"2	0.5	20.9	0	-0.05
12/16/2009	J"2	0.9	20.9	0	-0.02
3/26/2009	J"3	1	9.6	10.4	-0.05
6/17/2009	J"3	1.6	20.7	0.2	-0.02
9/17/2009	J"3	0	20.9	0	-0.1
12/16/2009	J"3	0.8	13.3	7	-0.08
3/26/2009	K"1	0.2	19.1	1.8	-0.04
6/17/2009	K"1	0.4	20	1.2	-0.04
9/17/2009	K"1	0.1	19.2	1.6	-0.15
12/16/2009	K"1	0	19.9	1.2	-0.1
3/26/2009	K"2	9	8.2	15.2	-0.1
6/17/2009	K"2	6.3	9.9	13	-0.1
9/17/2009	K"2	2.1	13	11.6	-0.15
12/16/2009	K"2	1.3	10.6	4.6	-0.2
3/26/2009	K"3	3	20.5	0	-0.04
6/17/2009	K"3	3.8	20.9	0	-0.02
9/17/2009	K"3	3.8	20.9	0	-0.05
12/16/2009	K"3	10	20.9	0	0
3/26/2009	L"1	> 15000	7.7	21.2	NA
6/17/2009	L"1	> 15000	7	20.1	0.9
9/17/2009	L"1	> 15000	5.1	20.1	1
12/16/2009	L"1	> 15000	4.3	28.4	0.5
3/26/2009	L"2	> 15000	11.8	15.4	NA
6/17/2009	L"2	10700	11.1	15.6	0.86
9/17/2009	L"2	> 15000	8.5	16.8	0.9
12/16/2009	L"2	> 15000	5.6	30.2	1
3/26/2009	L"3	> 15000	17.9	4.2	NA
6/17/2009	L"3	> 15000	16.8	5.6	0.06
9/17/2009	L"3	371	20.6	0	0.35
12/16/2009	L"3	65	20.9	0	0
3/26/2009	M"1	203	12.6	9.2	-0.16
6/17/2009	M"1	416	12.6	9	-0.18
9/17/2009	M"1	287.6	13.6	7.8	-0.2
12/16/2009	M"1	69.1	15.7	7	-0.1
3/26/2009	M"2	2.2	8.2	16.8	-0.22
6/17/2009	M"2	13.8	8.6	16	-0.25
9/17/2009	M"2	1.2	10.1	14	-0.3
12/16/2009	M"2	0.8	11.2	14.6	-0.25
3/26/2009	M"3	4.5	20.5	0	-0.02
6/17/2009	M"3	3.2	20.7	0	-0.05
9/17/2009	M"3	0	20.9	0	-0.05
12/16/2009	M"3	5.5	20.9	0	0

Table 4.0
Field Data Summary for Quarterly Vacuum Performance Well Monitoring Events
Del Amo Waste Pits

Date	Location ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	A'	> 15000	9.3	12.8	-0.72
6/17/2009	A'	> 15000	8.3	13.8	-0.6
9/17/2009	A'	> 15000	8	14	-0.75
12/16/2009	A'	> 15000	8	17.2	-0.65
3/26/2009	B'	0.1	7.7	24.4	-0.02
6/17/2009	B'	0.2	6	24.8	-0.05
9/17/2009	B'	4.1	3.7	28	-0.05
12/16/2009	B'	34.8	2.5	34.4	-0.1
3/26/2009	C'	> 15000	14.6	15.4	2.25
6/17/2009	C'	5900	9	16.6	1.2
9/17/2009	C'	14000	5.5	18.2	1.15
12/16/2009	C'	> 15000	4	28	0.75
3/26/2009	D'	> 15000	0.5	19.8	-0.24
6/17/2009	D'	> 15000	0.6	20	-0.22
9/17/2009	D'	> 15000	0.2	19.4	-0.35
12/16/2009	D'	> 15000	0.4	21.6	-0.5
3/26/2009	E'	0	20.9	0	-0.05
6/17/2009	E'	1.7	10	8	-0.06
9/17/2009	E'	0.4	8.6	9.6	-0.15
12/16/2009	E'	0.9	5.6	14.2	-0.09
3/26/2009	F'	0.3	12.8	8	-0.05
6/17/2009	F'	0.8	16.9	3.4	-0.04
9/17/2009	F'	0.5	18.1	1.8	-0.15
12/16/2009	F'	0	20.9	0.2	-0.13
3/26/2009	G'	1.4	5.6	15.8	0
6/17/2009	G'	1.7	6.1	14.4	-0.03
9/17/2009	G'	1	5.6	14.2	0
12/16/2009	G'	0	20.9	0	-0.06
3/26/2009	H'	0.8	15.2	6	0
6/17/2009	H'	0.7	14.5	7.2	-0.02
9/17/2009	H'	0.2	13	7.4	-0.15
12/16/2009	H'	0.9	16.3	4.6	-0.07
3/26/2009	I'	> 15000	4.8	3.6	0
6/17/2009	I'	12590	2.3	2.4	-0.02
9/17/2009	I'	> 15000	1.9	2.4	-0.05
12/16/2009	I'	13532	2.7	4.4	0
3/26/2009	J'	2	16.8	2.8	-0.1
6/17/2009	J'	5.4	18.1	2.2	-0.06
9/17/2009	J'	7.6	15.6	3.8	-0.1
12/16/2009	J'	2.5	16.8	3.2	-0.02
3/26/2009	K'	1	12.7	5.6	-0.1
6/17/2009	K'	2.3	15.8	3	-0.07
9/17/2009	K'	2.9	11.2	6.4	-0.15
12/16/2009	K'	0.5	17.1	3	-0.1
3/26/2009	L'	2.3	20.4	0	-0.1
6/17/2009	L'	1	20.9	0	-0.16
9/17/2009	L'	6.9	20	9.2	-0.15
12/16/2009	L'	1	20.9	0	-0.14
3/26/2009	M'	> 15000	8.4	19.4	-0.02
6/17/2009	M'	> 15000	8.2	18.2	-0.02
9/17/2009	M'	> 15000	7.7	16.2	0
12/16/2009	M'	> 15000	6.1	21.8	-0.1
3/26/2009	N'	> 15000	18.1	10.6	0.3
6/17/2009	N'	12700	18.4	11	0.15
9/17/2009	N'	> 15000	16.8	12.4	0.35
12/16/2009	N'	> 15000	16.2	19.8	-0.15

Table 5.0
SVE/IBT System ROI Calculations
Del Amo Waste Pits

Monitoring Well	P_{atm}	P_w (in H_2O) (1)	P_w (atm)	P_r (in H_2O) (1)	P_r (atm)	R_w (ft)	r (ft)	ROI (ft)
20a - I"-1	1	-7.13	1.017472	-0.110	1.000270	0.17	36.79	40.02
20a - J'	1	-7.13	1.017472	-0.070	1.000172	0.17	50.44	53.36

$(P^2_r - P^2_w) = (P^2_{atm} - P^2_w)*\{\ln(r/R_w)/\ln(ROI/R_w)\}$

$(P^2_r - P^2_w)/(P^2_{atm} - P^2_w) = \ln(r/R_w)/\ln(ROI/R_w)$

$\ln(ROI/R_w) = \ln(r/R_w)*(P^2_{atm} - P^2_w)/(P^2_r - P^2_w)$

$ROI/R_w = EXP\{\ln(r/R_w)*(P^2_{atm} - P^2_w)/(P^2_r - P^2_w)\}$

$ROI = R_w*EXP\{\ln(r/R_w)*(P^2_{atm} - P^2_w)/(P^2_r - P^2_w)\}$

P_{atm} = atmospheric pressure or a preset value

P_w = pressure at the vapor extraction well

P_r = pressure at a radial distance r from the vapor extraction well

r = radial distance from the vapor extraction well

R_w = well radius of the vapor extraction well

ROI = radius of influence where pressure is equal to preset value

(1) Pressure measurements are average of quarterly field monitoring events (January 1, 2009 - December 31, 2009)

Table 6.0
Field Data Summary for Quarterly SVE Well Monitoring Events
Del Amo Waste Pits

Date	Location ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	SVE 1 *	> 15000	11.8	8.6	-14
6/17/2009	SVE 1 *	> 15000	12.2	7.8	-14
9/17/2009	SVE 1 *	> 15000	12.2	7.6	-16
12/17/2009	SVE 1 *	> 15000	12.8	7.8	-19
3/26/2009	SVE 2 *	> 15000	14.3	16.2	-6
6/17/2009	SVE 2 *	> 15000	11.6	23.8	-5
9/17/2009	SVE 2 *	> 15000	7.8	29	-4
12/17/2009	SVE 2 *	> 15000	4	36	-3.5
3/26/2009	SVE 3 +	> 15000	21.7	13	6
6/17/2009	SVE 3 +	> 15000	24.4	13.2	6
9/17/2009	SVE 3 +	> 15000	11.8	24.4	4.5
12/17/2009	SVE 3 +	> 15000	4.1	36.4	3.5
3/26/2009	SVE 4 +	> 15000	18.7	13.8	12
6/17/2009	SVE 4 +	> 15000	12.3	16	10
9/17/2009	SVE 4 +	> 15000	12.3	18.2	11.5
12/17/2009	SVE 4 +	> 15000	4.4	33.6	6.5
3/26/2009	SVE 5 *	> 15000	13	18.8	-6
6/17/2009	SVE 5 *	> 9999	8.3	20.4	-5
9/17/2009	SVE 5 *	> 15000	7.4	22.2	-5.5
12/17/2009	SVE 5 *	12250	5.8	30.2	-4.5
3/26/2009	SVE 6 *	> 15000	11	8.8	-18
6/17/2009	SVE 6 *	> 9999	10.2	8.6	-18
9/17/2009	SVE 6 *	> 15000	12.9	6.6	-24
12/17/2009	SVE 6 *	> 15000	7.9	13.6	-21
3/26/2009	SVE 7 *	> 15000	11.7	14.4	-8
6/17/2009	SVE 7 *	> 9999	9.9	15.2	-7
9/17/2009	SVE 7 *	> 15000	8.4	17	-8
12/17/2009	SVE 7 *	> 15000	8.4	21	-7.5
3/26/2009	SVE 8 +	> 15000	22.5	11.2	8
6/17/2009	SVE 8 +	> 9999	19.3	13	12
9/17/2009	SVE 8 +	> 15000	23.9	15	10.5
12/17/2009	SVE 8 +	> 15000	8.3	27.4	7
3/26/2009	SVE 9 +	> 15000	20.9	12	8
6/17/2009	SVE 9 +	> 15000	23.6	11.6	5
9/17/2009	SVE 9 +	> 15000	20.9	15.2	5.5
12/17/2009	SVE 9 +	> 15000	20.9	18.8	4
3/26/2009	SVE 10 *	> 15000	11.9	15.8	-24
6/17/2009	SVE 10 *	> 9999	13.1	15.2	-20
9/17/2009	SVE 10 *	> 15000	12.2	13.8	-23
12/17/2009	SVE 10 *	> 15000	11.4	18	-26
3/26/2009	SVE 11 *	> 15000	18.7	15	-0.75
6/17/2009	SVE 11 *	> 9999	12.6	17.6	-2
9/17/2009	SVE 11 *	> 15000	3.4	29.6	-1.5
12/17/2009	SVE 11 *	> 15000	0.4	44.2	-1
3/26/2009	SVE 12 *	> 15000	18.7	7.4	-20
6/17/2009	SVE 12 *	> 15000	18.4	5.2	-22
9/17/2009	SVE 12 *	> 15000	12.8	13.8	-24
12/17/2009	SVE 12 *	> 15000	13.1	15.6	-20.5

+ Injection Location
* Extraction Location

Table 6.0
Field Data Summary for Quarterly SVE Well Monitoring Events
Del Amo Waste Pits

Date	Location ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	SVE 13	> 15000	15.6	0.6	0
6/17/2009	SVE 13	> 15000	3.6	1.8	-0.2
9/17/2009	SVE 13	> 15000	2.8	1.8	-0.25
12/17/2009	SVE 13	> 15000	4	1.8	-0.3
3/26/2009	SVE 14	> 15000	3.3	16.8	-0.1
6/17/2009	SVE 14	1005	6.1	13.2	-0.02
9/17/2009	SVE 14	693	2.3	16.8	-0.1
12/17/2009	SVE 14	114	0.8	18.6	-0.07
3/26/2009	SVE 15A	457	0.8	15.6	0
6/17/2009	SVE 15A	908	1.2	15.2	-0.02
9/17/2009	SVE 15A	1835	0.2	15	-0.1
12/17/2009	SVE 15A	1048	0.5	14.2	-0.08
3/26/2009	SVE 15B	151	5.8	15	-0.1
6/17/2009	SVE 15B	170	4.9	15.2	-0.11
9/17/2009	SVE 15B	110	3.7	16.2	-0.1
12/17/2009	SVE 15B	38.3	2.7	18.8	-0.06
3/26/2009	SVE 16	458	0	12.8	-0.05
6/17/2009	SVE 16	3221	0.9	12.8	0
9/17/2009	SVE 16	6393	0	14.8	-0.1
12/17/2009	SVE 16	7314	0	15.6	-0.02
3/26/2009	SVE 18	0.2	11.7	10.6	0
6/17/2009	SVE 18	0.4	12.5	9.4	-0.04
9/17/2009	SVE 18	0	11.9	10.2	-0.1
12/17/2009	SVE 18	0.5	11.9	10.6	-0.02
3/26/2009	SVE 19	185	1.6	15.2	-0.05
6/17/2009	SVE 19	480	1.3	15	-0.06
9/17/2009	SVE 19	623	0.8	15.6	-0.15
12/17/2009	SVE 19	138	0.6	16.6	-0.02
3/26/2009	SVE 20A *	434	5	12.6	-22
6/17/2009	SVE 20A *	3200	1.6	14.6	-2.5
9/17/2009	SVE 20A *	1742	0.7	16	-1.5
12/17/2009	SVE 20A *	644	0.2	17.8	-2.5
3/26/2009	SVE 20B	800	1	17.4	-0.15
6/17/2009	SVE 20B	3790	1	16.4	-0.14
9/17/2009	SVE 20B	14503	0.2	17	-0.25
12/17/2009	SVE 20B	6500	0	17.4	-0.08
3/26/2009	SVE 21	258	7.9	12	-0.05
6/17/2009	SVE 21	314	7	13	-0.07
9/17/2009	SVE 21	529	6	13.8	-0.1
12/17/2009	SVE 21	126	6	14	-0.08

+ Injection Location
* Extraction Location

Table 7.0
Field Data Summary for Monthly and Quarterly Perimeter Well Monitoring Events
Del Amo Waste Pits

Date	Location ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
1/22/2009	A	0	19.5	1.8	0
2/19/2009	A	0	20.9	0	0
3/26/2009	A	0.2	18.8	1.8	-0.02
4/16/2009	A	0	19.6	1.6	-0.05
5/28/2009	A	0	19.1	1.4	-0.08
6/17/2009	A	0.6	20.7	0.6	-0.05
7/23/2009	A	0	19.5	1.2	-0.05
8/20/2009	A	0	20.3	1.2	-0.05
9/17/2009	A	0	20.9	0	-0.05
10/22/2009	A	0	19.3	0.8	-0.02
11/17/2009	A	0	19.9	1.2	-0.02
12/16/2009	A	0	19.5	2	-0.05
1/22/2009	B	0.1	16.8	6	-0.05
2/19/2009	B	0	15.9	5.2	0
3/26/2009	B	0.1	12.8	6.8	-0.02
4/16/2009	B	0.1	13.4	6.6	-0.05
5/28/2009	B	0.1	13.6	7	-0.06
6/17/2009	B	0.3	14.2	7.6	-0.1
7/23/2009	B	0	14	7.4	-0.05
8/20/2009	B	0	14	8.4	-0.05
9/17/2009	B	0	13.9	8.4	-0.15
10/22/2009	B	0	13.8	9.2	-0.02
11/17/2009	B	0	13.6	9.8	-0.01
12/16/2009	B	0.1	14.7	9.4	0
1/22/2009	C	0	16.3	6.6	-0.15
2/19/2009	C	0	20.9	6.2	-0.05
3/26/2009	C	0.1	14	7.2	-0.02
4/16/2009	C	0.1	13.6	7.4	-0.025
5/28/2009	C	0.1	13	8.4	-0.04
6/17/2009	C	0.2	13.4	8.8	0
7/23/2009	C	0	12.6	9.2	-0.05
8/20/2009	C	0	12.5	10.2	-0.05
9/17/2009	C	0	12.1	10.6	-0.15
10/22/2009	C	0.1	11.6	11.4	-0.01
11/17/2009	C	0.2	11	12.8	-0.01
12/16/2009	C	0.1	12.9	11.4	0
1/22/2009	D	0	20.9	0	-0.05
2/19/2009	D	0	20.9	0	-0.05
3/26/2009	D	0.1	20.9	0	-0.02
4/16/2009	D	0.1	20.9	0	-0.05
5/28/2009	D	0.1	20.3	0	-0.04
6/17/2009	D	0.3	11	8.8	-0.05
7/23/2009	D	0	8.4	11.8	-0.05
8/20/2009	D	0	9.2	12	0
9/17/2009	D	0	9.3	11.4	-0.1
10/22/2009	D	0	10.3	10.8	-0.02
11/17/2009	D	0	11.2	10.4	-0.02
12/16/2009	D	0	11.9	8.4	-0.05

Table 7.0
Field Data Summary for Monthly and Quarterly Perimeter Well Monitoring Events
Del Amo Waste Pits

Date	Location ID	VOCs (ppm)	Oxygen (%)	Carbon Dioxide (%)	Pressure (in. water)
3/26/2009	E	0	16.7	3.4	0
6/17/2009	E	0.2	17.2	3.8	-0.05
9/17/2009	E	0	17.3	4.2	-0.1
12/16/2009	E	0	17.6	4.2	-0.05
3/26/2009	F	0	17.2	3.2	0
6/17/2009	F	0.2	17.6	3.6	-0.05
9/17/2009	F	0	17.7	3.6	-0.1
12/16/2009	F	0	17.8	3.6	-0.05
3/26/2009	G	0	16.1	2.2	-0.04
6/17/2009	G	0.2	18.5	2.2	-0.1
9/17/2009	G	0	18.5	2.6	-0.05
12/16/2009	G	0	18.8	2.6	-0.05
1/22/2009	H	0	16.8	4	0
2/19/2009	H	0	16.8	3.6	-0.05
3/26/2009	H	0.2	15.1	3.6	-0.05
4/16/2009	H	0.1	15.7	3.6	-0.05
5/28/2009	H	0	16.5	3.4	-0.08
6/17/2009	H	0.3	17	3.4	-0.02
7/23/2009	H	0	17	3.4	-0.05
8/20/2009	H	0	17.2	3.8	-0.05
9/17/2009	H	0	16.9	4	-0.05
10/22/2009	H	0	16.9	4.4	-0.01
11/17/2009	H	0	17.5	4.2	0
12/16/2009	H	0	17.8	4.2	-0.04
3/26/2009	I	0.1	19.4	1.6	-0.02
6/17/2009	I	0.1	20.5	1.8	-0.05
9/17/2009	I	0	20	1.6	-0.05
12/16/2009	I	0	19.5	1.4	0
3/26/2009	J	0	18.7	2.6	-0.02
6/17/2009	J	0	20	2.4	0
9/17/2009	J	0	19.3	2.6	-0.05
12/16/2009	J	0.1	19.3	2.4	0
3/26/2009	K	0	19.1	2.4	-0.04
6/17/2009	K	0	20.5	1.8	-0.05
9/17/2009	K	0	20.1	1.4	-0.05
12/16/2009	K	0	19.9	1.2	0
3/26/2009	L	0.1	14.4	6	-0.02
6/17/2009	L	0.2	15.3	6.2	-0.05
9/17/2009	L	0.1	13.7	7	-0.02
12/16/2009	L	0	15.4	5.4	0

Table 8.0
2009 SVE/IBT System Operation Efficiency
Del Amo Waste Pits

Jan-Dec 2009	Time (in hours)
Operation Hours *	2088
Actual Hours	1788
Down Time	300
Carbon Change-Out	165.5
Monitoring	56.25
System Maintenance	78.25
Operation Efficiency	86%

* Assuming 8 hours/day, Monday - Friday

Table 9.0
2009 SVE/IBT System Operation Summary
Comparison of Design to Actual Operations
Del Amo Waste Pits

Parameter	Original Design	Performance Based on Inline Monitoring Devices
Vapor Injection Rate (CFM)	50	45
System Operation Time (hours per day)*	8	8
O2 Injection Rate (CFM)	5	4.8
O2 Percentage (%)	100%	91%
O2 Utilization 1st Order Rate Constant (1/hr) **	0.0021	0.0021
Extracted Vapor Concentration (ppmv)	15,000	22,725
Extraction Rate (CFM) ***	60	47.9
Treatment Rate (CFM)	15	7.7
Time for Pore Volume (days)	7.09	7.88
Injected O2 Concentration 1st Order	27%	25%
Benzene Degradation (kg/day)	**20**	**17.9**
Benzene Degradation (kg/year)	7,355	6,536
Benzene Removal (kg/day)	**10**	**7.7**
Benzene Removal (kg/year)	3,626	1,727
Total Benzene Removed/Degraded (kg/day)	**30**	**26**
Total Benzene Removed/Degraded (kg/year)	10,981	8,262
Carbon to Benzene Ratio ****	4:1	5:1
Projected Carbon Required (kg/day)	40	31
Projected Annual Carbon Required (kg/year)	**14,472**	**6,892**

* Normal operation is 8 hours/day, Monday-Friday, 9:00 am - 4:00 pm
** 0.0021 of design value was used for oxygen utilization constant.
*** Extraction rate is derived from the sum of the treatment rate and the recycle rate.
**** Benzene to carbon ratio for the 2009 monitoring period is based on actual weight adsorbed to carbon (See Table 10.0)

The calculation used for this estimate

Q = (O2 Injection rate + Recycle rate)
$[O_2]$ = (Term1*0.20+Term2*0.91)/{1-Term3*Exp(-k*t_{pv})}
ή = 1-Exp(-k*t_{pv})
f_{bio} = 1-(0.0035/k)

Term1 = (Recycle rate)/Q*(Excess Vapor Extraction rate)/(Treatment rate + Recycle rate)
Term2 =O2 injection rate/Q
Term3 = Recycle rate/(Treatment rate + Recycle rate)
t_{pv} (Time for Pore Volume) = 8505/Q
k = 0.0021

[Benzene] = 22725

Mass Degraded = Q*$[O_2]$* ή* f_{bio}* 5.8864
Mass Treated = Treatment rate *[Benzene]*0.000044148
Mass Total = Mass Degraded + Mass Treated

Table 10.0
Carbon Change-out Table
SVE/IBT System 2009
Del Amo Waste Pits

Date	Operational Hours Betweem Change-outs	Fresh Carbon (kg)			Spent Carbon (kg)			Weight Adsorbed (kg)			Lead Vessel	Ratio
		Primary	Secondary	Total	Primary	Secondary	Total	Primary	Secondary	Total		
1/2/2009	198.5	863	880	1742	1060	1046	2106	197	166	363	A	4.80
2/10/2009	192.5	953	907	1860	1158	1142	2300	206	235	440	A	4.22
3/10/2009	173.5	926	926	1852	1168	1125	2293	242	199	441	A	4.20
4/21/2009	194.25	912	898	1810	1113	1066	2180	201	168	370	A	4.90
5/29/2009	163.5	925	914	1839	1066	1111	2177	141	197	338	A	5.44
7/8/2009	203	890	896	1785	1119	1037	2156	229	141	370	A	4.82
8/14/2009	196.25	973	989	1961	1188	1139	2327	216	150	366	A	5.36
9/24/2009	196	953	930	1882	1139	1136	2275	186	206	392	A	4.80
11/17/2009	273.5	923	913	1836	1152	1073	2225	229	160	389	A	4.72
12/28/2009	189.25	907	907	1814	1119	1085	2205	212	178	391	A	4.65
Average	**198**	**922**	**916**	**1838**	**1128**	**1096**	**2224**	**206**	**180**	**388**		**4.79**
Total	**1980**	**9224**	**9160**	**18383**	**11282**	**10960**	**22243**	**2059**	**1801**	**3496**		

Table 11.0
Cover System Inspection Summary
Del Amo Waste Pits

Cover System									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Erosion	4	4	4	4	4	4	4	4	4
Stressed Vegetation (Plant Die-Back) [(1)]	4	4	4	4	3	3	4	3	4
Sediment Build-Up	4	4	4	4	4	4	4	4	4
Local Subsidence or Loss of Grade	4	4	4	4	4	4	4	4	4
Water Ponding [(1)]	4	3	4	4	4	4	4	4	4
Turf Height	4	4	4	4	4	4	4	4	4
Burrowing Animals [(1)]	3	3	3	3	3	4	4	4	4
Weeds or Undesirable Vegetation [(1)]	4	3	4	4	4	4	4	4	4
Evidence of Fires or Vandalism	4	4	4	4	4	4	4	4	4
Soil Quality Check	4	4	4	4	4	4	4	4	4
Unauthorized Traffic	4	4	4	4	4	4	4	4	4
Slope Instability or Sloughing	4	4	4	4	4	4	4	4	4
Survey Monuments	4	4	4	4	4	4	4	4	4
Vertical Cracking	4	4	4	4	4	4	4	4	4
Intrusions	4	4	4	4	4	4	4	4	4
Evidence of Waste Pit Materials	4	4	4	4	4	4	4	4	4

[(1)] Area of concern was repaired during routine property maintenance and/or addressed through ongoing monitoring/observation.

Conditions/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Repair)
1 = Poor (Needs Immediate Repair)

Table 12.0
Cap Gas Collection Treatment System Inspection Summary
Del Amo Waste Pits

Cap Gas Collection Treatment System									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Collection System Valves									
Adequate Free Movement	4	4	4	4	4	4	4	4	4
Seals-Complete	4	4	4	4	4	4	4	4	4
Signs of Rust/Corrosion [(1)]	4	3	4	4	4	4	4	3	4
Condensate Collection									
Air Moisture Separator	4	4	4	4	4	4	4	4	4
Carbon Adsorbers-Vessels									
Exterior Damage	4	4	4	4	4	4	4	4	4
FRP Grating and Mesh	4	4	4	4	4	4	4	4	4
Blower [(2)]									
General Motor Maintenance [(1)]	4	4	4	4	4	4	4	3	4
Drive Maintenance [(1)]	4	4	4	4	4	4	4	3	4
Bearing Maintenance [(1)]	4	4	4	4	4	4	4	3	4
Lubrication [(1)]	4	4	4	4	4	4	4	3	4
Structural Maintenance	4	4	4	4	4	4	4	4	4

[(1)] Area of concern was repaired during routine property maintenance and/or addressed through ongoing monitoring/observation.
[(2)] Blower and motor are permanently lubricated and sealed units.

Conditions/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Repair)
1 = Poor (Needs Immediate Repair)

Table 13.0
Surface Water Drainage Inspection Summary
Del Amo Waste Pits

Surface Water Drainage									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Washouts or Erosion of Contoured Grade	4	4	4	4	4	4	4	4	4
Ponding on Contoured Grade [(1)]	4	3	4	4	4	4	4	4	4
Gullies and Ruts on Contoured Grade	4	4	4	4	4	4	4	4	4
Plugging of Drainage Culverts [(1)]	4	4	4	2	4	4	4	4	4
Holes and Cracks in Swales or Catch Basins	4	4	4	4	4	4	4	4	4
Sediment Build-Up in Swales or Catch Basins [(1)]	4	3	4	4	4	4	4	4	4
Surface Cracking of Swales/Catch Basins	4	4	4	4	4	4	4	4	4
Spalling of Swales/Catch Basins	4	4	4	4	4	4	4	4	4
Structural Failure of Swales/Catch Basins	4	4	4	4	4	4	4	4	4

[(1)] Area of concern was repaired during routine property maintenance and/or addressed through ongoing monitoring/observation.

Conditions/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Repair)

1 = Poor (Needs Immediate Repair)

Table 14.0
Subsurface Drainage Inspection Summary
Del Amo Waste Pits

Subsurface Drainage									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Holes and Cracks in Swales, Catch Basin [(1)]	4	4	4	4	3	4	4	4	4
Plugging of Drainage Inlets	4	4	4	4	4	4	4	4	4
Sediment Build-Up or Debris in Catch Basin [(1)]	4	3	4	4	4	4	4	4	4
Structural Failure of Catch Basin	4	4	4	4	4	4	4	4	4

[(1)] Area of concern was repaired during routine property maintenance and/or addressed through ongoing monitoring/observation.

Conditions/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Repair)

1 = Poor (Needs Immediate Repair)

Table 15.0
Security Fence Inspection Summary
Del Amo Waste Pits

Security Fence									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Perimeter Fence									
Breaks and Holes	4	4	4	4	4	4	4	4	4
Settlement Damage	4	4	4	4	4	4	4	4	4
Loose Posts/Tension	4	4	4	4	4	4	4	4	4
Rust/Corrosion [(1)]	4	4	4	4	4	4	3	3	3
Ruts and Burrows Beneath Fence	4	4	4	4	4	4	4	4	4
Vegetation Overgrowth [(1)]	4	4	4	3	4	4	4	4	4
General Signs of Deterioration	4	4	4	4	4	4	4	4	4
Vandalism/Animal/Wind Damage [(1)]	4	4	4	3	4	4	4	4	4
Gates									
Adequate Movement of Hinges and Gates	4	4	4	4	4	4	4	4	4
Proper Function of Lock(s)	4	4	4	4	4	4	4	4	4

[(1)] Area of concern was repaired during routine property maintenance and/or addressed through ongoing monitoring/observation.

Conditions/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Repair)
1 = Poor (Needs Immediate Repair)

Table 16.0
Access Road Inspection Summary
Del Amo Waste Pits

Access Road									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Holes and Cracks	4	4	4	4	4	4	4	4	4
Vegetation Overgrowth [(1)]	4	4	3	4	4	4	4	4	4
Settlement	4	4	4	4	4	4	4	4	4
Excessive Dispersion of Gravel	4	4	4	4	4	4	4	4	4
General Signs of Deterioration	4	4	4	4	4	4	4	4	4

[(1)] Area of concern was repaired during routine property maintenance and/or addressed through ongoing monitoring/observation.

Conditions/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Repair)

1 = Poor (Needs Immediate Repair)

Table 17.0
SVE/IBT System Inspection Summary
Del Amo Waste Pits

SVE/IBT SYSTEM INSPECTION									
Inspection Date	**February 10, 2009**	**February 18, 2009**	**March 27, 2009**	**May 18, 2009**	**June 26, 2009**	**September 16, 2009**	**November 4, 2009**	**December 8, 2009**	**December 14, 2009**
Inspection Type	Post Rain Inspection	Post Rain Inspection	1st Quarterly Inspection	Post Seismic Inspection	2nd Quarterly Inspection	3rd Quarterly Inspection	4th Quarterly Inspection	Post Rain Inspection	Post Rain Inspection
Inspection Items									
Manifold									
Adequate - Free Movement	4	4	4	4	4	4	4	4	4
Seals - Complete	4	4	4	4	4	4	4	4	4
Visible Damage	4	4	4	4	4	4	4	4	4
Condensate Collection									
AirMoisture Separator (1)	4	3	4	4	4	4	4	4	4
Additional System Components									
Carbon Adsorber Vessels									
Exterior Damage	4	4	4	4	4	4	4	4	4
Blowers									
General Motor Maintenance	4	4	4	4	4	4	4	4	4
Drive Maintenance	4	4	4	4	4	4	4	4	4
Bearing Maintenance	4	4	4	4	4	4	4	4	4
Osygen Generator									
Signs of Rust/Corrosion	4	4	4	4	4	4	4	4	4
Mechanical Functioning	4	4	4	4	4	4	4	4	4
Oxygen Purity	4	4	4	4	4	4	4	4	4
System Sensors									
Visible Damage (1)	4	2	4	4	4	4	4	4	4
Mechanical Functioning (1)	3	4	4	4	4	4	4	4	4
SVE Wellheads									
Tee Flanges	4	4	4	4	4	4	4	4	4
Valves (1)	4	3	4	4	4	4	4	4	4
Sniff for signs of leaks	4	4	4	4	4	4	4	4	4

(1) Sensors needing repair or calibration were calibrated in the field or returned to manufacturer and re-installed following corrective measures.
N/A-Not Available

Conditions/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Repair)
1 = Poor (Needs Immediate Repair)

Table 18.0
2010 Proposed Monitoring and Inspection Activities
Del Amo Waste Pits

EVENT	FREQUENCY	METHOD OF DOCUMENTATION
Cover System	Quarterly, after heavy rains[(1)], and seismic events[(2)]	Cover System Inspection Form
Cap Gas Collection and Treatment System	Quarterly, after heavy rains[(1)], and seismic events[(2)]	Cap Gas System Inspection Form
Surface Water Drainage System	Quarterly, after heavy rains[(1)], and seismic events[(2)]	Surface Water Drainage Inspection Form
Subsurface Drainage Systems	Quarterly, after heavy rains[(1)], and seismic events[(2)]	Subsurface Drainage Inspection Form
Security Fences	Quarterly, after heavy rains[(1)], and seismic events[(2)]	Security Fence Inspection Form
Access Road	Quarterly, after heavy rains[(1)], and seismic events[(2)]	Access Road Inspection Form
SVE/IBT System	Quarterly, after heavy rains[(1)], and seismic events[(2)]	SVE/IBT System Inspection Form
Perimeter Well Monitoring Event (wells A, B, C, D, H)	Monthly	Perimeter Soil Vapor Monitoring Form
Perimeter Well Monitoring Event (wells E, F, G, I, J, K L)	Quarterly	Perimeter Soil Vapor Monitoring Form
Full Scale Field Monitoring (cluster, vacuum performance, SVE)	Quarterly	Quarterly Field Monitoring Form
SVE/IBT System Field Monitoring	Bi-monthly	SVE/IBT System Monitoring Form
SVE/IBT System Lab Sampling	Monthly	Laboratory Analytical Report
Cap Gas Collection and Treatment System Monitoring	Bi-monthly	Cap Gas System Monitoring Form
Cap Gas Collection and Treatment Confirmation Sampling Event	Once every 5 years [(3)]	Laboratory Analytical Report
Monument Survey Event	Once every 5 years [(4)]	Monument Survey Record
Repairs	As Required	Maintenance/Corrective Work Report

[(1)] Defined as precipitation events with intensity exceeding 1.0 inches over a 24-hour period.
[(2)] Defined as seismic event greater than 4.5 and less than or equal to 6.2 miles from the Site.
[(3)] Next scheduled monument survey event to be conducted in the year 2010.
[(4)] Next scheduled confirmation sampling event to be conducted in the year 2010.

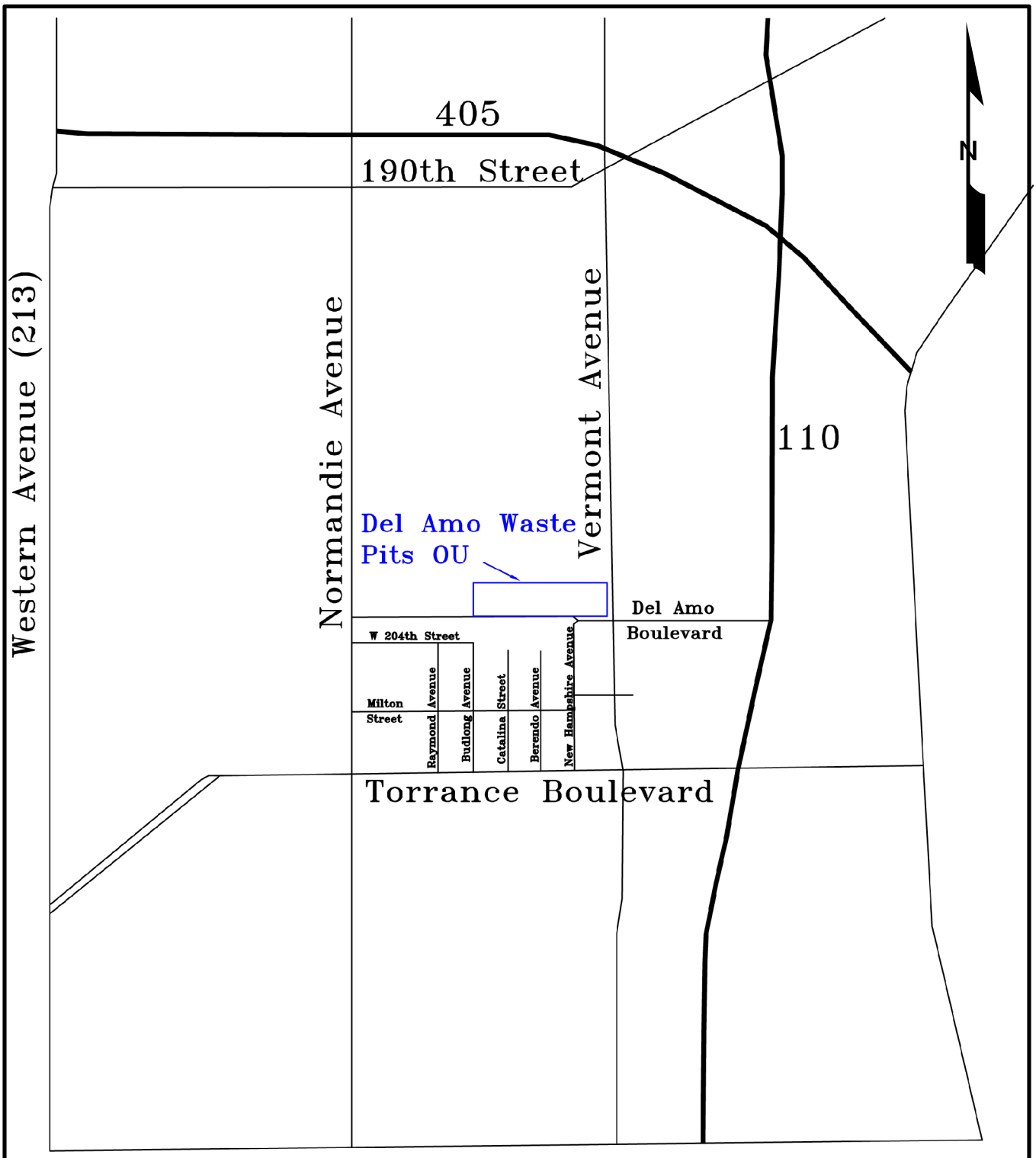


FIGURE 1.0

Site Vicinity Map

DEL AMO WASTE PITS
TORRANCE, CALIFORNIA

C2REM
An Environmental Management & Development Company
Newport Beach, California 949.261.8098

Legend

- Estimated Extent of Subsurface Impoundment
- Del Amo Pits Site
- Sub-Area Delineations
- Benchmark
- Survey Monument Marker

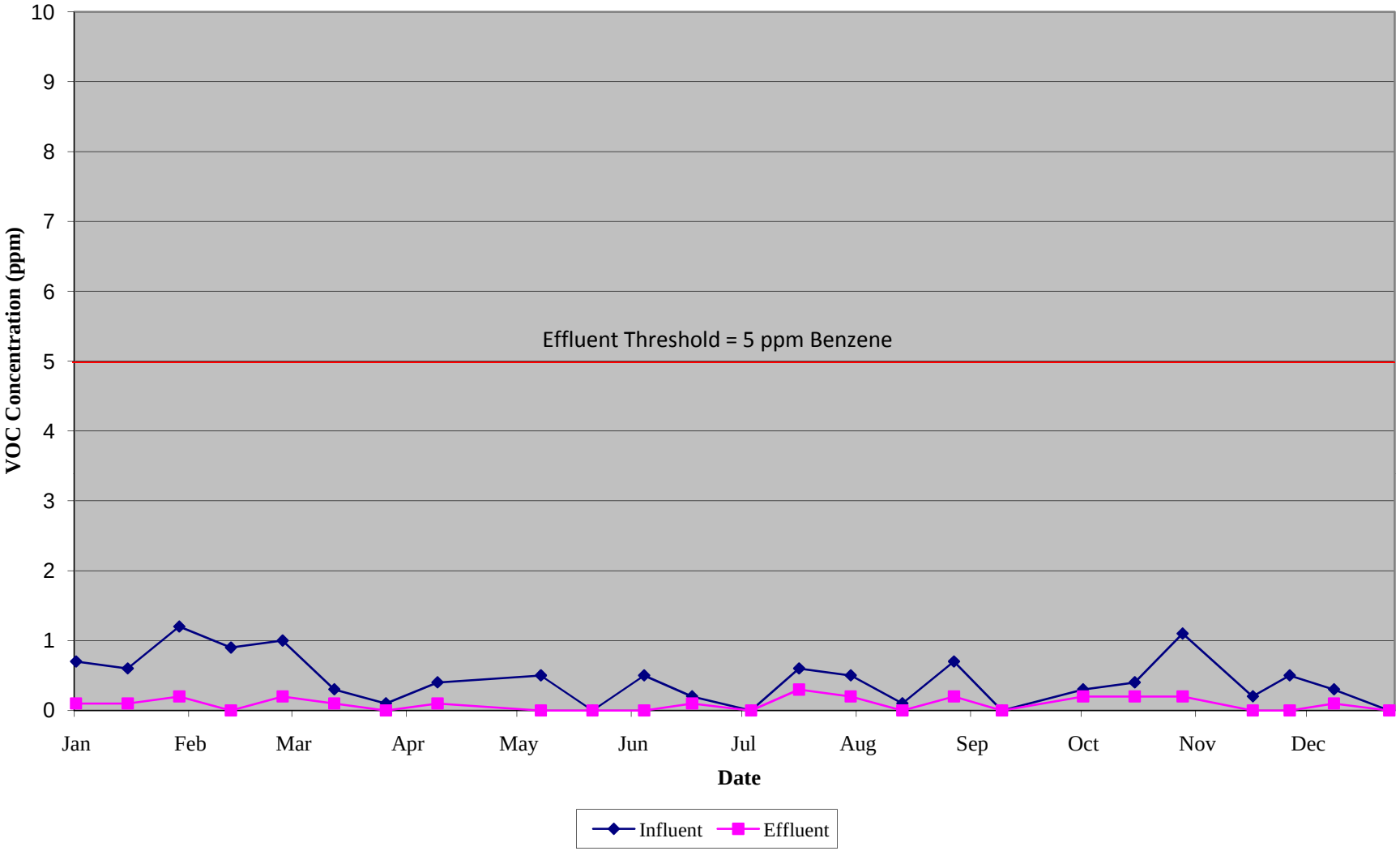
FIGURE 2.0

Property Map

DEL AMO WASTE PITS
TORRANCE, CALIFORNIA

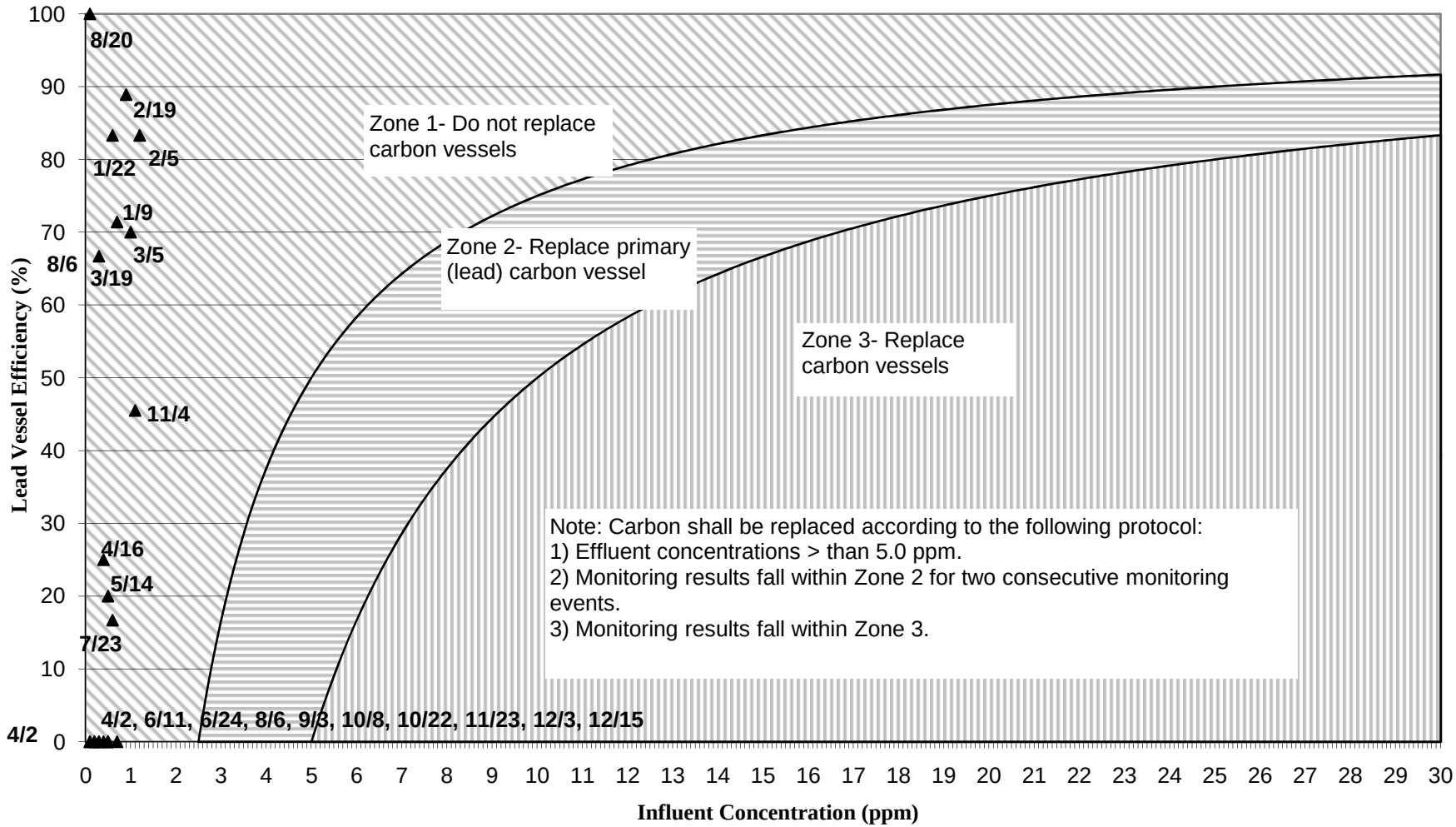
C2REM
An Environmental Management & Development Company
Newport Beach, California 949.261.8098

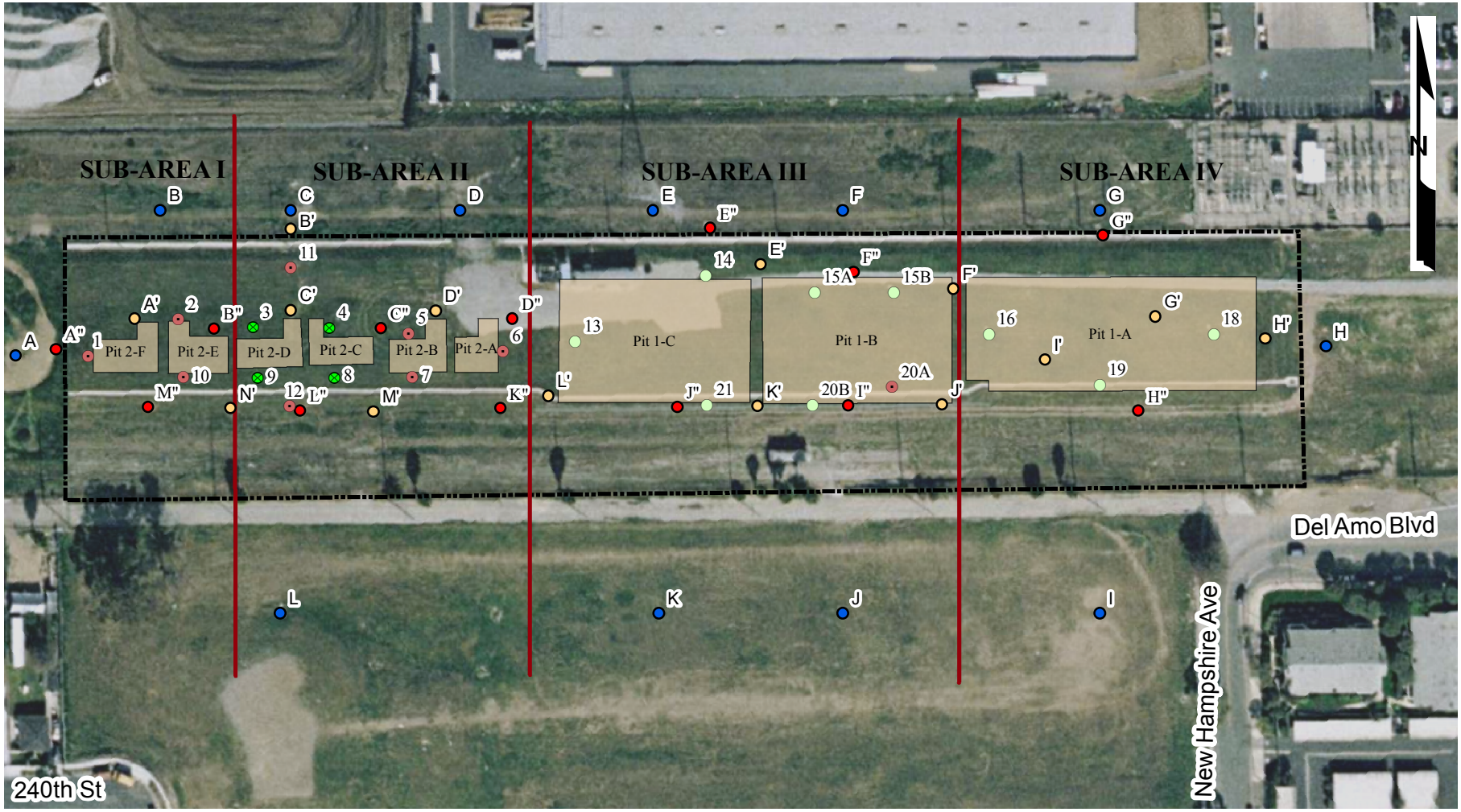
Figure 3.0
Cap Gas Treatment System
2009 Semi-Monthly Field Monitoring Results (Influent vs. Effluent)
Del Amo Waste Pits



Note: VOC concentrations measured with a PID calibrated to benzene

Figure 4.0
Carbon Replacement Protocol
Del Amo Waste Pits





Legend

- Perimeter Monitoring Wells
- Vacuum Pressure Performance Monitoring Wells
- Soil Vapor Cluster Monitoring Well
- Soil Vapor Extraction/Injection Well (Inactive - not connected to SVE/IBT System)
- Soil Vapor Extraction Well (Active - currently connected to SVE/IBT System)
- Soil Vapor Injection Well (Active - currently connected to SVE/IBT System)

FIGURE 5.0

SVE and Monitoring Well Location Map

DEL AMO WASTE PITS
TORRANCE, CALIFORNIA

C2REM
An Environmental Management & Development Company
Newport Beach, California 949.261.8098

FIGURE 6.0

2009 Annual Averages of System Inline Sensors
and Monthly Lab Sampling Locations

DEL AMO WASTE PITS

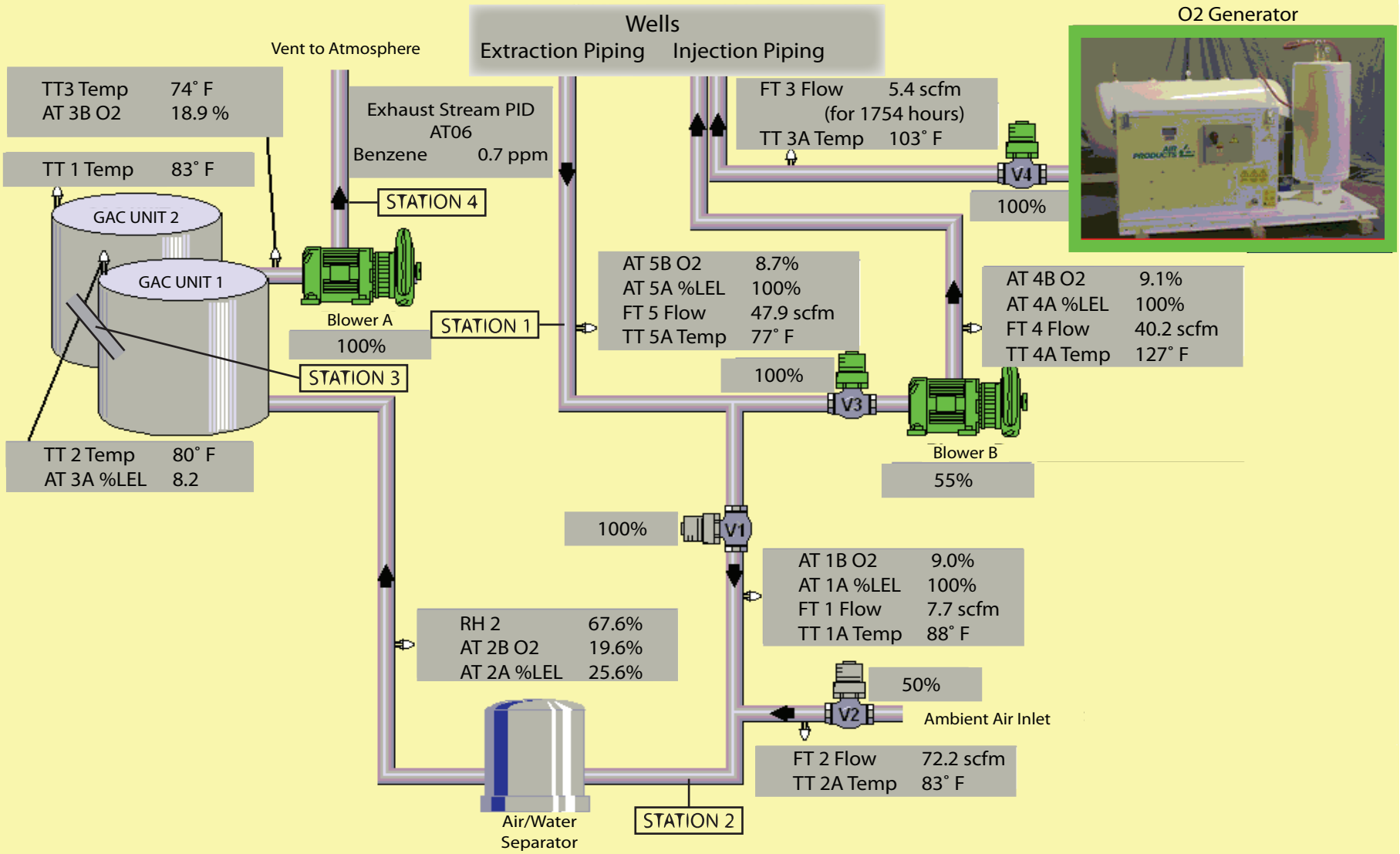
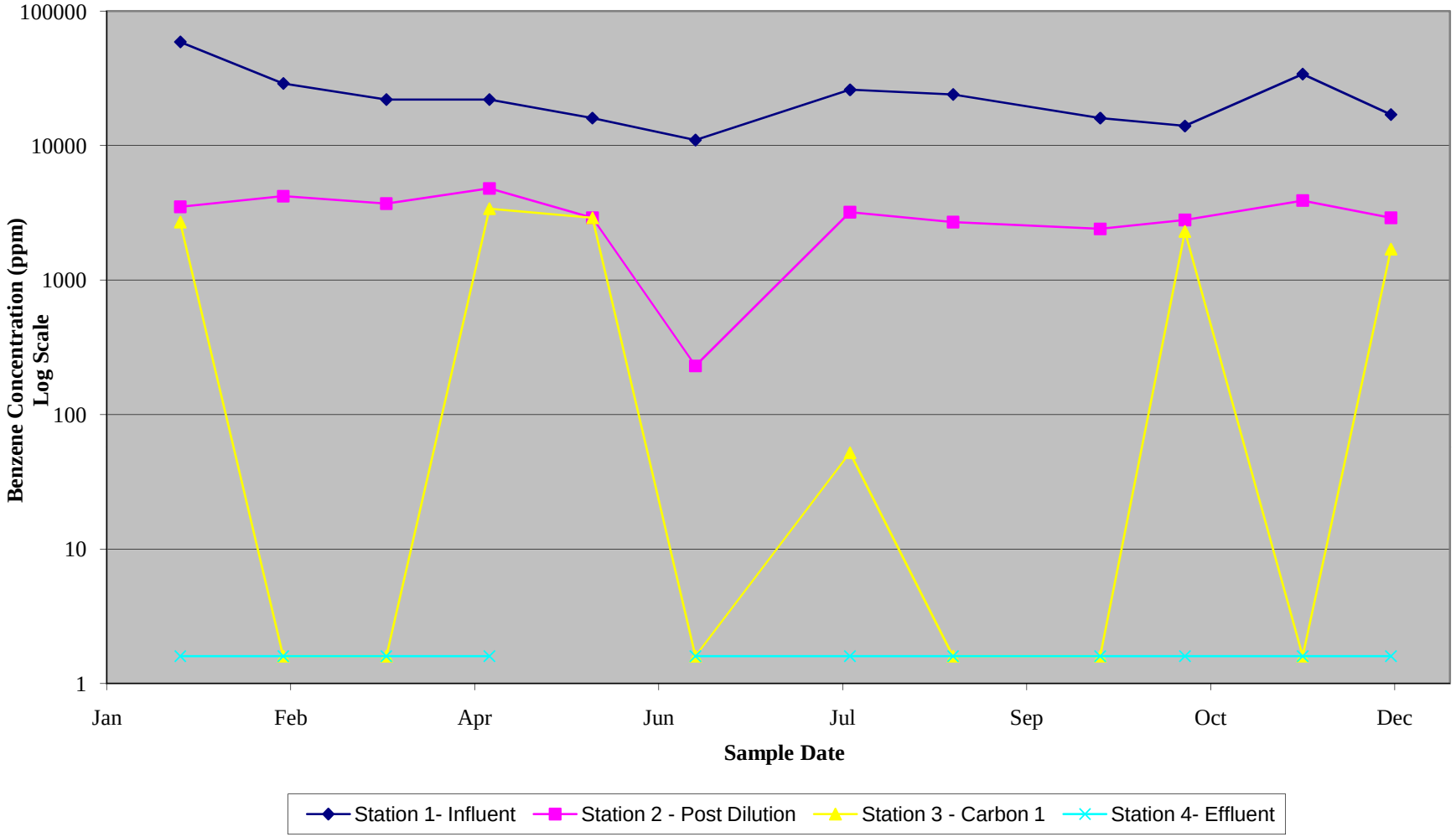
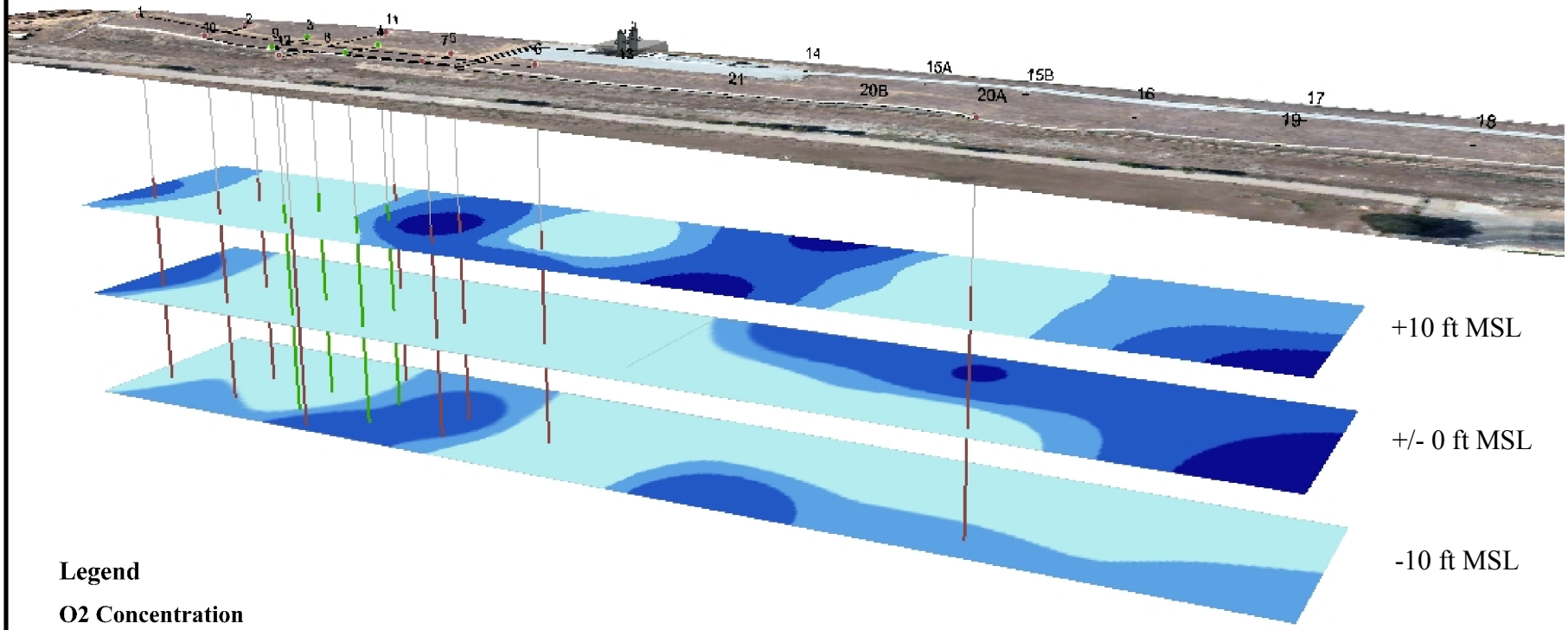


Figure 7.0
SVE/IBT System
2009 Laboratory Data Summary for Benzene
Del Amo Waste Pits



Note:For graphing purposes, the reporting limit of 1.6 ppm was used for non-detect results.



Legend

O2 Concentration

- < 10%
- 10 - 15%
- 15 - 20.9%
- > 20.9%
- Extraction Well
- Injection Well

FIGURE 8.0

2003 Cluster Well Oxygen

DEL AMO WASTE PITS
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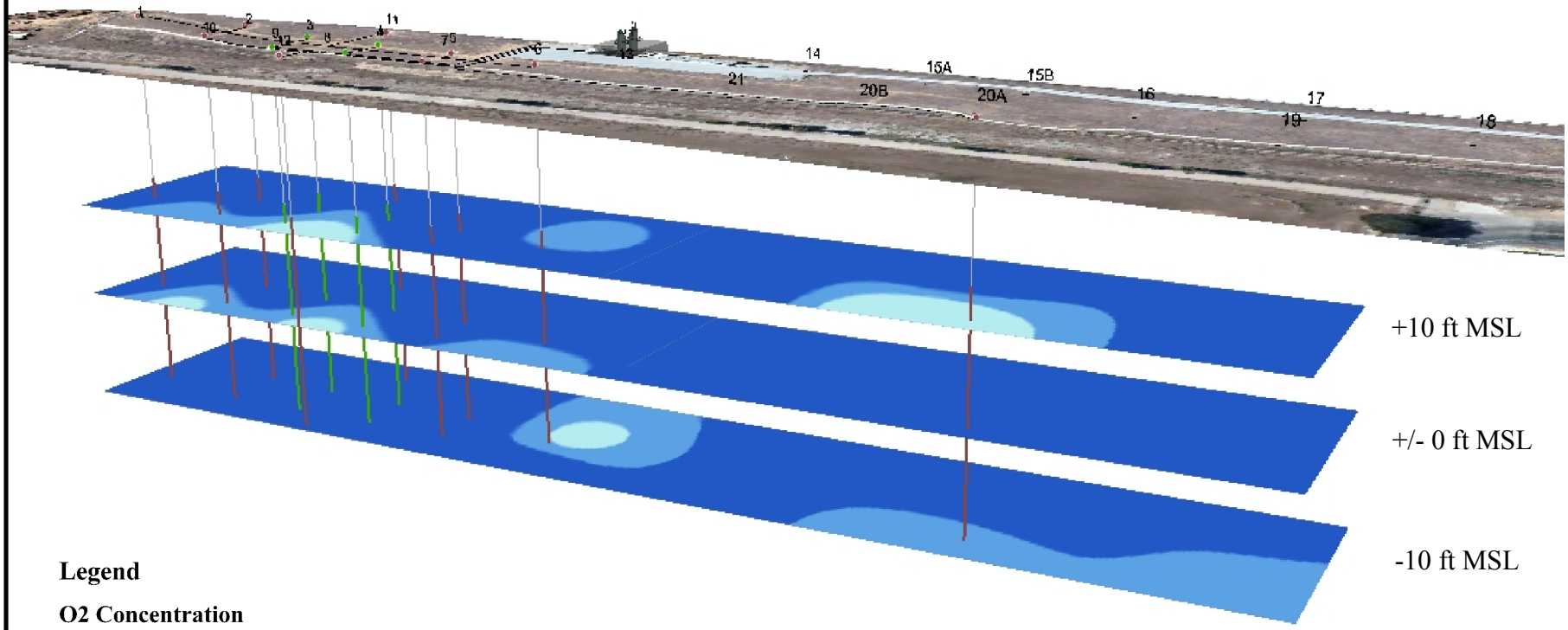
An Environmental Management & Development Company
Newport Beach, California 949.261.8098



Legend

O2 Concentration

- < 10%
- 10 - 15%
- 15 - 20.9%
- > 20.9%
- Extraction Well
- Injection Well

FIGURE 9.0

2009 Cluster Well Oxygen

DEL AMO WASTE PITS
TORRANCE, CALIFORNIA

C2REM
An Environmental Management & Development Company
Newport Beach, California 949.261.8098

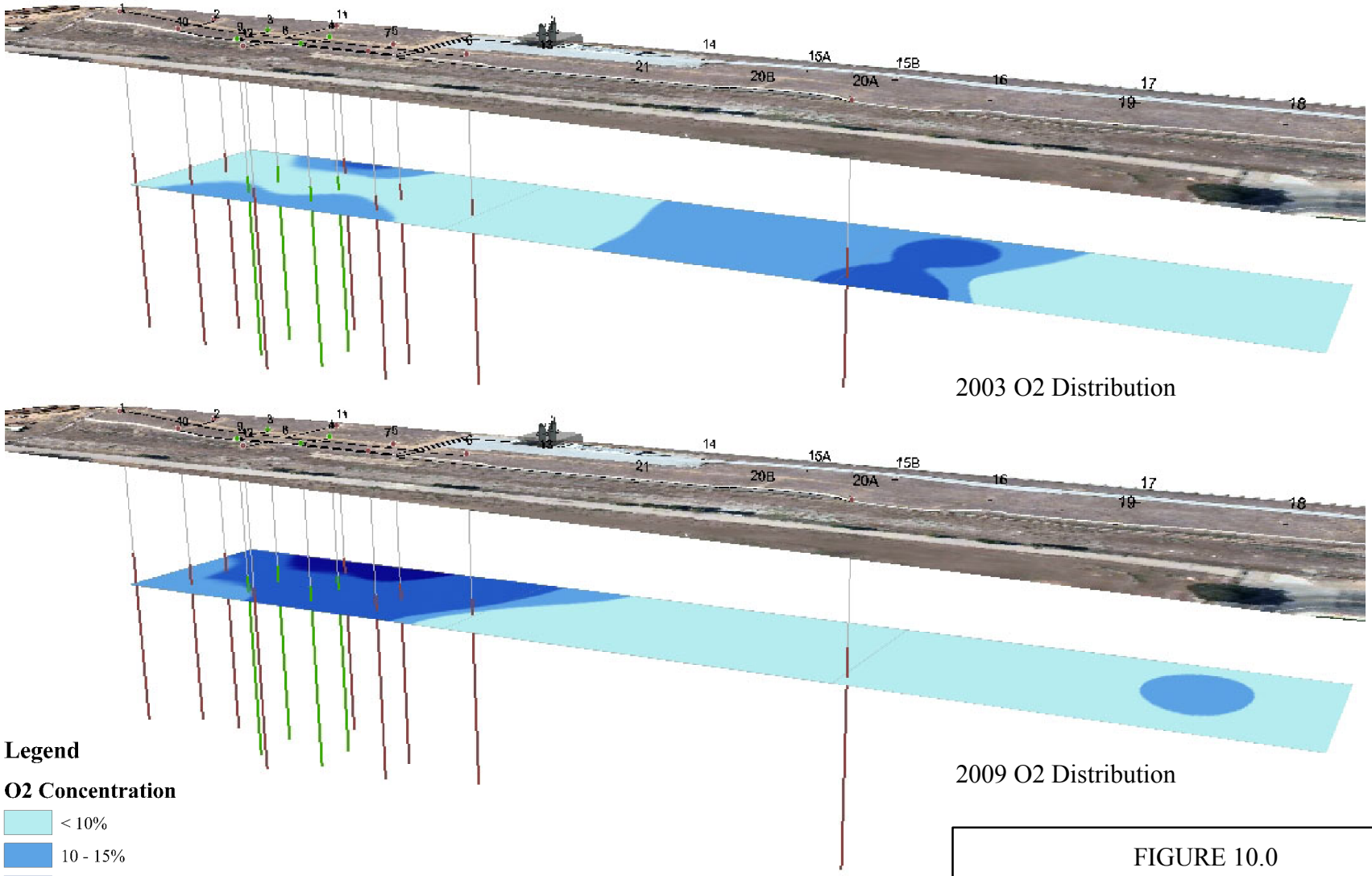


FIGURE 10.0
2003 & 2009
Vacuum Performance Well Oxygen

DEL AMO WASTE PITS
TORRANCE, CALIFORNIA

C2REM
An Environmental Management & Development Company
Newport Beach, California 949.261.8098

Figure 11.0
Perimeter Well Field Monitoring Results
Del Amo Waste Pits

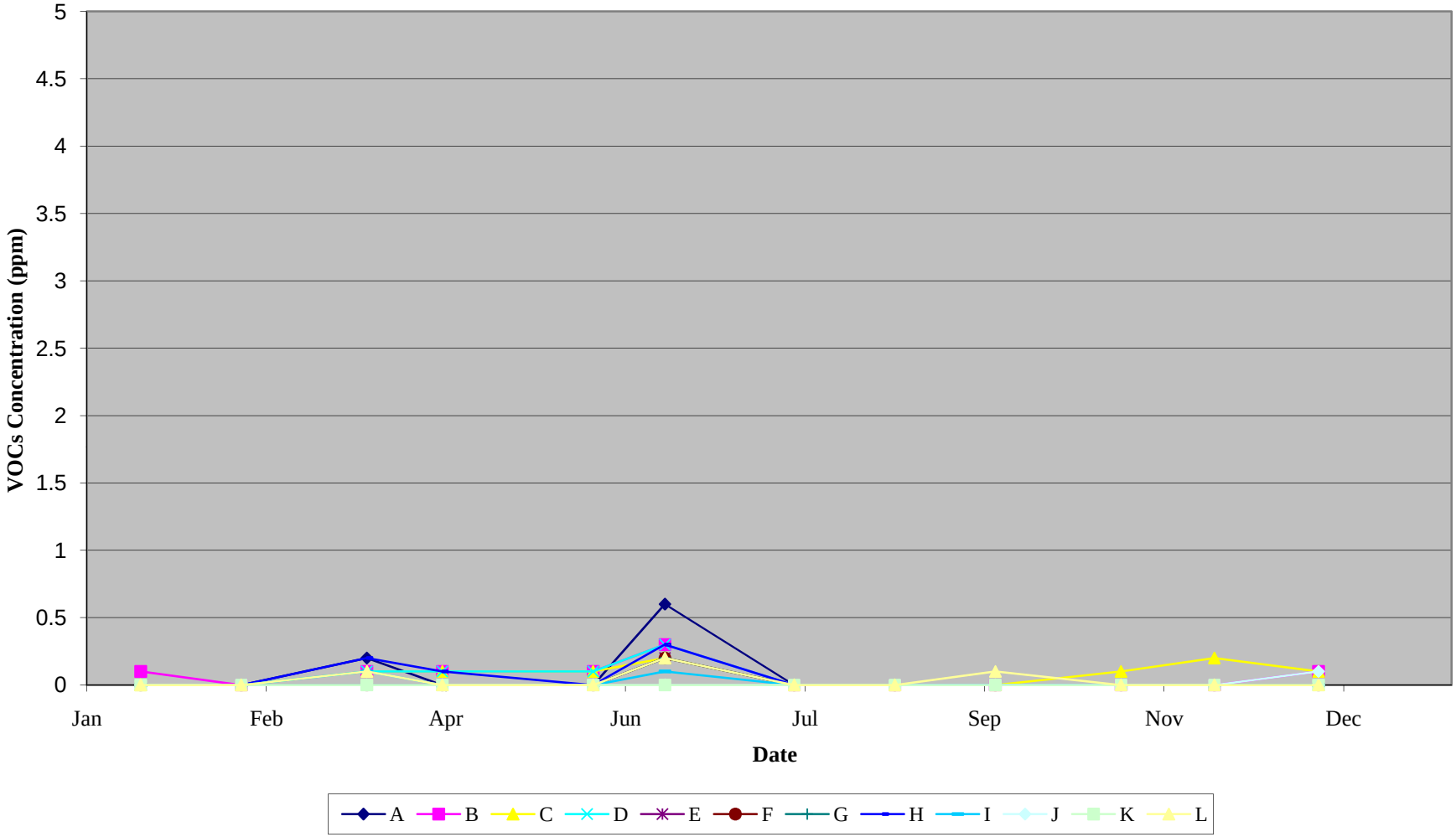


Figure 12.0
O_2 vs. CO_2 at SVE/IBT System Inlet
Del Amo Waste Pits

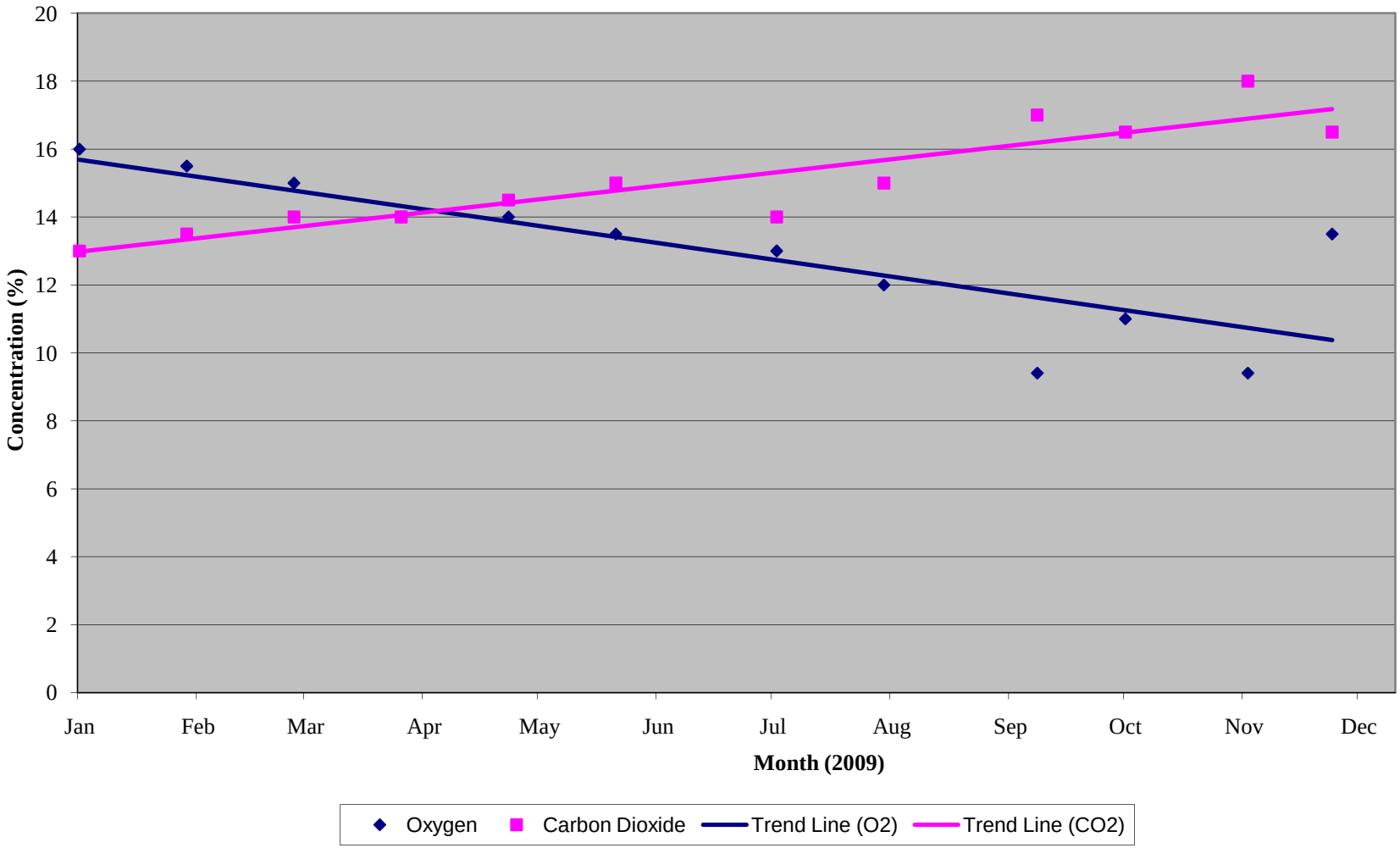
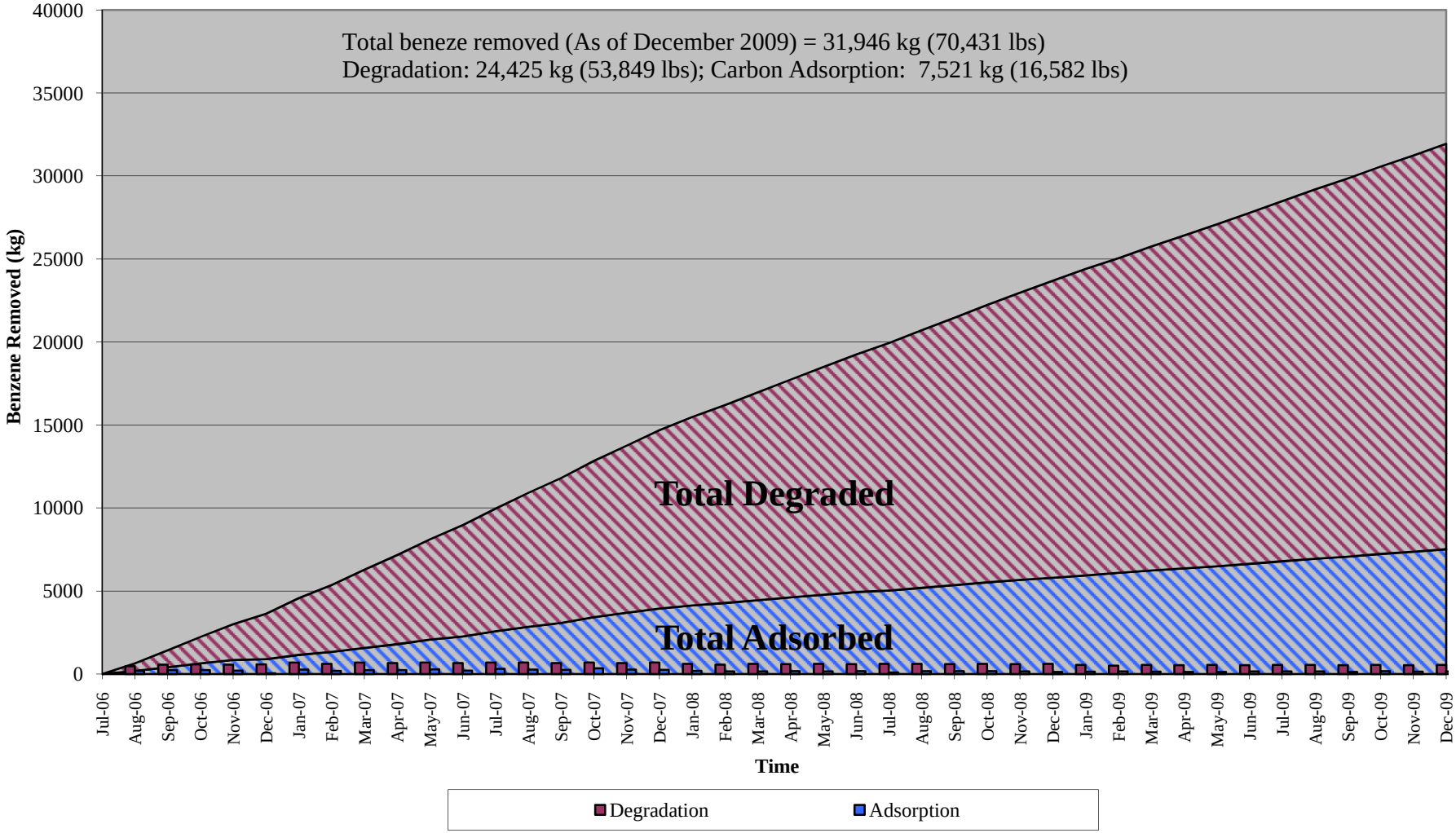


Figure 13.0
SVE/IBT System Operation Total Benzene Removed
Del Amo Waste Pits



APPENDIX A

2009 SEMI-MONTHLY CAP GAS SYSTEM MONITORING FORMS

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: SA
Title: Staff Scientist

Sheet 1 of 1
Date: 1/8/09
Time: 11:50 AM.

Verified By: SM.
Title: Project Engineer.

Type of Monitoring Devices: MiniRae 2000 PID, Velocicalc
Weather Conditions: Cloudy.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.7
2.	Outlet of Carbon 1	0.2
3.	Outlet of Carbon 2	0.5
4.	System Effluent	0.1

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	62	150
Effluent	106	180

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TA.
Title:

Sheet 1 of 1
Date: 1/22/2009
Time:

Verified By: SA
Title: staff scientist

Type of Monitoring Devices: MiniRae 2000 PID. Velocicalc.
Weather Conditions: Rainy / Cloudy

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain)

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.6
2.	Outlet of Carbon 1	0.1
3.	Outlet of Carbon 2	0.1
4.	System Effluent	0.1

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	61°	150
Effluent	111°	170

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TT.
Title: Field Tech

Sheet 1 of 1
Date: 2/5/09
Time: 10:15

Verified By: SA
Title: Staff Scientist.

Type of Monitoring Devices: MiniRae 2000 PID (1). Velocicalc.
Weather Conditions: Cloudy, Windy.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:	**VOCs (ppm)**
1. System Inlet	1.2
2. Outlet of Carbon 1	0.2
3. Outlet of Carbon 2	0.2
4. System Effluent	~~0.5~~ 0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	61	~~172~~ 151
Effluent	110	172

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: Tiffany Armenta
Title: Field Tech

Sheet 1 of 1
Date: Feb. 19, 2009
Time: 10:45

Verified By: Shinta Aizawa
Title: Staff scientist.

Type of Monitoring Devices: MiniRae PID. 2000.
Weather Conditions: Sunny.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.9
2.	Outlet of Carbon 1	0.1
3.	Outlet of Carbon 2	0.0
4.	System Effluent	0.0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	62	150
Effluent	113	187

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: S. Mc GEOUGH
Title: PROJECT Engineer

Sheet 1 of 1
Date: 8/5/09
Time: 1. PM

Verified By: T. ARMENTA
Title: FIELD TECH

Type of Monitoring Devices: PID Velocicalc
Weather Conditions: Sunny 64°

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	1.0
2.	Outlet of Carbon 1	0.3
3.	Outlet of Carbon 2	0.2
4.	System Effluent	0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	62°	160°
Effluent	115°	178

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: S. Mc Gough
Title: PE

Sheet 1 of 1
Date: 3/19/09
Time: 10:30

Verified By: TRI TRAN
Title: FT

Type of Monitoring Devices: PID, Velomicalc.
Weather Conditions: _____

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.3
2.	Outlet of Carbon 1	0.1
3.	Outlet of Carbon 2	0.1
4.	System Effluent	0.1

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	64° (F)	150 SCFM
Effluent	114° (F)	186 SCFM

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TT / SA
Title: _____

Sheet 1 of 1
Date: 4/2/09
Time: _____

Verified By: _____
Title: _____

Type of Monitoring Devices: PID, UEL-CAL
Weather Conditions: _____

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly ( ) Semi-Monthly
( ) Other Frequency (explain) Bi-Monthly

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.1
2.	Outlet of Carbon 1	0.1
3.	Outlet of Carbon 2	0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	65° F	150
Effluent	112° F	184

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: SA
Title: Staff Scientist

Sheet 1 of 1
Date: 4/16/09
Time: 11:00

Verified By: JM
Title: Project Engineer

Type of Monitoring Devices: MiniRae 2000 PID, Velocicalc.
Weather Conditions: Sunny.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:

		VOCs (ppm)
1.	System Inlet	0.4
2.	Outlet of Carbon 1	0.3
3.	Outlet of Carbon 2	0.2
4.	System Effluent	0.5/0.1

old bag. new bag used.

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	70°	160
Effluent	124	170

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TT/SA
Title: _____

Sheet 1 of 1
Date: 5/14/09
Time: 11:15

Verified By: Shinta Aizawa
Title: Staff Scientist.

Type of Monitoring Devices: MiniRae 2000 PID. Velocicalc.
Weather Conditions: Sunny.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.5
2.	Outlet of Carbon 1	0.4
3.	Outlet of Carbon 2	0.1
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	80°	135
Effluent	135°	162

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TT
Title: Field Tech.

Sheet 1 of 1
Date: 5/28/09
Time: 11:30.

Verified By: SA
Title: Staff scientist.

Type of Monitoring Devices: PID, VEL CAL, PUMP LUNGE
Weather Conditions: Sunny

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.0 (TOOK 3 SAMPLES)
2.	Outlet of Carbon 1	0.4
3.	Outlet of Carbon 2	0.1
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	79°	140
Effluent	128°	160

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: Shinta Aizawa
Title: Staff Scientist

Sheet 1 of 1
Date: 6/11/09
Time: 11:20

Verified By: Seamus B McTeagh
Title: Project Engineer

Type of Monitoring Devices: MiniRae 2000 PID, Velocicalc.
Weather Conditions: _____

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.5
2.	Outlet of Carbon 1	2.7
3.	Outlet of Carbon 2	2.0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	~~72~~ 74	148
Effluent	113	174

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: Seamus McGeogh
Title: Project Engineer.

Sheet 1 of 1
Date: 6/24/09
Time: _____

Verified By: Ian Yusko
Title: Project Engineer.

Type of Monitoring Devices: _____
Weather Conditions: _____

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.2
2.	Outlet of Carbon 1	0.6
3.	Outlet of Carbon 2	0.2
4.	System Effluent	0.1

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	81	142
Effluent	132	172

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: S. McCrough
Title: Project Engineer

Sheet 1 of 1
Date: 7/10/09
Time: 1:45pm

Verified By: Shinta Arizawa
Title: Staff Scientist

Type of Monitoring Devices: PID Velocicalc
Weather Conditions: 80° No wind

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

( ) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0
2.	Outlet of Carbon 1	0.3
3.	Outlet of Carbon 2	0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	~~[illegible]~~ 98.5°	~~[illegible]~~ 145.5
Effluent	~~[illegible]~~ 145°	158.5

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: Shinta Aizawa
Title: Staff scientist

Sheet 1 of 1
Date: 07/23/09
Time: 11:45

Verified By: Seamus McGeogh
Title: Project Engineer.

Type of Monitoring Devices: MiniRae 2000 PID. Velocicalc.
Weather Conditions: Sunny

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.6
2.	Outlet of Carbon 1	0.5
3.	Outlet of Carbon 2	0.3
4.	System Effluent	0.3

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	86	140
Effluent	142	150

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: IY
Title: PE

Sheet 1 of 1
Date: 8/6/09
Time: 12:18 pm

Verified By: SM
Title: PE

Type of Monitoring Devices: Velocicalc, PID 2000, pump lung
Weather Conditions: Sunny, hot, breeze, 90°

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.5
2.	Outlet of Carbon 1	0.8
3.	Outlet of Carbon 2	0.3
4.	System Effluent	0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	85	149
Effluent	136	166

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: SA
Title: PE

Sheet 1 of 1
Date: 08/20/09
Time: _____

Verified By: SM
Title: PE

Type of Monitoring Devices: Mini Rae 2000 PID. Velocicalc.
Weather Conditions: Sunny.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.1
2.	Outlet of Carbon 1	0.4
3.	Outlet of Carbon 2	0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	83	148.0
Effluent	132	158.5

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: SM
Title: _____

Sheet 1 of 2
Date: 9/3/2009
Time: 11:30

Verified By: SA
Title: _____

Type of Monitoring Devices: Velocical C, PID
Weather Conditions: Sunny, no wind

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.7
2.	Outlet of Carbon 1	0.8
3.	Outlet of Carbon 2	0.9
4.	System Effluent	0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	86	142
Effluent	138	151

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: IY
Title: _____

Sheet 1 of 1
Date: 9/16/09
Time: _____

Verified By: SM
Title: _____

Type of Monitoring Devices: PID 2000, Velocicalc,
Weather Conditions: _____

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0
2.	Outlet of Carbon 1	0.1
3.	Outlet of Carbon 2	0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	83	140
Effluent	134	162

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: IY
Title: PE

Sheet 1 of 1
Date: 10-8-09
Time: 11:20 AM

Verified By: JC
Title: PM

Type of Monitoring Devices: PID 2000, PUMP LUNG, VELOCICALC
Weather Conditions: SUNNY, 80s, SLIGHT BREEZE

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.3
2.	Outlet of Carbon 1	0.4
3.	Outlet of Carbon 2	0.2
4.	System Effluent	0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	79	145
Effluent	129	163

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TY
Title: PE

Sheet 1 of 1
Date: 10-22-09
Time: 10:50 AM

Verified By: SM
Title: PE

Type of Monitoring Devices: PID 2000, VELOCICALC
Weather Conditions: MID 80s, SLIGHT BREEZE, SUNNY

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.4
2.	Outlet of Carbon 1	0.6
3.	Outlet of Carbon 2	0.2
4.	System Effluent	0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	78°F	150°F
Effluent	125°F	165°F

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TY
Title: PE

Sheet 1 of 1
Date: 11/4/09
Time: 11:10 AM

Verified By: SM
Title: PE

Type of Monitoring Devices: PID 2000, VELOCICALC
Weather Conditions: 78°F, OVERCAST, SLIGHT BREEZE

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	1.1
2.	Outlet of Carbon 1	0.6
3.	Outlet of Carbon 2	0.6
4.	System Effluent	0.2

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	73	145
Effluent	119	178

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: TY
Title: PE

Sheet 1 of 1
Date: 11-23-09
Time: 12:15 AM

Verified By: SM
Title: PE

Type of Monitoring Devices: PID 2000, MAGNEHELIC, VELOCICALC PLUS
Weather Conditions: 79°F, CLEAR, SUNNY, SLIGHT BREEZE

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (X) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(X) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.2
2.	Outlet of Carbon 1	0.7
3.	Outlet of Carbon 2	0.1
4.	System Effluent	0.0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	71	148
Effluent	117	181

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: IS
Title: PE

Sheet 1 of 1
Date: 12/3/09
Time: 14:30

Verified By: SM
Title: PE

Type of Monitoring Devices: PID 2000 Velocicalc
Weather Conditions: Sunny, 68°F Slight Breeze.

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.5
2.	Outlet of Carbon 1	0.5
3.	Outlet of Carbon 2	0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	67	152
Effluent	110	177

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: Stefan Klemm
Title: _____

Sheet 1 of 1
Date: 12/15/07
Time: _____

Verified By: _____
Title: _____

Type of Monitoring Devices: PID, velocical
Weather Conditions: _____

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

(✓) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0.3
2.	Outlet of Carbon 1	0.4
3.	Outlet of Carbon 2	0.0
4.	System Effluent	0.1

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	66°	148°
Effluent	110°	167°

Comments, Maintenance or Corrective Action (attach additional sheets if required):

Del Amo Waste Pits Superfund Site
Gas Collection and Treatment System
Torrance, California

Completed By: Seamus McGeough
Title: PE

Sheet ____ of ____
Date: 12/30/09
Time: 11:15AM

Verified By: Edwin Lui
Title: _____

Type of Monitoring Devices: MiniRae 2000, Velocicalc
Weather Conditions: gloomy, drizzle

Type of Inspection (check only one):

( ) Daily ( ) Weekly ( ) Monthly (✓) Semi-Monthly
( ) Other Frequency (explain) _____

Vessel Operation:

( ) Series, Carbon Vessel 1 to Carbon Vessel 2
( ) Parallel
( ) One Carbon Vessel

Sample Ports:		**VOCs (ppm)**
1.	System Inlet	0
2.	Outlet of Carbon 1	0
3.	Outlet of Carbon 2	0
4.	System Effluent	0

	Temperature (^{0}F)	**Air Flow (scfm)**
Influent	60	160
Effluent	98.5	183

Comments, Maintenance or Corrective Action (attach additional sheets if required):

APPENDIX B

FIELD DAILY REPORTS

C_2 REM

FIELD DAILY REPORT

)JECT NAME: Del Amo Pits | PAGE 1 of 1

ROJECT NUMBER: 97-101 | DATE: 1/2/2009

EATHER: Temperature: 57 Winds: Light Precipitation: 0

ESCRIPTION OF THE WORK: Site visit for carbon changeout

Time Line	
8:00 AM	
9:00 AM	
	9.30am staff onsite (TT, SA & SM)
10:00 AM	10am Baker onsite, with forklift.
	Carbon changeout was conducted.
11:00 AM	Staff restarted the system, and attempted to calibrate the effluent PID.
	Staff cleaned the lamp, and recalibrated the PID. It errored repeatedly.
12:00 PM	Staff turned system off to purge liquid form the extraction wells. 3 wells were purged.
1:00 PM	
	1.30pm staff offsite.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

pared by: Seamus Mc Geough

Signed: Seamus Mc Geough

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits **PAGE** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 1//5/2009

WEATHER: Temperature: ~55 **Winds:** moderate **Precipitation:** None

DESCRIPTION OF THE WORK: Purging system (liquid in extraction wells), flow adjustment

Time Line	
9:00 AM	SM/SA arrived on-site
	Staff prepared equipments for the maintenance
	Staff displaced in-line sensos
	Staff began purging the system
	about 4~5 gal of liquid was sent to air/moisture separator.
	Staff purged the system with fresh air
	Flows were adjusted and the system operated as normal
	Inlet flow is ~50 scfm and treatment rate is ~8 scfm
2:00 PM	Staff left off-site

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 1/8/2009

WEATHER: Temperature: ~55 Winds: moderate Precipitation: None

DESCRIPTION OF THE WORK: GCTS Monitoring, Enclosure Monitoring, Replaceng Eff.PID lamp, installation of LEL sensor

Time Line	
11:00 AM	TA/SM/SA arrived on-site
	Staff prepared for equipments
11:30 AM	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 400 ppm isobutylene
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures weree monitored with Magnehelic
	See monitoring form for the results
2:00 PM	Staff shut down the system
	Staff replaced the effluent PID lamp and internal tubing
	PID was calibrated with 50 ppm benzene
	Staff installed LEL sensor at AT1A
4:00 PM	Staff left off-site
Note	LEL sensor at AT1A needs calibration, the Effluent PID needs zero calibration with zero gas.

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits **PAGE** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 1/12/2009

WEATHER: Temperature: ~75 **Winds:** moderate **Precipitation:** None

DESCRIPTION OF THE WORK: Maintenance on effluent PID, troubleshooting the computer on-site

Time Line	
9:00 AM	SM/SA arrived on-site
	Staff prepared for equipments
	Staff rebooted the computer on-site and VNC Viewer is accessible
	The effluent PID is alarming Error code 004 (zero-drifting).
	Staff conducted zero calibration with zero gas.
	The PID returned to normal operation.
10:30 AM	Staff left off-site

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa
Saeashy Fay

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 1/22/2009

WEATHER: Temperature: ~55 Winds: moderate Precipitation: yes

DESCRIPTION OF THE WORK: GCTS Monitoring, Enclosure Monitoring with lab samples, Perimeter well monitoring

Time Line	
10:15 AM	TT/TA/SM/SA arrived on-site
	Staff prepared for equipments
	Perimetwer Well Monitoring (A, B, C, D, and H)
	TA/SA started monitoring pressures at the Perimeter wells
	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 400 ppm isobutylene
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures weree monitored with Magnehelic
	Lab samples were collected right after the field sample collection at each station.
	See monitoring form for the results
	SM/TT left off-site.
	TA/SA started monitoring VOCs, O2 and CO2 at the Perimeter Wells.
	Staff purged 3 pore volume before monitoring wells.
3:45 PM	Staff left off-site
Note	Perimeter well H is filled with rain water.
	Perimeter well C has crusty stuff on top, needs new ball valve and sampling port,

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa

Seamus McFarlane

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 1/26/2009

WEATHER: Temperature: 70 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: calibration of LEL Sensor at AT1A & AT3A, and Maintenance on Perimeter well H.

Time Line	
10:00 AM	TA/SM/SA arrived on-site
	Staff prepared equipments
	Calibration of LEL sensors
	1.05% propane and zero gas were used for span and zero.
	AT1A (newly installed LEL sensor) does not have PT1 and PT2 (adjustable knob), and calibration could not conducted.
	Calibration for AT3A was conducted and the sensor is now reading fine.
	SM took out the AT1A fro the system, TA/SA scooped out water filled in the Perimeter Well H.
11:30 AM	Staff Left off site
Note:	AT1A was reading too low for span gas, AT1A needs to ship back to the manufacturer, calibration can't be conducted with out the adjustable knobs PT1 and PT2.

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa

Seamus Mc Geagh

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits **PAGE** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 1/30/2009

WEATHER: Temperature: ~75 **Winds:** none **Precipitation:** none

DESCRIPTION OF THE WORK: Inspection of the oxygen generator.

Time Line	
	SM/SA arrived on-site, met with BW
	SA shut down the esytem, and staff inspected the oxygen generator.
	Staff found the broken belts.
	Staff greased two blower end bearing Zirk fittings
	Staff covered up O2 generator.
	Staff turn the eystem back on with out O2 generator
	Staff met Bugman and discuss gopher's activities on site, Bugman treated flagged area.
	Staff left-off.
Note	New belts and synthetic oil was odered and new belts will be installed and oil change will be conducted next week.

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa
Seamus Nifeaugh.

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 2/2/2009

WEATHER: Temperature: 66 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to repair/service 02 generator & meet with landscapers.

Time Line	
8:00 AM	
9:00 AM	
	9.30 am BW, SM and SA onsite.
	Staff conducted tailgate safety meeting.
10:00 AM	SA performed safe entry to enclosure.
	SM and BW took covers off the 02 generator.
	SA and SM replaced the drive belts, removed and replaced the motor oil.
11:00 AM	SM greased the generator.
	Staff met with landscapers to point out some areas that needed attention.
12:00 PM	
	12.15 staff secured the site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: SEAMUS Mc GEOUGH

Signed: Seamus Mc Geough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 2/4/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Purge extraction wells

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	SM & SA onsite
	SA turned the system off, SM checked the enclosure with PID.
	Staff removed all inline sensors to protect them from moisture and sealed the openings.
11:00 AM	Staff began purging the extraction wells. Beginning with # 2.
	Each well took approximately 10-15 mins to purge of moisture. #'s 2, 11, 6 & 7 had the
	most moisture. Approximately 7.5 gallons of moisture acculated in the tank.
12:00 PM	These 4 wells were purged twice.
	12.20 staff took lunch.
1:00 PM	
	12.50 staff replaced all of the inline sensors.
	Staff reset the extraction flows.
2:00 PM	Staff offsite.
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

epared by: Seamus Mc Geough.

Signed: Seamus McGeough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Ammo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 2/5/2009

WEATHER: Temperature: 65 Winds: light wind Precipitation: None

DESCRIPTION OF THE WORK: GCTS/SVE IBT semimonthly monitoring

Time Line	
8:00 AM	
9:00 AM	TT/ SA arrived at the site
	Landscape was well maintained, grass was cut and trim
	Opened trailer and sea train to prepare for semimonthly monitor
10:00 AM	Sanitation Service arrived at the site
	Sanitation services conducted the work and left the site
	TT/ SA conducted monitoring event
11:00 AM	↓ ↓ ↓
	Finished monitoring event
	Replaced new lock at all four of the injection wells
12:00 PM	Closed and left the site
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes : O_2 concentration @ O_2 generator = 93~95%
VOCs monitored @ post ambient air seemed not normal, it read higher than what it actually is. LEL meter read 29%, and effluent PID read 0.5 ppm, indicating instrumental error or disability in that concentration ranges.

pared by: TRi TRAN

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 2/10/2009

WEATHER: Temperature: ~70 Winds: moderate Precipitation: None

DESCRIPTION OF THE WORK: Carbon Change-out, Post rain inspection, Installation of thermocouple, Efluent PID calibration

Time Line	
11:00 AM	IY/SA arrived on site
	IY started post rain inspection, SA left for ASA Sales to pick up thermocouples.
12:00 PM	Baker Filtration arrived on site
	IY discussed carbon change-out procedure and safety with Baker Filtration
	SA dsiplaced In-line temperature meter from a carbon vessel
	Baker Filtration started carbon change-out
2:30 PM	Carbon change-out was complete
	SA conducted calibration of the effluent PID
	The sytem was turned back on
	Staff heard leaks from carbon lids, and also observed abnormal pressure and flows.
	Staff took the lids off and placed back and re-tightend.
	No leak sign was observed and the system operated as normal.
3:15 PM	Staff left off site
Note	Thermocouple needs mount head fittings to be installed.

Prepared by: Shinta Aizawa
IAN Yusko

Signed: Shinta Aizawa
Ian Yusko

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 2/18/2008

WEATHER: Temperature: ~60 Winds: moderate Precipitation: None

DESCRIPTION OF THE WORK: Post Rain Inspection

Time Line	
12:00 PM	IY/SA arrived on site
	Staff conducted post rain inspection
	See inspection form for the details.
1:30 PM	Staff left off-site

Prepared by: Shinta Aizawa
IAN YUSKO

Signed: [signature]

C_2 REM
FIELD DAILY REPORT

)JECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 02-110 | DATE: 2/19/2009

WEATHER: Temperature: 65 Winds: light Precipitation: none

DESCRIPTION OF THE WORK: Site Monitoring

Time Line	
8:00 AM	
9:00 AM	TA/SA/TT arrive at site
	SM already on site
	Team conducts calibrations
10:00 AM	TA/SA conduct semi-monthly SVE/GCTS monitoring
	TT/SM perform PERIMETER pressure monitoring
11:00 AM	
12:00 PM	SM/TT leave site
	TA/SA have lunch 12:30-1
1:00 PM	TA/SA perform monthly perimeter well monitoring
2:00 PM	
3:00 PM	TA/SA leave site
	TA/SA drop off lab samples at TestAmerica
4:00 PM	
5:00 PM	
Special Notes	

pared by: Tiffany Armenta

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: | DATE: 3/3/2009

WEATHER: Temperature: 64 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Replace O2 sensor, Replace thermocouple, repair irrigation pipe.

Time Line	
8:00 AM	
9:00 AM	
	9.30 staff onsite.
	TT shut down the system and cleared the enclosure for entry.
10:00 AM	SM prepared tools, and calibration equipment for replacement of O2 sensor.
	TT and SM removed the faulty sensor and replaced it. Then calibrated it.
	Sensor was replaced successfully, and operating normally.
11:00 AM	Staff assembled the thermocouple and connected the wiring.
	Thermocouple was replaced. Staff encountered some difficulties during the installaton
	due to different threading on the connections, and repositioning of the device made rewiring to
12:00 PM	the main cable difficult. Thermocouple was installed successfully and functioning normally.
	12.30 staff took lunch break.
1:00 PM	Staff began to repair irrigation pipe. Pipes were glued back together.
	Staff did not test repair, to give it time to cure.
	2pm Staff offsite.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough.

Signed: Seamus McGeough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 3/5/2009

WEATHER: Temperature: 65 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit for bi-weekly monitoring, irrigation of cap.

Time Line	
8:00 AM	
9:00 AM	SM, SA and TT onsite.
	Staff conducted a tailgate safety meeting.
10:00 AM	TT performed safe entry to the enclosure.
	SA calibrated the monitoring equipment.
11:00 AM	SM checked repairs to irrigation piping and turned on the system .
	Staff conducted GCTS and SVE/IBT monitoring.
12:00 PM	Staff secured site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough Signed: Seamus McGeough

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits

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PROJECT NUMBER:

DATE: 3/10/2009

WEATHER: Temperature: ~70 Winds: moderate Precipitation: None

DESCRIPTION OF THE WORK: System Inspection after power outage

Time Line	
9:15 AM	SA/TT arrived on-site
	Staff prepared equipments.
	The system and the main circuit breaker are turned off.
	The oxygen generator is greased.
	Staff took pictures of LEL meter
	Staff turnd on the main circuit breaker
	The system is turned back on.
11:00 AM	Staff left off site

Prepared by: Shinta Aizawa

Signed:

C_2 REM
FIELD DAILY REPORT

)JECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 3/12/2009

WEATHER: Temperature: 80 Winds: None Precipitation: None

DESCRIPTION OF THE WORK: Annual Contractor H&S meeting, Oversight of Carbon Change-Out

Time Line	
11:00 AM	Arrive on-site
	Horacio of All-Star Landscaping on-site
11:15 AM	Conduct H&S meeting with Horacio, discuss All-Star's continued duties on-site
11:50 AM	Complete H&S meeting with Horacio, give him hard copy of C2 REM's H&S plan
	Horacia offsite
12:00 PM	SK, BW, IY offsite for lunch
1:00 PM	Meet with Baker Corp. onsite to conduct H&S meeting and perform carbon change-out
	Wayne, Boris, and 2 carbon change-out employees participate in activities
1:40 PM	Complete H&S meeting with Baker, give them digital copy of C2 REM's H&S plan
	Crew begins performing carbon change-out on SVE/IBT system
2:45 PM	Chuck Jarneke with Baker Corp. and colleague arrive on-site to oversee change-out activities
3:30 PM	Chuck, his colleague, and Boris depart from Site
4:00 PM	Baker completes carbon change-out activities, Wayne & crew offsite
	Kevin with Bugman arrives on-site, performs duties
4:20 PM	Conduct H&S meeting with Kevin, give him digital copy of C2 REM's H&S plan
4:30 PM	Complete meeting, Kevin offsite
	Staff locks up Site, SK, BW, & IY offsite

Special Notes

Prepared by: Ian Yusko
Stefan Klemm
Bill White

Signed: Ian Yusko

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 3/19/2008

WEATHER: Temperature: ~70 Winds: none Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, SVE/IBT Enclosure Monitoring with lab samples

Time Line	
10:00 AM	SA/SM arrived on site
	Staff prepared for equipments, tools, and tedlar bags.
	TT arrived on-site
10:30 AM	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
11:00 AM	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 400 ppm isobutylene
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures weree monitored with Magnehelic
	Lab samples were collected right after the field sample collection at each station.
	See monitoring form for the results
	Staff put a new combo lock on the entrance gate
11:30 AM	Staff left off site
	Note: In-line O2 Sensor AT4B is not functioning, and sensor needs to be replaced.

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa

Seamus Heckl

C_2 REM
FIELD DAILY REPORT

)JECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 3/20/2009

WEATHER: Temperature: 65 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to take delivery of forklift.

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
	10.45am KM, IY and SM onsite.
11:00 AM	
	11.05 forklift arrived.
	SM drove forklift around site to ensure it operated on gravel surface.
12:00 PM	Forklift functioned well on packed gravel, a little sluggish on loose gravel.
	Staff stored forklift in Seatrain. SM disconnected propane and shut valve.
	KM completed paperwork and payment with Dave Lewis. Payment for seatbelt made to driver.
1:00 PM	12.15 all staff offsite.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	Seatrain will need to be cleaned out. Ramp for easier access to Seatrain will have to be built. Gravel may need to be packed more for easier movement around site.

Prepared by: Seamus Mc Geough
IAN YUSKO

Signed: Seamus Mc Geough
Ian Yusko

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 3/24/2009

WEATHER: Temperature: 63 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site maintenance

Time Line	
8:00 AM	
9:00 AM	9.30am IY, TT & SM onsite.
	Team began inventory of items in the rear of the Sea-train.
10:00 AM	Items were photographed and serial numbers were recorded.
11:00 AM	Team cleaned the Sea-train out, and organized tools and equipment.
12:00 PM	Staff offsite.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Gough
IAN YUSKO

Signed: Seamus McGough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 3/26/2009

WEATHER: Temperature: ~65 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: 1st Quaterly Full Scale Monitoring

Time Line	
7:30 AM	SA/SM/IY/TA arrived on site
	SA manually turned on the system
	Staff prepared equipment for the monitoring
8:30 AM	Staff started taking pressure from all wells (with magnehelic)
	Staff observed bee's activities at the cluster well L", suspected bees' nest and could not take pressures
10:00 AM	The system was turned off, and staff stared monitoring perimeter wells, vacuum performance wells, and cluster wells.
	Staff purged 3 pore volume before monitoring each well
	PID 3000 and PID 2000 were used to monitor VOCs (calibrated to 400 isobutylene and 5 ppm benzene)
	RKI Eagle was used to monitor LEL, O2, and CO2
	(See field results in 2009 site logbook)
12:30 PM	Lunch Break
1:00 PM	Staff prepared equipmment for monitoring SVE wells
	Staff started monitoring SVE wells
3:00 PM	Bugman arrived on site and confirmed cluster well L" is safe for monitoring,
4:00 PM	Staff completed monitoring
4:45 PM	Staff cleaned up and put away tools, locked up site, then left site.

Prepared by: Shinta Aizawa
IAN YUSKO

Signed: [illegible]

C_2 REM
FIELD DAILY REPORT

.OJECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 3/31/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to irrigate the cap, forklift maintenance and clean trailer.

Time Line	
8:00 AM	
9:00 AM	SM and TT onsite.
	Staff had tailgate safety meeting.
	TT cleaned the trailer, and organized the seatrain. SM irrigated the cap.
10:00 AM	Forklift maintenance tech onsite to repace bad valve on truck.
	10.15 staff secured site and departed.
11:00 AM	
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: SEAMUS Mc GEOUGH

Signed: Seamus McGough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 4/2/2009

WEATHER: Temperature: ~70 Winds: slight Precipitation: None

DESCRIPTION OF THE WORK: GCTS Monitoring, Enclosure Monitoring, Maintenance on Injection Wells

Time Line	
10:00 AM	SA/TT on site,
	Staff prepared equipment,
	EB off site
	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
10:45 AM	SM/EB on site
	EB off site
11:00 AM	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 400 ppm isobutylene
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures weree monitored with Magnehelic
	Lab samples were collected right after the field sample collection at each station.
	See monitoring form for the results
	SM left for HomeDepot to get materials for the maintenance of injection wells and forklift ramp
	TT assembled forklift ramps
	SA/SM maintaiend injection wells.
2:30 PM	Staff offsite
	Note: In-line O2 Sensor AT1B&AT4B are not functioning, and sensors need to be replaced.

Prepared by: Shinta Aizawa

Signed: [signature]

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 4/3/2009

WEATHER: Temperature: 76 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site maintained

Time Line	
8:00 AM	
9:00 AM	TT/SM/SA arrived at site
	Turned on irrigation water line
	Took VOC concentration from four injection well
10:00 AM	
	Draw out plan to recondition the injection pipe joint in future site visit
11:00 AM	Closed up and left the site
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by:_____ Signed:_____

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 4/6/2009

WEATHER: Temperature: ~80 Winds: slight Precipitation: None

DESCRIPTION OF THE WORK: Maintenance of Injection Wells

	Time Line
10:00 AM	SA/SM on site
	The system was off, and staff prepared for the maintenance tools.
	Staff started maintaining injection wells.
	The joints of well heads were sealed with sealant glue to minimize potential leaks.
	Staff kept the system off for the sealant to be dried.
	The cap was irrigated during the field acitivities.
11:30 AM	Staff off-site

Prepared by: Shinta Arara

Signed: [signature]

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Plts

PAGE 1 of 1

PROJECT NUMBER: 02-110

DATE: 4/7/2009

WEATHER: Temperature: 82 Winds: Light Precipitation: none

DESCRIPTION OF THE WORK: ____ site maintained

Time Line	
8:00 AM	
9:00 AM	TT/SM/SA arrived at site
	Checked posted sign on the fence around the enclosure
	conducted site walk along the lower ramp ditch
10:00 AM	Pulled out old broken caulk
	Replaced new sealing caulk
11:00 AM	
	Replaced new sealing caulk
12:00 PM	Cut the grass and bushes to clear out pathway to gsp 2 and 3
1:00 PM	
	Closed and left site
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by:_____ Tri Tran

Signed:

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 4/8/2009

WEATHER: Temperature: 76 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: LEL meter installation

Time Line	
8:00 AM	
9:00 AM	TT/SA arrived at site
	Turned on the irrigation water line
	Turned the SVE/IBT sys down and prepared for the lel installation
10:00 AM	Conducted safety meeting
	Missing electric pin connector in the shipping box
	Called manufactor to report problem (part will be shipped to c2rem next week)
11:00 AM	Turned the SVE/IBT back on
	Turned off irrigation water line
	~~off~~
12:00 PM	off-site.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by:_____ Signed:_____

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 4/9/2009

WEATHER: Temperature: ~80 Winds: slight Precipitation: None

DESCRIPTION OF THE WORK: Maintenance of Injection Wells, rebooting security camera computer.

Time Line	
9:30 AM	SA/TT on site
	The system was on and staff prepared for the maintenance tools, reboot the security camera computer
	Staff moniotred potential leaks at injection well heads.
	Small leaks were found at several joints.
	Staff turned off the system.
	The joints of well heads were wrapped with rescue tape to minimize potential leaks.
	Staff turned the system back on, and no leaks were observed.
11:15 AM	Staff off site

Prepared by: Shinta Aizawa Signed:

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 4/16/09 ~~4/6/2009~~

WEATHER: Temperature: ~70 Winds: moderate Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, Enclosure Monitoring with lab samples, Perimeter well monitoring

Time Line	
10:15 AM	SA/SM/TT on site
	Staff prepared for monitoring equipments
	Perimetwer Well Monitoring (A, B, C, D, and H)
	Staff started monitoring pressures at the Perimeter wells
	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 50 ppm benzene.
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures weree monitored with Magnehelic
	Lab samples were collected right after the field sample collection at each station.
	See monitoring form for the results
1:00 PM	Staff turned off the system
	TA/SA started monitoring VOCs, O2 and CO2 at the Perimeter Wells.
	Staff purged 3 pore volume before monitoring wells.
2:00 PM	Staff turned on the system, put away tools and equipments.
2:30 PM	Staff off site
Note	Second field samples were collected and VOCs were monitored with MiniRae 3000 PID calibrated to 400 ppm isobutylene, See monitoring form for the the results
	Thesampling port ball valve at carbon 1 is replaced.

Prepared by: Shinta A Raine

Signed: [illegible]

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 4/24/2009

WEATHER: Temperature: 76 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Carbon change out and O2 sensor's installation

Time Line	
8:00 AM	
9:00 AM	TT/IY arrived at site(WW was at site)
	Irrigation water line ran
	Prepared for carbon change out
10:00 AM	Over-sighted carbon changed out
	WW left site
11:00 AM	
12:00 PM	
	TT/IY installed and calibrated O2 sensor at 5B & 1B location
1:00 PM	
	Closed and left site
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: TRI TRAN
IAN YUSKO

Signed:

C_2 REM
FIELD DAILY REPORT

)JECT NAME: Del Amo Plts | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 5/8/2009

WEATHER: Temperature: 76 Winds: Light Precipitation: None

DESCRIPTION OF THE WORK: LEL meter installation

Time Line	
8:00 AM	
9:00 AM	TT/SA arrived at site
	Turned on the irrigation water line
	Turned the SVE/IBT sys down and prepared for the lel installation
10:00 AM	Conducted safety meeting
	Missing electric pin connector in the shipping box
	Called manufacture to report problem (part will be shipped to c2rem next week)
11:00 AM	Turned the SVE/IBT back on
	Turned off irrigation water line
	Closed up and left site
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: TRI TRAN

Signed: [signature]

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 5/14/2009

WEATHER: Temperature: ~80 Winds: moderate Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, Enclosure Monitoring with lab samples,

Time Line	
10:30 AM	SA/TT on site
	Staff prepared for monitoring equipments
11:00 AM	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
11:15 AM	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 50 ppm benzene.
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures were monitored with Magnehelic
	Lab samples were collected right after the field sample collection at each station.
	See monitoring form for the results
12:45 PM	Staff adjusted dilution flow and resampled at Post Ambient Air and Carbon 1.
	Staff remonitored flows at effluent, post dilution, and pre-dilution (treatment rate).
	Staff remonitored pressures at effluent, carbon 1, post dilution, and inlet.
	Staff met Bugman and talked about gopher's activity in the cap.
	Staff placed signs on the carbon vessels and the electrical panel.
2:15 PM	Staff turned on the system, put away tools and equipments.
3:15 PM	Staff off site
Note:	Flows and pressure at effluent and C1 were lower than normal reading and some clogs are anticipated.
	There were about 12 galons of water in the air/moisture separator.
	Bugman will keep maintaining gophers activities in the cap.

pared by: Shinta Arzaka Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: | DATE: 5/18/2009

WEATHER: Temperature: ~75 Winds: slight Precipitation: None

DESCRIPTION OF THE WORK: Remove clogs in the flame arrester, Purge condensate, Post seicmic inspection, Install LEL meter

Time Line	
10:00 AM	SA/SM/TA - on site,
	Staff conducted tailgate meeting and prepared equipment
	Staff conducted post seismic inspection
	There was no seismic damage found (see inspection form).
11:00 AM	Staff started removing carbon clogs in the flame arrestor
	About 1 lb of carbon was removed from the flame arrester
	The flame arrestor was replaced. Flows and pressures were monitored.
12:30 PM	Staff met Connie Anderson, an inspector from the fire department, to inspect landscaping in the adjacent property.
	The fire department inspector - off site
1:30 PM	Staff started purging condensate. (All sensors before air/moisture separator were removed)
	5~6 galons of condensate was trapped in the air/moisture separator
3:30 PM	Staff placed back all sensors and installed repaired LEL meter at AT1A (treatment flow).
4:00 PM	Off-site
Note:	There were gravel and sediment in the drainage v-ditch. It needs to be removed.
	Staff will start pressure testing tomorrow.

Prepared by: Shinta A Dawa

Signed:

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 5/19/2009

WEATHER: Temperature: 70 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Pressure test conveyance piping.

Time Line	
8:00 AM	
9:00 AM	IY, SA, SM and TT onsite.
	Staff assembled equipment for pressure testing.
10:00 AM	
	Staff began pressure testing the intake manifold assembly. Manifold was pressurized to
	90 inches of water, after 5 minutes pressure had dropped by 10 inches. All joints were tested,
11:00 AM	no leaks were detected, pressure loss due to bleeding past assembly ball valves.
	Staff then pressurized the injection manifold. Again there was a slight loss of pressure but
12:00 PM	no leaks were detected, pressure loss due to bleeding past the ball valves.
	12.30 staff took lunch break.
1:00 PM	Staff began pressure testing extraction wells. Piping was pressurized to @ 90 inches
	of water and timed for 5 minutes.
	All wells were tested individually. # 1 and # 10 lost pressure. Staff tested all joints at the well
2:00 PM	heads, no leaks were detected. The union joints at both well heads were tightened.
	2.30 pm SM and TT offsite.
	Both #1 and # 10 were retested and passed.
3:00 PM	
4:00 PM	All staff offsite.
5:00 PM	
Special Notes	

Prepared by: IAN YUSKO

Signed:

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits **PAGE** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 5/20/2009

WEATHER: Temperature: **Winds:** Light **Precipitation:** 0

DESCRIPTION OF THE WORK: **Pressure test injection wells and Oxygen lines.**

Time Line	
8:00 AM	
9:00 AM	SA, IY and SM onsite.
10:00 AM	Staff pressure tested each injection line individually.
	Each line was pressurized to 90 inches of water and timed for 5 minutes.
11:00 AM	Injection wells 4, 9 and 8 passed with no loss of pressure.
	# 3 lost pressure. All joints at the well head were leak tested, no leaks were detected.
	All joints at the manifold were tested and no leaks were detected.
12:00 PM	A small leak was found around the joints of the air injection and magnehelic assembly.
	This was repaired.
	Staff took lunch.
1:00 PM	Staff retested well # 3, continued to loose pressure. Further investigation needed.
2:00 PM	Staff tested the oxygen injection piping. All 4 lines were pressurized together.
	The Oxygen lines held pressure with no loss.
3:00 PM	
	Staff attempted to find the source of the pressure loss on #3 injection well but were not able to locate the source.
4:00 PM	All staff offsite.
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough.

IAN YUSKO

Signed: Seamus McGeough

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 5/21/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Locate and repair source of pressure loss.

Time Line	
8:00 AM	
9:00 AM	IY & SM onsite.
10:00 AM	Staff uncovered piping closest to the enclosure, as we suspected the loss of pressure was in this area.
	Staff pressurized injection pipe # 3 and leak tested all joints.
11:00 AM	Joint losing pressure was the same joint as in a previous pressure test.
	Staff sealed the joint with glue and let it dry. Then sealed it with plumbing sealant.
12:00 PM	After the plumbing sealant dried we wrapped the joint with sealing tape.
	Staff took lunch.
1:00 PM	
	Staff returned from lunch and pressure tested # 3 again. The pipe held pressure with no loss for 5 minutes.
2:00 PM	Staff covered up all piping again using sand and dirt.
3:00 PM	
	Staff secured site and departed.
4:00 PM	
5:00 PM	
Special Notes	Sometime after 4pm on 5/20 and 9am 5/21, someone vandalized the trailer with graffiti. On 5/28 staff made a police report about the vandalism.

Prepared by: Seamus Mc Geough. IAN YUSKO

Signed: Seamus McGeough Ian Yusko

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 5/26/2009

WEATHER: Temperature: 80 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to paint over graffiti and irrigate the cap.

Time Line	
8:00 AM	
9:00 AM	IY, SM and TT onsite.
	Staff turned on irrigation system. Staff took photographs of graffiti.
10:00 AM	
	Staff removed graffiti, and purchased paint to match the trailer color.
11:00 AM	Staff painted over damaged area.
12:00 PM	
	12.30 staff took lunch.
1:00 PM	
	1.30 staff secured site and departed..
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough.
IAN YUSKO

Signed: Seamus McGeough
Ian Yusko

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 5/28/2009

WEATHER: Temperature: 76 Winds: Light Precipitation: None

DESCRIPTION OF THE WORK: SVE/IBT, GCTS, Perimeter Wells monitoring

Time Line	
8:00 AM	
	TT/SA/SM arrived at site
9:00 AM	Turned on the irrigation water line
	Prepared tools and equipments ready for monitoring process
	Calibrated two pid: pid 3000, and pid 2000
10:00 AM	Performed safe entry into enclosure
	Started to conduct GCTS monitoring process
11:00 AM	Opened well lids to prepare for purging and perimeter monitoring
	Started SVE/IBT monitoring
12:00 PM	
	Finished SVE/Ibt monitoring
1:00 PM	
2:00 PM	Shut down the system and started perimeter well monitoring
3:00 PM	
	Closed and left site
4:00 PM	
5:00 PM	
Special Notes	Hinge on gate at the west side was broken

Prepared by: TRI TRAN

Signed:

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 6/2/2009

WEATHER: Temperature: 65 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Carbon Change-out.

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	SM and SA onsite.
	Baker filtration onsite.
	C2Rem staff filled out all necessary safety documents and conducted a tailgate safety
11:00 AM	meeting. Baker staff commenced with carbon change.
	SA removed the thermocouples from the carbon vessels.
12:00 PM	The carbon change was completed.
	SA restarted the system, pressures and flows were monitored and operating normally.
	LEL meter between the carbon vessels needed calibrating.
1:00 PM	Staff took lunch.
	1.30 staff calibrated the LEL meter, and reinstalled the thermo couples. The thermo couple
2:00 PM	on vessel 2 needs parts to attach to the housing.
3:00 PM	Staff offsite.
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough.

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: DEL AMO PITS

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 6/4/09

WEATHER: Temperature: 70 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: SITE VISIT - H&S INSPECTION

Time Line	
6:45 AM	ARRIVE SITE & BEGIN IRRIGATING CAP
8:00 AM	SITE WALK FOR SECURITY
	CONDUCT H&S INSPECTION
9:00 AM	
10:00 AM	
	LEAVE SITE
11:00 AM	
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

..epared by: William D. White

Signed: William D. White

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 6/11/2009

WEATHER: Temperature: ~70 Winds: moderate Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, Enclosure Monitoring with lab samples, Painting on graffiti

Time Line	
8:15 AM	SA/SM on site
	WW already on site to turn on irrigation water
	Staff investigted for security camera recordings and took pictures of graffiti
9:00 AM	SM turned off irrigation water
	Staff prepared equipment for monitoring
10:00 AM	Enclosure Monitoring
	Samples were taken from inlet, post ambient air, carbon 1, and effluent.
	VOCs were monitored with MiniRae 3000 PID calibrated to 50 ppm benzene and 400 ppm isobutylene (for inlet sample).
	O2, CO2 and LEL methane were monitored with RKI Egle
	Flows were monitored with velocicalc and inline sensors.
	Pressures were monitored with Magnehelic
	Lab samples were collected immediately after the field sample collection at each station.
	See monitoring form for the results
11:00 AM	GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
	Staff sprayed on the graffiti
	Lunch break
	Staff double-painted on the graffiti and took pictures
	Staff put away tools and equipment.
1:30 PM	Staff off site
Note	VOC for Inlet samples were monitored with MiniRae 3000 PID calibrated to 400 ppm isobutylene, Other samples were monitored with MiniRae 3000 PID calibrated to 50 ppm benzene.
	In-line O2 sensor AT4B is faulting
	Thermocouple at secondary carbon needs to be installed.
	VOCs at C1 is higher than that at inlet for GCTS.

epared by: Shinta Arawa Signed: [illegible]

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: DELAMO PITS

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PROJECT NUMBER: 97-101

DATE: 6-11-09

WEATHER: Temperature: 70 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: SITE VISIT TO GET BIDS ON FLOOD LIGHTS

Time Line	
8:00 AM	ARRIVE SITE & MEET W/ ELECTRICAL CONTRACTOR FOR ESTIMATING COST OF INSTALLING 4 FLOOD LIGHTS & 2 NEW CAMARAS. IRRIGATE CAP
9:00 AM	
10:00 AM	
11:00 AM	LEAVE SITE
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: WILLIAM WHITE

Signed: William White

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 6/17/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: 2nd Quarterly Full Scale Monitoring.

Time Line	
8:00 AM	7am C2REM staff onsite, TT, SA, IY and SM.
	Staff conducted tailgate safety meeting.
	SA turned on the system, TT and SA calibrated equipment, SM prepared tools for
9:00 AM	opening wells, and keys for gates. TT prepared purge system.
	8am, staff split into 2 teams to take the pressure on all of the perimeter and onsite wells.
10:00 AM	9am SA shut down the system.
	9.15 am TT and SM began purging the monitoring wells. SA and IY followed to take and record readings.
11:00 AM	TT and SM stayed 2/3 wells ahead of SA & IY.
12:00 PM	
	12.30 all monitoring wells purged, monitored and recorded.
	Staff took a lunch break.
1:00 PM	1pm, staff prepared purge system for SVE Wells.
	1.30pm IY and SM began purging the wells. TT and SA followed closely and took readings.
2:00 PM	
	After readings were taken TT and SA resealed the purge ports and reopened the SVE wells.
3:00 PM	connected to the system.
4:00 PM	4pm all SVE and Injection wells were purged, monitored and recorded.
	Staff ensured that all SVE/ IBT connected wells were in the open position ready for normal operations.
	Staff put away all equipment and secured the site.
5:00 PM	4.45 pm all staff offsite.

Special Notes

Prepared by: SEAMUS McGEOUGH
IAN YUSKO

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: DEL AMO PITS
PROJECT NUMBER: 97-101
WEATHER: Temperature: 70 Winds: Light Precipitation: 0

PAGE 1 of 1
DATE: 6-18-09

DESCRIPTION OF THE WORK: SITE VISIT TO SUPERVISE INSTALL OF FLOOD LIGHTS

Time Line	
7:00AM	ARRIVE SITE - MEET W/ ELECTRICAL CONTRACTOR - TAILGATE MEETING
8:00 AM	& WORKING AT HEIGHT PERMIT
	SUPERVISE INSTALLATION
9:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	MEET W/ LADWP RE: WATER RATIONING
1:00 PM	
1:45PM	LEAVE SITE
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

..epared by: WILLIAM WATTS

Signed: William Watts

C_2 REM
FIELD DAILY REPORT

OJECT NAME: DELAMO PITS
PROJECT NUMBER: 97-101
WEATHER: Temperature: 76 Winds: Light Precipitation: 0
DESCRIPTION OF THE WORK: SITE VISIT - INSTALL SECURITY CAMARAS

PAGE 1 of 1
DATE: 6/23/09

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	ARRIVE AT SITE - TAILGATE MEETING SUPERVISE CAMARA INSTALLATION
11:00 AM	
12:00 PM	
1:00 PM	
2:00 PM	LEAVE SITE
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

..epared by: WILLIAM WAHRE

Signed: William Wahre

C_2 REM
FIELD DAILY REPORT

)JECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 6/24/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: SVE/IBT monitoring, site clean up and maintenance.

Time Line	
8:00 AM	
9:00 AM	IY and SM on site.
	SM turned on sprinklers.
	Staff cleaned and organized the trailer for upcoming inspection.
10:00 AM	IY calibrated equipment and then conducted the SVE/IBT and GCTS monitoring.
	SM irrigated the cap and cleaned up trash around the site. Staff also repalced some safety
11:00 AM	signs and reattached others. SM performed some minor landscaping tasks.
	Staff cleaned the enclosure, washing down the carbon vessels, oxygen tank, and generator.
12:00 PM	12.30 staff took lunch.
	1pm staff did a final walk through of the entire site and picked any remaining trash.
1:00 PM	
	1.30pm Staff offsite.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: SEAMUS Mc GEOUGH
IAN YUSKO

Signed: Seamus McGeough
Ian Yusko

C_2 REM

FIELD DAILY REPORT

)JECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 6/26/2006

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: 2nd Quarterly site inspection.

Time Line	
8:00 AM	
9:00 AM	IY and SM onsite.
	Staff prepared PPE for visitors.
	9.30am EB, SK and George Landreth (Shell) onsite.
10:00 AM	9.45am Dante Rodriguez (USEPA) onsite.
	Visitors and staff walked the site. Some maintenance issues were observed and noted (see notes)
11:00 AM	11 am all staff offsite.
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	Palm trees to be trimmed. Repair minor irrigation system leaks due to pressurebuild up. Caulk area of Vditch and monitor further settlement.

Prepared by: SEAMUS Mc GEOUGH
IAN YUSKO

Signed: Seamus McGough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: DELAMO PITS | PAGE 1 of 1
PROJECT NUMBER: 97-101 | DATE: 6/30/09
WEATHER: Temperature: Winds: Light Precipitation: 0
DESCRIPTION OF THE WORK: MEASURE PAD EXTENSION

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	ARRIVE SITE - INSPECT & MEASURE PAD EXTENSION
12:00 PM	
1:00 PM	
1:30	LEAVE SITE
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: WILLIAM WAHLE Signed: [signature]

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 7/10/2009

WEATHER: Temperature: ~85 Winds: none Precipitation: none

DESCRIPTION OF THE WORK: Carbon Change-out, GCTS Monitoring, SEV/IBT Enclosure Monitoring, Intallation of thermocouple, Lube oxygen generator/site maintenance,

Time Line	
9:30 AM	SA/SM/TT on-site
	Staff met with Baker Filtration and conducted tailgate safety meeting,
	Sensors were displaced from the carbon vessels.
10:00 AM	Baker Filtration started vacuum spent carbon, SM operated the forklift,
	SA/TT lubed oxygen generator
11:15 AM	Staff prepared equipment for monitoring
	Baker filtration started loading fresh carbon, SM operated the forklift
12:30 PM	Fresh carbon was loaded and the system was started back on to check leaks,
	There were leak on carbon vessel lid, and the system was shut off,
	Baker fixed the leak on the vessel lid and the system was started bak on.
1:00 PM	There was no sign of leaks and Baker Filtration left site.
1:45 PM	SA installed thermocouple at carbon vessel 2.
2:00 AM	Staff conducted GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
2:30 PM	Samples were taken from inlet, Post Ambient Air, C1, and Effluent, using pump lung and 1L of tedlar bags.
	LEL Methane, O2, and CO2 were monitored with RKI Eagle
	VOCs were monitored at Post Ambient Air, Carbon 1, and effluent with MiniRae 3000 PID calibrated to 50 ppm of benzene, and VOCs at inlet was monitored with Minirae 3000 PID calibrated to 400 ppm isobutylene
	Flows were monitored with Velocicalc.
	O2, VOCs (LEL), Flow were monitored with inline sensors where applicable,
	Pressures were monitored with Magnehelic
	See monitoring form for the results,

Prepared by: Shinta A Dame

Signed:

C_2 REM

FIELD DAILY REPORT

)JECT NAME: Del Amo Waste Pits PAGE: 1 of 1

PROJECT NUMBER: 97-101 DATE: 7/14/2009

WEATHER: Temperature: 88 Winds: Slight Precipitation: None

DESCRIPTION OF THE WORK: Site maintenance, Palm Tree Survey

Time Line	
7:00 AM	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	IY & SM arrive on-site
	Peform Site walk to pick-up trash and assess all palm trees on-site
12:00 PM	IY & SM lock-up and depart Site
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	

pared by: Ian Yusko

Seamus McGeough

Signed: Seamus McGeough
Ian Yusko

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 7/21/2009

WEATHER: Temperature: 85 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to meet tree trimmers, place ramp for forklift.

Time Line	
8:00 AM	
9:00 AM	TT and SM onsite.
	SM irrigated the cap.
10:00 AM	TT and SM moved some gravel for better forklift stability. Place ramp for carbon change.
	California arborist rep onsite.
11:00 AM	
	Staff discovered that two security cameras had been stolen.
12:00 PM	SM made report of theft to LAPD harbor division over the phone. No LAPD to site.
1:00 PM	
	Staff secured site and departed.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough. Signed: Seamus McGeough

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 7/22/2009

WEATHER: Temperature: 89 **Winds:** None **Precipitation:** None

DESCRIPTION OF THE WORK: Security inspection, file photos with L.A.P.D Harbor Division

Time Line	
7:00 AM	
8:00 AM	IY & SA arrive on-site
	Perform thorough inspection around Site trailer, Sea train, & enclosure to ensure no added
	security breaches (no additional breaches observed)
9:00 AM	Print out necessary photos @ Site to file @ the police station
	Lock-up the Site & head to L.A.P.D. Harbor Division station to file photos with detective's
	branch and ensure the over-the-phone report filed prior had gone through
10:00 AM	
11:00 AM	IY & SA depart from the police station in San Pedro
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	Photos were of the perpetrator who had stolen (2) surveillance cameras from the Site
	His photo was captured by (1) of the cameras while he was stealing it

pared by: Ian Yusko **Signed:**

Shinta Aizawa

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 7/23/2009

WEATHER: Temperature: ~85 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, SVE/IBT Enclosure Monitoring, Monthly Perimeter Well Monitoring, H&S Inspection,

Time Line	
10:00 AM	SA/SM/TT on-site, the system was on
	Alotta H2O was on-site for dust control for the undeveloped parcel
	TT left for Homedepot to purchase tools, materials, and recharge propane gas for the forklift,
	SA started opening perimeter well head and taking pressures
11:30 AM	SA conducted GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc and inline sensors.
	See monitoring form for the results.
12:30 PM	SA/SM conducted SVE/IBT Enclosure monitoring,
	Samples were taken from inlet, Post Ambient Air, C1, and Effluent, using pump lung and 1L of tedlar bags.
	LEL Methane, O2, and CO2 were monitored with RKI Eagle
	VOCs were monitored at Post Ambient Air, Carbon 1, and effluent with MiniRae 3000 PID calibrated to 50 ppm of benzene, and VOCs at inlet was monitored with Minirae 3000 PID calibrated to 400 ppm isobutylene
	Flows were monitored with Velocicalc.
	O2, VOCs (LEL), Flow were monitored with inline sensors where applicable,
	Pressures were monitored with Magnehelic
	Lab samples were collected immediately after the field sample collection at each station.
	See monitoring form for the results.
1:30 PM	Lunch break, the system was shutted off
	SA conducted monthly health & safety inspection,
2:00 PM	Staff started monitoring perimeter wells
	Staff completed monitoring, and turned the system back on.
	Staff put away tools and equipment.
3:00 PM	Off-site

epared by: Shinta Arowa Signed: Shinta Arowa

Seamus McFarland

C_2 REM

FIELD DAILY REPORT

OJECT NAME: DELAMO PITS

PROJECT NUMBER: 97-10

PAGE 1 of 1

DATE: 7/30/09

WEATHER: Temperature: Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: SURVEY SECURITY SYSTEM

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
10:50	ARRIVE SITE – SURVEY DAMAGE TO SECURITY SYSTEM
11:00 AM	ATTEMPT TO RESTART SURVEYLANCE COMPUTER
	SURVEY PAD WORK & INSPECT IRRIGATION PIPING
12:00 PM	LEAVE SITE
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

epared by: WILLIAM WHITE

Signed: 7/30/09 William White

C_2 REM
FIELD DAILY REPORT

JECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: DATE: 8/3/2009

WEATHER: Temperature: ~80 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: Oversight of palm tree trimming, in-line oxygen sensor calibration,

Time Line	
9:00 AM	SA/SM on site
	Staff met California Western Arborist.
	Landscapers were cutting grasses.
	staff irrigated the cap
	Plam trees were trimmed and cut leaves were ground and loaded to their truck.
	California Western Arborist completed trimming palm trees and continued grinding cut leaves,
10:00 AM	SM left for the undevelopped parcel to oversee dust control and landscaping.
10:30 AM	Staff shut off the sytem and conducted calibration of in-line oxygen sensors.
12:00 PM	Staff completed calibration and turned on the system,
1:30 AM	California Western Arborist completed their work and left the site.
1:45 PM	SA/SM off site
Note	See pictures for trimming work and the trees.

ared by: Shinta Aizawa

Signed: Shinta Aizawa
Seamus McFee

C_2 REM

FIELD DAILY REPORT

)JECT NAME: Del Amo Waste Pits PAGE: 1 of 1

PROJECT NUMBER: 97-101 DATE: 8/6/2009

WEATHER: Temperature: 92 Winds: None Precipitation: None

DESCRIPTION OF THE WORK: Semi-monthly GCTS and SVE/IBT Monitoring

Time Line	
7:00 AM	
8:00 AM	
9:00 AM	IY & SM arrive on-site
	Unlock the Site trailer, conduct tailgate safety meeting, put on all necessary PPE
	SM turns on irrigation system on Cap
10:00 AM	IY prepares & calibrates all necessary monitoring equipment
	SM performs safe entry procedure into Site enclosure (no detections present)
	SM turns on another area of the irrigation system while shutting off previous area
11:00 AM	IY & SM perform GCTS monitoring taking the temperature first from inline temperature
	gauges, then taking bag samples from the outlet, C2, C1, and the inlet of the system then
	taking the flow from the outlet and inlet of the system (see results in 2009 logbook)
12:00 PM	IY & SM break for lunch
	SM turns on another area of the irrigation system while shutting off previous area
1:00 PM	IY & SM perform SVE/IBT monitoring taking the pressures with a magnahelic then pulling
	bag samples from the effluent, C1, post ambient, and the inlet of the system, then the flows
	were taken from the appropriate locations (see results in 2009 logbook)
2:00 PM	IY & SM clean-up monitoring equipment and lock-up Site
	SM turned off all irrigation valves
	IY & SM departed Site
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	GCTS bag samples were monitored for VOCs with a PID calibrated to 5 ppm benzene
	SVE/IBT bag samples were monitored for VOCs with a PID calibrated to 400 ppm
	isobutylene, and for LEL, O2, & CO2 using a RKI Eagle multimeter.

oared by: Ian Yusko Signed:

Seamus McGeough

C_2 REM

FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 8/13/2009

WEATHER: Temperature: ~80 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: Erasing graffiti on C-Train

Time Line	
9:30 AM	SM/SA on site
	Staff inspected graffiti on C-Train.
	Staff left for Homedepot to purchase erasing.
	Staff came back to the site and started erasing the graffiti on C-Train.
	Staff irrgated the cap through the day
12:30 PM	Staff off site

Prepared by: Shinta Aizaka

Signed:

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 8/17/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Carbon change, irrigate the cap & calibrate the LEL sensors.

Time Line	
8:00 AM	
9:00 AM	
	9.45 am SM and SA on site. All Star Landscaping onsite.
10:00 AM	10am Baker onsite.
	SM took the forklift out of the seatrain. SA filled out safety forms and conducted
	tailgate safety meeting with Baker staff. SA removed Thermo couples to avoid damage.
11:00 AM	SM began irrigating the cap.
	Baker staff proceeded with carbon changeout.
12:00 PM	Carbon change complete, SA replaced the thermo couples and restarted the system.
	System operating normally. Lids on carbon vessels seated properly. SM stored the forklift.
	12.30pm Staff took lunch.
1:00 PM	SA shut down the system to calibrate the sensors.
	Staff began calibrating the Lel sensors at AT3A and AT2A.
2:00 PM	Staff completed the calibration and stored all tools and equipment.
	2.30 Staff secured the site and departed.
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	SM irrigated ran all sprinklers. Will irrigate again on Thursday 8/20/2009

..pared by: Seamus Mc Geough. Signed:

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FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 8/20/2009

WEATHER: Temperature: ~85 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, SVE/IBT Enclosure Monitoring, Monthly Perimeter Well Monitoring,

Time Line	
10:30 AM	SA/SM/IY on-site, the system was on
	Staff prepared tools and equipment.
	SA/SM started taking pressures of perimeter wells
	IY purged tedler bags for sampling
11:45 AM	Staff conducted GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc.
	See monitoring form for the results.
12:15 PM	Staff conducted SVE/IBT Enclosure monitoring,
	Samples were taken from inlet, Post Ambient Air, C1, and Effluent, using pump lung and 1L of tedlar bags.
	LEL Methane, O2, and CO2 were monitored with RKI Eagle
	VOCs at post ambient air were monitored with MiniRae 3000 PID calibrated to 50 ppm of benzene, and VOCs at inlet, Carbon 1, and effluent was monitored with Minirae 3000 PID calibrated to 400 ppm isobutylene
	Flows were monitored with Velocicalc and in-line flowmeter
	O2, VOCs (LEL), Flow were monitored with inline sensors where applicable,
	Pressures were monitored with Magnehelic
	Lab samples were collected immediately after the field sample collection at each station.
	See monitoring form for the results.
1:00 PM	Lunch break, the system was shutted off
2:00 PM	Staff started monitoring perimeter wells
3:00 PM	Staff completed monitoring, and turned the system back on.
	Staff put away tools and equipment.
3:30 PM	Staff left the site.
	Note: Staff irrigated the cap through the day

Prepared by: Shinta Aizawa

Signed: [illegible]

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Pits

PAGE 1 of 1

PROJECT NUMBER: 97-101

DATE: 08/27/09

WEATHER: Temperature: 90 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: Repair the irrigating pipes

Time Line	
11:00 AM	SA/SM arrived at site.
	Staff irrigated the cap
	Staff inspected electrical conduit for security cameras.
	Staff could not access to PLC panel.
	Staff inspected leaks on the irrigation pipes, valves and joints.
	Staff identified the leaks.
	There were lots of wasps in leaking area.
	Staff sprayed wasp freeze to keep them away from leaking area.
	Staff removed old leaking T-joint and installed new T-joint.
	Remaining watr in the pipe kept draining and it limited repair work, and staff decided to let it dry until tomorrow.
4:00 PM	Staff left site.

Prepared by: Shinta Aizawa

Signed: [illegible]

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 8/~~30~~ 31/2009

WEATHER: Temperature: ~90 Winds: none Precipitation: none

DESCRIPTION OF THE WORK: Repair irrigation pipes, valves, and joints,

Time Line	
10:30 AM	SA/SM arrived at site
	Staff turn on the main valve for the water line and checked leaks on the repaired valev and joints.
	Staff found leaks and turn off the water.
	Staff conducted Health & Safety Inspection.
	Staff went to Home Depot to purchase materials.
	Staff completed assembling joints.
	Staff will come back tomorrow to tighten unions and turn on the water tomorrow.
1:30 PM	Staff left site.

Prepared by: Shinta Aizawa

Signed:

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/1/2009

WEATHER: Temperature: Winds: Precipitation:

DESCRIPTION OF THE WORK: Inspection on the repaired joint and installed gate vale on the iirigation line.

Time Line	
9:30 AM	SA/SM arrived at site
	Staff inspected repaired joints on irrigation line.
	Staff opened the gate valve and confirmed there was no leak.
	Staff irrigated the cap.
	Staff measured a conduit for the use of secutiry cameras installation.
11:00 AM	Staff left the site

Prepared by: Shinta Aizawa

Signed: Shinta Aizawa

Seamus R. Feeney

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FIELD DAILY REPORT

.OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/3/2009

WEATHER: Temperature: ~90 Winds: none Precipitation: none

DESCRIPTION OF THE WORK: GCTS Monitoring, SVE/IBT Monitoring

Time Line	
9:00 AM	SA/SM/TA arrived at site
	SM left for Sea Crest Parcels
	SA/TA purged sampling bags, calibrated PID, and irrigated the cap
	Staff conducted SVE/IBT System.
	Samples were taken from inlet, Post Ambient Air, C1, and Effluent, using pump lung and 1L of tedlar bags.
	LEL Methane, O2, and CO2 were monitored with RKI Eagle
	VOCs at effluent, carbon 1, post ambient air were monitored with MiniRae 3000 PID calibrated to 50 ppm of benzene, and VOCs at inlet was monitored with Minirae 3000 PID calibrated to 400 ppm isobutylene
	Flows were monitored with Velocicalc and in-line flowmeter
	O2, VOCs (LEL), Flow were monitored with inline sensors where applicable,
	Pressures were monitored with Magnehelic
	See monitoring form for the results.
	SM came back to the site,
	Staff conducted GCTS Monitoring
	Samples were taken from inlet, carbon 1, carbon 2, and effluent.
	VOCs were monitored with MiniRae 2000 PID calibrated to 5 ppm benzene.
	Flows were monitored with velocicalc.
	See monitoring form for the results.
12:30 PM	Staff left the site.

Prepared by: Shinta Aizawa

Signed:

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/4/2009

WEATHER: Temperature: ~80 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: Troubleshooting SVE/IBT System for FT5 flow alarm

Time Line	
9:30 AM	SA/IY arrived at the site.
	Staff inspected SVE/IBT system and in-line flowmeters.
	There we no visual or mechanical problem found.
	Staff turned the system back on and monitored flows with velocicalc.
	Staff confirmed the system is operating as normal.
11:30 AM	Staff left the site.

Prepared by: Shinta Aizawa
IAN YUSKO

Signed: Shinta Aizawa

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/8/2009

WEATHER: Temperature: ~85 Winds: none Precipitation: none

DESCRIPTION OF THE WORK: Inspection for security camras installation with Protection One.

Time Line	
10:00 AM	SA/SM arrived at the site
	Staff started irrigating the cap.
	Protection One personnel arrived at the site.
	Protection One personnel inspected the enclosure , existing conduits and PLC panels.
	Protection One left the site.
	They will install security camras sometime this week.
	Staff irrigated the cap through the day.
1:30 PM	Staff left the site.

Prepared by: Shinta Aizawa

Signed: [illegible]

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/9/2009

WEATHER: Temperature: 78 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to route security camera wiring.

Time Line	
8:00 AM	
9:00 AM	SM and BW onsite.
	SM performed safe entry to enclosure.
10:00 AM	
	BW examined existing conduits for possible use in new security system.
11:00 AM	SM irrigated the cap.
12:00 PM	Staff secured site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough. Signed: Seamus McGeough

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FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits

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PROJECT NUMBER: 97-101

DATE: 9/11/2009

WEATHER: Temperature: ~75 Winds: slight Precipitation: none

DESCRIPTION OF THE WORK: Irrigating the cap, Cleaning the site trailer.

	Time Line
	SA/SM arrived at site.
	Staff irrigated the cap.
	Staff cleaned the site trailer.
	Staff left the site.

Prepared by: Shinta Aizawa

Signed: [illegible]

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 9/14/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site Visit to oversee/assist Protecion 1 installation

Time Line	
8:00 AM	
9:00 AM	SM and IY onsite.
	BW and SK from C2REM already onsite with Protecion 1. AllStar landscaping also onsite.
10:00 AM	BW and SK offsite.
	SM began irrigating the cap. IY assisted Protection 1 with location of motion sensors and electrical outlets in the enclosure and trailer.
11:00 AM	SM and IY walked the site to check for gopher activity and other repairs needed before 3rd quarterly site inspection.
12:00 PM	Staff took lunch. Protection 1 offsite for lunch.
	Allstar landscaping departed site.
1:00 PM	Protection 1 back onsite and continued installation of conduit.
2:00 PM	SM and IY departed site.
3:00 PM	
4:00 PM	SM and IY returned to site to assess progress of installation and secure site.
	Protection 1 offsite
5:00 PM	SM and IY offsite.

Special Notes

Prepared by: SEAMUS Mc GEOUGH
IAN YUSKO

Signed: [signature]

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/15/2009

WEATHER: Temperature: 78 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Oversee installation of security system and site maintanance.

Time Line	
8:00 AM	
	8.30 am SM and IY onsite. Protection 1 onsite.
9:00 AM	Staff discussed progress of installation and best location for security cameras.
	SM began irrigating the cap.
10:00 AM	IY assisted Protection 1 with access to PLC panel and connection to the phone line.
	SM and IY repaired caulking on both V ditches.
11:00 AM	
12:00 PM	Staff took lunch. Protection 1 offsite for lunch.
1:00 PM	Protection 1 returned to site.
2:00 PM	SM and IY offsite.
3:00 PM	
4:00 PM	SM and IY returned to site.
	Staff discussed progress of installation with Protection 1and re-established DSL connection disrupted by installation.
5:00 PM	Protection 1 offsite.
	Staff secured site and departed.
Special Notes	

Prepared by: Seamus Mc Geough. Signed:

IAN YUSKO

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FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 9/16/2009

WEATHER: Temperature: 80 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Quarterly site inspection. SVE/IBT and GCTS monitoring.

Time Line	
8:00 AM	
9:00 AM	IY and SM onsite.
	Staff prepared safety forms and PPE for inspection team.
10:00 AM	Staff cleared the enclosure for safe entry by inspection team.
	Staff began monitoring of the GCTS, and SVE/IBT systems as part of the full scale monitoring
11:00 AM	event.
	11.30 am, SK and EB from C2REM, and George Landreth from Shell onsite.
	Inspection team signed safety and visitors forms.
12:00 PM	
	Inspection team entered the enclosure and observed the extraction system, they then
	proceeded to walk the site.
1:00 PM	1pm inspection completed
	1.30pm staff secured the site and departed.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough
IAN YUSKO

Signed:

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FIELD DAILY REPORT

)JECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 9/17/2009

WEATHER: Temperature: 80 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Full scale monitoring

Time Line	
8:00 AM	7am, SM, IY, SA and TA onsite.
	Staff conducted tailgate safety meeting.
9:00 AM	7.30am staff started the system and split into 2 teams. Teams opened the monitoring wells and took the pressures at all monitoring ports.
10:00 AM	9am staff shut down the system and set up the purging system.
	Protection 1 onsite to complete installation of security system.
	IY and SM proceeded to purge the wells, SA and TA followed with the monitoring equipment.
11:00 AM	SA and TA took the readings and recorded the results.
	10.30am SM and IY offsite.
12:00 PM	
	12.30pm IY and SM return to site and staff took a lunch break.
1:00 PM	1pm staff set up purging system for extraction wells.
	IY and SM purged the wells while SA and TA followed with the monitoring equipment and recorded the results.
2:00 PM	
3:00 PM	
	3.45pm staff completed the full scale monitoring event.
4:00 PM	Staff dismantled the extraction well purging system and packed up all equipment.
	Protection 1 staff trained C2rem staff on the operation of the new security system.
	Protection 1 installed 2 security cameras.
5:00 PM	5pm all staff offsite.

Special Notes

Prepared by: Seamus Mc Geough. IAN YUSKO

Signed: Seamus McGeough

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FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 9/21/2009

WEATHER: Temperature: 87 **Winds:** Slight **Precipitation:** None

DESCRIPTION OF THE WORK: Troubleshoot & Reconnect Security Cameras

Time Line	
7:00 AM	
8:00 AM	IY & SM arrive on-site
	Unlock Site trailer and computer cage, check all wired connections
	Reboot both computers & reboot both the modem and the firewall
9:00 AM	Cameras came back online, called office to ensure remote access was working (OK)
	Staff locked up computer cage and Site trailer
10:00 AM	IY & SM depart Site
11:00 AM	
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	

pared by: Ian Yusko Signed:

Seamus McGeough

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FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 9/24/2009

WEATHER: Temperature: 78 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to pressure test O2 lines. Irrigate the cap

Time Line	
8:00 AM	
9:00 AM	
	9.30 SA and SM onsite.
10:00 AM	Staff conducted tailgate safety meeting. Turned on irrigation lines.
	SA performed safe entry into enclosure.
	SM set up pressure test equipment. SA reviewed testing protocol and tested 02 purity.
11:00 AM	
	Staff pressurized the 02 lines. All lines passed no pressure loss.
12:00 PM	
	12.30 staff took lunch.
1:00 PM	1pm staff secured site and departed.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough. Signed: Seamus McGeough

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: DATE: 9/29/2009

WEATHER: Temperature: 80 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Carbon changeout, system monitoring and take lab samples.

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	SA and SM onsite.
	12.30pm Baker Filtration onsite.
	SA removed thermal couples form carbon tanks to prevent damage.
1:00 PM	SM removed forklift from seatrain.
	Spent carbon was removed and replaced with fresh carbon.
2:00 PM	Both lids were replaced and SA replaced the thermal couples.
	The system was started and operated normally.
	2.30pm Baker offsite.
3:00 PM	SM and SA monitoried the SVE/lbt system and took lab samples.
4:00 PM	4pm Staff secured the site and departed. Lab samples to Test America.
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough. Signed:

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FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 9/30/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Meet with Los Angeles Fire Dept Rep.

Time Line	
8:00 AM	
9:00 AM	
	9.30 am SM and IY onsite.
10:00 AM	Los Angeles Fire department rep onsite.
	Staff informed the Fire Dept rep of the new security system onsite. Fire Dept rep gave
	Staff a Fire Dept padlock so that they have emergency access to the site if necessary.
11:00 AM	Staff secured padlock to chain on front gate.
	11 am all staff offsite.
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough. IAN YUSKO

Signed: Seamus McGeough

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FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 10/6/2009

WEATHER: Temperature: 82 **Winds:** Slight **Precipitation:** None

DESCRIPTION OF THE WORK: H&S Meetings with Subcontractors

Time Line	
7:00 AM	
8:00 AM	
9:00 AM	Arrive on-site with SK & JC
	Waste Management rep arrives on-site
	Conduct H&S meeting with him, go over on-site safety procedures, etc.
10:00 AM	Waste Management departs Site
	All-Pro fencing had to reschedule their meeting
	IY, SK, & JC go over materials for next subcontractor
11:00 AM	Bugman rep arrives on-site
	Conduct H&S meeting with him, go over on-site safety procedures, etc.
	Bugman departs Site
12:00 PM	IY, SK, & JC lock-up & depart Site
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	

pared by: Ian Yusko Signed: Ian Yusko

Stefan Klemm

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 10/8/2009

WEATHER: Temperature: 80 **Winds:** Slight **Precipitation:** None

DESCRIPTION OF THE WORK: H&S Meetings with Subcontractors

	Time Line	
	7:00 AM	
	8:00 AM	
	9:00 AM	Arrive on-site with SK & JC, Ray Krogsgaard with Alotta H2O arrives on-site
		Conduct H&S meeting with him, go over on-site safety procedures, etc.
		Alotta H2O departs Site
	10:00 AM	Horacio Puentes of All-Star Landscape arrives on-site
		Conduct H&S meeting with him, go over on-site safety procedures, etc.
		All-Star Landscape depart Site
	11:00 AM	Wayne Jones & Boris Dolgopyat with Baker Corp. arrive on-site
		Conduct H&S meeting with him, go over on-site safety procedures, etc.
		Baker Corp. departs Site
	11:30 AM	IY steps out of meeting to perform GCTS & SVE/IBT monitoring
		IY performs GCTS first then SVE/IBT monitoring
	12:00 PM	Gary Moore of All-Pro Fencing arrives on-site
		SK & JC conduct H&S meeting with him, go over on-site safety procedures, etc.
		All-Pro Fencing departs Site
	1:00 PM	IY completes monitoring duties, clean-up equipment & lock-up
	1:30 PM	IY, SK, & JC depart Site
	3:00 PM	
	4:00 PM	
	5:00 PM	
	Notes:	

pared by: Ian Yusko Signed: Ian Yusko

Stefan Klemm

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FIELD DAILY REPORT

)JECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 10/16/2009

WEATHER: Temperature: 95 Winds: none Precipitation: 0

DESCRIPTION OF THE WORK: Monitor humidity in the system

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	
	12.30 SA, IY and SM onsite.
1:00 PM	Staff used velocicalc with humidity meter to monitor humidity in the system.
2:00 PM	
	2.30pm staff secured the site and departed.
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough.
IAN YUSKO

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 10/22/2009

WEATHER: Temperature: 75 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Semi monthly monitoring, perimeter well monitoring, O2 monitoring.

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
	10.30 am SM and IY onsite.
	Staff conducted a tailgate safety meeting. IY conducted safe entry to the enclosure.
11:00 AM	Staff calibrated the PID's for monitoring.
	Staff monitored the GCTS system first. Staff then monitored the SVE/IBT system.
	Staff took lab samples and stored in cooler.
12:00 PM	
	Staff monitored the oxygen purity and flows from the generator.
	Staff took the pressure readings at perimeter wells ABCD & H.
1:00 PM	Staff took the flow readings for the injection wells and made some adjustments. SVE/IBT
	The injection wells were monitored for LEL, O2 and Co2. Staff then turned the system off.
	1pm staff offsite for lunch.
2:00 PM	1.45pm staff returned to site. The perimeter wells were monitored.
	Staff then set up the purge system, for the the injection wells.
3:00 PM	All 4 injection wells were purged and monitored.
	Staff dismantled the purge system, locked up the well cages ~~and~~ secured the site.
4:00 PM	Staff put the SVE/IBT system back in normal ops mode.
	4.30pm staff offsite to deliver lab samples to Test America.
5:00 PM	

Special Notes Bugman was onsite performing gopher duties & staff asked if they could periodically treat the injection well cages to ward off insects. They said No problem and treated them that day before leaving site.

epared by: _____ Signed: _____

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 11/3/2009

WEATHER: Temperature: 65 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to troubleshoot security cameras, prepare for inspection.

Time Line	
8:00 AM	SA
	8.30 am ~~JF~~ and SM onsite.
9:00 AM	Staff attempted to get the security cameras online, with assistance from Akins.
	Staff unplugged everything and rebooted the computer.
10:00 AM	Staf replaced some connections and the cameras came back online.
	Staff cleaned the trailer and prepared site safety equipment for site inspection.
11:00 AM	
	11.30 staff secured site and departed.
12:00 PM	
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough Signed: Seamus

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 11/4/2009

WEATHER: Temperature: 65 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: 4th Quarterly site inspection.

Time Line	
8:00 AM	
	8.30 am IY and SM onsite.
9:00 AM	Staff performed safe entry into enclosure.
	Staff set up safety equipment table for visitors.
10:00 AM	EB, Mr. George Landreth and SK onsite.
	Staff discussed progress of site clean up, security issues and general site conditions with Mr. Landreth.
11:00 AM	
	Visitors offsite.
	Staff conducted GCTS and SVE/IBT monitoring.
12:00 PM	
	12.30 staff secured site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: SEAMUS Mc GEOUGH
IAN YUSKO

Signed: Seamus McGeough
Ian Yusko

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 11/10/2009

WEATHER: Temperature: 70 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to troubleshoot security cameras, reposition enclosure camera

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	
1:00 PM	
2:00 PM	
	2.30 IY, SM and SA onsite.
3:00 PM	SA performed safe entry to enclosure.
	Staff rebooted the security camera computer, all cameras working.
	IY repositioned the camera inside the enclosure to cover the SVE system.
4:00 PM	Staff checked all gates locked, secured site and departed.
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough.
IAN YUSKO

Signed: Seamus Mc Geough
Ian Yusko

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FIELD DAILY REPORT

)JECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 11/12/2009

WEATHER: Temperature: 66 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Meet Protection One, troubleshoot security cameras, install battery backup

Time Line	
8:00 AM	
9:00 AM	
	9.30 SM, IY and EL onsite.
	Protection One rep onsite.
10:00 AM	EL began installing battery backup for camera computer.
	IY and SM began repositioning the camera in the enclosure. Protection one rep
	made the motion detectors less sensitive.
11:00 AM	
	11.30 EL completed installation of backup battery and began rebooting the computer.
	EL also performed some maintenance on both computers.
12:00 PM	
	IY and SM confirmed the camera settings with the office.
	12.30pm staff secured the site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus McGrath
IAN YUSKO

Signed: Seamus McGrath

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FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 11/17/209

WEATHER: Temperature: 70 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit for perimeter monitoring.

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
	10.30 IY and SM onsite.
11:00 AM	Staff conducted tailgate safety meeting.
	IY calibrated the PID, and set up other monitoring equipment.
	SM set up purging system and tools to open wells.
12:00 PM	
	12.30 staff took lunch.
1:00 PM	Staff monitored the perimeter wells.
2:00 PM	
	2.30 staff packed up equipment, secured site and departed.
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough
IAN YUSKO

Signed: Seamus Mc Geough

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits | PAGE 1 of 1

PROJECT NUMBER: 97-101 | DATE: 11/19/2009

WEATHER: Temperature: 68 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit for carbon changeout, SK to meet landscapers.

Time Line	
8:00 AM	
	8.30 am IY and SM onsite, SK onsite also.
9:00 AM	Baker corp onsite.
	Staff conducted tailgate safety meeting with Baker associates.
10:00 AM	SM removed forklift from seatrain.
	IY removed thermocouples from carbon vessels.
	10.30 Boris from Baker Corp onsite.
11:00 AM	Landscaping contractors onsite for bids and review of safety docs with SK.
	Baker Corp's vacuum truck needed repairs before carbon could be extracted.
12:00 PM	
	Carbon was removed and fresh carbon placed in vessels.
	SK offsite.
1:00 PM	Baker Corp offsite. IY restarted the system. SM check both lids were secure before Baker
	departed.
	Staff took lunch.
2:00 PM	
	2.30 Staff secured site and departed.
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough
IAN YUSKO

Signed: Seamus Mc Geough
Ian Yusko

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits. PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 11/23/2009

WEATHER: Temperature: 69 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit for system monitoring and take monthly lab samples.

Time Line	
8:00 AM	
9:00 AM	
	9.30 IY and SM onsite.
10:00 AM	Staff conducted tailgate safety meeting.
	SM performed safe entry to the enclosure. IY calibrated the equipment.
	Staff monitored the GCTS system.
11:00 AM	Staff repaired the PLC connection to the VNC viewer,
	Staff monitored the SVE/IBT system.
12:00 PM	
	Staff took lab samples.
1:00 PM	Staff took lunch.
	1.30 staff placed sandbags around utility box. Secured site and departed.
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough Signed:

IAN YUSKU

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 11/30/2009

WEATHER: Temperature: 69 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit for routine maintenance, reposition cameras.

Time Line	
8:00 AM	
9:00 AM	IY and SM onsite.
	Staff repositioned cameras and rebooted camera computer.
10:00 AM	Staff cleaned out drainage ditch and organized trailer.
	SM irrigated the cap.
11:00 AM	
12:00 PM	Staff secured site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough

IAN YUSKO

Signed: Seamus Mc Geough

Ian Yusko

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/1/2009

WEATHER: Temperature: 60 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Site visit to troubleshoot security system

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	IY and SM onsite.
	Staff turned on irrigation system.
	Staff located the source of the motion sensor malfunction.
11:00 AM	The mounting bracket had been broken by the enclosure gate opening too far.
	Staff remounted the motion sensor. The sensor stopped alarming.
12:00 PM	
	12.30 Staff offsite.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough.
IAN YUSKO

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/2/2009

WEATHER: Temperature: 60 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Check on blowers, and troubleshoot and calibrate sensors.

Time Line	
8:00 AM	
9:00 AM	Staff onsite to investigate report from URS tech, of noise coming from GCTS blower unit.
10:00 AM	
	Both systems were running normally, staff checked flows and listened for any abnormal noises. At this time nothing was detected.
11:00 AM	Staff proceeded to calibrate LEL sensors, and replace O2 sensors.
12:00 PM	Staff took lunch.
	12.30 staff continued calibration of sensors.
1:00 PM	
2:00 PM	Staff secured site and departed.
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: IAN YUSKO

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/3/2009

WEATHER: Temperature: 60 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Bi-weekly SVE/IBT monitoring, sensor calibration.

Time Line	
8:00 AM	
9:00 AM	
	9.30am IY and SM onsite.
10:00 AM	Staff had tailgate safety meeting, SM performed safe entry to enclosure.
	IY calibrated PID's, and set up monitoring equipment.
11:00 AM	Staff conducted GCTS monitoring.
	Staff conducted SVE/IBT monitoring.
12:00 PM	
	12.30 staff took lunch.
1:00 PM	Staff began calibrating inline sensors.
2:00 PM	
3:00 PM	Staff secured site and departed.
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus McGeough
IAN YUSKO

Signed:

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/8/2009

WEATHER: Temperature: 58 Winds: Light Precipitation: 0

DESCRIPTION OF THE WORK: Post Rain inspection

Time Line	
8:00 AM	
9:00 AM	IY and SM onsite.
10:00 AM	Staff had tailgate safety meeting. SM conducted safe entry to enclosure.
	Staff inspected enclosure and equipment and filled out appropriate forms.
11:00 AM	
	Staff walked the site and inspected drainage ditches and fencing.
12:00 PM	Staff filled out all post rain inspection forms.
	Staff secured site and departed.
1:00 PM	
2:00 PM	
3:00 PM	
4:00 PM	
5:00 PM	
Special Notes	

Prepared by: Seamus Mc Geough.
IAN YUSIKO

Signed:

C_2 REM

FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 12/14/2009

WEATHER: Temperature: 66 **Winds:** Slight **Precipitation:** Showers

DESCRIPTION OF THE WORK: Post Rain Inspection

	Time Line	
	7:00 AM	
	8:00 AM	
	9:00 AM	
	10:00 AM	
	11:00 AM	
		IY & SK arrive on-site
	12:00 PM	Perform Post Rain Inspection, walk Site & check all Site components
		Perform safe entry into enclosure, inspect both systems
		Inspect perimeter fencing and access road conditions (see checklist in 2009 logbook)
	1:00 PM	Inspect Drainage systems and Cap integrity (see checklist in 2009 logbook)
		Conduct monthly H&S inspection (see checklist in 2009 logbook)
		IY & SK lock-up & depart Site
	2:00 PM	
	3:00 PM	
	4:00 PM	
	5:00 PM	
	Notes:	

pared by: Ian Yusko Signed:

Stefan Klemm

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 12/15/2009

WEATHER: Temperature: 68 **Winds:** Slight **Precipitation:** None

DESCRIPTION OF THE WORK: Semi-monthly GCTS and SVE/IBT Monitoring with lab samples

Time Line	
7:00 AM	
8:00 AM	
9:00 AM	IY & SK arrive on-site
	Unlock the Site trailer, conduct tailgate safety meeting, put on all necessary PPE
10:00 AM	IY prepares & calibrates all necessary monitoring equipment
	IY performs safe entry procedure into Site enclosure (no detections present)
11:00 AM	IY & SK perform GCTS monitoring taking the temperature first from inline temperature
	gauges, then taking bag samples from the outlet, C2, C1, and the inlet of the system then
	taking the flow from the outlet and inlet of the system (see results in 2009 logbook)
12:00 PM	IY & SK break for lunch
12:30 PM	IY & SM perform SVE/IBT monitoring taking the pressures with a magnahelic then pulling
	field and lab bag samples from the effluent, C1, post ambient, and the inlet of the system,
	then flows were taken from the appropriate locations (see results in 2009 logbook)
1:00 PM	IY & SK clean-up monitoring equipment and lock-up Site
	IY & SK depart Site with lab samples to deliver to Test America
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	GCTS bag samples were monitored for VOCs with a PID calibrated to 5 ppm benzene
	SVE/IBT bag samples were monitored for VOCs with a PID calibrated to 400 ppm
	isobutylene, and for LEL, O2, & CO2 using a RKI Eagle multimeter.

pared by: Ian Yusko Signed:

Stefan Klemm

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 12/16/2009

WEATHER: Temperature: 69 **Winds:** Slight **Precipitation:** None

DESCRIPTION OF THE WORK: Perform 4th Quarterly Full Scale Monitoring event

	Time Line	
	8:00 AM	IY, SK, & EL arrive on-site
		Unlock Site trailer, Sea train, & enclosure (staff confirms that SVE/IBT is running)
		Staff prepares all tools, equipment, & instruments for full-scale monitoring
	9:00 AM	Staff open all well boxes & take pressures with magnahelics from all well locations while
		SVE/IBT system is running
	10:30 AM	Staff completes all pressure readings and shuts down SVE/IBT system
	11:00 AM	SK to begin purging all wells beginning with perimeter wells, IY/EL to monitor after purge
		IY/EL will use PIDs for VOC readings and the RKI Eagle for LEL, O2, & CO2 readings
		Staff completes all perimeter wells and begins on vaccum performance and cluster wells
	12:00 PM	Staff breaks for lunch
	12:30 PM	Staff begins purging and monitoring the remainder of the vacuum performance and cluster
		wells on-site
	1:00 PM	
	2:00 PM	
	3:00 PM	Staff completes all perimeter, vacuum performance, and cluster wells on-site and closes all
		well boxes securely
	4:00 PM	Staff cleans up all tools, equipment, and instruments then locks up Site
		Staff leaves SVE/IBT system OFF in order to complete full scale monitoring procedures
		tomorrow
		Staff departs from Site
	5:00 PM	
	Notes:	

pared by: Ian Yusko Signed:

Stefan Klemm

C_2 REM
FIELD DAILY REPORT

OJECT NAME: Del Amo Waste Pits **PAGE:** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 12/17/2009

WEATHER: Temperature: 68 **Winds:** Moderate **Precipitation:** None

DESCRIPTION OF THE WORK: Complete 4th Quarterly Full Scale Monitoring event

	Time Line	
	8:00 AM	
	9:00 AM	
	10:00 AM	
	11:00 AM	IY & SK arrive on-site, SVE/IBT system still OFF
		Staff prepares all monitoring tools, equipment, and instruments as well as set-up of SVE
		well purging system in the back of the work truck
	12:00 PM	Staff breaks for lunch
	12:30 PM	IY & SK begin purging each SVE well and monitoring each well for VOCs, LEL, O2, & CO2
	1:00 PM	
	2:00 PM	
	3:00 PM	
	3:30 PM	IY & SK comlplete all SVE wells, clean-up all monitoring gear and disassemble purging
		unit off the back of the work truck
	4:00 PM	Staff locks up Site and departs
	5:00 PM	
	Notes:	Staff kept SVE/IBT system OFF so a field team could return the following day & complete
		start-up of the system with leak testing at the SVE wells & observe system ops

pared by: Ian Yusko Signed:

Stefan Klemm

C_2 REM

FIELD DAILY REPORT

)JECT NAME: Del Amo Waste Pits PAGE: 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/18/2009

WEATHER: Temperature: 72 Winds: Slight Precipitation: None

DESCRIPTION OF THE WORK: Start-up of SVE/IBT system, compliance testing of wells & system

Time Line	
7:00 AM	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	
1:00 PM	IY & EL arrive on-site
	Staff prepared PID calibrated to 5 ppm benzene for compliance check
	Staff use VNC viewer to start-up the SVE/IBT system & the O2 generator
2:00 PM	Staff goes around to each SVE well and checks that all valves are open correctly (OK) and
	used a PID to check for any VOC detections (2 SVE wells had minor detections at a few
	PVC screw joints and were tightened to eliminate the detection)
3:00 PM	Staff checked the SVE/IBT system to ensure proper functioning
	IY & EL put away equipment and locked-up everything including injection well cages
	IY & EL depart from Site
4:00 PM	
5:00 PM	
Notes:	

)pared by: Ian Yusko Signed: [signature]

Edwin Lui

C_2 REM

FIELD DAILY REPORT

)JECT NAME: Del Amo Waste Pits PAGE: 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/22/2009

WEATHER: Temperature: 69 Winds: Slight Precipitation: None

DESCRIPTION OF THE WORK: Check SVE/IBT effluent reading

Time Line	
7:00 AM	
8:00 AM	
9:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	
1:00 PM	IY & EL arrive on-site
	Staff prepared PID calibrated to 5 ppm benzene for compliance check
	IY performed safe entry into enclosure (no detections)
2:00 PM	Effluent reading was = 0.0 ppm
	IY & EL locked up & departed Site
3:00 PM	
4:00 PM	
5:00 PM	
Notes:	IY to call Baker Corp. to check on holiday shceudule for probable upcoming carbon change-out

)pared by: Ian Yusko Signed:

Edwin Lui

C_2 REM
FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits PAGE 1 of 1

PROJECT NUMBER: 97-101 DATE: 12/28/2009

ATHER: Temperature: 68 Winds: 0 Precipitation: 0

DESCRIPTION OF THE WORK: Site Visit to monitor SVE system effluent.

Time Line	
8:00 AM	
9:00 AM	
10:00 AM	
	10.30 SM and EL on site.
11:00 AM	
	Staff performed safe entry into the enclosure.
	SM took sample bag from effluent monitoring port.
12:00 PM	Staff compared results with data display from inline PID and VNC viewer data.
	12.30 staff took lunch.
1:00 PM	
	Staff took 2 more sample bags from effluent monitoring port.
2:00 PM	Results from sample bags, inline sensors and vnc data indicated carbon break through.
	The system shut down.
3:00 PM	
	Staff secured site and departed.
4:00 PM	
5:00 PM	

Special Notes

Prepared by: Seamus Mc Geough.

Signed: Seamus McGough

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FIELD DAILY REPORT

PROJECT NAME: Del Amo Pits **PAGE** 1 of 1

PROJECT NUMBER: 97-101 **DATE:** 12/30/2009

WEATHER: Temperature: 70 **Winds:** 0 **Precipitation:** 0

DESCRIPTION OF THE WORK: Site visit for carbon change out.

Time Line	
8:00 AM	
	8.30 am SM and EL onsite.
	Baker Corp onsite. Staff conducted tailgate safety meeting.
9:00 AM	SM removed forklift from seatrain. EL opened up all access gates.
	Staff removed thermo couples from carbon tanks.
10:00 AM	
	Baker Corp performed carbon changeout and secured carbon vessel lids.
11:00 AM	Staff replaced thermo couples and restarted the system.
	Staff confirmed all carbon vessel seals were intact.
12:00 PM	Baker corp offsite.
	Staff took lunch.
1:00 PM	Staff conducted GCTS and SVE/IBT monitoring.
	Staff adjusted flows for optimal degredation.
2:00 PM	Staff offsite.
3:00 PM	
4:00 PM	
5:00 PM	

Special Notes

Prepared by: SEAMUS MC GEOUGH

Signed: [illegible]

APPENDIX C

2009 LABORATORY DATA
(VIA CD ROM)

APPENDIX D

2009 IN-LINE SENSOR DATA
(VIA CD ROM)

APPENDIX E

2009 SEMI-MONTHLY SVE/IBT
ENCLOSURE DATA

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 1/8/2009
Time: 12:30
Monitored By: TA/SM/SA

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL CH_4 (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	-62	0	19.8	1.4	0.1	113
Carbon Vessel 1	-46	0	19.8	1.2	0.1	
Post Dilution	-22	9	19.7	1.2	3600	98.5
Inlet	-20	22.5V	13.4	16.2	>15000	45

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	error.	AT06	1.5	NA	
Carbon Vessel 1	AT3A	0	NA		NA		NA	
Post Dilution	AT2A	22	AT2B	20.3	NA		NA	
Inlet	AT5A	104	AT5B	11	NA		FT5	36

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7	7.8
Dilution Rate	FT2	68	

Note: In-line O_2 sensor AT3B needs replacement.

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 1/22/2009
Time: 12:30

Monitored By: TA, TT, SA.

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL CH_4 (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-64	0	19.7	1.6	0.1	88
Carbon Vessel 1	-47	7	19.4	1.6	4000	
Post Dilution	-24	15	19.5	1.6	10781	87
Inlet	-24	20.5 V	13.4	15.2	>15000	42.5

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	~~19.7~~ error.	AT06	0.5	NA	
Carbon Vessel 1	AT3A	13	NA		NA		NA	
Post Dilution	AT2A	26	AT2B	20.0	NA		NA	
Inlet	AT5A	104	AT5B	12.0	NA		FT5	34.3

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	8	8.2
Dilution Rate	FT2	83.	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 2/5/09
Time: 10:45.
Monitored By: TT / SA

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL CH_4 (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-62	0	20.2	1.6	0.1	110
Carbon Vessel 1	-46	7	20.8	1.2	2425	
Post Dilution	-22	16	20.2	1.8	>15000	93
Inlet	-20	-24.5V	12.7	16.8	>15000	50

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	Sensor Fail	AT06	0.5	NA	
Carbon Vessel 1	AT3A	17	NA		NA		NA	
Post Dilution	AT2A	29	AT2B	20.1	NA		NA	
Inlet	AT5A	104	AT5B	10.5	NA		FT5	38~41

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	8	9~12.
Dilution Rate	FT2	67	

Note: Recirculation Sample 21V CH_4, 13.4 O_2 15 CO_2. >15000 VOCs.

Del A...o Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 2/19/09
Time: 11:30
Monitored By: Tiffany Armenta

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL CH_4 (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-68	0	20.0	1.8	0.1	98.0
Carbon Vessel 1	-50	0	20.0	1.8	0.2	
Post Dilution	-30	15	20.0	1.8	10506	83.5
Inlet	-30	21.0 V	13.5	15.0	11834	58.5

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	Sensor fail	AT06	0.5	NA	
Carbon Vessel 1	AT3A	0	NA		NA		NA	
Post Dilution	AT2A	31	AT2B	20.2	NA		NA	
Inlet	AT5A	104	AT5B	10.5	NA		FT5	41.0

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	9	11.5
Dilution Rate	FT2	76	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 3/5/2009
Time: 12:00
Monitored By: Tri Tran
Verified By: S Mc Gough

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-66	1	20.7	2.4	0.0	75-80
Carbon Vessel 1	-51	22	20.7	2.4	>15000	
Post Dilution	-30	22	20.9	2.0	14500	84.5
Inlet	-27	26 V	14.0	15.8	>15000	56.0

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.6	AT06	1.3	NA	
Carbon Vessel 1	AT3A	22	NA		NA		NA	
Post Dilution	AT2A	36	AT2B	19.5 ~~20~~	NA		NA	
Inlet	AT5A	104	AT5B	11.5	NA		FT5	35-41

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	11	10.5-13.5
Dilution Rate	FT2	61	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 3/19/09
Time: 10:45
Monitored By: Shweta Aizwa
Verified By: TT + SM

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	~~65~~ -65	0	20.5	1.4	0.1	89.5
Carbon Vessel 1	-54	0	20.3	1.6	0.1	
Post Dilution	-30	13	20.3	1.6	9930 MAX	~~95~~ 90.5
Inlet	-28	25.0 V	12.4	16.8	15,000+	48

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.8	AT06	0.5	NA	
Carbon Vessel 1	AT3A	2	NA		NA		NA	
Post Dilution	AT2A	24	AT2B	20.1	NA		NA	
Inlet	AT5A	104	AT5B	9.8	NA		FT5	35 → 40

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7	9.5
Dilution Rate	FT2	62	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 4/2/09
Time: 10:30

Monitored By: SA/TT/SM

Verified By:

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	64	0	13.3	8.0	0	96
Carbon Vessel 1	52	5	20.2	~~496~~ 2.0	496/194/ (PID I) (3000)	
Post Dilution	31	16	20.3	1.8	13701 (PID 3,000) 2350 (PID 3000) benzene	88
Inlet	29	24 V	12.6	16.6	>15000 2500 (50ppm benzene)	50

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.6	AT06	0.9	NA	
Carbon Vessel 1	AT3A	10	NA		NA		NA	
Post Dilution	AT2A	28	AT2B	20.1	NA		NA	
Inlet	AT5A	104	AT5B	9.6	NA		FT5	43.5

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	8	9.6
Dilution Rate	FT2	63	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 4/16/2009
Time: 11:30am

Monitored By: SA

Verified By: SM

Station	Magnehelic	RKI Eagle			PID		Velocicalc
	Pressure (inch of water)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)		Flow Rate (scfm)
Effluent	-64	0	20.2	1.8	0.1	0.3	91
Carbon Vessel 1	-52	15	20.1	2.0	2725	14163	
Post Dilution	-32	20	20.0	2.2	2883	>15000	83
Inlet	-30	22 ✓	12.1	17.0	2100~	>15000 ~12000	51

Calibrated 50 ppm Benzene

400 ppm Isobutylene.

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.6	AT06	0.7	NA	
Carbon Vessel 1	AT3A	18	NA		NA		NA	
Post Dilution	AT2A	23	AT2B	20.4	NA		NA	
Inlet	AT5A	104	AT5B	Fail	NA		FT5	36~41

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	8	13
Dilution Rate	FT2	69	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 5/14/09
Time: 11:25.

Monitored By: Thi Tran

Verified By: Shinta Aizawa

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	-50	0	20.1	0.8	0	65
Carbon Vessel 1	-40	13	20.2	~~2336~~ 0.8	2336	
Post Dilution	-27	5	20.4	0.6	859/904 (2nd)	65
Inlet	-26	19 V	12.8	13.6	2552/3140 (2nd)	48.5

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	20.1	AT06	0.7	NA	
Carbon Vessel 1	AT3A	16	NA		NA		NA	
Post Dilution	AT2A	11	AT2B	20.5	NA		NA	
Inlet	AT5A	104	AT5B	10.0	NA		FT5	33~36.

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	3	4~5
Dilution Rate	FT2	77	

Post Dilution
VOCs=2476
19 LEL
19.1 O2
2.0 CO2

C1
2368
13 LEL
19.3 O2
1.8 CO2

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 5/28/09
Time: 11:45

Monitored By: TT/SM

Verified By: SA

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-52	0	19.3	1.6	0.9	70
Carbon Vessel 1	-44	14	19.4	1.8	2298	
Post Dilution	-28	14	19.6	1.6	1966	73.0
Inlet	-28	23.5 ✓	11.3	15.2	2548	50

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.5	AT06	3.2	NA	
Carbon Vessel 1	AT3A	15	NA		NA		NA	
Post Dilution	AT2A	22	AT2B	19.8	NA		NA	
Inlet	AT5A	104	AT5B	9.5	NA		FT5	38~40

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7.0	9.2
Dilution Rate	FT2	67	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 6/11/09
Time: 10:15

Monitored By: Shinta Aizawa

Verified By: Seamus McGrogh.

35 → back
85 → front.

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-54	0	20.8	1.8	0	60 (Ave).
Carbon Vessel 1	-44	0	20.7	2.0	0	
Post Dilution	-30	17	20.7	1.8	2556	68
Inlet	-28	17.5 ✓	13.8	12.8	>15000	46.8

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.6	AT06	0.6	NA	
Carbon Vessel 1	AT3A	1	NA		NA		NA	
Post Dilution	AT2A	~~[illegible]~~ .25	AT2B	19.8	NA		NA	
Inlet	AT5A	~~7.9~~ 10.4	AT5B	9.9	NA		FT5	32~39.

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7~8	7
Dilution Rate	FT2	60	

Note: AT4B in-line O_2 sensor is faulty

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 6/24/09
Time: 2:30 PM

Monitored By: IAN YUSICO

Verified By: SM

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	+3	Ø	20.7	1.8	02	72
Carbon Vessel 1	-44	11	20.5	1.8	1396 MAX PID; 3360 PID 7000	
Post Dilution	-28	15	20.5	1.8	1396 MAX PID 1; 6900 PID 7000	69
Inlet	-28	27.5 ✓	11.4	16.8	1220 PID 1; 15000 OVER	47

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	.19%	AT06	0.6 ppm	NA	
Carbon Vessel 1	AT3A	15%	NA		NA		NA	
Post Dilution	AT2A	22%	AT2B	20%	NA		NA	
Inlet	AT5A	104%	AT5B	9%	NA		FT5	36

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate -28 in. of H2O	FT1	7	7.0
Dilution Rate -28 in. of H2O	FT2	70	

RH2 71%

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 7/10/09
Time: 2:30 PM.
Monitored By: Sinita Aizawa
Verified By: James McGough.

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	-54	0	20.5	0	0.5	90.5
Carbon Vessel 1	-48	0	20.1	1.8	0.1	
Post Dilution	-30	17	19.9	1.8	1940	66.5
Inlet	-28	22V	10.7	15.6	13315	46.2

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.4	AT06	0.2	NA	
Carbon Vessel 1	AT3A	1	NA		NA		NA	
Post Dilution	AT2A	24	AT2B	19.3	NA		NA	
Inlet	AT5A	104	AT5B	7.8	NA		FT5	35-37

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7	11
Dilution Rate	FT2	81	

Note: (FT4 = 46).

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 7/23/09
Time: 12:30 PM
Monitored By: Shinta Arizawa
Verified By: Seamus McGough

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	-54	0	20.3	1.8	0.2	60.1
Carbon Vessel 1	-46	0	20.2	2.0	40.5	
Post Dilution	-30	18	19.9	2.0	1879	63.5
Inlet	-28	17.5 V	12.8	12.6	12792 (diluted)	49.9

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.2	AT06	0.7	NA	
Carbon Vessel 1	AT3A	1	NA		NA		NA	
Post Dilution	AT2A	21	AT2B	19.4	NA		NA	
Inlet	AT5A	104	AT5B	8.3	NA		FT5	36~38

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7	7.9
Dilution Rate	FT2	82	

Note: FT1+FT4 = 7+48
= 55.

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 8/6/09
Time: 2:04 pm

Monitored By: SM

Verified By: IY

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	+2	0	20.5	1.6	0	70.5
Carbon Vessel 1	-47 / C2 -54	12	20.2	1.8	1813	6.0
Post Dilution	-30	15	20.1	1.8	1917	70.0
Inlet	-28 / Recirc. +15	23 ✓	11.3	16 c	15000 over	50.1

PID3

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.1	AT06	0.5	NA	
Carbon Vessel 1	AT3A	17	NA		NA		NA	
Post Dilution	AT2A	19	AT2B	19.6	NA		NA	
Inlet	AT5A	104	AT5B	9.2	NA		FT5	40

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	6.4	6.7
Dilution Rate	FT2	72.8	

Note:

FT1 + FT4 = 6.4 + 48

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 08/20/09
Time: 12:15 pm

Monitored By: IY

Verified By: SA

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	[redacted] +2	0	20.3	1.6	0.2	71.5
Carbon Vessel 1 Ca	-47/-55	0	20.4	1.8	2.5	
Post Dilution	-30	12	20.3	1.6	~~8~~ 1646	70.0
Inlet Recirc.	-28/+14	19.5V	11.7	15.4	11473	51.0

6.75

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.5	AT06	0.4	NA	
Carbon Vessel 1	AT3A	0	NA		NA		NA	
Post Dilution	AT2A	26 %	AT2B	19.6	NA		NA	
Inlet	AT5A	104 %	AT5B	8.9	NA		FT5	38.2

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	6	6.75
Dilution Rate	FT2	70	

Note: FT4 + FT1 = 47 + 6

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 09/03/09
Time: 10:00

Monitored By: TA

Verified By: SA

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	-66	0	18.6/18.9	2.8/3.0	0.9/0.1	77
Carbon Vessel 1	-56	8	18.9	3.0	1152	
Post Dilution	-33	30	18.9	2.8	2385	~~160~~ 75
Inlet	-31	6.5 V/11.5V	14.9/13.6	7.6/10.8	13923	53

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	18.2	AT06	0.4	NA	
Carbon Vessel 1	AT3A	12	NA		NA		NA	
Post Dilution	AT2A	41	AT2B	18.4	NA		NA	
Inlet	AT5A	104	AT5B	8.1	NA		FT5	FT1+FT4

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	12	16
Dilution Rate	FT2	84	

Note: =12+45
=57

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 9/16/2009
Time: 2:20 PM.

Monitored By: IY

Verified By: JM.

Station	Magnehelic	RKI Eagle			PID	Velocicalc
	Pressure (inch of water)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)
Effluent	-64. (+2)	0	20.1	1.6	0	82.5
Carbon Vessel 1	-54.	13	19.7	1.8	1110 (Max)	
Post Dilution	-30	15	19.5	2.0	8000	78.5
Inlet	-29	23.5 ✓	9.1	18.4	>15000	51.2

Station	In-line Sensors							
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	18.9	AT06	0.5	NA	
Carbon Vessel 1	AT3A	12	NA		NA		NA	
Post Dilution	AT2A	25	AT2B	19.2	NA		NA	
Inlet	AT5A	104	AT5B	7.4	NA		FT5	FT1 + FT4 = 7.3 + 45.9 = 53.2

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7.3	9.2
Dilution Rate	FT2	91.8	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 9/29/09
Time: 3:30 PM.

Monitored By: SA Verified By: SM

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	-66	0	20.3	0	0.1	87.5
Carbon Vessel 1	~~-54~~	0	19.7	1.6	0	
Post Dilution	~~-34~~ -32	15	~~19.3~~ 19.3	2.0	1803	79.5
Inlet	-30	21.5 V	~~6.0~~ 8.4	18.4	>15000	51.5

9.75 DIVERSIO

79.3"

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	19.2	AT06	0.4	NA	
Carbon Vessel 1	AT3A	0	NA		NA		NA	
Post Dilution	AT2A	28	AT2B	19.2	NA		NA	
Inlet	AT5A	104	AT5B	6.0	NA		FT5	FT1+FT4

= 8 + 43
= 51

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	8	9.75
Dilution Rate	FT2	82	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 10-8-09
Time: 12:30 pm

Monitored By: IY

Verified By: JC

Station	Magnehelic Pressure (inch of water)	RKI Eagle LEL (%)	RKI Eagle Oxygen (%)	RKI Eagle Carbon Dioxide (%)	PID VOC (ppm)	Velocicalc Flow Rate (scfm)
Effluent	+5/-66	Ø	19.7	2.0	0.0	83
Carbon Vessel 1	-54	Ø	19.7	2.0	Ø	
Post Dilution	-32	14	19.7	1.8	1738/2603	82
Inlet	-30/+16	19 V	10.3	17.0	1840/11200	52

Station	In-line Sensors LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)	
Effluent	NA		AT3B	18.7	AT06	0.3	NA	
Carbon Vessel 1	AT3A	0	NA		NA		NA	
Post Dilution	AT2A	27	AT2B	19.3	NA		NA	
Inlet	AT5A	104	AT5B	7.4	NA		FT5	52.3 (FT1+FT4) 7.9+44.4

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	~~7 1/2~~ 7.9	7.5
Dilution Rate	FT2	~~7.5~~ 8.5	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 10-22-09
Time: 11:25 AM

Monitored By: IY

Verified By: SM

Station	Magnehelic	RKI Eagle			PID	Velocicalc	
	Pressure (in. H2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)	Humidity (%)
Effluent	-66/+4 (@C2: before the blower)	Ø	19.5	2.0	0.4	88.5	1.8
Carbon Vessel 1	-54	10	19.5	2.0	1667 MAX 6700 ISOBUT. 15000 OVER BEN.		50.4
Post Dilution	-32	15	19.4	2.2	1667 MAX 9050 ISOBUT. 15000 OVER BEN.	73.5	50.3
Inlet	+16/-30	23.5 V	9.4	20.0	1667 MAX 11500 ISOBUT. 17000 OVER BEN.	49.8	51.1

Station	In-line Sensors									
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)		Humidity (%)	
Effluent	NA		AT3B	18.7	AT06	0.4	NA		NA	
Carbon Vessel 1	AT3A	14.0	NA		NA		NA		NA	
Post Dilution	AT2A	26.6	AT2B	19.4	NA		NA		RH2	69.2
Inlet	AT5A	104	AT5B	7.7	NA		FT5	51.2 (FT1+FT4) 7.8+43.4	NA	

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7.8	9.35
Dilution Rate	FT2	79.9	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 11/4/09
Time: 11:40 am

Monitored By: IY

Verified By: SM

AMB Humidity 48.5%

Station	Magnehelic	RKI Eagle			PID	Velocicalc	
	Pressure (in. H2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)	Humidity (%)
Effluent	-63/+4 (@C2: before the blower)	Ø	18.3	1.2	0.1 BEN	82.5	1.5
Carbon Vessel 1	-54	9	20.0	1.6	15000 OVER BEN 4040 ISO		15
Post Dilution	-34	10	19.8	1.8	15000 OVER BEN 2627 ISO	91.5	48.3
Inlet	-32/+14	21 V	9.3	20.8	15000 OVER BEN 13600 ISO	49.5	48.5%

Station	In-line Sensors									
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)		Humidity (%)	
Effluent	NA		AT3B	19	AT06	0.4	NA		NA	
Carbon Vessel 1	AT3A	12	NA		NA		NA		NA	
Post Dilution	AT2A	20	AT2B	20	NA		NA		RH2	74
Inlet	AT5A	10H	AT5B	8	NA		FT5	39 (FT1+FT4)	NA	

Reversion flow 6.0
Humidity = 48.0%

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	6	6
Dilution Rate	FT2	71 scfm	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 11/23/09
Time: 2:40 PM

Monitored By: IY

Verified By: SM

Station	Magnehelic	RKI Eagle			PID	Velocicalc	
	Pressure (in. H2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)	Humidity (%)
Effluent	-68 (@C2: before the blower)	Ø	18.8	2.6	0.0	78.0	0.6
Carbon Vessel 1	-58	Ø	19.2	2.6	0.8		44.4
Post Dilution	-38	16	19.1	2.6	15000 OVER	72.5	44.6
Inlet	-36	16.0 V	9.9	18.4	15000 OVER	52.5	44.9

Station	In-line Sensors									
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)		Humidity (%)	
Effluent	NA		AT3B	18.0	AT06	2.0	NA		NA	
Carbon Vessel 1	AT3A	~~3.7~~ 0	NA		NA		NA		NA	
Post Dilution	AT2A	~~10.5~~ 29	AT2B	18.5	NA		NA		RH2	51.7
Inlet	AT5A	104	AT5B	5.7	NA		FT5	47.8	NA	

(FT1+FT4)
8.5+39.3

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	8.5	10.1
Dilution Rate	FT2	80	

Note:
45

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 12/3/2009
Time: 14:55

Monitored By: IJ

Verified By: SM

Station	Magnehelic	RKI Eagle			PID	Velocicalc	
	Pressure (in. H2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)	Humidity (%)
Effluent	-68 (@C2: before the blower)	Ø	19.2	2.0	0.1	80.5	0.4
Carbon Vessel 1	-56	Ø	19.5	2.0	0.4		?
Post Dilution	-34	11	19.9	2.0	4245	79.5	?
Inlet	-32	16.5 ✓	9.9	19.6	13405	45.4	44.4

Velocicalc NOT READING CORRECTLY

Station	In-line Sensors									
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)		Humidity (%)	
Effluent	NA		AT3B	19	AT06	0.3	NA		NA	
Carbon Vessel 1	AT3A	1	NA		NA		NA		NA	
Post Dilution	AT2A	21	AT2B	21	NA		NA		RH2	72
Inlet	AT5A	fault	AT5B	7	NA		FT5	41 (FT1+FT4)	NA	

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7	9.6
Dilution Rate	FT2	65	

Note:

OXYGEN = 99.8% PURITY

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 12/15/09
Time: 2:00

Monitored By: SK

Verified By: _____

Station	Magnehelic	RKI Eagle			PID	Velocicalc	
	Pressure (in. H2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)	Humidity (%)
Effluent	(@C2: before the blower) -69	0	19.0	3.2	0.0	78	4.5
Carbon Vessel 1	-56	15	18.8	3.2	10,000 ppm	85	11.0
Post Dilution	-36	22	18.8	3.4	10,000 ppm	78	42.5
Inlet	-34	18.5 V%	8.5	23	15,000 ppm	49	42.1

Station	In-line Sensors									
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)		Humidity (%)	
Effluent	NA		AT3B	18.3	AT06	0.2	NA		NA	
Carbon Vessel 1	AT3A	16	NA		NA		NA		NA	
Post Dilution	AT2A	30	AT2B	19.3	NA		NA		RH2	54.4
Inlet	AT5A	NA.	AT5B	5.9	NA		FT5	47.4 (FT1+FT4) 7.8+39.6	NA	

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	7.8	10
Dilution Rate	FT2	78.5	

Note:

Del Amo Pits
SVE/IBT Enclosure Monitoring Form
Torrance, CA

Date: 12/30/09
Time: 12:30 pm

Monitored By: Seamus McGeough

Verified By: Edwin Lui

Heavy Drizzle/Rain

Station	Magnehelic	RKI Eagle			PID	Velocicalc	
	Pressure (in. H2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOC (ppm)	Flow Rate (scfm)	Humidity (%)
Effluent	70 (@C2: before the blower)	0	20.9	0	2.8 PID3 / 0 PID1	78.0	0.5
Carbon Vessel 1	58	0	20.3	2.4	1.0 PID3		57
Post Dilution	36	15	20.1	2.6	866 PID3 / Max PID1	53.5	16
Inlet	34	12.0V	9.4	18.0	Max PID3	41	55.4

Station	In-line Sensors									
	LEL C_6H_6 (%)		Oxygen (%)		VOCs (ppm)		Flow Rate (scfm)		Humidity (%)	
Effluent	NA		AT3B	19	AT06	0.2	NA		NA	
Carbon Vessel 1	AT3A	2	NA		NA		NA		NA	
Post Dilution	AT2A	25	AT2B	20	NA		NA		RH2	90
Inlet	AT5A	N/A	AT5B	5	NA		FT5	86 (FT1+FT4)	NA	

Station	In-line Sensors		Velocicalc (scfm)
Treatment Rate	FT1	9	10.6
Dilution Rate	FT2	50	~~10.6~~

Note:

APPENDIX F

FULL SCALE FIELD MONITORING FORMS

Date: 3/26/09

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Well ID	Pressure (In. H_2O)	LEL Methane (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
A	-0.02	0	18.8	1.8	0.2	Small screw
B	-0.02	0	12.8	6.8	0.1	
C	-0.02	0	14	7.2	0.1	Small screw
D	-0.02	0	20.9	0	0.1	
E	0	0	16.7	3.4	0	large screw
F	0	0	17.2	3.2	0	
G	-0.04	0	16.7	2.2	0	small screw
H	-0.05	0	15.1	3.6	0.2	rusted
I	-0.02	0	19.4	1.6	0.1	
J	-0.02	0	18.7	2.6	0	
K	-0.04	0	19.1	2.4	0	
L	-0.02	0	14.4	5.0	0.1	
A'	-0.72	14.5 V	9.3	12.9	15000 +	O_2 = 12.8
B'	-0.02	0	7.7	24.4	0.1	
C'	+2.25	55 V	14.6	15.4	15000 +	
D'	-0.24	41.5 V	0.5	19.8	15000 +	
E'	-0.05	0	20.9	0	0	
F'	-0.05	0	13.8	8.0	0.3	
G'	0	0	5.6	15.8	1.4	2 bolts large
H'	0	0	15.2	6.0	0.8	1 small
I'	0	.38	4.8	3.6	15000 +	
J'	-0.10	0	16.8	2.8	2.0	tight
K'	-0.10	0	13.7	5.6	1.0	
L'	-0.10	0	20.4	0	2.3	
M'	-0.02	21 V	8.4	19.4	15000 +	
N'	+0.3	41 V	18.1	10.6	15000 +	
A"1	-0.04	0	19.3	1.2	0.1	4 small
A"2	-0.06	0	20.5	0	0.2	tight
A"3	-0.04	0	20.5	0	7.5	tight
B"1	+0.98	28 V	20.9	13.6	15000 +	
B"2	0.36	48.5 V	19.3	13.8	15000 +	
B"3	+0.62	41 V	19.8	13.6	15000 +	
C"1	-0.44	0	19.7	0	1.4	
C"2	-0.06	0	20.1	0	400	
C"3	-0.12	0	19.4	0.6	100	
D"1	-0.4	1	20.1	0	400	
D"2	-0.2	62	20.5	0	1.7	
D"3	-0.3	52	5.7	15.2	15000 +	
E"1	-0.02	0	19.8	1.2	0.2	Lid missing
E"2	-0.02	0	19.4	1.0	0	
E"3	0	0	20.1	0.2	0.4	
F"1	-0.05	0	20.9	0	0.2	Broken thread
F"2	-0.05	0	20.9	0	1.6	
F"3	-0.05	0	20.9	0	2.0	

Date: 3/26/09

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Well ID	Pressure (In. H_2O)	LEL Methane (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
G"1	-0.04	0	16.7	4.2	0	BROKEN GASKET 4 Small bolt
G"2	-0.02	0	18.8	0.6	0.1	
G"3	0	0	20.9	0	0	
H"1	-0.05	0	20.9	0	0.2	4 Small
H"2	~~-0.05~~	0	20.9	0	0.1	P = 0
H"3	-0.05	0	12.8	7.2	0.1	
I"1	-0.15	7	0	17.2	415	4 Small, broken gasket
I"2	-0.05	0	20.6	0	1.5	
I"3	-0.10	0	5.5	10.4	31	
J"1	-0.05	0	20.9	0	0.4	
J"2	0	0	20.8	0	1.2	
J"3	-0.05	0	9.6	10.4	1.0	tight
K"1	-0.04	0	19.1	1.8	0.2	4 Small
K"2	-0.10	0	8.2	15.2	9.0	
K"3	-0.04	0	20.5	0	20	
L"1		-18.0 ✓	7.7	21.2	>15000	Bee / Bird NEST
L"2		33.5 ✓	11.8	15.4	>15000	
L"3		7.0 ✓	17.9	4.2	>15000	
M"1	-0.16	2	12.6	9.2	203	small
M"2	-0.22	0	8.2	16.8	2.2	
M"3	-0.02	0	20.5	0	4.5	tight

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Monitored by: SA/TA/SM/TY.
Date: 3/26/09

Well ID	Pressure (In. H20)	LEL methane (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
1	-14	18.5V	11.8	8.6	>15000	PID (2000) = 1078 max
2	-6	18.0 V	14.3	16.2	>15000	PID (2000) = 1078 max
3	+6	22.5V	21.7	13.0	>15000	PID (2000) = 1078 max
4	+12	26.5V	18.7	13.8	>15000	PID (2000) = 861
5	-6	38.0V	13.0	18.8	>15000	PID (2000) = 1078 max
6	-18	31.0V	11.0	8.8	>15000	PID (2000) = 1078 max
7	-8	44 V	11.7	14.4	>15000	PID (2000) = 575
8	+8	24.5V	22.5	11.2	>15000	PID (2000) = 600
9	+8	21V	20.9	12.0	>15000	PID (2000) = 857
10	-24	53V	11.9	15.8	>15000	PID (2000) = 424
11	-0.75	23V	18.7	15.0	>15000	PID (2000) = 1078 max
12	-20	6	18.7	7.4	>15000	PID (2000) = 1078 max
13	0	26V	15.6	0.6	>15000	PID (2000) = 1078 max
14	-0.1	4V	3.3	16.8	>15000	
15A	0	7	0.8	15.6	>15000	PID (2000) = 457
15B	-0.1	1	5.8	15	>15000	PID (2000) = 151
16	-0.05	20	0	12.8	>15000	PID (2000) = 458
17						
18	0	0	11.7	10.6	0.2	
19	-0.05	2	1.6	15.2	>15000	PID (2000) = 185
20A	-22	12	5	12.6	>15000	PID (2000) = 434
20B	-0.15	40	1	17.4	>15000	PID (2000) = 800
21	-0.05	14	7.4	12	>15000	PID (2000) = 258

Date: 6/17/09

By: SA/SW/IY/TT

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Well ID	Pressure (In. H_2O)	LEL Methane (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
A	-0.05	Ø	20.7	0.6	0.6	
B	-0.1	Ø	14.2	7.6	0.3	
C	Ø	Ø	13.4	8.8	0.2	
D	-0.05	Ø	11.0	8.8	0.3	
E	-0.05	Ø	~~16.7~~	3.8	0.2	O_2 = 17.2
F	-0.05	Ø	17.6	3.6	0.2	
G	-0.1	Ø	18.5	2.2	0.2	
H	-0.02	Ø	17.0	3.4	0.3	
I	-0.05	0	20.5	~~3.6~~ 1.8	0.1	
J	Ø	0	20.0	~~1.8~~ 2.4	Ø	
K	-0.05	0	20.5	~~2.4~~ 1.8	Ø	
L	-0.05	0	15.3	6.2	0.2	
A'	-0.6	~~5.5 V~~	8.3	13.8	>15000	17.0 V → LEL.
B'	-0.05	Ø	6.0	24.8	0.2	
C'	+1.2	55 V	9.0	16.6	5900	
D'	-0.22	41 V	0.6	20.0	>15000	
E'	-0.06	Ø	10.0	8.0	1.7	
F'	-0.04	Ø	16.9	3.4	0.8	
G'	-0.03	Ø	6.1	14.4	1.7	
H'	-0.02	Ø	14.5	7.2	0.7	
I'	-0.02	45	2.3	2.4	12590	
J'	-0.06	Ø	18.1	2.2	5.4	
K'	-0.07	Ø	15.8	3.0	2.3	need to replace a ball valve
L'	-0.16	~~20.9~~ Ø	20.9	Ø	1.0	
M'	-0.02	19.+ V	8.2	18.2	>15000	
N'	+0.15	~~Ø~~ 35V	18.4	11.0	12700	
A"1	-0.05	Ø	20.1	1.4	0.1	
A"2	-0.1	Ø	20.9	Ø	0.2	
A"3	-0.05	Ø	20.9	Ø	5.5	
B"1	+1.0	27 V	23.1	13.6	>15000	
B"2	+0.4	47 V	20.2	14.2	8000	
B"3	+0.5	38 V	21.6	14.2	7660	
C"1	-0.36	Ø	20.9	Ø	0.4	
C"2	-0.08	Ø	20.9	Ø	0.8	
C"3	-0.14	1	20.7	Ø	1.0	
D"1	-0.44	Ø	20.9	Ø	1900	
D"2	-0.20	Ø	20.9	Ø	30	
D"3	-0.34	31	7.8	13.2	>15000	
E"1	-0.05	Ø	20.9	Ø	0.4	
E"2	-0.05	Ø	19.2	1.4	0.3	
E"3	-0.05	Ø	20.9	Ø	0.4	
F"1	-0.02	Ø	20.9	Ø	0.5	
F"2	-0.04	Ø	20.9	0.2	5.5	
F"3	-0.02	Ø	20.9	Ø	10.5	

Date: 6/17/09.

By: SA/SM/IY/TT

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Well ID	Pressure (In. H_2O)	LEL Methane (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
G"1	-0.05	Ø	16.1	4.2	0.2	
G"2	-0.05	Ø	19.4	1.0	0.2	
G"3	-0.01	~~Ø~~ Ø	~~20.9~~	~~Ø~~	0.2	20.0 O2, 1.0 CO2
H"1	-0.02	Ø	20.9	Ø	0.6	
H"2	-0.02	Ø	20.9	Ø	0.5	
H"3	-0.04	Ø	12.8	6.6	0.5	
I"1	-0.1	6	0.2	16.4	711	
I"2	-0.03	Ø	20.9	Ø	1.7	
I"3	-0.06	Ø	18.3	1.4	14.6	
J"1	-0.04	Ø	20.9	Ø	1.2	
J"2	-0.04	Ø	20.9	Ø	1.8	
J"3	-0.02	0	20.7	0.2	1.6	
K"1	-0.04	Ø	20.0	1.2	0.4	
K"2	-0.10	Ø	9.9	13.0	6.3	
K"3	-0.02	Ø	20.9	Ø	3.8	
L"1	+0.9	51V	7.0	20.1	715000	
L"2	+0.86	31 V	11.1	15.6	10700	
L"3	+0.06	8.5V	16.8	5.6	>15000	
M"1	-0.18	2	12.6	9.0	416	
M"2	-0.25	Ø	8.6	16.0	13.8	
M"3	-0.05	Ø	20.7	Ø	3.2	

SVE/BT
Full Scale Monitoring Form
Del Amo Pits

Monitored by: SA/TT/JY/SM
Date: 6/17/09

Well ID	Pressure (In. H20)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
1	-14	17 V	12.2	7.8	>15000	
2	-5	21.5 V	11.6	23.8	>15000	
3	+6	20.5 V	24.4	13.2	>15000	
4	+10	27.5 V	12.3	16.0	>15000	
5	-5	37 V	8.3	20.4	max/9300	
6	-18	28.5 V	10.2	8.6	max/8135	
7	-7	46.5 V	9.9	15.2	max/4300	
8	+12	20 V	19.3	13.0	max/8300	
9	+5	17.5 V	23.6	11.6	>15000	
10	-20	50 V	13.1	15.2	max/15000	
11	-2	21 V	12.6	17.6	max/7125	
12	-22	56	18.4	5.2	>15000	
13	-0.2	13.5 V	3.6	1.8	>15000	
14	-0.02	4	6.1	13.2	431/1005	
15A	-0.02	6	1.2	15.2	610/908	
15B	-0.11	1	4.9	15.2	143/170	
16	~~-0.02~~ 0	17	0.9	12.8	1215/3221	
17						
18	-0.04	Ø	12.5	9.4	0.4	
19	-0.06	3	1.3	15.0	250/480	
20A	-2.5	10	1.6	14.6	~~200/520~~	VOCs: 520/3200
20B	-0.14	44	1.0	16.4	1284/3790	
21	-0.07	14	7.0	13.0	314/	

*: 1st reading = PID 2000
2nd = PID 3000.

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Date: 09/17/2009

Monitored By: TA | SA

Well ID	Pressure (in. H_2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
A	-0.05	Ø	20.9	Ø	Ø	
B	-0.15	Ø	13.9	8.4	Ø	
C	-0.15	Ø	12.1	10.6	Ø	
D	-0.1	Ø	9.3	11.4	Ø	
E	-0.1	Ø	17.3	4.2	Ø	
F	-0.1	Ø	17.7	3.6	Ø	
G	-0.05	Ø	18.5	2.6	Ø	
H	-0.05	Ø	16.9	4.0	Ø	
I	-0.05	2	20.0	1.6	Ø	
J	-0.05	Ø	19.3	2.6	Ø	
K	-0.05	Ø	20.1	1.4	Ø	
L	-0.02	Ø	13.7	7.0	0.1	
A'	-0.75	16.5 V	8.0	14.0	>15000	
B'	-0.05	Ø	3.7	28.0	4.1	
C'	1.15	59.0 V	5.5	18.2	14000	
D'	-0.35	56.0 V	0.2	19.4	>15000	
E'	-0.15	Ø	8.6	9.6	0.4	
F'	-0.15	Ø	~~20.9~~	~~Ø~~ 1.8	0.5	Oxygen = 18.1, CO2 = 1.8
G'	Ø	Ø	5.6	14.2	1.0	
H'	-0.15	Ø	13.0	7.4	0.2	
I'	-0.05	66	1.9	2.4	>15000	
J'	-0.10	Ø	15.6	3.8	7.6	
K'	-0.15	Ø	11.2	6.9	2.9	
L'	-0.15	Ø	20.0	9.2	6.9	
M'	Ø	22 V	7.7	16.2	>15000	
N'	0.35	46% V	16.8	12.4	>15000	
A"1	-0.15	Ø	19.3	1.4	Ø	
A"2	-0.15	Ø	20.9	Ø	Ø	
A"3	-0.05	Ø	20.9	Ø	10.8	
B"1	1.05	22.5 V	15.0	21.6	>15000	
B"2	0.40	43.0 V	19.3	14.4	11695	
B"3	0.65	36.5 V	17.0	18.8	11800	
C"1	-0.55	2	20.4	Ø	17.5	
C"2	-0.20	1	20.6	Ø	14.1	
C"3	-0.25	1	20.5	Ø	15.0	
D"1	-0.6	5V	10.7	8.6	>15000	
D"2	-0.3	Ø	20.9	Ø	44.7	
D"3	-0.45	20	11.5	9.6	>14304	
E"1	-0.05	Ø	20.9	Ø	Ø	
E"2	-0.05	Ø	20.6	0.6	Ø	
E"3	-0.05	Ø	20.9	Ø	0.5	
-0.10 F"1	~~-0.10~~	Ø	9.7	9.6	0.6	Pressure = -0.10
F"2	-0.15	Ø	20.9	Ø	1.9	
F"3	-0.10	Ø	20.9	Ø	5.2	

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Date: 9/17/2009

Monitored By: TA/SA

Well ID	Pressure (in. H_2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
G"1	-0.05	Ø	16.3	3.8	Ø	O_2 = 16.3%
G"2	Ø	Ø	18.4	1.6	Ø	
G"3	-0.05	Ø	13.5	8.0	Ø	
H"1	-0.05	Ø	20.9	Ø	Ø	
H"2	-0.05	Ø	20.9	Ø	Ø	
H"3	-0.10	Ø	11.9	6.6	Ø	
I"1	-0.15	10	Ø	16.4	1635	
I"2	-0.20	Ø	20.9	Ø	8.4	
I"3	-0.10	Ø	5.2	10.2	46.0	
J"1	-0.05	Ø	20.9	Ø	Ø	
J"2	-0.05	Ø	20.9	Ø	0.5	
J"3	-0.10	Ø	20.9	Ø	Ø	
K"1	-0.15	Ø	19.2	1.6	0.1	
K"2	-0.15	Ø	13.0	11.6	2.1	
K"3	-0.05	Ø	20.9	Ø	3.8	
L"1	1.0	57.5 V	5.1	20.1	>15000	
L"2	0.90	20.9 V	8.5	16.8	>15000	
L"3	0.35	6 V	20.6	0	>371	
M"1	-0.20	1	13.6	7.8	287.6	
M"2	-0.30	Ø	10.1	14.0	1.2	
M"3	-0.05	Ø	20.9	Ø	Ø	

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Monitored by: TA / SA
Date: 9 / 17 / 2009

Well ID	Pressure (in. H20)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
1	-16	16.0V	12.2V	7.6V	>15000	
2	-4	18.0V	7.8V	29.0V	>15000	
3	4.5	15.0V	11.8V	24.4V	>15000	
4	11.5	24.5V	12.3V	18.2V	>15000	
5	-5.5	34.5V	7.4V	22.2V	>15000	
6	-24	14V	12.9V	6.6V	>15000	
7	-8	47.5V	8.4V	17.0V	>15000	
8	10.5	20V	23.9V	15.0V	>15000	
9	5.5	20V	20.9V	15.2V	>15000	
10	-23	38.5V	12.2V	13.8V	>15000	
11	-1.5	17.5V	3.4V	29.6V	>15000	
12	-24	7.0V	12.8V	13.8V	>15000	
13	-0.25	13.5V	2.8V	1.8V	>15000	
14	-0.10	2	2.3	16.8	693	
15A	-0.10	5	0.2	15.0	1835	
15B	-0.10	Ø	3.7	16.2	110	
16	-0.10	14	Ø	14.8	6393	
17	N/A	~~17.5V~~	~~3.4V~~	~~29.6V~~	~~>15000~~	NA
18	-0.10	Ø	11.9	10.2	Ø	
19	-0.15	2	0.8	15.6	623	
-1.5 20A	~~[illegible]~~	7	0.7	16.0	1742	Pressure = -1.5
20B	-0.25	61	0.2	17.0	14503	
21	-0.10	12	6.0	13.8	529	

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Date: 12-16-09

Monitored By: I.Y / SK / EL

Well ID	Pressure (in. H_2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
A	-.05	0	19.5	2	0	F593C THE
B	0	0	14.7	9.4	0.1	Drill out bolt
C	0	0	12.9	11.4	0.1	bolt
D	-.05	0	11.9	8.4	0	
E	-.05	0	17.6	4.2	0	paint
F	-.05	0	17.8	3.6	0	
G	-.05	0	18.8	2.6	0	
H	-0.04	0	17.8	4.2	0	bolt - drill out bolt
I	0	0	19.5	1.4	0	no bolts, filled w/mud, needs new sample port
J	0	0	19.3	2.4	0.1	no bolts
K	0	0	19.9	1.2	0.0	no bolts
L	0	0	15.4	5.4	0.0	no bolts
A'	-.65	13V	8.0	17.2	>15,000	
B'	-0.1	2	2.5	34.4	34.8	bolt
C'	.75	45V	4.0	28	>15,000	
D'	-.5	41V	.4	21.6	>15,000	
E'	-0.09	0	5.6	14.2	0.9	
F'	-0.13	0	20.9	0.2	0	Thread
G'	-0.06	0	20.9	0	0	Cover post/Marker
H'	-0.07	0	16.3	4.6	0.9	
I'	0.0	52	2.7	4.4	13,532	
J'	-0.02	0	16.8	3.2	2.5	No bolts, rubber seal
K'	-0.10	0	17.1	3.0	0.5	
L'	-0.14	0	20.9	0	1.0	
M'	-.1	21.5V	6.1	21.8	>15,000	
N'	.15	45V	16.2	19.8	>15,000	spray paint
A"1	0	0	19.5	1.2	0	Need bolts (4)
A"2	-.1	1	20.9	0	0	
A"3	0	0	20.9	0	12.8	
B"1	.75	25.5V	7.5	37	>15,000	
B"2	0	31V	15.7	20.4	>15,000	
B"3	.5	35.5V	12.2	27.2	>15,000	
C"1	0	0	20.9	0	1.2	
C"2	-.30	0	20.9	0	0	
C"3	0	0	20.9	.4	11.2	
D"1	-.75	12.5V	3.7	18.2	>15,000	
D"2	-.6	0	20.9	0	3.0	
D"3	0	11	11.9	9.4	>15,000	
E"1	-.15	0	20.9	0	0.2	No well box!
E"2	0	0	18.6	1.6	0.1	- no bolts
E"3	-0.15	0	20.9	0	0.2	well tags
F"1	-0.02	0	20.9	0	0	bolts / Thread
F"2	-0.02	0	20.9	0	2.3	
F"3	-0.02	0	20.9	0	2.6	

Need Flags

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Date: 12-16-09

Monitored By: FY/SK/EL

Well ID	Pressure (in. H_2O)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
G"1	-.05	0	16.2	4.4	0.1	bolts
G"2	-.05	0	19.8	0.6	0	
G"3	0	0	8.8	14.8	0.3	
H"1	-0.02	0	20.9	0	0	No bolts
H"2	-0.03	0	20.9	0	0	
H"3	-0.03	0	11.4	7.6	0	
I"1	-0.04	0	20.9	0	2.4	rubber seal
I"2	-0.10	0	20.9	0	0.8	
I"3	-0.02	0	18.3	1.6	4.9	No bolts
J"1	0.0	0	20.9	0	0	
J"2	-0.02	0	20.9	0	0.9	
J"3	-0.08	0	13.3	7.0	0.8	ball valve
K"1	-.1	0	19.9	1.2	0	No bolts
K"2	-.2	1	10.6	4.6	1.3	Replace rubber seal
K"3	0	0	20.9	0	10	
L"1	.5	54.5V	4.3	28.4	>15,000	No bolts
L"2	1.0	5.0V	5.6	30.2	>15,000	
L"3	0	0	20.9	0	65	
M"1	-.1	0	15.7	7.0	69.1	No bolts
M"2	-.25	0	11.2	14.6	0.8	
M"3	0	0	20.9	0	5.5	

SVE/IBT
Full Scale Monitoring Form
Del Amo Pits

Monitored by: IY, SK
Date: 12/17/09

Pressure During Purge	Well ID	Pressure (In. H20)	LEL (%)	Oxygen (%)	Carbon Dioxide (%)	VOCs (ppm)	Note
-60.0	1	-19	16.0 V	12.8	7.8	>15,000	
-10.0	2	-3.5	18.0 V	4.0	36.0	>15,000	
-18.0	3	+3.5	16.5 V	4.1	36.4	>15,000	
-20.0	4	+6.5	23.5 V	4.4	33.6	>15,000	
-15.0	5	-4.5	36.5 V	5.8	30.2	12,250	
-60.0	6	-21	32 V	7.9	13.6	>15,000	
-22.0	7	-7.5	50 V	8.4	21	>15,000	
-20.0	8	+7	25 V	8.3	27.4	>15,000	
-10.0	9	+4	17.5 V	20.9	18.8	>15,000	
-40.0	10	-26	47 V	11.4	18.0	>15,000	
-20.0	11	-1.0	12.0 V	0.4	44.2	>15,000	
-75.0	12	-20.5	~~33% LEL 32 V~~	~~13.1 7.9~~	~~15.6 13.6~~	~~>15,000~~	>15,000
-50.0	13	-0.30	12.5 V	4.0	1.8	>15,000	
-20.0	14	-0.07	1	0.8	18.6	114	
-20.0	15A	-0.08	4	0.5	14.2	1048	
-26.0	15B	-0.06	0	2.7	18.8	38.3	
-18.0	16	-0.02	13	0	15.6	7314	
—	17	NA	—	—	—	—	DID NOT SAMPLE (need to repair well head)
-20.0	18	-0.02	0	11.9	10.6	0.5	
-12.0	19	-0.02	2	0.6	16.6	138	
-22.0	20A	-2.5	5	0.2	17.8	[redacted]	644
-20.0	20B	-0.08	63	0	17.4	6500	
-40.0	21	-0.08	9	6.0	14.0	126	

APPENDIX G

2009 INSPECTION FORMS

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: IY

Title: PE

Sheet 1 of 11

Date: 2/10/09

Time: 11:30 AM

Verified By: SA

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: IY

Title: PE

Sheet 2 of 11

Date: 2/10/09

Time: 12:30 PM

Verified By: SA

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

	Condition/Remarks
Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4
Condensate Collection [1]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11

DATE: 12:30 PM 2/10/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: IY
Title: PE

Sheet 4 of 11
Date: 2/10/09
Time: 11:30 AM

Verified By: SA
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	4
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	3
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 11:30 PM 2/10/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: I.Y
Title: PE

Sheet 6 of 11
Date: 2/10/09
Time: 11:30 AM

Verified By: SA
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	4
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 2/10/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: IY

Title: PE

Sheet 8 of 11

Date: 2/10/09

Time: 11:30 AM

Verified By: SA

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 9 of 11
Date: 2/10/09
Time: 11:30

Verified By: SA
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain)_____

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: IY

Title: PE

Sheet 10 of 11

Date: 2/10/09

Time: 11:30 AM

Verified By: SA

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Manifold	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Visible Damage	
4. Sniff for signs of leaks	4
	4
Condensate Collection [1]	
5. Air Moisture Separator	4
Additional System Components	
6. Carbon Adsorber Vessels	
- Exterior Damage	4
- Vessel Configuration (A-B or B-A)	
7. Blowers	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
8. Oxygen Generator	
- Signs of Rust/Corrosion	4
- Mechanical Functioning	4
- Oxygen Purity	4

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 2/10/09

9. System Sensors
   - Visible Damage: 4
   - Mechanical Functioning: 3

10. SVE Wellheads[2]
   - Tee Flanges: 4
   - Valves
   - Sniff for signs of leaks: 4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: Shinta Aizawa Sheet 1 of 11

Title: Staff Scientist / Project Engineer Date: 2/18/09

Time: 2:15

Verified By: IY

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: Shinta Aizawa

Title: Staff scientist.

Sheet 2 of 11.

Date: 2/18/09

Time: 2:10 PM

Verified By: Iy

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

	Condition/Remarks
Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	3
Condensate Collection [1]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11
DATE: 2/18/09

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.
(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: Shinta Aizawa
Title: Staff Scientist.

Sheet 4 of 11
Date: 2/18/09
Time:

Verified By: IY
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	4
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	3
6.	Turf Height	4
7.	Burrowing Animals	3
8.	Weeds or Undesirable Vegetation	3
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11
DATE: 2/18/09

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: Shinta Aizawa
Title: Staff Scientist.

Sheet 6 of 11
Date: 2/18/09
Time: _____

Verified By: IY
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	4
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 2/18/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: Shinta Aizawa

Title: Staff scientist.

Sheet 8 of 11

Date: 2/18/09

Time: _____

Verified By: IY

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	3
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: Shinta Arawa
Title: Staff Scientist

Sheet 9 of 11
Date: 2/18/09
Time: _____

Verified By: IY
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain)_____

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	3
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	3
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: Shinta Aizawa

Title: Staff scientist.

Sheet 10 of 11

Date: 2/18/09

Time: 2:15 PM

Verified By: Iy

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Manifold	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Visible Damage	
4. Sniff for signs of leaks	4
Condensate Collection[1]	
5. Air Moisture Separator	3 (15 gal).
Additional System Components	
6. Carbon Adsorber Vessels	
- Exterior Damage	4
- Vessel Configuration (A-B or B-A)	4
7. Blowers	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
8. Oxygen Generator	
- Signs of Rust/Corrosion	4
- Mechanical Functioning	4
- Oxygen Purity	4

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 2/18/09

9. System Sensors
   - Visible Damage: 2.
   - Mechanical Functioning: 4

10. SVE Wellheads[2]
   - Tee Flanges: 4
   - Valves: 3. (SVE3, 4)
   - Sniff for signs of leaks: 4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 1 of 11

Date: 3/27/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt.

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	3
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 2 of 11

Date: 3/27/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt.

	Condition/Remarks
Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4
Condensate Collection[3]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	4
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11

DATE: 3/27/05

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: Stefan Klemm
Title: Project Manager

Sheet 4 of 11
Date: 3/27/09
Time: 10:00 am

Verified By: IY
Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt.

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	4
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	3
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 3/27/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: Stefan Klemm
Title: Project Manager

Sheet 6 of 11
Date: 3/27/09
Time: 10:00 am

Verified By: IY
Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	4
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 3/27/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 8 of 11

Date: 3/22/05

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt.

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: Stefan Klemm
Title: Project Manager

Sheet 9 of 11
Date: 3/27/09
Time: 10:00 am

Verified By: Iy
Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt.

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 10 of 11

Date: 3/27/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 1st Qrt.

Manifold	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Visible Damage	4
4. Sniff for signs of leaks	4

Condensate Collection [1]

5. Air Moisture Separator	4 (approx 12 gallons in Separator)

Additional System Components

6. Carbon Adsorber Vessels	
- Exterior Damage	4
- Vessel Configuration (A-B or B-A)	4
7. Blowers	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
8. Oxygen Generator	
- Signs of Rust/Corrosion	4
- Mechanical Functioning	4
- Oxygen Purity	4 (96% O_2)

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 3/27/09

9.	System Sensors	
	- Visible Damage	4
	- Mechanical Functioning	4
10.	SVE Wellheads[2]	
	- Tee Flanges	4
	- Valves	4
	- Sniff for signs of leaks	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: TIFFANY ARMENTA

Title: GIS OPERATOR/FIELD TECH.

Sheet 1 of 11

Date: 5/18/09

Time: 11:00 AM

Verified By: IY

Title: PE

Type of Inspection (check only one):

( ) Quarterly (X) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

N/A.

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: S. Mc GEOUGH

Title: PROJECT ENGINEER

Sheet 2 of 11

Date: 5/18/09

Time: 11:15am

Verified By: IV

Title: PE

Type of Inspection (check only one):

( ) Quarterly (X) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) _____

	Condition/Remarks
Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4
Condensate Collection [1]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	4
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11

DATE: 5/18/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: Shinta Arawa
Title: Staff Scientist / Project Engineer.

Sheet 4 of 11
Date: 5/18/09
Time: 11:00 AM

Verified By: I.Y
Title: PE

Type of Inspection (check only one):

( ) Quarterly (X) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) _____

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	4
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	3
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 5/18/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: TIFFANY ARMENTA
Title: GIS OPERATOR / FIELD TECH

Sheet 6 of 11
Date: 5/18/09
Time: 11:00 AM

Verified By: IY
Title: PE

Type of Inspection (check only one):

( ) Quarterly (X) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	4
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	3
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	3
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 5/18/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

- Blanket over barbed wire of perimeter fence suggests someone has been entering site.

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: Shinta Arizawa Sheet 8 of 11

Title: Staff Scientist/Project Engineer Date: 5/18/09

Time: 11:15 AM.

Verified By: IY

Title: PE

Type of Inspection (check only one):

( ) Quarterly (X) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: Shinta Aizawa
Title: Project Engineer/Staff Scientist

Sheet 9 of 11
Date: 5/18/09
Time: 11:15.

Verified By: IY
Title: PE

Type of Inspection (check only one):

( ) Quarterly (X) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain)_____

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	2
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

sediments and gravels in the V-ditch needs to be removed.

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: S. Mc Gough

Title: PROJECT ENGINEER

Sheet 10 of 11

Date: 5/18-09

Time: 11 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

( ) Quarterly (✓) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) _____

Manifold	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Visible Damage	NO
4. Sniff for signs of leaks	4
Condensate Collection[1]	
5. Air Moisture Separator	4
Additional System Components	
6. Carbon Adsorber Vessels	
- Exterior Damage	NO
- Vessel Configuration (A-B or B-A)	4
7. Blowers	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
8. Oxygen Generator	
- Signs of Rust/Corrosion	4
- Mechanical Functioning	4
- Oxygen Purity	4

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 5-18-09

9. System Sensors
   - Visible Damage 4
   - Mechanical Functioning 4

10. SVE Wellheads[2]
   - Tee Flanges 4
   - Valves
   - Sniff for signs of leaks 4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: Stefan Klemm

Sheet 1 of 11

Title: Project Manager

Date: 6/26/09

Time: 10:00

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: Stefan Klemm

Sheet 2 of 11

Title: Project Manager

Date: 6/26/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

Collection System Valves	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4
Condensate Collection[3]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	4
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4 (no excessive noise)
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4 self lubricating
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11

DATE: 6/26/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 4 of 11

Date: 6/26/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	3 (slight in a few spots)
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	3 (slight in a few spots)
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 6/26/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

Stressed vegetation slight in a few spots -> continue to observe and monitor

Burrowing Animals slight in a few spots -> continue to observe and monitor

Observed possible leak in aboveground ~~[illegible]~~ irrigation line -> repair during routine maintenance

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: Stefan Klemm
Title: Project Manager

Sheet 6 of 11
Date: 6/26/09
Time: 10:00 am

Verified By: IY
Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	4
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 6/26/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 8 of 11

Date: 6/26/09

Time: 10:00 am

Verified By: IV

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	3 (few joints need re-caulking)
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

Re-Caulking of joints to be completed during routine maintenance

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: Stefan Klemm
Title: Project Manager

Sheet 9 of 11
Date: 6/26/08
Time: 10:00 am

Verified By: IY
Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 10 of 11

Date: 6/26/09

Time: 10:00 am.

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[3] ( ) After Heavy Rain[2]

( ) Other (explain) 2nd Qrt. Inspection Event

		Condition/Remarks
Manifold		
1.	Adequate-Free Movement	4
2.	Seals - Complete	4
3.	Visible Damage	4
4.	Sniff for signs of leaks	4
Condensate Collection [1]		
5.	Air Moisture Separator	4
Additional System Components		
6.	Carbon Adsorber Vessels	
	- Exterior Damage	4
	- Vessel Configuration (A-B or B-A)	
7.	Blowers	
	- General Motor Maintenance	4
	- Drive Maintenance	4
	- Bearing Maintenance	4
	- Excessive Noise	4
8.	Oxygen Generator	
	- Signs of Rust/Corrosion	4
	- Mechanical Functioning	4
	- Oxygen Purity	4

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 6/26/09

9. System Sensors
   - Visible Damage 4
   - Mechanical Functioning 4

10. SVE Wellheads[2]
   - Tee Flanges 4
   - Valves 4
   - Sniff for signs of leaks 4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.
(3) Refer to Table 3.3.2 of the OM+M Plan for frequency based on magnitude and distance to site.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: Stefan Klemm

Sheet 1 of 11

Title: Project Manager

Date: 9/16/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 2 of 11

Date: 9/16/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

	Condition/Remarks
Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4
Condensate Collection [1]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4 (self lubricating)
- Structural Maintenance	4

(no excessive noise or vibration detected)

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11
DATE: 9/16/09

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.
(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 4 of 11

Date: 9/16/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	3 (slight, continue observing)
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	4
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 9/16/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 6 of 11

Date: 9/16/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	4
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 9/16/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: Stefan Klemm

Sheet 8 of 11

Title: Project Manager

Date: 9/16/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999), within 24-hr. period

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: Stefan Klemm
Title: Project Manager

Sheet 9 of 11
Date: 9/16/09
Time: 10:00 am

Verified By: IY
Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) ~~Contoured grades, swales, and catch basins.~~ exceeding 1.0 in. of rain within 24-hr. period.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: Stefan Klemm

Title: Project Manager

Sheet 10 of 11

Date: 9/16/09

Time: 10:00 am

Verified By: IY

Title: PE

Type of Inspection (check only one):

(✓) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 3rd Qrt.

Manifold	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Visible Damage	4
4. Sniff for signs of leaks	4

Condensate Collection[1]	
5. Air Moisture Separator	4

Additional System Components	
6. Carbon Adsorber Vessels	
- Exterior Damage	4
- Vessel Configuration (A-B or B-A)	A-B
7. Blowers	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
(no excessive noise or vibration detected)	
8. Oxygen Generator	
- Signs of Rust/Corrosion	4
- Mechanical Functioning	4
- Oxygen Purity	> 90%

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 9/16/09

9.	System Sensors	
	- Visible Damage	4
	- Mechanical Functioning	4
10.	SVE Wellheads[2]	
	- Tee Flanges	4
	- Valves	4
	- Sniff for signs of leaks	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: IY

Title: PE

Sheet 1 of 11

Date: 11/4/2009

Time: 10:00 AM

Verified By: SM

Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 4th Quarterly Site Inspection

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

Staff noticed that along the northside of the access road lie (2) small concrete vaults that are elevated about 6-10 inches and need to be leveled with the ground to avoid any vehicles from bumping them and to eliminate pedestrian trip hazards on site.

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: IY

Title: PE

Sheet 2 of 11

Date: 11/4/2009

Time: 10:00 AM

Verified By: SM

Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 4th Quarterly

	Condition/Remarks
Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4
Condensate Collection[1]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	4
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
- Lubrication	4
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11
DATE: 11/4/2009

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.
(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: IY
Title: PE

Sheet 4 of 11
Date: 11/4/2009
Time:

Verified By: SM
Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 4th Quarterly

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	4
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	4
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 11/4/2009

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 6 of 11
Date: 11/4/2009
Time: 10:00 AM

Verified By: SM
Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 4th Quarterly

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	3
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 11/4/2009

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

4.) Rust/Corrosion — Northwest portion of the perimeter fence is showing some signs of rust but still in good condition.

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: IY

Title: PE

Sheet 8 of 11

Date: 11/4/2009

Time: 10:00AM

Verified By: SM

Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 4th Quarterly

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 9 of 11
Date: 11/4/2009
Time: 10:00 AM

Verified By: SM
Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]
( ) Other (explain) 4th Quarterly

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: IY

Title: PE

Sheet 10 of 11

Date: 11/4/2009

Time: 10:00 AM

Verified By: IY

Title: PE

Type of Inspection (check only one):

(X) Quarterly ( ) After Seismic Event[1] ( ) After Heavy Rain[2]

( ) Other (explain) 4th Quarterly

Manifold	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Visible Damage	4
4. Sniff for signs of leaks	4
Condensate Collection[1]	
5. Air Moisture Separator	4
Additional System Components	
6. Carbon Adsorber Vessels	
- Exterior Damage	4
- Vessel Configuration (A-B or B-A)	4
7. Blowers	
- General Motor Maintenance	4
- Drive Maintenance	4
- Bearing Maintenance	4
8. Oxygen Generator	
- Signs of Rust/Corrosion	4
- Mechanical Functioning	4
- Oxygen Purity	4

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 11/4/2009

9.	System Sensors	
	- Visible Damage	4
	- Mechanical Functioning	4
10.	SVE Wellheads[2]	
	- Tee Flanges	4
	- Valves	4
	- Sniff for signs of leaks	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: IY

Title: PE

Sheet 1 of 11

Date: 12/8/09

Time: 11:25

Verified By: SM

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: IY

Title: PE

Sheet 2 of 11

Date: 12/8/09

Time: 10:45

Verified By: SM

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Collection System Valves	Condition/Remarks
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	3
Condensate Collection[1]	
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	4
- Exterior Damage	4
- FRP Grating and Mesh	4
Heavy Equipment	
6. Blower	
- General Motor Maintenance	3
- Drive Maintenance	3
- Bearing Maintenance	3
- Lubrication	3
- Structural Maintenance	4

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

SHEET 3 OF 11

DATE: 12/8/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

(3) Initial condensate collected from the air moisture separator must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: IY

Title: PE

Sheet 4 of 11

Date: 12/8/09

Time: 11:20

Verified By: SM

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description		Condition/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	3
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	4
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

SHEET 5 OF 11

DATE: 12/8/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 6 of 11
Date: 12/8/09
Time: 11:05

Verified By: SM
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	3 ON NORTH SIDE
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

SHEET 7 OF 11

DATE: 12/8/09

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: IY

Title: PE

Sheet 8 of 11

Date: 12/8/09

Time: 11:30

Verified By: SM

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	4
2. Plugging of Drainage Inlets	4
3. Sediment Build-Up or Debris in Catch Basin	4
4. Structural Failure of Catch Basin	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 9 of 11
Date: 12/8/09
Time: 11:15

Verified By: SM
Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain)_____

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	4
2. Ponding on Contoured Grade	4
3. Gullies and Ruts on Contoured Grade	4
4. Plugging of Drainage Culverts	4
5. Holes and Cracks in Swales or Catch Basins	4
6. Sediment Build-Up in Swales or Catch Basin	4
7. Surface Cracking of Swales/Catch Basins	4
8. Spalling of Swales/Catch Basins	4
9. Structural Failure of Swales/Catch Basins	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins.

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: IY

Title: PE

Sheet 10 of 11

Date: 12/8/09

Time: 10:57

Verified By: SM

Title: PE

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

		Condition/Remarks
Manifold		
1.	Adequate-Free Movement	4
2.	Seals - Complete	4
3.	Visible Damage	4
4.	Sniff for signs of leaks	4
Condensate Collection[1]		
5.	Air Moisture Separator	4
Additional System Components		
6.	Carbon Adsorber Vessels	
	- Exterior Damage	4
	- Vessel Configuration (A-B or B-A)	A-B
7.	Blowers	
	- General Motor Maintenance	4
	- Drive Maintenance	4
	- Bearing Maintenance	4
8.	Oxygen Generator	
	- Signs of Rust/Corrosion	4
	- Mechanical Functioning	4
	- Oxygen Purity	4

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

SHEET 11 OF 11
DATE: 12/8/09

9.	System Sensors	
	- Visible Damage	4
	- Mechanical Functioning	4
10.	SVE Wellheads[2]	
	- Tee Flanges	4
	- Valves	4
	- Sniff for signs of leaks	4

Condition/Remarks Key:
4 = Satisfactory
3 = Slight (Continue Observing)
2 = Moderate (Needs Scheduled Maintenance/Repair)
1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Condensate collected from (1) moisture separator (2) conveyance piping, and (3) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.
(2) Tee flanges monitored for leaks using a PID.

DEL AMO WASTE PITS OU

ACCESS ROAD INSPECTION FORM

Completed By: IY

Title: PE

Sheet 1 of 9

Date: 12/14/09

Time: 12:00 PM

Verified By: SK

Title: PM

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description	Condition/Remarks
Access Road	
1. Holes and Cracks	4
2. Vegetation Overgrowth	4
3. Settlement	4
4. Excessive Dispersion of Gravel	4
5. General Signs of Deterioration	4

Condition/Remarks Key:

4 = Satisfactory

3 = Slight (Continue Observing)

2 = Moderate (Needs Scheduled Maintenance/Repair)

1 = Poor (Needs Immediate Maintenance/Repair)

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

Completed By: IV

Title: PE

Sheet 2 of 9

Date: 12/14/09

Time: 12:00 PM

Verified By: SK

Title: PM

Date: 12/14/09

Type of Inspection (check only one):

( ) Monthly ( ) Semi-Annual

( ) Other (explain) _____

(X) Heavy Rain _____

Collection System Valves	
1. Adequate-Free Movement	4
2. Seals - Complete	4
3. Signs of Rust/Corrosion	4

Condensate Collection (1)	Comments/Corrective Action
4. Air Moisture Separator	4
Carbon Adsorbers	
5. Vessels	4
- Exterior Damage	4
- FRP Grating and Mesh	4

(1) Initial condensate collected from (1) the drainage system downstream of the valve vaults, and (2) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU
CAP GAS COLLECTION AND TREATMENT INSPECTION FORM

6.	Blower	4
	- General Motor Maintenance	4
	- Drive Maintenance	4
	- Bearing Maintenance	4
	- Lubrication	4
	- Structural Maintenance	4

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

COVER SYSTEM INSPECTION FORM

Completed By: IY
Title: PE

Sheet 4 of 9
Date: 12/14/09
Time: 12:00 PM
Date: 12/14/09

Verified By: SK
Title: PM

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1] (X) After Heavy Rain[2]

( ) Other (explain) _____

Item Description		Condition*/Remarks
1.	Erosion	4
2.	Stressed Vegetation (Plant Die-Back)	4
3.	Sediment Build-Up	4
4.	Local Subsidence or Loss of Grade	4
5.	Water Ponding	4
6.	Turf Height	4
7.	Burrowing Animals	4
8.	Weeds or Undesirable Vegetation	4
9.	Evidence of Fires or Vandalism	4
10.	Soil Quality Check	4
11.	Unauthorized Traffic	4
12.	Slope Instability or Sloughing	4
13.	Survey Monuments	4
14.	Vertical Cracking	4
15.	Intrusions	4
16.	Evidence of Waste Pit Materials	4

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 2.0 of the OM&M Plan for frequency based on magnitude and distance from the Waste Pits OU.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999) within a 24-hour period.

DEL AMO WASTE PITS OU

SECURITY FENCE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 5 of 9
Date: 12/14/09
Time: 12:00 pm

Verified By: SK
Title: PM

Date: 12/14/09

Type of Inspection (check only one):

( ) Quarterly

(X) Other (explain) Post-Rain

Item Description	Condition*/Remarks
Perimeter Fence	
1. Breaks and Holes	4
2. Settlement Damage	4
3. Loose Posts/Tension	4
4. Rust/Corrosion	3 Northwest portion of fencing
5. Ruts and Burrows Beneath Fence	4
6. Vegetation Overgrowth	4
7. General Signs of Deterioration	4
8. Vandalism/Animal/Wind Damage	4
Gates	
9. Adequate Movement of Hinges and Gates	4
10. Proper Function of Lock(s)	4

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

DEL AMO WASTE PITS OU

SUBSURFACE DRAINAGE INSPECTION FORM

Completed By: IY

Title: PE

Sheet 6 of 9

Date: 12/14/09

Time: 12:00 PM

Verified By: SK

Date: 12/14/09

Title: PM

Type of Inspection (check only one):

( ) Semi-annual

(X) Heavy Rainfall[2]

( ) Other (explain) _____

Item Description	Condition*/Remarks
SUBSURFACE DRAINAGE SYSTEMS	
1. Holes and Cracks in Swales, Catch Basin	✓
2. Plugging of Drainage Inlets	✓
3. Sediment Build-Up or Debris in Catch Basin	✓
4. Structural Failure of Catch Basin	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 2.0 of the OM&M Plan for frequency based on magnitude and distance from the site.

(2) For heavy rains exceeding 1.0 inches (per USEPA's letter dated December 6, 1999).

DEL AMO WASTE PITS OU

SURFACE WATER DRAINAGE INSPECTION FORM

Completed By: IY
Title: PE

Sheet 7 of 9
Date: 12/14/09
Time: 12:00 PM

Verified By: SK
Title: PM

Date: 12/14/09

Type of Inspection (check only one):

( ) Quarterly ( ) After Seismic Event[1]

(X) Other (explain) Post-Rain

Item Description	Condition*/Remarks
SURFACE-WATER DRAINAGE SYSTEMS [2]	
1. Washouts or Erosion of Contoured Grade	Y
2. Ponding on Contoured Grade	Y
3. Gullies and Ruts on Contoured Grade	Y
4. Plugging of Drainage Culverts	Y
5. Holes and Cracks in Swales or Catch Basins	Y
6. Sediment Build-Up in Swales or Catch Basin	Y
7. Surface Cracking of Swales/Catch Basins	Y
8. Spalling of Swales/Catch Basins	Y
9. Structural Failure of Swales/Catch Basins	Y

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

(1) Refer to Table 3.3-2 of the OM&M Plan for frequency based on magnitude and distance from the site.
(2) Contoured grades, swales, and catch basins

DEL AMO WASTE PITS OU

SVE/IBT SYSTEM INSPECTION FORM

Completed By: IY

Title: PE

Sheet 8 of 9

Date: 12/14/09

Time: 12:00 PM

Verified By: SK

Title: PM

Date: 12/14/09

Type of Inspection (check only one):

( ) Monthly [redacted] Semi-Annual

( ) Other (explain) _____

(X) Heavy Rain _____

Manifold

1.	Adequate-Free Movement	Y
2.	Seals - Complete	Y
3.	Visible Damage	Y

Condensate Collection [1]		Comments/Corrective Action
4.	Air Moisture Separator	Y

Additional System Components

5.	Carbon Adsorber Vessels	
	- Exterior Damage	Y
	- Vessel Configuration (A-B or B-A)	A - B
6.	Blowers	
	- General Motor Maintenance	Y
	- Drive Maintenance	Y
	- Bearing Maintenance	Y

(1) Initial condensate collected from (1) the drainage system downstream of the valve vaults, and (2) from the carbon absorber vessels must be characterized to determine methods of appropriate disposal.

DEL AMO WASTE PITS OU
SVE/IBT SYSTEM INSPECTION FORM

7. Oxygen Generator
   - Signs of Rust/Corrosion: 4
   - Mechanical Functioning: 4
   - Oxygen Purity: 4

8. System Sensors
   - Visible Damage: 4
   - Mechanical Functioning: 4

9.(2) SVE Wellheads
   - Tee Flanges: 4
   - Valves: 4

Recommendations for maintenance or repair (attach additional sheets as needed):

(2) Tee flanges monitored for leaks using a PID.