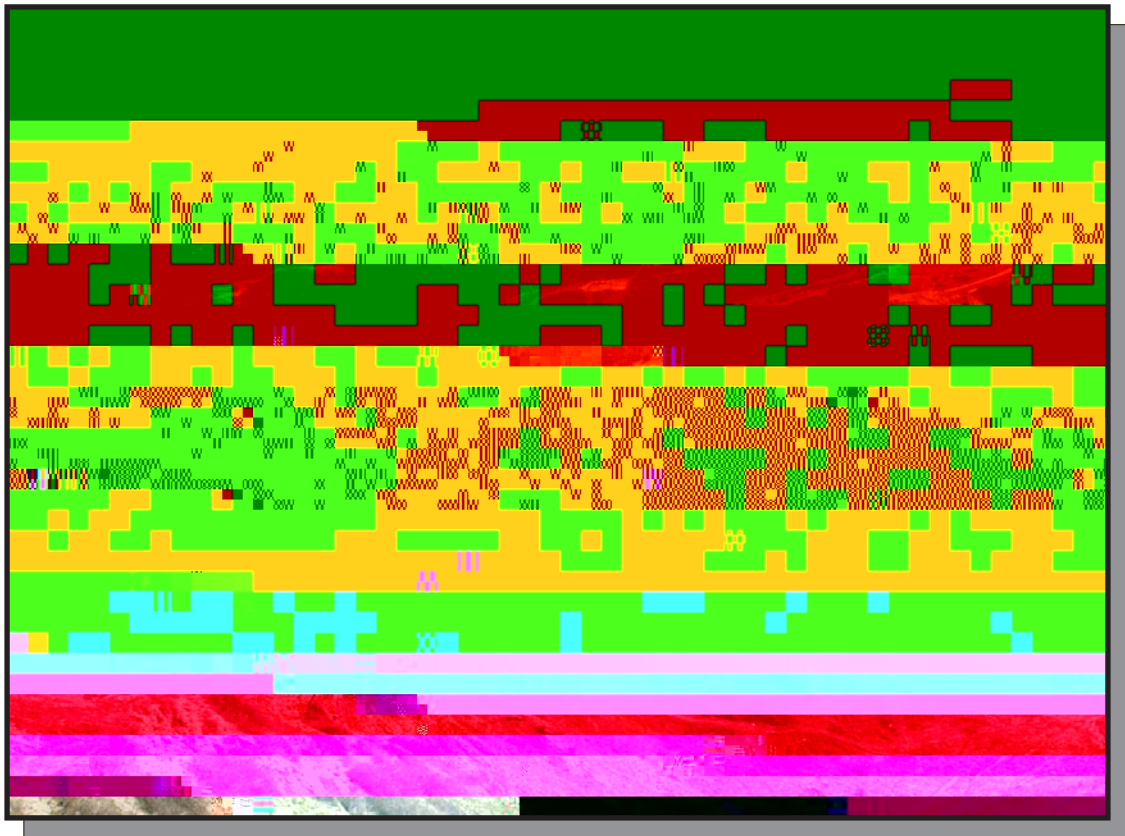


**Semiannual Groundwater Monitoring Report
For the Quarter 2008 and First Quarter 2009
Lockheed Martin Corporation, Beamon Site 2
Beamon, California**





September 23, 2009

Daniel Zogaib
Therm California Cleanup Operations
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Subject: *Therm California Cleanup Operations Groundwater Monitoring Report, Fourth Quarter 2008 and First Quarter 2009*

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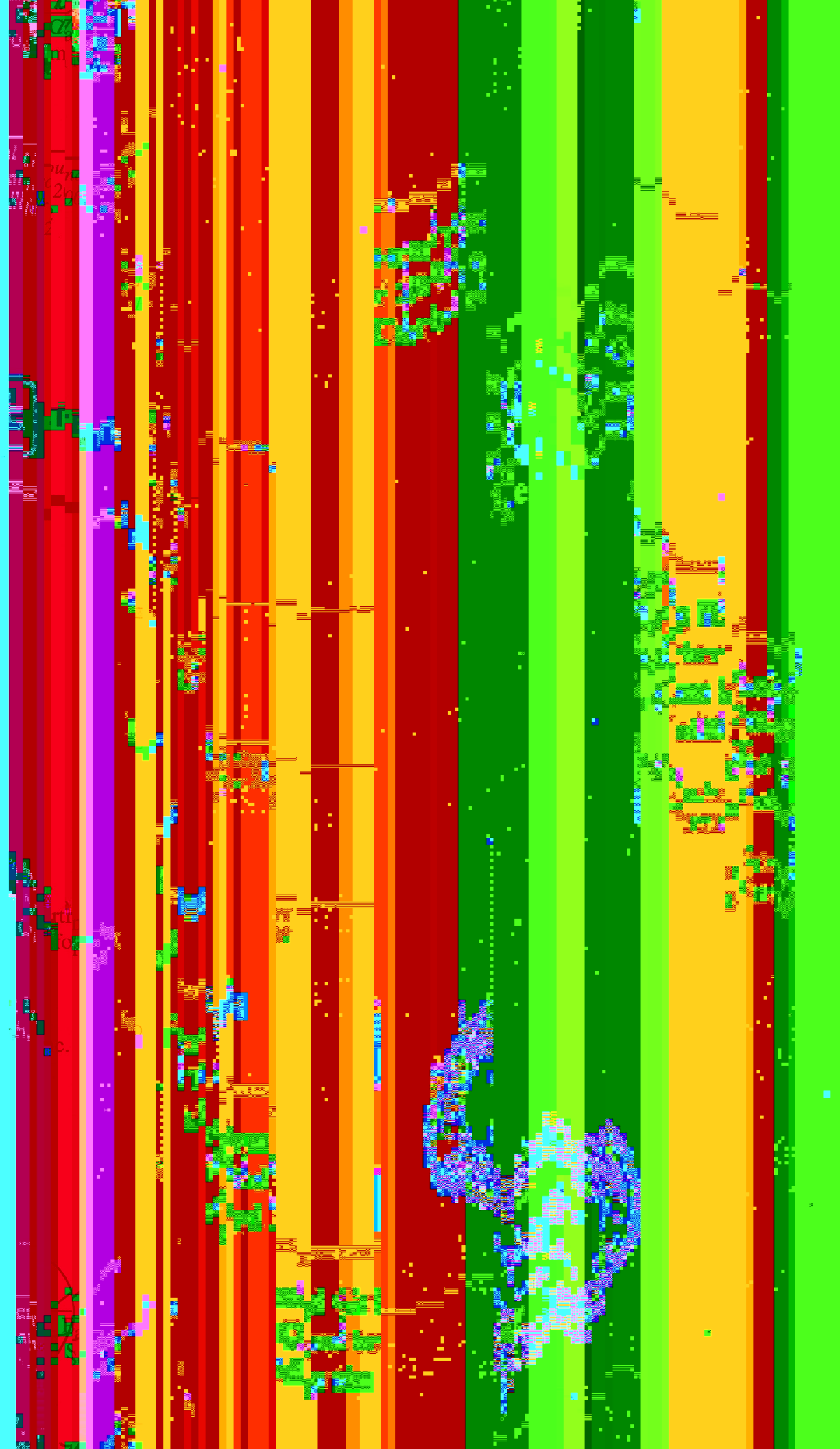


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1.0 INTRODUCTION

This Semiannual Groundwater Monitoring Report (Report) prepared by Tetra Tech, Inc. (Tetra Tech), on behalf of Lockheed Martin Corporation (LMC), presents the results of the Fourth Quarter 2008 and First Quarter 2009 groundwater quality monitoring activities of the Beaumont Site 2 (Site) Groundwater Monitoring Program (GMP). The Site is located southwest of the City of Beaumont, Riverside County, California (Figure 1-1). Currently, the Site is inactive with the exception of ongoing investigative activities performed under Consent Order (88/89 034) with the Department of Toxic Substances Control (DTSC).

The objectives of this Report are to:

- Briefly summarize the Site history;
- Document the water quality monitoring procedures and results;
- Analyze and evaluate the water quality monitoring data generated.

This Report is organized into the following sections: 1) Introduction, 2) Summary of Monitoring Activities, 3) Groundwater Monitoring results, and 4) Summary and Conclusions. A summary of recent environmental activities and the current conceptual site model (CSM) can be found in Appendix A.

1.1 SITE BACKGROUND

The Site is a 2,668 acre parcel located southwest of Beaumont, California. The parcels that comprise the Site were owned by individuals and the United States (U.S.) government prior to 1958. Between 1958 and 1960, portions of the Site were purchased by the Grand Central Rocket Company (GCR) and utilized as a remote test facility for early space and defense program efforts. In 1960, Lockheed Aircraft Corporation (LAC) purchased one-half interest in GCR. GCR became a wholly-owned subsidiary of LAC in 1961. The remaining parcels of land that comprise the Site were purchased from the U.S. government between 1961 and 1964. In 1963, Lockheed Propulsion Company (LPC) became an operating division of LAC and was responsible for the operation of the Site until its closure in 1974. The Site was utilized by GCR and LPC from 1958 to 1974 for small rocket motor assembly, testing operations, propellant incineration, and minor disposal activities. Ogden Labs is known to have leased portions of the Site in the 1970s (Radian, 1986a).

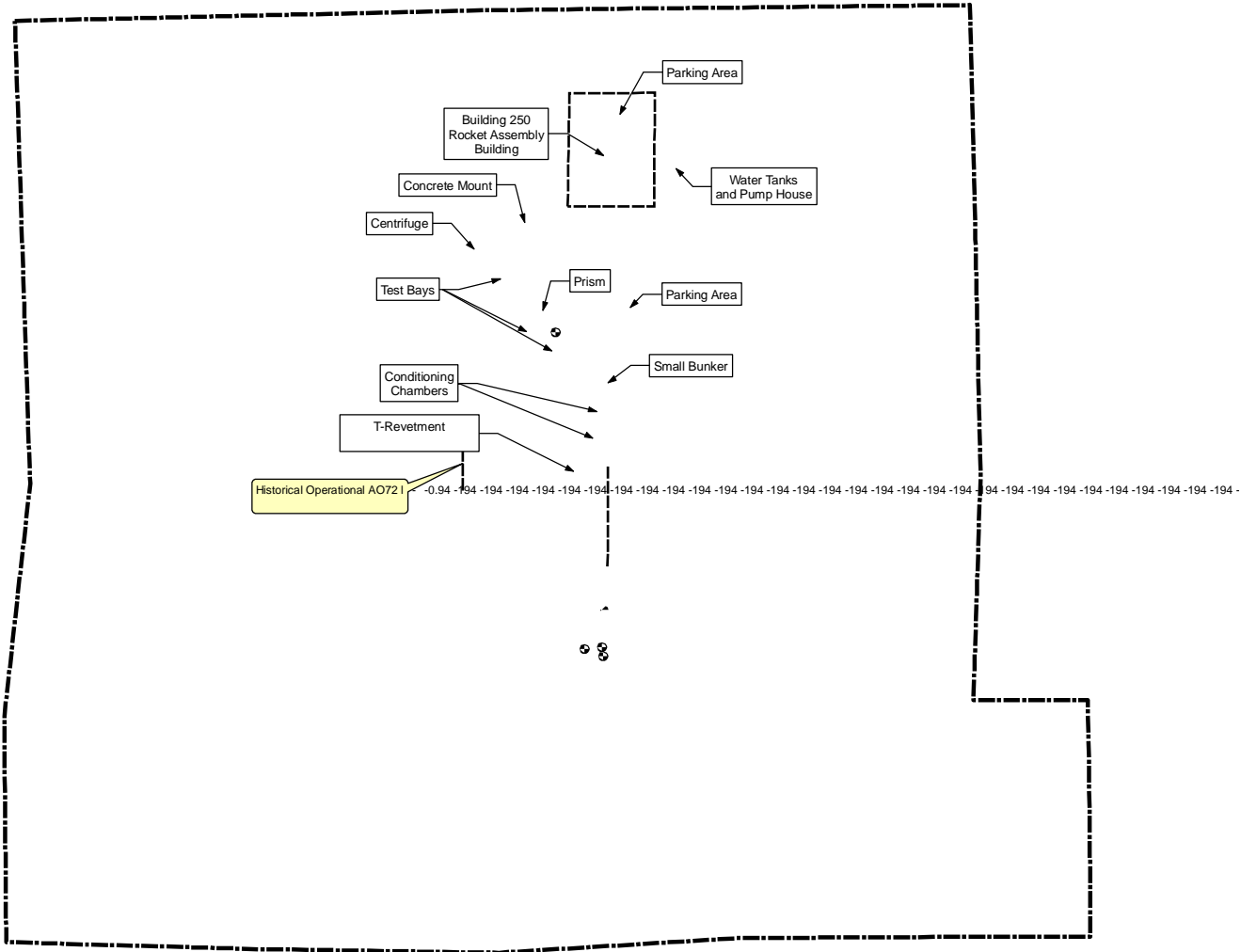
In 1989, the DTSC issued a consent order requiring LMC to cleanup contamination at the Site related to past testing activities (CDHS, 1989). Based on investigative and cleanup activities performed at the Site, the DTSC issued a no further remedial action letter to LMC in 1993.

Based on regulatory interest in perchlorate and 1,4-dioxane, a groundwater sample was collected from an inactive groundwater production well (identified as W2-3) at the Site in January 2003. The sample was analyzed for volatile organic compounds (VOCs), perchlorate, and 1,4-dioxane to determine the potential presence and concentration of those chemicals in groundwater. The analytical results indicated that VOCs and 1,4-dioxane were not present at or above their respective method detection limits (MDLs). However, perchlorate was reported at a concentration of 4,080 micrograms per liter ($\mu\text{g/L}$), which exceeded the California Department of Public Health drinking water notification level (DWNL) which existed at that time of 6 $\mu\text{g/L}$. In October 2007 the DWNL was replaced by the California Department of Public Health Maximum Contaminant Level (MCL) Based on the detection of perchlorate in the groundwater sample collected, the DTSC reopened the Site for further assessment.

Four primary historical operational areas have been identified at the Site (Figure 1-2). Each operational area was responsible for various activities associated with rocket motor assembly, testing, and propellant incineration. A brief description of each operational area follows:

Historical Operational Area J (Area J) –Final Assembly

Rocket motor casings with solid propellant were transported to Building 250 where final assembly of the



Previously, only 3 test bays were known; however, a former employee reported during a recent interview that a fourth test bay [located north of the other 3 bays] was also previously used in Area K. The initial testing activities had a history of explosions that destroyed complete test areas, especially during the period when GCR operated at the Site (Radian, 1986a). While vestiges from 3 test bays are currently visible at the Site, the fourth was reportedly destroyed by such an explosion during testing. Also reportedly, after motor failure, the area was checked to recover unburned propellant.

Historical Operational Area L (Area L) – Propellant Burn Area

Solid propellant was reportedly transported to the burn area and set directly on the ground surface for burning (Radian, 1986a). No pits or trenches were dug as part of the burning process. The solid propellant was saturated with diesel fuel to initiate combustion. Reportedly, the solid propellant would burn rapidly. There is no evidence or physical features that identify the precise location of burning activities. Two production wells were located in this area (W2-1 and W2-3). W2-1 was reported to have been part of the agricultural homestead. The origin of W2-3 is unknown. The use of the wells is unknown. A waste discharge permit from 1962 was recently discovered indicating that up to 5,000 gallons per year of waste water from rocket testing operations could be discharged into small surface depressions located in a small side canyon just south of Area L.

Historical Operational Area M (Area M) – Garbage Disposal Site

A garbage disposal area was located adjacent to a small creek at the Site (Radian, 1986a). Scrap metal, paper, wood, and concrete materials were disposed of at the disposal site by LPC. Hazardous materials, including explosives and propellants, were never disposed of at the disposal site by LPC according to employee interviews. Ogden Labs, a company that tested valves and explosive items, also used this disposal site. Reportedly, Ogden Labs disposed hazardous waste at the disposal site. In 1972, a Lockheed Safety Technician was exposed to toxic vapors of unsymmetrical dimethyl hydrazine (u-DMH) from a pressurized gas container located within the disposal site. Based on potential exposure risks to occupants, LPC's safety group required Ogden Labs to take measures to remove any potentially hazardous materials at the disposal site. Shortly thereafter, a disposal company was contracted by Ogden Labs to clean up the disposal site (Radian, 1986a).

2.0 SUMMARY OF MONITORING ACTIVITIES

Section 2 summarizes the Fourth Quarter 2008 and First Quarter 2009 groundwater monitoring events conducted at the Site. The results from these monitoring events are discussed in Section 3.0.

2.1 GROUNDWATER LEVEL MEASUREMENTS

The Fourth Quarter 2008 groundwater level measurements were collected from 33 monitoring wells and 1 piezometer on December 04, 2008. The First Quarter 2009 groundwater level measurements were collected from 56 monitoring wells and 1 piezometer between February 25, 2009 and March 2, 2009. Figure 2-1 presents a site map showing the well locations. Copies of the field data sheets from the water quality monitoring events are presented in Appendix B. A summary of well construction details is presented in Appendix C.

2.2 GROUNDWATER SAMPLING

The GMP has a quarterly, semiannual, and annual frequency. Both groundwater and surface water are sampled as part of the GMP. The annual event is the major monitoring event and the quarterly and semiannual events are smaller, minor events. All new wells are sampled quarterly for 1 year after which they are evaluated and reclassified. The semiannual event includes, horizontal extent, vertical distribution, increasing contaminant, and guard wells, and are sampled during the second and fourth quarter of each year. In addition to the quarterly and semi annual wells, the annual event includes background wells and takes place during the second quarter of each year. The groundwater monitoring schedule is reviewed and modified as necessary annually during the Second Quarter groundwater monitoring event. Modifications are done in accordance with the approved SAP. Fourth Quarter 2008 and First Quarter 2009 follow the schedule proposed in the Second and Third Quarter 2007 monitoring report (Tetra Tech, 2008a) which was presented to the DTSC in March 2008 and approved with no comments to the proposed schedule. During the Fourth Quarter 2008 monitoring event 26 groundwater samples and 2 surface water samples were collected between November 14 and December 1, 2008. During the First Quarter 2009 monitoring event 32 groundwater samples and 2 surface water samples were collected between February 25 and March 2, 2009.

The following water quality field parameters were observed and recorded on field data sheets (Appendix B) during well purging activities: water level, temperature, pH, electrical conductivity (EC), turbidity, dissolved oxygen (DO) and oxidation reduction potential (ORP). Collection of water quality parameters was initiated when at least 1 discharge hose / pump volume had been removed and purging was considered complete when the above parameters had stabilized, or the well was purged dry (evacuated). Stabilization of water quality parameters was used as an indication that representative formation water had entered the well and was being purged. The criteria for stabilization of these parameters are as follows: water level ± 0.1 foot, pH ± 0.1 , and EC $\pm 3\%$, turbidity < 10 nephelometric turbidity units (NTUs) (if > 10 NTUs $\pm 10\%$), DO ± 0.3 mg/L and ORP ± 10 mV. Sampling instruments and equipment were maintained, calibrated, and operated in accordance with the manufacturer's specifications, guidelines, and recommendations. Groundwater samples were collected from the monitoring wells by low-flow purging and sampling through a dedicated double valve sampling pump or a portable bladder pump.

For the Fourth Quarter 2008 and First Quarter 2009 monitoring events, every effort was made to collect groundwater samples in order of increasing perchlorate and TCE concentration. Samples were placed in appropriate EPA method specified containers. A sample identification label was affixed to each sample container, and sample custody was maintained by a chain-of-custody record. Groundwater samples collected for the monitoring events were chilled and transported to EMAX Laboratories Inc. and E. S. Babcock & Sons, Inc., state-accredited analytical laboratories, via courier, thus maintaining proper temperatures and sample integrity. Trip blanks (LTBs) were collected for the monitoring events to assess cross-contamination potential of water samples while in transit. Equipment blanks (LEBs) were collected when sampling with non-dedicated equipment to assess cross-contamination potential of water samples via sampling equipment.

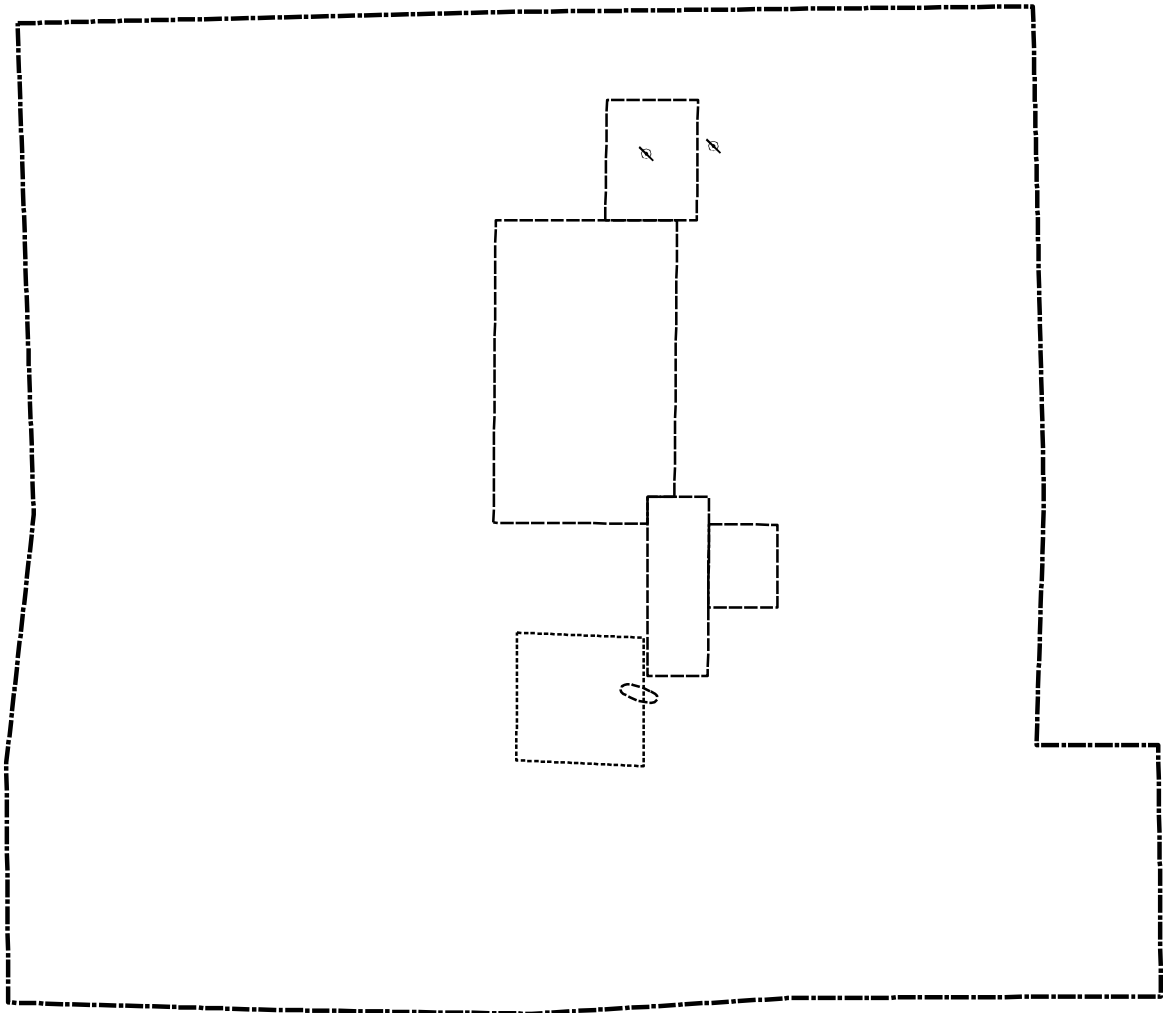
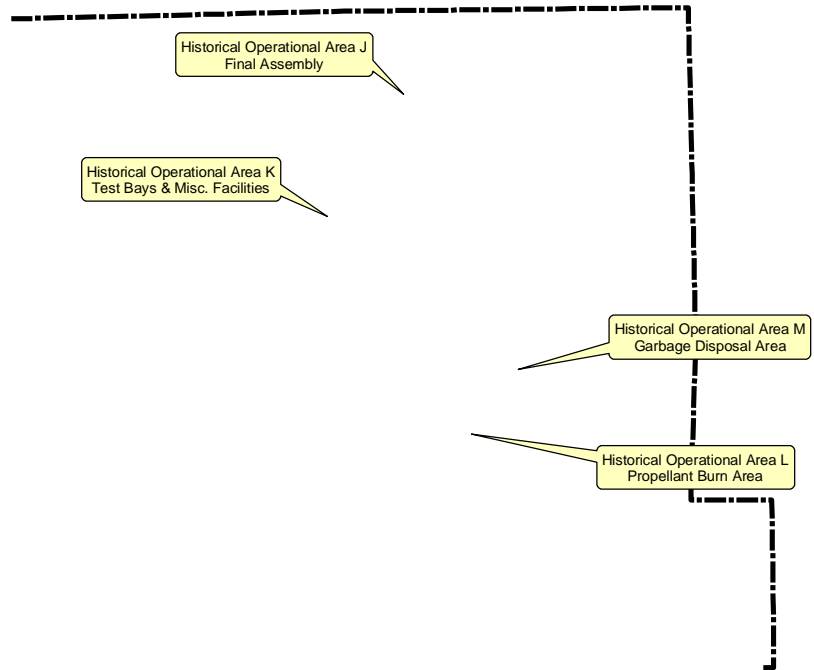


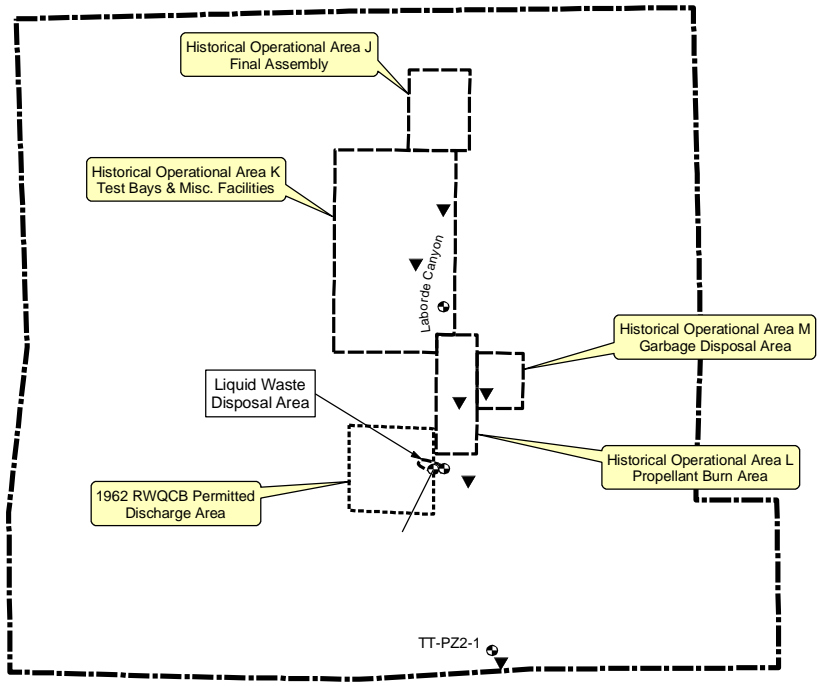
Table 2-1 Sampling Schedule and Analysis Method - Fourth Quarter 2008

Monitoring Well Location	Sample Date	VOCs (EPA 8260B)	Perchlorate (EPA 314.0)	Comments and QA /QC Samples
WS-1-Top	11/17/08	-	X	
WS-1-Bottom	11/17/08	-	X	
TT-MW2-1	11/20/08	-	X	Duplicate
TT-MW2-4S	11/14/08	-	X	MS/MSD
TT-MW2-5	11/19/08	-	X	
TT-MW2-6S	11/19/08	-	X	Duplicate
TT-MW2-6D	11/19/08	-	X	
TT-MW2-7	11/18/08	-	X	Duplicate
TT-MW2-7D	11/18/08	X	X	
TT-MW2-8	11/20/08	-	X	
TT-MW2-9S	11/19/08	-	X	
TT-MW2-9D	11/14/08	-	X	
TT-MW2-10	11/14/08	-	X	
TT-MW2-11	11/25/08	-	X	
TT-MW2-12	11/17/08	-	X	
TT-MW2-13	11/19/08	-	X	
TT-MW2-14	12/01/08	-	X	

Table 2-2 Sampling Schedule and Analysis Method - First Quarter 2009

Monitoring Well Location	Sample Date	VOCs (EPA 8260B)	Perchlorate (EPA 331.0)	Perchlorate (EPA 314.0)	1,4-Dioxane (8270 SIM)	RDX (EPA 8330)	RDX (EPA 529)	Comments and QA /QC Samples
WS-1 (1)	3/12/2009	-	X	-	-	-	-	
SW-01	NA	-	-	-	-	-	-	Dry
SW-02	2/16/2009	X	-	X	-	-	-	
SW-03	2/16/2009	X	-	X	-	-	-	
SW-04	NA	-	-	-	-	-	-	Dry
SW-05	2/16/2009	X	-	X	-	-	-	Duplicate
SW-06	2/16/2009	X	-	X	-	-	-	
SW-07	2/16/2009	X	-	X	-	-	-	MS/MSD
TT-MW2-13	03/11/09	-	-	-	-	X	X	
TT-MW2-19S	03/12/09	-	X	-	-	-	-	
TT-MW2-19D	03/12/09	-	X	-	-	-	-	
TT-MW2-20S	03/12/09	-	X	-	-	-	-	
TT-MW2-20D	03/12/09	-	X	-	-	-	-	
TT-MW2-22	03/20/09	-	-	-	X	-	-	
TT-MW2-24	05/05/09	-	-	-	-	-	X	
TT- PZ-1	04/27/09	X	X	-	-	-	-	
First Quarter 2009: Total Sample Locations:								16
Total Samples Collected:								14
Notes: EPA - United States Environmental Protection Agency. QA/QC - Quality assurance / quality control VOCs - Volatile Organic Compounds RDX - Research Department composition X								





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▼ WS-1

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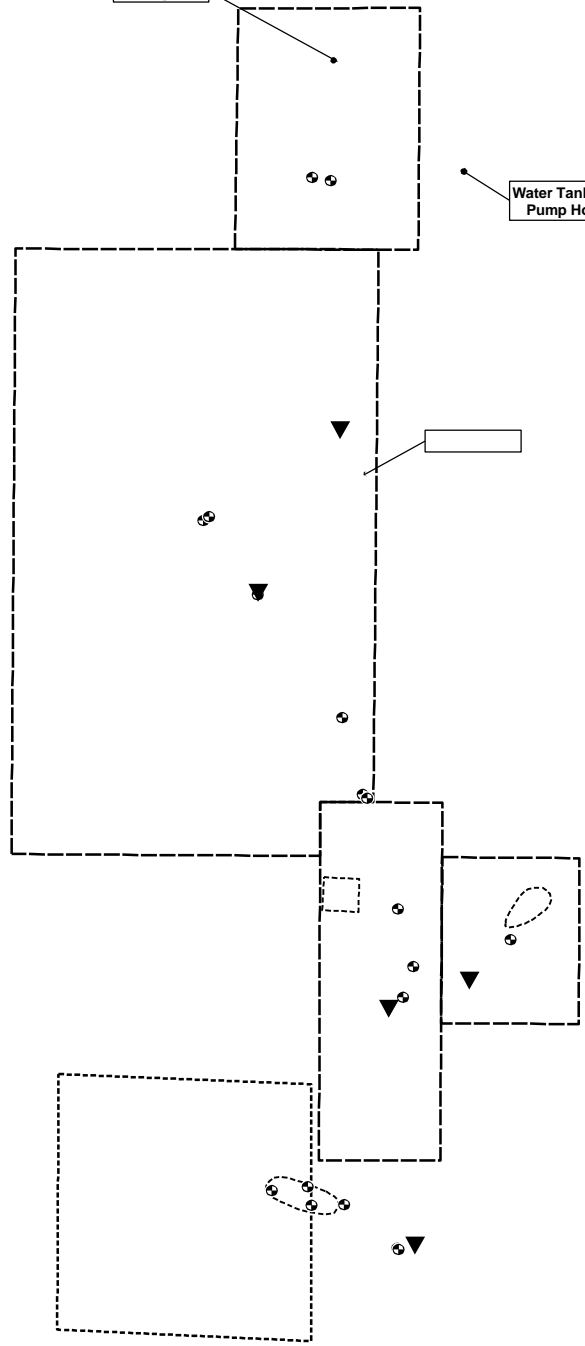
2.3 SURFACE WATER SAMPLING

Surface water locations SW-01 through SW-07 are located in the ephemeral creek bed that runs through Laborde Canyon. Surface water runoff collects in the creek during periods of heavy precipitation and runs south through the Site and the former Wolfskill property, eventually crossing under Gilman Hot Springs Road. Water is present in the creek bed only during periods of heavy, prolonged precipitation. WS-1-Top and WS-1-Bottom are located at a spring on the former Wolfskill property. Sample location WS-1-Top is a hand dug shallow depression located upslope from the actual spring. The sampling location was chosen because the presence of water was indicated by heavy vegetation, primarily cattails, which would indicate near surface water. The depression was hand dug at the time of the initial sampling to facilitate collection of sufficient water for analysis and has contained water since that time. Sample location WS-1-Bottom is collected from a location where surface water flows out of the area of heavy vegetation prior to crossing the access road.

Surface water samples were collected from 2 locations during Fourth Quarter 2008, WS-1-Top and WS-1-Bottom, and from 1 location during First Quarter 2009 (vegetation)-S.5(20.6(1)-6.2(esSW-6)the a6(e)1.5(r 0c.054r.5

Parking Area

Water Tanks and
Pump House



3.0 GROUNDWATER MONITORING RESULTS

The results of the Fourth Quarter 2008 and First Quarter 2009 groundwater monitoring events are presented in the following subsections. These subsections include tabulated summaries of the groundwater elevation and water quality data, groundwater elevation maps, and analyte results figures.

3.1 GROUNDWATER ELEVATION

Based on the groundwater levels measured during the Fourth Quarter 2008 and First Quarter 2009 monitoring events, depth to groundwater at the Site ranges from about 61 feet bgs in the northern portion (elevation of 2,076 feet msl, TT-MW2-16) to about 18 feet bgs in the southern portion (elevation of 1,818 feet msl, TT-MW2-8). A tabulated summary of groundwater depths and elevations is presented in Table 3-1. Changes in groundwater elevations from the previous monitoring event for wells monitored for the Fourth Quarter 2008 and First Quarter 2009 monitoring events are shown on Figures 3-1 and 3-2, respectively, and hydrographs for individual wells are presented in Appendix D.

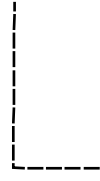
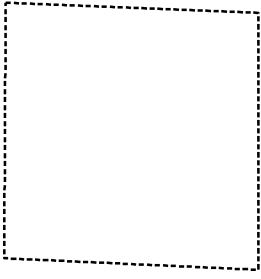
In comparison to the Third Quarter 2008 quarterly monitoring event, groundwater levels measured during the Fourth Quarter 2008 monitoring event decreased in QAL/wSTF screened monitoring wells an average of 0.46 feet and decreased in STF screened monitoring wells an average of 0.26 feet.

In comparison to the Fourth Quarter 2008 quarterly monitoring event, groundwater levels measured

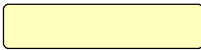
Table 3-1 Groundwater Elevation Data - Fourth Quarter 2008 and First Quarter 2009







Historical Operational Area J
Final Assembly



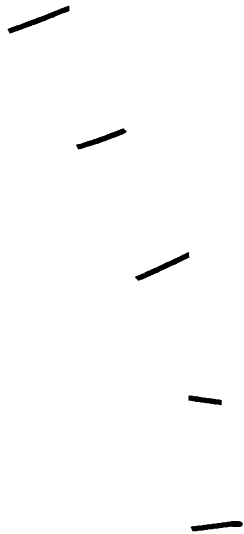
4 Test Bays

T-Revetment Conditioning Chambers

Historical Operational Area M
Garbage Disposal Area

Historical Operational Area L
Propellant Burn Area

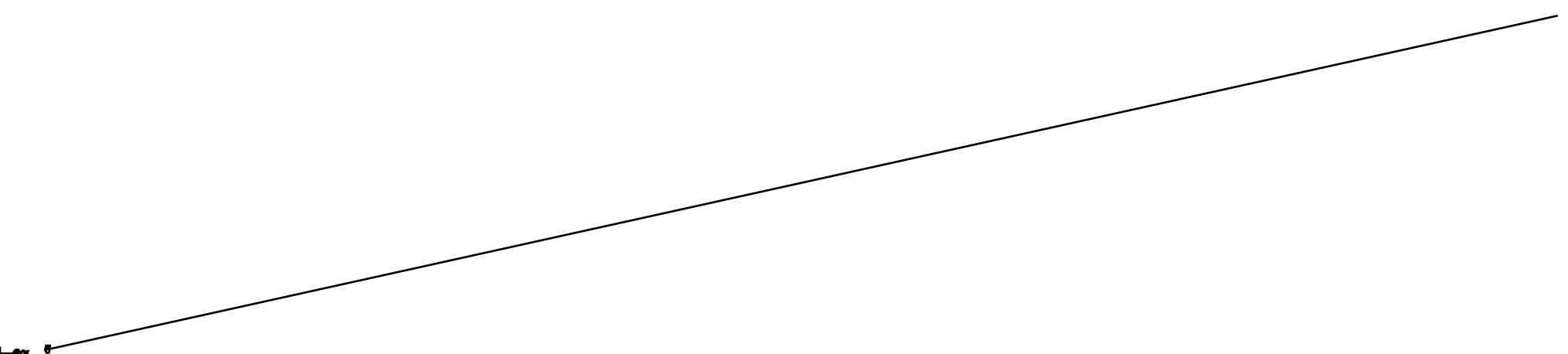
Liquid Waste
Discharge Area

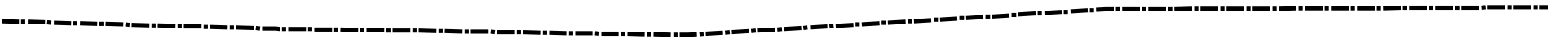
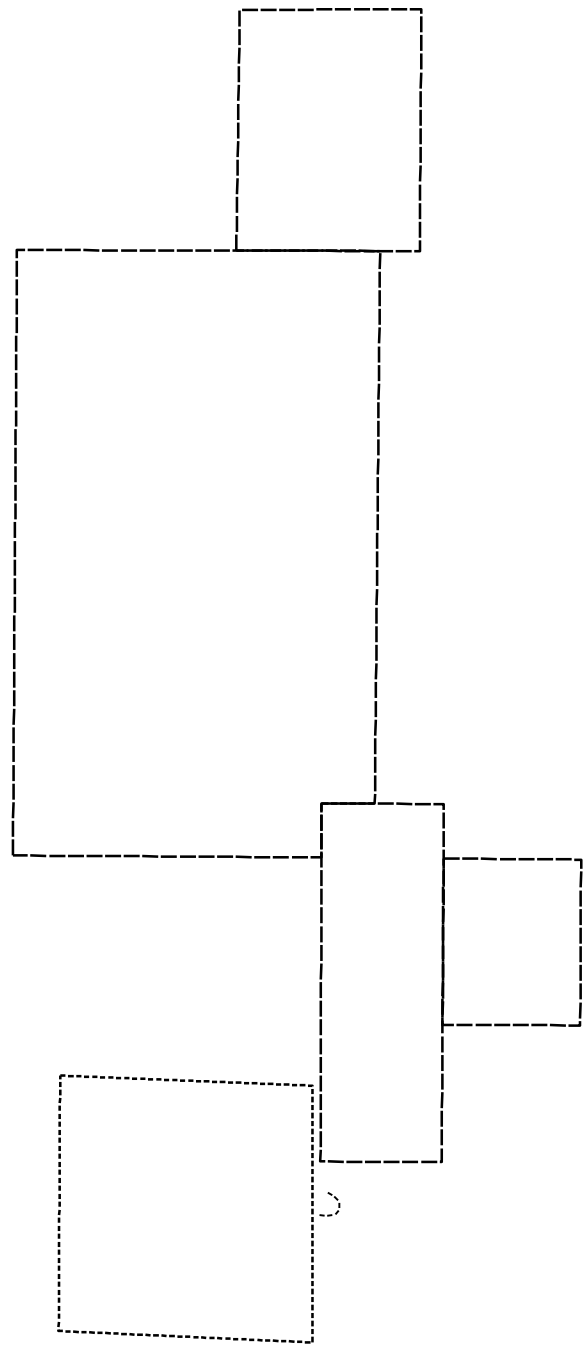


2060'

TT-MW2-5
1311.2'

TT-MW2-20S
1553.76'





3.4 ANALYTICAL DATA SUMMARY

Groundwater samples collected during the Fourth Quarter 2008 monitoring event were tested for VOCs and perchlorate. VOCs and perchlorate are contaminants of potential concern at the Site. Groundwater samples collected during the First Quarter 2009 monitoring event were tested for VOCs and perchlorate and select wells were sampled for Research Department composition X (RDX) and 1,4-dioxane.

Summaries of validated laboratory analytical results for analytes detected above their respective MDLs during the monitoring events are presented in Tables 3-3 and 3-4. A complete list of the analytes tested along with validated sample results by analytical method are provided in Appendix F. VOC and perchlorate sample results above the published MCL (federal or state, whichever is lower) or DWNL are bolded in Tables 3-3 and 3-4. Tables 3-5 and 3-6 present a summary of validated organic and inorganic analytes detected during the monitoring events. Laboratory analytical data packages, which include all environmental, field QC, and laboratory QC results, are provided in Appendix G. A consolidated laboratory data summary table is presented in Appendix H.

3.4.1 Data Quality Review

The quality control samples were reviewed as described in the Revised Groundwater Sampling and Analysis Plan (Tetra Tech, 2003b). The data for the groundwater sampling activities were contained in 13 analytical data packages generated by EMAX Laboratories Inc. and E. S. Babcock & Sons, Inc (Appendix G). These data were reviewed using the current versions of the National Functional Guidelines for Organic and Inorganic Data Review documents.

Holding times, field blanks, laboratory control samples, method blanks, duplicate environmental samples, spiked samples, and spike recovery data were reviewed. Within each environmental sample the sample specific quality control spike recoveries were examined. These data examinations include comparing statistically calculated control limits to percent recoveries of all spiked analytes and duplicate spiked analytes. Relative Percent Difference (RPD) control limits are compared to actual spiked (MS/MSD) RPD results. Surrogate recoveries were examined for all organic compound analyses and compared to their control limits.

Environmental samples were analyzed by the following methods: Methods E314.0 and E332.0 for Perchlorate, Methods SW8330 and E529.1 for RDX, Method SW8270C M for 1,4-Dioxane, and Method SW8260B for VOCs. Unless discussed below, all data results met required criteria, are of known precision and accuracy, did not require any qualification, and may be used as reported.

Trip blank contamination caused 0.4 percent of the SW8260B data to be qualified for blank contamination. The laboratory analyzed blanks to determine if laboratory or field operations introduced cross contamination into the sampling or analytical process. Analyte detections in the method or field blank indicate detections not native to the environmental sample. Similar detections between the blank and associated environmental samples are qualified with a “B” qualifier. Because the “B” qualified detections were likely caused by laboratory or field contamination, the detected numerical results are considered not usable and the result for the sample analyses should be considered “not detected”.

Method E529.1 had holding time errors that qualified as estimated 100 percent of the total E529.1 data. The method for RDX (E529.1) has an extraction holding time of 7 days from the time the sample is collected. An unforeseen laboratory error caused the extraction to occur 1 day late. A single day holding time violation has a minor effect on the data quality. The data is usable.

Method SW8330 for RDX had a surrogate recovery slightly above the control limit that qualified the 1 sample result as estimated.

All data qualified as estimated are usable for the intended purpose.

Table 3-3 Summary of Detected Validated Organic and Inorganic Analytes - Fourth Quarter 2008

Sample Location	Sample Date	Per chlorate	Benzene	Carbon Disulfide	Chloro methane	Chloro form	1,1-Dichloro ethane	1,2-Dichloro ethane	1,1-Dichloro ethene	c-1,2-Dichloro ethene	Methylene Chloride	1,1,2-Trichloro ethane	Trichloro ethene
All results reported in µg/L unless otherwise stated													
WS-1-Top	11/17/2008	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WS-1-Bottom	11/17/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-1	11/20/2008	7,530	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-4S	11/14/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-5	11/19/2008	862	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-6S	11/19/2008	151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-6D	11/19/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-7	11/18/2008	437	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-7D	11/18/2008	<2.5	<0.2	5	0.36 Jq	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2
TT-MW2-8	11/20/2008	263	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-9S	11/19/2008	555	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-9D	11/14/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-10	11/14/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-11	11/25/2008	267	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-12	11/17/2008	1.06 Jq	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-13	11/19/2008	3,360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-14	12/1/2008	40,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-17S	11/19/2008	1,610	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-17D	11/25/2008	18,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-18	12/1/2008	12,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-19S	11/18/2008	2.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-19D	11/17/2008	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-20S	11/17/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-20D	11/17/2008	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TT-MW2-21	11/18/2008	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.9 Bk	<0.2	0.59 Jq
TT-MW2-22	11/25/2008	<0.5	0.66 Jq	0.28 Jq	<0.2	3.8	2.7	2.4	22	0.38 Jq	4.9	<0.2	350
TT-MW2-23	11/17/2008	<0.5	<0.2	0.81 Jq	0.22 Jq	<0.2	<0.2	<0.2	<0.2	<0.2	0.69 BJKq	<0.2	<0.2
TT-MW2-24	11/25/2008	142,000	<0.2	<0.2	0.26 Jq	3	0.72 Jq	0.71 Jq	1.9	<0.2	<0.5	0.45 Jq	85
Method Detection Limit		0.50	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	0.20	0.20
MCL (unless noted) / DWNL		6	1	160 (1)	-	-	5	0.5	6	6	5	5	5
Notes:	Only analytes positively detected in samples are presented in this table. For a complete list of constituents analyzed, refer to the laboratory data package.												
µg/L -	Micrograms per liter						NA - Not analyzed						
MCL -	California Department of Public Health Maximum Contaminant Level.						B - The sample result was less than 5 times blank contamination.						
DWNL -	California Department of Public Health drinking water notification level.						Cross contamination is suspected.						
(1) -	DWNL						J - The analyte was positively identified, but the concentration is an estimated value.						
" - "	MCL/DWNL not established.						k - The analyte was found in the field blank.						
Bold -	MCL or DWNL exceeded.						q - The analyte detection was below the Practical Quantitation Limit (PQL).						
<# -	Method detection limit concentration is shown.												

Table 3-4 Summary of Detected Validated Organic and Inorganic Analytes - First Quarter 2009

Sample Location	Sample Date	Perchlorate	1,4-Dioxane	RDX	Acetone	Carbon Disulfide
All results reported in µg/L unless otherwise stated						
SW-2	2/16/2009	42.4	NA	NA	<5.0	<0.36
SW-3	2/16/2009	<0.5	NA	NA	<5.0	<0.36
SW-5	2/16/2009	2.27	NA	NA	6.7 Jq	0.49 Jq
SW-6	2/16/2009	1.59 Jq	NA	NA	5.7 Jq	0.49 Jq
SW-7	2/16/2009	<0.5	NA	NA	7.6 Jq	0.49 Jq
WS-1 (2)	3/12/2009	0.29	NA	NA	NA	NA
TT-MW2-13	3/11/2009	NA	NA	0.80 Je	NA	NA
TT-MW2-19S	3/12/2009	3.1	NA	NA	NA	NA
TT-MW2-19D	3/12/2009	<0.071	NA	NA	NA	NA
TT-MW2-20S	3/12/2009	<0.071	NA	NA	NA	NA
TT-MW2-20D	3/12/2009	<0.071	NA	NA	NA	NA
TT-MW2-22	3/20/2009	NA	35	NA	NA	NA
TT-MW2-24	5/5/2009	NA	NA	4.7	NA	NA
TT- PZ2-1	4/27/2009	NA	NA	NA	<5.0	<0.36
TT- PZ2-1	4/28/2009	240	NA	NA	NA	NA
Method Detection Limit		0.071	0.20	0.20	5.00	0.36
MCL (unless noted) / DWNL		6	3 (1)	0.3 (1)	-	160 (1)
<p>Notes: Only analytes positively detected in samples are presented in this table. For a complete list of constituents analyzed, refer to the laboratory data package.</p> <p>RDX - Research Department composition X µg/L - Micrograms per liter MCL - California Department of Public Health Maximum Contaminant Level. DWNL - California Department of Public Health drinking water notification level. (1) - DWNL (2) - Former WS-1-Bottom location " - " MCL/DWNL not established. Bold - MCL or DWNL exceeded. < # - Method detection limit concentration is shown. NA - Not analyzed J - The analyte was positively identified, but the concentration is an estimated value. e - A holding time violation occurred. q - The analyte detection was below the Practical Quantitation Limit (PQL).</p>						

Table 3-5 Summary Statistics of Validated Organic and Inorganic Analytes Detected Fourth Quarter 2008

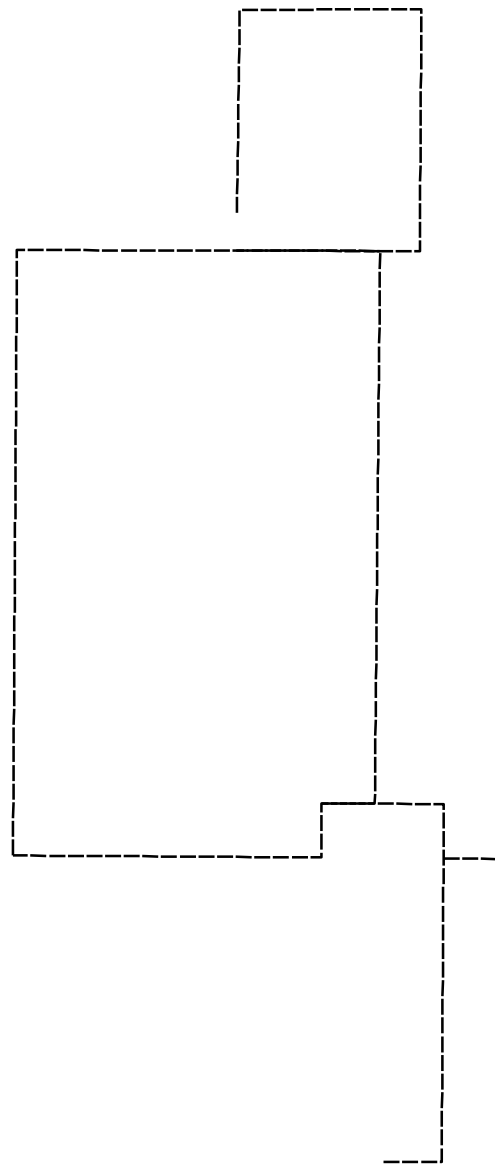
Compounds Detected	Total Number of Samples Analyzed (1)	Total Number of Detections (1)	Number of Detections Exceeding MCL or DWNL (1)	Corresponding MCL (unless noted) / DWNL	Minimum Concentration Detected	Maximum Concentration Detected
Organic Analytes:						
Benzene	5	1	0	1 µg/L	0.66 µg/L	0.66 µg/L
Carbon Disulfide	5	3	0	160 (2) µg/L	0.28 µg/L	5 µg/L
Chloromethane	5	3	0	- µg/L	0.22 µg/L	0.36 µg/L
Chloroform	5	2	0	- µg/L	3 µg/L	3.8 µg/L
1, 1-Dichloroethane	5	2	0	5 µg/L	0.72 µg/L	2.7 µg/L
1, 2-Dichloroethane	5	2	2	0.5 µg/L	0.62 µg/L	1.38 µg/L

3.5 CHEMICALS OF POTENTIAL CONCERN

COPCs evaluation and trend analysis are performed annually as part of the Second Quarter monitoring event. The analytes detected were screened against the MCLs or DWNs (if an MCL is not established). The analytes were organized and evaluated in 2 groups, organic and inorganic analytes, and divided into primary and secondary COPCs. Analytical results from the Fourth Quarter 2008 and First Quarter 2009 sampling events are consistent with the COPC list identified from data presented in Second Quarter 2008 (Table 3-7). Laboratory analytical results from the Fourth Quarter 2008 and First Quarter 2009 monitoring events are presented in the following 2 subsections. Data which are B qualified because of association with either laboratory or field contamination is not included in the COPC evaluation. Figures 3-7 and 3-8 present summaries of COPC laboratory results for groundwater samples collected for the Fourth Quarter 2008 and First Quarter 2009.

Table 3-7 Groundwater Chemicals of Potential Concern

Analyte	Classification
Perchlorate	Primary
Trichloroethene	Primary
RDX	Secondary
Notes: RDX - Research Department composition X	



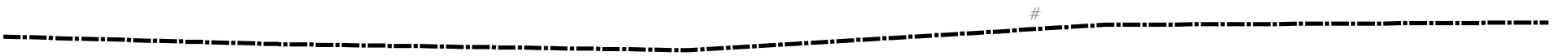
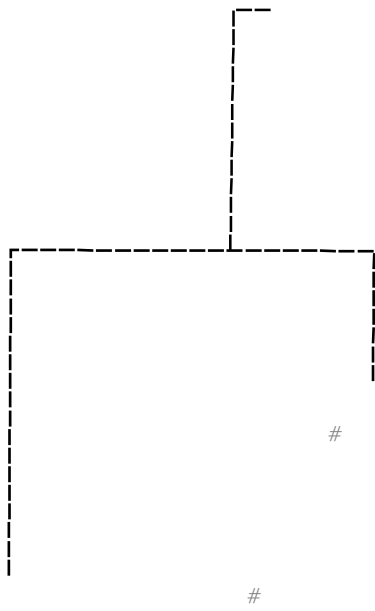


Table 3-8 Summary of Detected Organic and Inorganic Analytes in Surface Water and Storm Water

Sample Name	Sample Date	Perchlorate	Acetone
All results reported in µg/L unless otherwise stated			
SW-2	2/16/2009	42.4	<5
SW-3	2/16/2009	<0.5	<5
SW-5	2/16/2009	2.27	6.7 Jq
SW-6	2/16/2009	1.59 Jq	5.7 Jq
SW-7	2/16/2009	<0.5	7.6 Jq
WS-1-Top	11/17/2008	<0.5	NA
WS-1-Bottom	11/17/2008	<1	NA
WS-1 (1)	3/12/2009	0.29	NA
Method Detection Limit		0.05	5
MCL (unless noted) / DWNL		6	-
<p>Notes: Only analytes positively detected in samples are presented in this table. For a complete list of constituents analyzed, refer to the laboratory data package. µg/L - Micrograms per liter MCL - California Department of Public Health Maximum Contaminant Level. DWNL - California Department of Public Health drinking water notification level. (1) - Former WS-1-Bottom location " - " MCL/DWNL not established. Bold – MCL or DWNL exceeded. < # - Method detection limit concentration is shown. NA - Not analyzed J - The analyte was positively identified, but the concentration is an estimated value. q - The analyte detection was below the Practical Quantitation Limit (PQL).</p>			

3.8 HABITAT CONSERVATION

Consistent with the U.S. Fish and Wildlife Service (USFWS) approved HCP (USFWS, 2005) and subsequent clarifications (LMC, 2006a and 2006b) of the HCP describing environmental activities proposed at the Site, all field activities were performed under the supervision of a Section 10A permitted or sub-permitted biologist who monitored each work location. Groundwater sampling activities were

4.0 SUMMARY AND CONCLUSIONS

This section summarizes the results of the Fourth Quarter 2008 and First Quarter 2009 groundwater monitoring events. During the Fourth Quarter 2008 monitoring event 33 monitoring well locations and 1 piezometer were measured for groundwater levels and 26 monitoring wells and 2 surface water locations were sampled for groundwater quality. During the First Quarter 2009 monitoring event 56 monitoring well locations and 1 piezometer were measured for groundwater levels and 8 monitoring wells, 1 surface water locations, and 5 storm water locations were sampled for groundwater quality.

4.1 GROUNDWATER ELEVATION AND FLOW

During the Fourth Quarter 2008 and First Quarter 2009 monitoring events, depth to water at the Site ranged from approximately 61 feet bgs (elevation of 2,076 feet msl) upgradient in the northern most well to 18 feet bgs (elevation of 1,818 feet msl) downgradient in the southern most well.

Based on the measured groundwater elevations, the current CSM, and the southward sloping topography at the Site, groundwater flow in the QAL/wSTF and STF HSUs appears to be southerly and generally

4.2 WATER QUALITY MONITORING

Groundwater samples collected during the Fourth Qu

ITRC (Interstate Technology & Regulatory Council)

2005 Perchlorate: Overview of Issues, Status, and Remedial Options. PERCHLORATE-1. Washington, D.C.: Interstate Technology & Regulatory Council, Perchlorate Team. Available on the Internet at <http://www.itrcweb.org>.

Leighton and Associates, Inc.

1983 Hydrogeologic Investigation for Water Resources Development, Potrero Creek, Riverside County, California, October, 1983.

Lockheed Martin Corporation (LMC)

1995 Monitoring Well Destruction Report, Former Lockheed Propulsion Company, Beaumont No. 2 Facility, Beaumont, California, November 15, 1995.

2006a Clarification of Effects on Stephens' Kangaroo Rat from Characterization Activities at Beaumont Site 1 (Potrero Creek) and Site 2 (Laborde Canyon), August 3, 2006.

2006b Clarification of Mapping Activities Proposed under the Low-Effect Habitat Conservation Plan for the Federally-Endangered Stephens' Kangaroo Rat at Beaumont Site 1 (Potrero Creek) and Site 2 (Laborde Canyon) Riverside County, California (mapping methodology included), December 8, 2006.

Radian Corporation 8.1(ont0)

TETRA T

mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
msl	mean sea level
µg/L	micrograms/liter
NA	not applicable
NDMA	N-nitrosodimethylamine
NWS	National Weather Service
PW	production well
PVC	polyvinyl chloride
PZ	piezometer
QAL	Quaternary alluvium
QA/QC	quality assurance/quality control
RDX	Research Department composition X