Excavation Management Plan
Beaumont Site 1
Sanitary Landfill
Beaumont, California

September 2007

Prepared for

Lockheed Martin Corporation

Burbank, California

Prepared by

Tetra Tech, Inc.

San Bernardino, California

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APPENDICES

1.0 Introduction

On behalf of Lockheed Martin Corporation (LMC), Tetra Tech, Inc. (Tetra Tech) prepared an Excavation Management Plan (Plan) for the Sanitary Landfill, located in the southern portion of the former Beaumont Site 1 LMC, Beaumont, California (Figure 1). The former Beaumont Site 1 LMC encompasses nine former operational areas (see Figure 2). The Sanitary Landfill is located in Historical Operational Area H. The Plan was prepared as part of the permit application process for Rule 1150 "Excavation of Landfill Sites", and for submittal to the South Coast Air Quality Management District. The Plan is accompanied with the Application for Plans Form 400-P, see Appendix A. The purpose of the excavation is to collect soil samples for site characterization. The estimated amount of material proposed for excavation is 1.89 cubic yards (51 cubic feet). No offsite hauling of soil material or landfill placement is required in the planned activities.

2.0 Personnel Identification

Currently, the former Beaumont Site 1 LMC is inactive with the exception of remedial activities performed under Consent Order (88/89 034) and Operation and Maintenance Agreement (O&M Agreement 93/94 025) with the Department of Toxic Substances Control (DTSC). The State of California owns 8,552 acres of the Site and LMC owns the remaining 565 acres (the LMC property is referred to as the conservation easement), (see Figure 2). The information below lists addresses and contact information for property ownership, excavation contractor, on-site safety coordinator and the environmental consulting firm for the project.

Property Ownership

State of California

The Resources Agency
Department of Fish and Game
Eastern Sierra Inland Deserts Region – San Jacinto Wildlife Area
17050 Davis Road / PO Box 1254
Lakeview, CA 92567
Contact Person: Scott Sewell
Telephone Number: (951) 928-0580

Excavation Contractor and Environmental Consulting Firm

Tetra Tech, Inc.

348 W. Hospitality Lane, Suite 100,

San Bernardino, CA 92408

Contact Person: Thomas J. Villenueve, San Bernardino Operations Manager / Vice President

Telephone Number: 909-381-1674

Health and Safety Coordinator

Tetra Tech, Inc.

348 W. Hospitality Lane, Suite 100,

San Bernardino, CA 92408

Contact Person: David Bertolacci

Telephone Number: 909-381-1674

3.0 Site Background

The Sanitary Landfill is located in the southern portion of the former Beaumont Site 1 Lockheed Martin Corporation (LMC), Beaumont, California. Nine former operational areas have been identified at the property. The Sanitary Landfill is located in Operational Area H and is comprised of 3.1 acres with scattered trash (wood, metal scrap, and tires) on the surface. The landfill is positioned on the eastern flank of a ravine that drains to Massacre Canyon and is located approximately 2000 feet up slope of the canyon (Figure 1). The surface of the landfill slopes gently (5 to 20 %) away from the road located on the western side of the landfill and then falls sharply away into a deep ravine. The relatively flat portion of the area was used as the sanitary landfill during the period the LMC facility was in operation. Based on previous investigations, the waste cells occupy approximately 0.5 acres of the landfill area.

There is a continuing risk at the Sanitary Landfill of leaching of contaminants from disposed materials and a potential explosive hazard from the unspent propellant in the practice ammunition. This risk could be better managed, and potentially eliminated, through proper landfill closure actions.

Closure design characterization is required to further define closure requirements. The characterization activities have provided information on the location of the landfill trenches and waste contaminant characterization. Remedial design will require additional sampling adjacent to and below the identified waste trenches. Because of the potential for Munitions and Explosives of Concern (MEC) in the landfill,

investigation efforts in the trench areas will be overseen by trained unexploded ordnance (UXO) personnel and conducted in accordance with MEC investigation procedures. Due to MEC concerns, samples will not be collected within the waste material.

4.0 Contour Map

A contour map illustrating the location of the excavation site, proposed excavation area and the surrounding area up to 2500 feet is provided in Figure 3.

5.0 Buried Materials

According to the Historical Report (Radian 1986), the landfill was operated under an annually approved permit from the California Department of Forestry. The landfilled materials consisted mainly of paper, scrap metal, concrete and wood. Visible debris was exposed on the ground surface along with several empty 55-gallon drums. The Historical Report indicates that company policy strictly dictated that hazardous materials were not to be disposed of at this site. The trenches excavated for landfilled materials disposal were later covered and leveled. Anecdotal information collected from a former Lockheed Propulsion Company employee during the 2005 Munitions and Explosives of Concern (MEC) evaluation indicates that small amounts of 30 and 40 millimeter practice ammunition were occasionally disposed of in the landfill.

A 1990 Investigation Report detailed the findings from the subsurface investigation of various locations at Beaumont Site 1 including the landfill (Radian 1990). Twenty-three trenches were dug using a tracked excavator at the landfill (see Figure 4). Landfilled materials were located in eleven of these locations at a depth of between 4 to 10 feet below the surrounding land surface. The landfilled materials were categorized into two types: general, (consisting of paper, wood debris, plastic bags and sheeting, and rubber scrap), and scrap metal (consisting of empty drums, wire, welding rods and spent rocket casings). Composite samples were collected from four locations selected to represent different types of landfilled materials found in the trenches.

During a Phase II MEC Evaluation (Tetra Tech 2005b), the landfill area was evaluated by performing a surface sweep to identify any debris on or immediately below of the ground surface that might be MEC related. No intrusive evaluation was conducted. No MEC or related items were found in this operational area. However, an interview with a former Lockheed Propulsion Company employee indicated that practice ammunition was disposed of in the landfill.

In summary, the results from the recent geophysical survey generally confirm the previous geophysical and trenching results and spatially fixed the location of the waste cells (see Figure 4). The landfill occupies an area of approximately 3.1 acres with scattered trash (wood, metal scrap, and tires) on the surface. Based on the recent geophysical survey, the majority of the landfilled materials appear to be located within four trenches that occupy a combined surface area of approximately a 0.5 acre. The first of these locations trends east-west and is approximately 140 feet (ft) in length; the second extends southward from the first. The second trends north-south and is approximately 180 ft in length. Each of the abovementioned anomalous areas is approximately 60 ft in width. The third likely disposal cell is located towards the south end of the survey area as shown by a series of anomalies that trends north-northeast/south-southwest. The length of this area is approximately 120 ft in length with a width of approximately 20 ft, which is considerably narrower than the previously mentioned areas. The southerly end of this area approaches the drainage channels; one large piece of exposed steel material was noted at the edge of one of these drainages. Finally, a discrete anomaly located in the center of the survey area is evident in the in-phase response map. This location corresponds to a location noted in the 1990 Investigation Report as an area containing buried spent rocket casings.

6.0 Analytical Data

This section summarizes the historical and current data for samples collected form the Sanitary Landfill.

6.1 Historical Data

The 1990 Investigation Report indicates that samples were analyzed for volatile organic compounds by Method 8240, semi-volatile organic compounds by Method 8270, priority pollutant metals by Method 6010, and nitrates by Method 353.2 (Radian 1990, Table 6-1 detected analytes). Five soil vapor samples were collected around the perimeter of the landfill (Radian 1990, Figure 6-2). VOC's were detected in one sample and tentatively detected in two additional samples. Analysis of soil samples taken below the landfilled materials did not show significant concentrations of any priority pollutants. No compounds were detected at concentrations of concern in the groundwater 3000 feet downgradient of the landfill in Massacre Canyon (following the course of drainages to MW-16), [Radian, 1990].

The endpoints of the trenches were referenced on a large scale map but the endpoints were not located by a land survey. The trenching investigation showed that the landfilled materials were consistent with materials generated from the general operations at the facility and does not exhibit toxic or hazardous properties. The 1992 Treatability Study report stated that the results from the subsurface investigation at

the landfill were consistent with Lockheed's policy of prohibiting the disposal of hazardous materials in the landfill and no further action was recommended for the landfill [Radian, 1992].

In 2004, five (5) soil borings were completed in the sanitary landfill [Tetra Tech 2005a]. Soils were sampled and soil gas probes were installed in each boring. The soil samples collected at the landfill were analyzed for TPH, perchlorate, 1,4-dioxane, Title 22 metals, PCBs, VOCs, SVOCs, dioxins/furans, and PAHs. SVOCs and 1,4-dioxane were not detected at concentrations above their respective reporting limits. Several Title 22 metals, PCBs (i.e., Aroclor-1248), low levels of TPH, VOCs (i.e., acetone, benzene, p-Isopropyl toluene and toluene), dioxins/furans, and perchlorate were detected at various locations throughout the feature.

6.2 Current Soil Analytical Data

During the 2004 soil investigation, low concentrations of VOCs (i.e., acetone, benzene, p-isopropyltoluene, and toluene) were detected in samples from all of the sampling locations and ranged from 0.97 to 72 microgram per kilogram (µg/kg) [Tetra Tech 2005a]. Acetone, benzene, and toluene results are "B" qualified to denote the sample contains compounds associated with laboratory cross-contamination. Low concentrations of TPH (as diesel), ranging from 6.8 to 10 milligrams per kilogram (mg/kg), were limited to the sampling locations in the northern and eastern portions of the feature. Concentrations of perchlorate, ranging from 42.1 to 1,520 µg/kg, were limited to boring H-49-HSA5, located in the eastern portion of the landfill [Tetra Tech 2005a].

Detected dioxin/furan concentrations were converted to their 2,3,7,8-TCDD equivalent using toxicity equivalent factors (TEFs) and summed for each sampling location [Tetra Tech 2005a]. The total 2,3,7,8-TCDD TEF values for the sampling locations ranged from 0.131 to 0.474 picograms per gram (pg/g) and did not exceed the 2,3,7,8-TCDD residential Preliminary Remediation Goals (PRG) value of 3.9 (pg/g).

Aroclor-1248 was detected in samples from borings H-49-HSA3 and H-49-HSA4, which are located in the southern and southeastern areas of the feature [Tetra Tech 2005a]. The detected concentrations were 86 µg/kg (at 20 feet bgs in H-49-HSA4), 210 µg/kg (at 20 feet bgs in H-49-HSA3), and 910 µg/kg (at 5 feet bgs in H-49-HSA3), which exceeded the U.S. Environmental Protection Agency Region IX industrial PRG value of 740 µg/kg.

Metals are naturally occurring at the Site and metals were detected in samples collected throughout the feature [Tetra Tech 2005a]. Arsenic was detected in samples from the feature ranging from 0.76 to 1.90 mg/kg and exceeded the industrial PRG value of 0.25 mg/kg. There were no discernable trends in the

arsenic concentrations by depth. Background concentrations of arsenic for the Site are known to exceed the PRG. Table 1 provides the soil analytical data.

Table 1 – Soil Analytical Data

Area	Feature No.	Feature Description	Sample ID	Depth	Sample Date	TPH	PERCHLORATE	METALS										PCBs	VOCs			
						TPH as Diesel (mg/kg)	Perchlorate (ug/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Chromium (Total) (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Aroclor-1248 (ug/kg)	Acetone (ug/kg)	Benzene (ug/kg)	p-Isopropyltoluene (ug/kg)	Toluene (ug/kg)
H	49	Sanitary Landfill	H-49-HSA1-0.5	0.5	8/11/2004	ND	ND	**1.34**	106	0.375	9.01	6.47	6.26	4.77	7.49	22.3	42.9	ND	72	ND	62	ND
			H-49-HSA1-5	5	8/11/2004	ND	ND	**1.90**	141	0.508	14.2	9.40	10.5	7.01	15.9	24.1	64.1	ND	ND	ND	ND	ND
			H-49-HSA1-10	10	8/11/2004	6.8	ND	**1.88**	130	0.401	13.7	7.97	19.0	5.09	10.5	31.0	55.2	ND	ND	ND	ND	ND
			H-49-HSA1-20	20	8/11/2004	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	1.7
			H-49-HSA1-30	30	8/11/2004	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.97	ND	ND
			H-49-HSA2-0.5	0.5	8/11/2004	10	ND	ND	55.0	ND	4.47	2.97	2.39	5.17	2.78	9.34	24.3	ND	ND	ND	ND	ND
			H-49-HSA2-5	5	8/11/2004	ND	ND	**1.07**	102	0.285	9.52	6.12	3.56	3.78	4.66	23.2	50.7	ND	ND	ND	ND	ND
			H-49-HSA2-10	10	8/11/2004	ND	ND	**0.760**	91.9	ND	7.41	5.03	4.69	2.57	4.41	20.5	38.7	ND	ND	ND	ND	ND
			H-49-HSA3-0.5	0.5	8/10/2004	ND	ND	ND	51.6	ND	4.83	3.66	3.63	4.93	4.44	10.5	23.9	ND	54	ND	ND	ND
			H-49-HSA3-5	5	8/10/2004	ND	ND	ND	56.3	ND	5.78	3.38	0.682	1.64	1.93	11.0	28.9	**910**	ND	ND	ND	ND
			H-49-HSA3-10	10	8/10/2004	ND	ND	ND	44.0	ND	3.68	2.84	1.32	1.38	1.81	8.67	22.4	ND	ND	ND	ND	ND
			H-49-HSA3-20	20	8/10/2004	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	210	ND	ND	ND	ND
			H-49-HSA4-0.5	0.5	8/10/2004	ND	ND	ND	77.0	0.291	5.63	7.60	2.00	3.52	15.9	12.6	26.1	ND	22	ND	8.0	ND
			H-49-HSA4-5	5	8/10/2004	ND	ND	**1.27**	89.4	0.285	6.09	4.45	3.70	2.78	4.39	17.6	29.6	ND	ND	ND	ND	ND
			H-49-HSA4-10	10	8/10/2004	ND	ND	ND	87.1	0.635	10.8	6.91	7.18	4.83	9.28	18.0	53.7	ND	ND	ND	ND	ND
			H-49-HSA4-20	20	8/10/2004	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	86	28	ND	ND	ND
			H-49-HSA5-0.5	0.5	8/11/2004	ND	ND	ND	134	0.339	9.42	6.07	8.72	5.88	17.4	20.0	46.6	ND	70	ND	ND	ND
			H-49-HSA5-5	5	8/11/2004	ND	ND	**1.29**	170	0.384	11.0	7.30	13.4	4.28	9.54	22.6	53.7	ND	21	6.0	ND	4.6
			H-49-HSA5-10	10	8/11/2004	ND	42.1	**1.05**	197	0.572	20.0	11.1	22.2	6.93	12.6	36.8	88.0	ND	ND	ND	ND	ND
			H-49-HSA5-20	20	8/11/2004	ND	755	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
			H-49-HSA5-30	30	8/11/2004	ND	1520	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
			H-49-HSA5-40	40	8/11/2004	ND	1090	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
			Residential PRGs			NA	7,800	0.062	5,400	150	210	900	3,100	150	1,600	78	23,000	220	14,000,000	640	NA	520,000
			Industrial PRGs			NA	10,000	0.25	67,000	1,900	450	1,900	41,000	750	20,000	1,000	100,000	740	54,000,000	1,400	NA	520,000

Notes:
TPH - total petroleum hydrocarbons
PCBs - Polychlorinated Biphenyls
VOCs - volatile organic compounds
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram

6.3 Current Soil Gas Analytical Data

As stated in the Section 6.2, soil gas probes were placed in the five soil borings and soil gas samples were collected and analyzed for VOCs. No VOCs were detected in the soil gas.

7.0 Excavation Activities

Excavation is proposed for up to 18 locations, (16 locations proposed and 2 contingency locations) at the landfill. Excavation will be conducted by potholing with a backhoe. Soil samples will be collected from adjacent to and beneath the waste material from the equipment bucket.

7.1 Extent of Excavation

The backhoe will generate an excavation workface that is 2 feet by 3 feet. For sampling purposes, the backhoe will be advanced to an average depth of 8.5 feet bgs. The estimated amount of material proposed for excavation is 1.89 cubic yards (51 cubic feet). Excavated material will be placed adjacent to the pothole and will be used as backfill once soils are logged and soil samples collected.

7.2 Schedule

Excavation activities are scheduled to commence on October 1, 2007 and should conclude on October 5, 2007. The duration of this project is based on an estimated one (1) week duration (five (5) business days), assuming that there are no weather delays and no unfavorable site conditions, or any other issues that would cause the field work to be delayed. The commencement date of the project is subject to change if any of the above conditions exist.

7.3 Excavation Sequence

EQUIPMENT

The equipment considered to complete these activities is an enclosed cab backhoe with an 18 inch bucket and a 2000-gallon water truck. All other vehicles will be kept offsite.

SURFACE AREA OF EXCAVATION WORKFACE AND REFUSE

As discussed above in Section 7.1, the surface area of the excavation workface is approximately six (6) square feet (2 feet by 3 feet). The surface area of soil exposure to the atmosphere is approximately 1.89 cubic yards (51 cubic feet).

EXCAVATED MATERIAL HANDLING AND SAMPLING

Potholing within the landfill boundaries will be conducted adjacent to and beneath the waste material identified during previous investigations. Up to eighteen (18) locations will be evaluated by potholing. Prior to the excavation at each location, the area will be surveyed by UXO personnel to determine if there are any MEC issues at the location. Potholing shall proceed by removing several inches of soil followed by a visual clearance of the excavation by UXO personnel. If the excavated soil does not show potential MEC issues, the excavation will be continued in thin layers (approximately every 6 inches). UXO staff will inspect the material in the bucket and in the pothole. The systematic excavation with visual UXO clearances will continue until the horizontal and vertical extent of the waste material is confirmed. No personnel are permitted to enter the excavation for safety purposes.

Material excavated from each location will be placed on 4x8 plywood in addition to plastic to manage any leachate. Soil cuttings from the potholing activities will be observed by a Tetra Tech geologist, and the description recorded on a boring log utilizing the Unified Soil Classification System (USCS). Discrete samples shall be collected adjacent to and beneath the waste material to delineate subsurface conditions. Samples will be collected at the surface (0.5 feet bgs), and two feet radially outward from the edge of the waste, and one to two foot beneath the waste using the equipment bucket. Samples will be collected from material removed with the equipment bucket prior to discharge. Further, a trench will be excavated adjacent to the mound near the center of the landfill, and material from the soil mound will be collected and tested as well. (Figure 4).

Samples will be collected from the surface of the bucket for analyses of perchlorate (Method 314.1), semi-volatile organic compounds (Method 8270C), polychlorinated bi-phenyls (Method 8082) and Title 22 Metals (Method 6010B/7000). Based on the air monitoring procedure discussed in Section 9.0, samples from the middle portion of the bucket will be collected and analyzed for volatile organic compounds (Method 5035). If evidence of burned soil is encountered, samples will be collected of the burned soil and analyzed for dioxins and furans (Method 8290) up to a maximum of five (5) locations.

Excavated material will be placed adjacent to the pothole and will be used as backfill once soils are logged and soil samples collected. Prior to backfilling, the backfill material (excavation material) shall be moistened using water from a 2000-gallon water truck for compaction purposes. The backfill material will be compacted using the bucket on the backhoe and tire rolled.

VEHICLE HAULING

No hauling of material or landfill placement is required for these activities.

SITE LAYOUT

The site layout map (Figure 4) illustrates the proposed excavation areas. Figure 5 shows the vehicle route to access the landfill. There is no decontamination staging area required for these activities.

8.0 Mitigation Measures

Efforts will be made to excavate and backfill any potholes during the day so that no holes are left open during non-working hours. There will be no transfer of soils and no trenching across the landfill. Soil disturbance is limited to the proposed excavation areas shown on Figure 4 where previous investigations identified the interface of the soil and trash. Refuse exposure will be limited by excavating and backfilling each location one at a time. However, if a pothole has not been completed by the end of the work day, plywood will be placed over the excavation area in addition to barricades and caution tape and the excavation material will be covered with plastic. The backhoe bucket will be brushed off upon project completion. Water spraying may also be used as an odor control method if deemed necessary. Plastic and 4x8 plywood will be used for placement of the excavation material to control leachate.

9.0 Air Monitoring

Air monitoring will be conducted during excavation activities to monitor VOCs and methane. Total organic vapor concentrations shall be monitored using a MiniRae 2000 PID meter that is calibrated with hexane. If VOCs are detected above 10 ppm (parts per million) in the airspace above the excavated material, the discrete soil samples collected will also be analyzed for VOCs by Method 5035A as discussed in Section 7.3. Methane and other chemicals that are not readily identified by the PID will be monitored with a landfill gas instrument. Monitoring equipment will be used by personnel inspecting the bucket and workface, and by the equipment operator. No odor monitoring is planned for these activities since the property boundary is approximately one-mile away.

10.0 Contingency Plan

As stated in Section 9.0, odors from the landfill are not expected to be a public nuisance to offsite receptors since the property boundary is approximately one-mile away. However, if an odor nuisance should occur, water or foam may be used for odor control purposes. If elevated concentration levels of VOCs are detected above 10 ppm, samples will be collected from the bucket and analyzed for VOCs.

11.0 Provisions

Excavation activities will cease immediately when the operator is notified that a public nuisance has occurred as required by Rule 1150(b)(3).

12.0 References

Radian

1990. Final Source and Hydrogeologic Investigation, Lockheed Propulsion Company Beaumont Test Facilities. February 1, 1990.

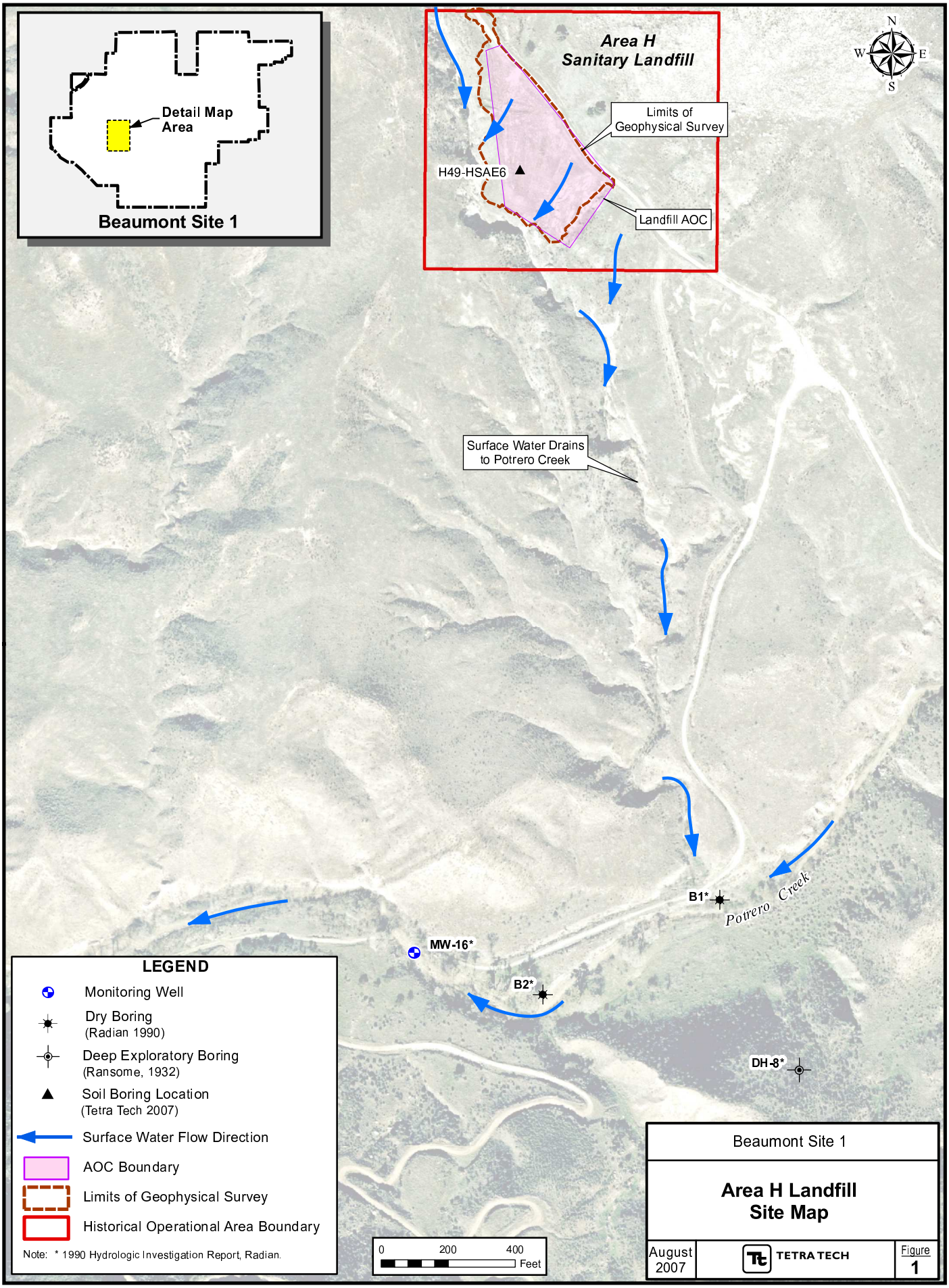
1992. Treatability Study, Lockheed Propulsion Company Beaumont Test Facilities. February 1992.

Tetra Tech, Inc

2005a. Lockheed Martin Corporation, Soil Investigation Report, Beaumont Site 1, Historical Operational Areas D, E, F, G H, and I, Beaumont, California. March 2005 with revisions of October 2005.

2005b. Summary Report, Munitions and Explosives of Concern (MEC) Evaluation, Lockheed Martin Corporation, Former Beaumont Site 1, Beaumont, California. December 2005.

FIGURES


LOCKHEED 19967-05\AREA H SITE.MXD
Detail Map Area
Beaumont Site 1
Area H Sanitary Landfill
Limits of Geophysical Survey
H49-HSAE6
Landfill AOC
N
W
E
S
Surface Water Drains to Potrero Creek
B1*
Potrero Creek
MW-16*
B2*
DH-8*
LEGEND
Monitoring Well
Dry Boring (Radian 1990)
Deep Exploratory Boring (Ransome, 1932)
Soil Boring Location (Tetra Tech 2007)
Surface Water Flow Direction
AOC Boundary
Limits of Geophysical Survey
Historical Operational Area Boundary
Note: * 1990 Hydrologic Investigation Report, Radian.
0 200 400 Feet
Beaumont Site 1
Area H Landfill Site Map
August 2007
TETRA TECH
Figure 1

X:\GIS\LOCKHEED 1996?-05\PERMIT SITE.MXD

Area A
Eastern Aerojet Range (Avanti)

Soil Conservation Service Berm
Revetments for Avanti Motor Storage
Old Rocket Motor Casings
Storage Revetments
Backstop Berm
Impact Target Area
Gun Placement
Instrumentation Building
Buildings
Tank
Concrete Target Wall

Area I
Western Aerojet Range

Area F
LPC Test Services Area

Area B
Rocket Motor Production Area

Conservation Easement

Chemical Storage
Quonset
Fuel Slurry Station
Tank
Mix Station Control
300 Gallon Propellant Mix Station
Blue Motor Burn Pit
Motor Washout Area

Area C
Burn Pit Area

Pit Orientation
Existing Mounds
Final Burn Area
Burn Pit Bunker
Magazine
Temporary Waste Storage
Ballistic Tunnel
Berm
Gun Mount
Control Trailers
Berm
Storage Buildings
Terraced Projectile Landing Zone
Class A Storage
Dissolved TNT (out of bombs)
Small Test Area

Area D
LPC Ballistics Test Range

Observation Station
Airstrip
Test Area for Incediary Bomb

Temporary Segment Storage T-4
25 MEV Betatron Building
Boneyard
Temporary Segment Storage T-3
Test Motors Conditioning Ovens
Storage Magazine

Test Instrument Bunker
E.B.E.S. Test Facilities
Large Motor Test Bay
Test Personnel Bunker
Conditioning Chambers
Small Motor Horizontal Test Bay
Small Motor Vertical Test Bay
Concrete Pad Washout Area
Well
Sanitary Landfill
Beryllium Waste Storage
Igniter Magazine
Maintenance and Storage
Observation Station
Heliport
Landing Pad
30 mm Gun
Wash
Tower - Mobile Target
Tower
Upper Extent of Impact Area
Observation Station

Area H
Sanitary Landfill

Area G
Helicopter Weapons Test Area

Canyon 4
Canyon 3
Canyon 2
Canyon 1

Area E
Radioactive Waste Disposal Site

0 1,000 2,000 3,000 Feet

Adapted from: February 2006 aerial photograph.

LEGEND

- Beaumont Site 1 Property Boundary
- Historical Operational Area Boundary
- Conservation Easement

Notes: Beaumont Site 1 property boundary is approximate.

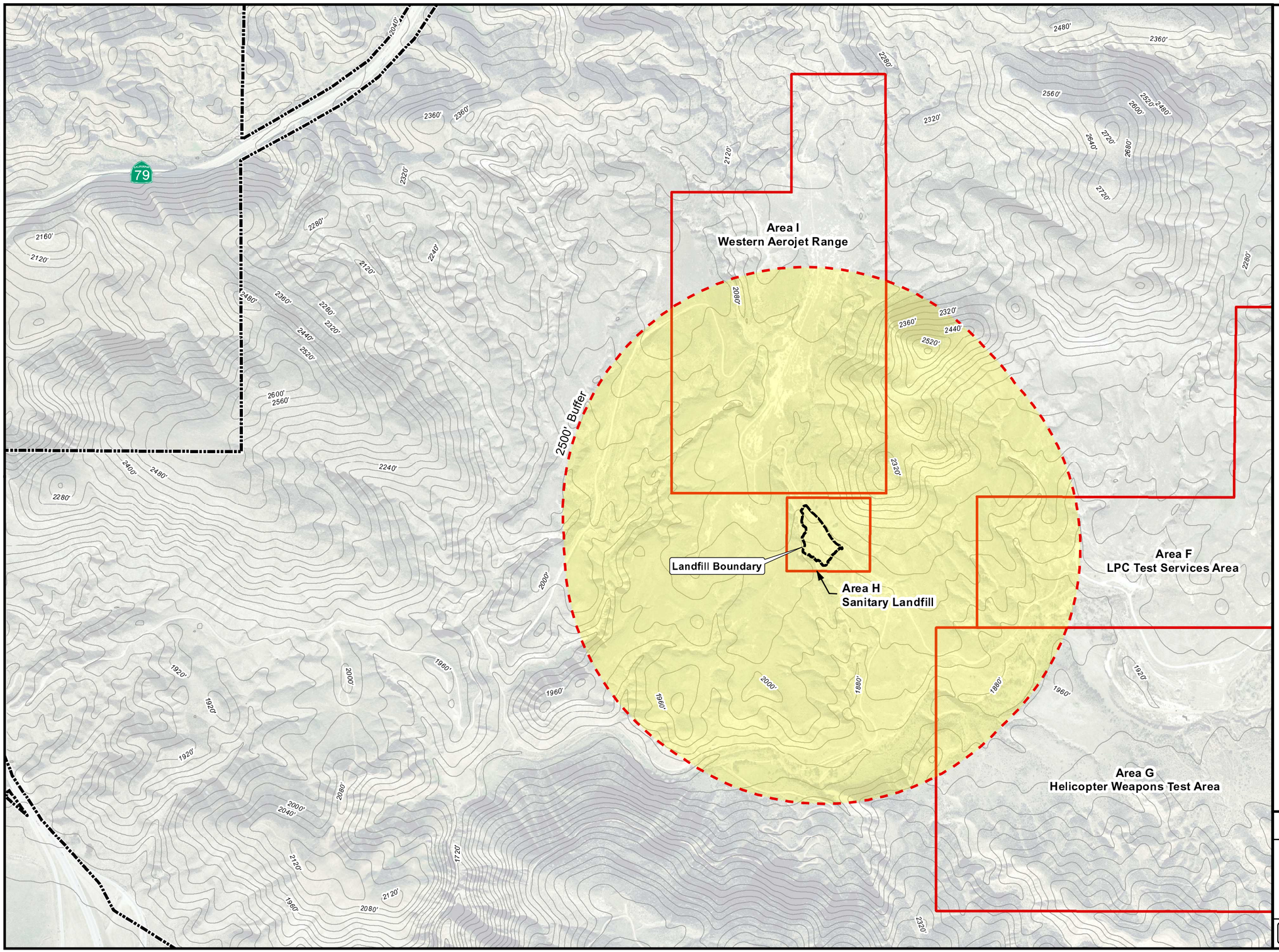
Beaumont Site 1

Figure 2
Historical Operational Areas, Site Features, and Conservation Easement

TETRA TECH

September 2007

X:\GIS\LOCKHEED 1996\7-05\PERMIT BUFFER.MXD



N

0 500 1,000 1,500
Feet

Adapted from: February 2006 aerial photograph.

LEGEND

- Beaumont Site 1 Property Boundary
- Historical Operational Area Boundary
- 2500' Buffer from Landfill Boundary

Notes: Beaumont Site 1 property boundary is approximate.

40-foot contour interval.

Beaumont Site 1

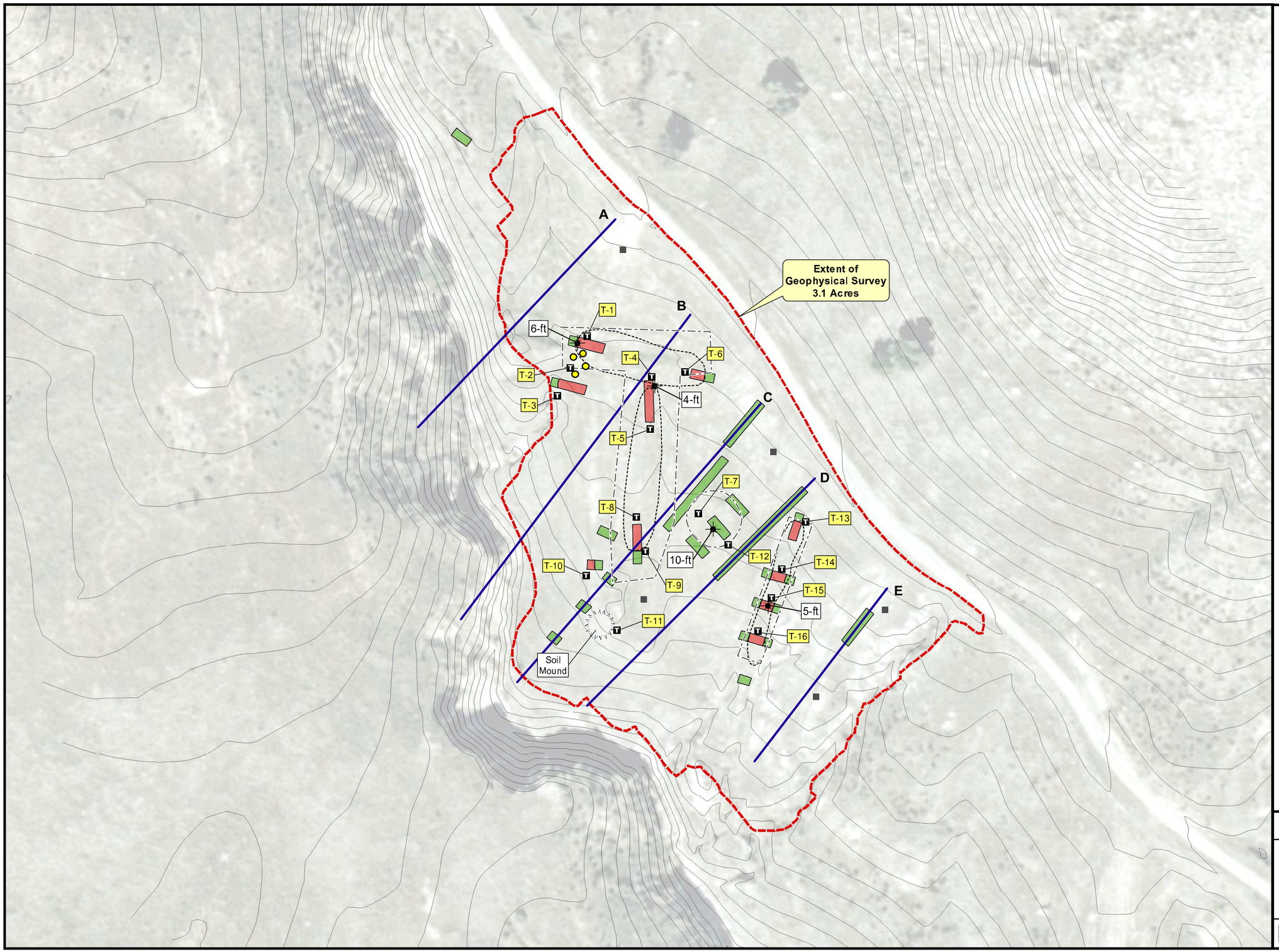
Figure 3

Area H Landfill Contour Map

TETRA TECH

September 2007

X:\GIS\LOCKHEED 1996-7-05\PERMIT TRENCH.MXD



N

0 50 100 Feet

Adapted from: February 2006 aerial photograph.

LEGEND

- Sampled Points *
- Previous Soil Boring and Soil Gas Sample Location
- Proposed Trench Location
- Rocket Casings*
- Drums*
- T-10 Backhoe Trench ID
- Boundary of Area with Metallics (from Tt geophysical survey)
- Radian Geophysical Sections*
- Swale*
- Trench (No Waste Found)*
- Trench (Waste Found)*
- Extent of Tetra Tech Geophysical Survey

* From Radian Report, 1990.

Notes: Beaumont Site 1 property boundary is approximate.

Total locations = 16.

All proposed backhoe trench locations.

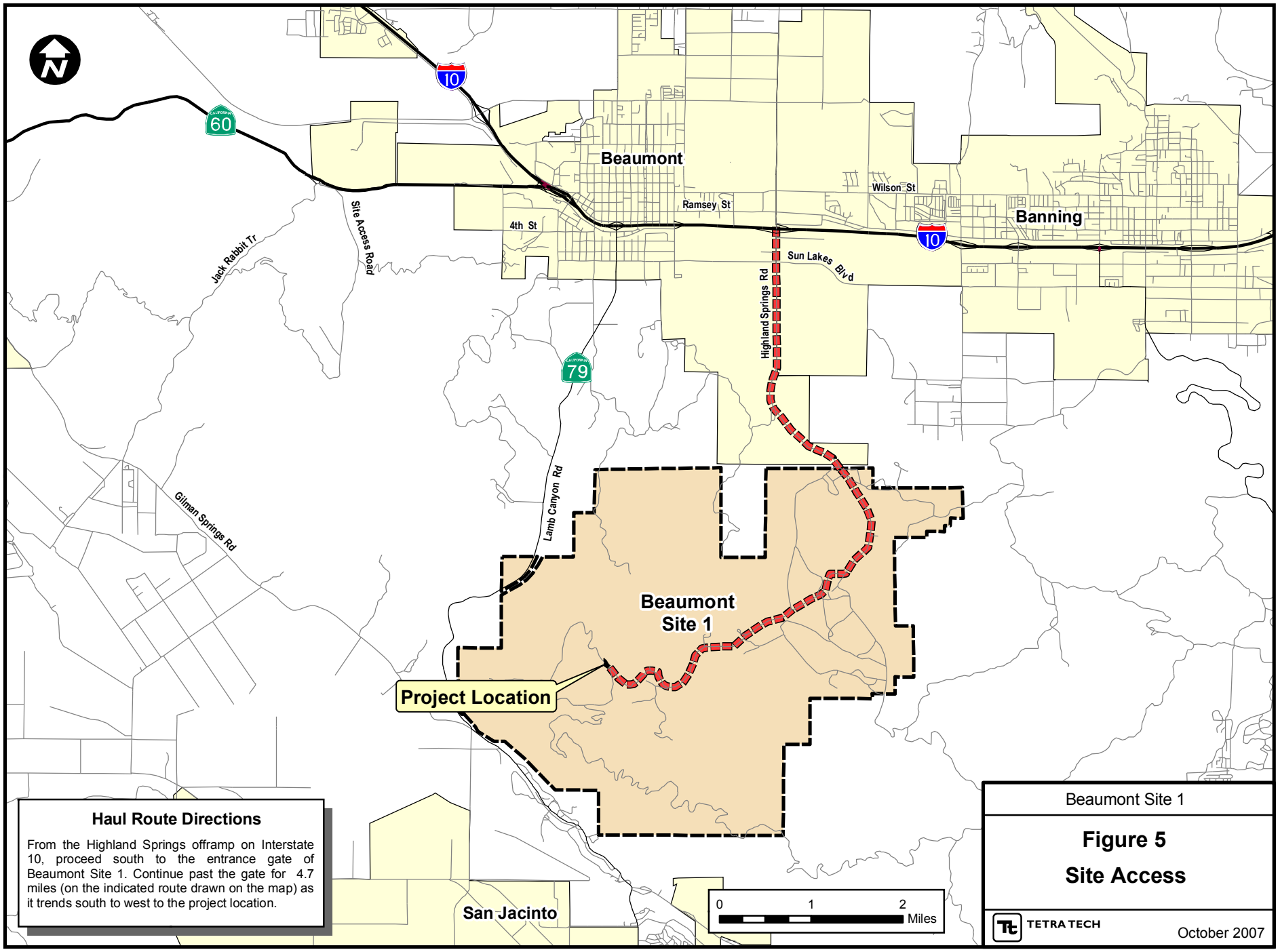
Beaumont Site 1

Figure 4
Proposed Trench Locations

TETRA TECH

September 2007

X:\GIS\LOCKHEED 19967-05\SITE ACCESS.MXD



Haul Route Directions

From the Highland Springs offramp on Interstate 10, proceed south to the entrance gate of Beaumont Site 1. Continue past the gate for 4.7 miles (on the indicated route drawn on the map) as it trends south to west to the project location.

Beaumont Site 1

Figure 5

Site Access

TETRA TECH

October 2007

APPENDIX A

APPLICATION FOR PLANS — FORM 400P

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

COMPANY INFORMATION

FOR INSTRUCTIONS SEE REVERSE SIDE

LEGAL NAME OF APPLICANT: **TETRA TECH, INC.**

[X] I.R.S. OR [ ] S.S. NO.: **95 – 414 - 8514**

PLAN TO BE ISSUED TO: (SEE INSTRUCTIONS) **TETRA TECH, INC.**

BUSINESS MAILING ADDRESS: **348 West Hospitality Lane, Suite 100, San Bernardino, CA 92408**

FACILITY INFORMATION

FACILITY NAME: **Former Beaumont Site 1 Lockheed Martin Company**

FACILITY I.D. NO.: _____

EQUIPMENT/FACILITY LOCATION: *(FOR VARIOUS LOCATIONS PLANS, ENTER "VARIOUS LOCATIONS")* **T4S R1W Section 3**

TYPE OF BUSINESS: **Former Sanitary Landfill**

BUSINESS TYPE CODE: (SEE INSTRUCTIONS) _____

CONTACT PERSON AND TITLE: **Thomas J. Villeneuve, San Bernardino Operations Manager / Vice President**

CONTACT TELEPHONE NO/FAX NO: **(909) 381 - 1674 / (909) 889 - 1391**

EQUIPMENT INFORMATION

APPLICATION HEREBY SUBMITTED FOR: Rule 1150 Excavation Plan

RULE NUMBER WHICH THIS APPLICATION APPLIES TO: RULE 1166

TYPE OF PLAN APPLICATION: COMPLIANCE PLAN [ ] EXCAVATION PLAN [X]

IF THIS APPLICATION IS ASSOCIATED WITH CERTAIN DISTRICT APPLICATION(S)/PERMIT(S), ENTER APPLICATION/PERMIT NUMBER(S):

FOR THIS PROJECT, HAS A CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) DOCUMENT BEEN REQUIRED BY ANOTHER GOVERNMENTAL AGENCY? NO [X] YES [ ] IF YES, ENTER NAME OF AGENCY:

DO YOU CLAIM CONFIDENTIALITY OF DATA? (SEE INSTRUCTIONS) YES [ ] NO [X]

OPERATING SCHEDULE: (Site Specific Plans Only.)

	HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
MAXIMUM	12 Hr/Day	5 Day/Wk	1 Week
AVERAGE	8 Hr/Day	5 Day/Wk	1 Week

SIGNATURE

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION ARE TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE MEMBER OR ORGANIZATION: Thomas J. Villeneuve DATE: 9/13/07

TYPE OR PRINT NAME OF SIGNER:	TITLE OF SIGNER	TELEPHONE NO.:
Thomas J. Villeneuve	**SBO Op. Mgr / Vice President**	**(909) 381-1674**

SCAQMD USE ONLY

APPLICATION NUMBER	EQUIP. CAT. NO. ___ ___ ___ ___ ___ ___ / ___ ___	ENGR A R DATE INITIAL	ENGR A R DATE INITIAL

ASSIGNMENT UNIT ENG.	FEE SCHEDULE $	VALIDATION	CHECK NO.	AMOUNT	ENF. SEC.

Rev. 2/93

SEE REVERSE SIDE FOR INSTRUCTIONS AND ADDITIONAL INFORMATION

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

May 30, 2008
A/N 474476
ID 153378

Tetra Tech, Inc.
348 West Hospitality Lane, Suite 100
San Bernardino, CA 92408

Attention: Mr. Thomas J. Villeneuve
Operations Manager/Vice President

Gentlemen:

Rule 1150 Excavation Permit
(Supersedes permit issued 11/7/07)

Reference is made to your Application No. 474476 for a Rule 1150 Excavation Permit for the excavation at the former Beaumont Site 1 Sanitary Landfill, located at Highland Springs Road, T4S R1W Section 3, Beaumont, California. Please be advised that this Excavation Permit is granted under Rule 1150 of the Rules and Regulations of the South Coast Air Quality Management District (AQMD) and is subject to the following conditions:

1. THIS EXCAVATION SHALL BE CONDUCTED IN COMPLIANCE WITH ALL PLANS AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EXCAVATION PERMIT SHALL BE VALID UNTIL SEPTEMBER 7, 2008. AN EXTENSION MAY BE GRANTED UPON WRITTEN REQUEST. SUCH A REQUEST SHALL INCLUDE THE REASONS THE EXTENSION IS REQUIRED, THE LENGTH OF THE EXTENSION AND THE STATUS OF THE EXCAVATION TO DATE.

3. THE AQMD SHALL BE NOTIFIED IN WRITING AT LEAST TWO (2) DAYS PRIOR TO THE START OF THE EXCAVATION AND WITHIN FIVE (5) DAYS AFTER IT IS COMPLETED.

4. THIS EXCAVATION PERMIT IS VALID ONLY FOR THE REMOVAL AND REBURIAL OF APPROXIMATELY 40 CUBIC YARDS OF EXCAVATED MATERIAL AND REFUSE.

5. EXCAVATION SHALL NOT BE CONDUCTED BETWEEN THE HOURS OF 5:00 P.M. AND 7:00 A.M. OR ON SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS UNLESS OTHERWISE APPROVED IN WRITING BY THE AQMD.

6. EXCAVATION SHALL NOT BE CONDUCTED ON DAYS WHEN THE AQMD FORECASTS FIRST, SECOND OR THIRD STAGE EPISODES FOR AREA NUMBER 29 OR WHEN THE AQMD REQUIRES COMPANIES IN AREA NUMBER 29 TO IMPLEMENT THEIR FIRST, SECOND OR THIRD STAGE EPISODE PLANS. EPISODE FORECASTS FOR THE FOLLOWING DAY CAN BE OBTAINED BY CALLING (800) 288-7664.

7. EXCAVATION SHALL NOT BE CONDUCTED WHEN THE WIND SPEED IS GREAT THAN 15 M.P.H. (AVERAGED OVER 15 MINUTES) OR THE WIND SPEED INSTANTANEOUSLY EXCEEDS 25 M.P.H.

8. DURING EXCAVATION, ALL WORKING AREAS, EXCAVATED MATERIAL AND UNPAVED ROADWAYS SHALL BE WATERED DOWN UNTIL THE SURFACE IS MOIST AND THEN MAINTAINED IN A MOIST CONDITION TO MINIMIZE DUST AND EMISSIONS.

9. ALL EXCAVATED REFUSE SHALL BE STOCKPILED NEXT TO THE TRENCH.

10. THE EXCAVATION WORKFACE AND ALL EXCAVATED REFUSE SHALL BE COVERED WITH EITHER A PROTECTIVE LINER OR PLASTIC SHEETING WHENEVER WORK IS NOT ACTIVELY IN PROGRESS.

11. EXCAVATED REFUSE SHALL NOT BE LOADED ONTO TRUCKS OR HAULED OFFSITE.

12. THE EXCAVATION WORK FACE WHICH EXPOSES REFUSE OR OTHER EMISSION GENERATING MATERIALS TO THE ATMOSPHERE SHALL NOT EXCEED 20 SQUARE FEET.

13. ALL EXCAVATED HAZARDOUS MATERIAL SHALL BE TRANSPORTED IN SUCH A MANNER AS TO PREVENT ANY EMISSIONS OF HAZARDOUS MATERIALS.

14. ALL HAZARDOUS MATERIALS SHALL BE TRANSPORTED IN CONTAINERS CLEARLY MARKED AS TO THE TYPE OF MATERIAL

CONTAINED AND WHAT PROCEDURES SHOULD BE FOLLOWED IN CASE OF ACCIDENTAL SPILLS.

15. EXCAVATED LIQUID HAZARDOUS MATERIALS WITH THE POTENTIAL TO CAUSE AIR EMISSIONS SHALL BE ENCAPSULATED OR ENCLOSED IN CONTAINERS WITH SEALED LIDS BEFORE LOADING INTO THE TRANSPORT VEHICLES.

16. ALL MATERIALS THAT ARE LISTED AS HAZARDOUS BY A FEDERAL OR STATE AGENCY SHALL BE CONSIDERED "HAZARDOUS MATERIALS" FOR THE PURPOSE OF THIS PERMIT.

17. DURING EXCAVATION, MONITORING FOR ORGANICS AS METHANE USING AN ORGANIC VAPOR ANALYZER (OVA) OR OTHER MONITOR APPROVED BY THE AQMD SHALL BE CONDUCTED CONTINUOUSLY AT THE WORKING FACE AND AT THE PROPERTY LINE. THE MAXIMUM SUSTAINED READINGS SHALL BE RECORDED EVERY 15 MINUTES.

18. IF THE OVA OR OTHER APPROVED ORGANIC MONITOR SHOWS A SUSTAINED (GREATER THAN 15 SECONDS) READING OF 2,000 PPM OR GREATER AT THE WORKING FACE, THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. EXCAVATION SHALL NOT RESUME UNTIL THE READINGS RETURN TO THE BACKGROUND LEVEL.

19. IF THE OVA OR OTHER APPROVED ORGANIC MONITOR SHOWS A SUSTAINED (GREATER THAN 15 SECONDS) READING OF 200 PPM OR GREATER DOWNWIND FROM THE SITE AT THE PROPERTY LINE (OR OTHER APPROVED LOCATIONS), THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. EXCAVATION SHALL NOT RESUME UNTIL THE READINGS RETURN TO THE BACKGROUND LEVEL.

20. DURING EXCAVATION, CONTINUOUS MONITORING AND RECORDING OF THE WIND SPEED AND DIRECTIONS SHALL BE CONDUCTED AT A SITE APPROVED BY THE AQMD.

21. ALL MONITORS SHALL BE CALIBRATED DAILY USING A METHOD APPROVED BY THE AQMD.

22. IF A DISTINCT ODOR (LEVEL III OR GREATER) RESULTING FROM THE EXCAVATION IS DETECTED AT OR BEYOND THE PROPERTY LINE, THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. ODOR LEVELS WILL BE

DETERMINED BY AQMD PERSONNEL OR ON-SITE SAFETY COORDINATOR IN THE ABSENCE OF AQMD PERSONNEL.

23. DURING EXCAVATION, IF A CONSIDERABLE NUMBER OF COMPLAINTS ARE RECEIVED, ALL WORK SHALL CEASE AND THE APPROVED MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY.

24. MITIGATION MEASURES, OTHER THAN THOSE INDICATED IN THESE CONDITIONS, WHICH ARE DEEMED APPROPRIATE BY AQMD PERSONNEL AS NECESSARY TO PROTECT THE COMFORT, REPOSE, HEALTH OR SAFETY OF THE PUBLIC, SHALL BE IMPLEMENTED UPON REQUEST.

25. ALL RECORDS OF EXCAVATION WORKING HOURS, MONITORING RESULTS, DAILY AMOUNTS OF MATERIALS EXCAVATED AND DISPOSED, AND OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND MADE AVAILABLE TO THE AQMD UPON REQUEST.

26. THIS PERMIT OR A COPY OF THIS PERMIT SHALL BE PRESENT AT THE EXCAVATION SITE.

Other governmental agencies may require approval before any excavation begins. It shall be the responsibility of the applicant to obtain that approval. The South Coast Air Quality Management District shall not be responsible or liable for any losses because of measures required or taken pursuant to the requirements of this approved Excavation Management Plan.

If you have any questions regarding this matter, please call Mr. Ted Kowalczyk at (909) 396-2592.

Very truly yours,

Charles Tupac
AQAC Supervisor

CDT:TK:
cc: Rich Tambara

TETRA TECH

July 8, 2008

Mr. Charles Tupac
AQAC Supervisor
South Coast Air Quality Management District
P.O. Box 4944
Diamond Bar, CA 91765

Subject: Rule 1150 Excavation Management Permit A/N 474476, ID 153378
Former Beaumont Site 1 Sanitary Landfill, Beaumont, California

Dear Mr. Tupac,

Tetra Tech was issued Rule 1150 Excavation Permit A/N 474476 on May 30, 2008 for the Former Beaumont Site 1 Sanitary Landfill Project. Pursuant to Permit Condition No. 3 Tech Tech, Inc. must notify the South Coast Air Quality Management District (AQMD) in writing two (2) days prior to project commencement. This letter is to notify the AQMD that the collection of soil samples for site characterization at the Former Beaumont Site 1 Sanitary Landfill is scheduled to commence on July 14, 2008. The AQMD will be notified five (5) days after project completion per Permit Condition No. 3.

Should you have any questions or concerns please contact me at (909) 381-1674.

Sincerely,
Tetra Tech, Inc.

Thomas J. Villeneuve
Operations Manager / Vice President

C: Eddy Huang, Tt Pasadena
Christie Espinoza, Tt San Bernardino

Tetra Tech, Inc.
348 West Hospitality Lane, Suite 100, San Bernardino, CA 92408-3214
Tel 909 381 1674 Fax 909 889 1391 www.tetratech.com

TETRA TECH

July 23, 2008

Mr. Charles Tupac
AQAC Supervisor
South Coast Air Quality Management District
P.O. Box 4944
Diamond Bar, CA 91765

Subject: Rule 1150 Excavation Management Permit A/N 474476, ID 153378
Former Beaumont Site 1 Sanitary Landfill, Beaumont, California

Dear Mr. Tupac,

Tetra Tech was issued Rule 1150 Excavation Permit A/N 474476 on May 30, 2008 for the Former Beaumont Site 1 Sanitary Landfill Project. Pursuant to Permit Condition No. 3 Tech Tech, Inc. must notify the South Coast Air Quality Management District (AQMD) in writing five (5) days after project completion. This letter is to notify the AQMD that the collection of soil samples for site characterization at the Former Beaumont Site 1 Sanitary Landfill was completed on July 14, 2008.

Should you have any questions or concerns please contact me at (909) 381-1674.

Sincerely,
Tetra Tech, Inc.

Thomas J. Villeneuve
Operations Manager / Vice President

C: Eddy Huang, Tt Pasadena
Christie Espinoza, Tt San Bernardino