SITE ASSESSMENT
AND
REMEDIAL EXCAVATION REPORT

F/A 18D CRASH SITE
4406 AND 4416 CATHER AVENUE
UNIVERSITY CITY NEIGHBORHOOD
SAN DIEGO, CALIFORNIA

Contract No.: N62473-09-D-2607
Task Order No.: TO-0003

Date
March 31, 2009

Prepared for:
Naval Facilities Engineering Command Southwest
San Diego, California 92132-5190

Prepared by:
Trevet
9888 Carroll Centre Road, Suite 228
San Diego, California 92126

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Bob Breglio, P.G. 7907

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ACRONYMS/ABBREVIATIONS

APN	Assessors Parcel Number
BGI	Black Gold Industries
bgs	below ground surface
BMP	best management practice
CRWQCB	California Regional Water Quality Control Board
DEH	Department of Environmental Health
EPA	Environmental Protection Agency
JP-5	Jet Propellant No. 5
MCAS	Marine Corps Air Station
mg/kg	milligrams per kilogram
msl	mean sea level
NAVFAC	Naval Facilities Engineering Command
NFESC	Naval Facilities Engineering Services Center
NIOSH	National Institute of Safety and Health
OSI	Occupational Services, Inc.
PAH	polynuclear aromatic hydrocarbons
PID	photo ionization detector
SAM	Site Assessment and Mitigation
TPH	total petroleum hydrocarbons
TRPH	total recoverable petroleum hydrocarbons
USGS	United States Geological Society
USMC	United States Marine Corps
VAP	Voluntary Assistance Program

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1.0 INTRODUCTION

At the request of Naval Facilities Engineering Command (NAVFAC) Southwest, and pursuant to Contract N62473-09-D-2607, Task Order 0003, Trevet has prepared this Site Assessment and Remedial Excavation Report summarizing soil sampling, laboratory analysis, and soil excavation activities performed at the location where a United States Marine Corps (Marine Corps) F/A 18D fighter aircraft (F/A 18D) crash occurred on December 8, 2008 (Figure 1). The crash site is located in the University City area of San Diego, California at 4406 and 4416 Cather Avenue and the immediate vicinity (Figure 2).

Site assessment and remedial soil excavation activities at the 4406 and 4416 Cather Avenue properties (Site) have been conducted with oversight from the County of San Diego Department of Environmental Health (DEH) Voluntary Assistance Program (VAP). The Marine Corps entered into the County of San Diego VAP on December 9, 2008, and was assigned VAP case number is H39734-001. The VAP provides staff consultation, project oversight, technical report evaluation, and concurrence (where appropriate) for sites where releases of petroleum product or hazardous substances have occurred.

Soil sampling, laboratory analysis, and remedial excavation activities were performed in March 2009 in accordance with the approved Work Plan (Trevet 2009) submitted to the County of San Diego DEH on February 20, 2009. The Work Plan was reviewed by the County of San Diego DEH and approved on February 25, 2009. A copy of the County of San Diego DEH approval letter is included as Appendix A of this report. This document summarized emergency response activities as well as initial sampling activities conducted to assess potential contaminants related to the crash and resulting fire, and to classify debris removed from the site for disposal.

1.1 SITE IDENTIFICATION

Site Address:	4406 and 4416 Cather Avenue, San Diego, California 92122
Assessors Parcel Number (APN)	348-7903-300 and 348-7903-400
DEH Voluntary Assistance Program Case No.:	H39734-001
Responsible Party:	United States Marine Corps, Marine Corps Air Station Miramar, Post Office Box 452001, San Diego, California 92145-2001
Point of Contact:	Lieutenant Colonel B.M. Hall
Phone Number:	(858) 577-1650
Navy Remedial Project Manager:	Ms. Susan Vanwinkle, Naval Facilities Engineering Command Southwest (NAVFACSW), 937 North Harbor Drive, San Diego, California 92132
Phone Number:	(619) 532-4715

1.2 DESCRIPTION OF THE RELEASE

On December 8, 2008, a Marine Corps F/A 18D crashed in the University City neighborhood of San Diego, California, approximately two miles west of Marine Corps Air Station (MCAS) Miramar. Property damage resulting from the crash included the destruction of two houses and three privately-owned vehicles, as well as the partial burning and/or damage of several neighboring properties, surrounding street pavement, and sidewalk. The two houses that were destroyed were located at 4406 and 4416 Cather Avenue.

Jet fuel (JP-5) was released from the crashed aircraft. The main portion of the fuselage and wings came to rest in the northeast corner of 4406 Cather Avenue. The fuel tanks for

the F/A 18D are contained within the wings and fuselage. According to MCAS Miramar personnel (K. McGuinness, 2009, personal communication), the F/A 18D had approximately 2,800 pounds of JP-5 on board at the time of impact. For reference, JP-5 has a density of approximately 0.8 grams per cubic centimeter, therefore, 2,800 pounds is equivalent to approximately 440 gallons of fuel. Based on photographs and television news video, a significant, but unknown, portion of the JP-5 was burned during the resulting fire. According to MCAS Miramar personnel (K. McGuinness, 2009, personal communication), no munitions and/or radiological materials were present on the F/A 18D aircraft at the time of the crash.

The fire that occurred subsequent to the crash resulted in burned building debris, ash, and melted/burned aircraft parts. The ash created from burned aircraft residential structures has the potential to contain elevated metals concentrations (depending upon the materials used for construction of the structures). This ash may become mixed with site soils at the site during demolition activities.

For the crash site two potential sources of contaminants were identified: jet fuel released from the aircraft and the typical byproducts of burned fuel and debris from the fires. Based on findings from the initial soil investigation (Trevet 2009) and findings from this site assessment, metals are not a contaminant at the site.

1.3 OBJECTIVES

The site assessment and remedial activities described in this report were conducted based on the results of the initial work conducted at the site (Trevet 2009). The objectives were as follows:

- To delineate the horizontal and vertical extent of JP-5 in soil in the northeast corner of 4406 Cather Avenue where the jet fuselage and wings came to rest and previous sampling indicated elevated concentrations of JP-5 in soil;
- To confirm that JP-5 was not present in elevated concentration at other locations across the site (4406 and 4416 Cather Avenue);

- To assess concentrations of metals in surface soil across the site (4406 and 4416 Cather Avenue) to augment previous metals data (Trevet 2009); and,

- To excavate and remove from the site soil found to be impacted with concentrations of JP-5 in excess of 100 milligrams per kilogram (mg/kg).

2.0 BACKGROUND

The section presents a summary of emergency response activities conducted immediately following the F/A 18D crash, as well as initial soil sampling conducted as part of the emergency response activities. These activities are discussed in greater detail in the report, "*Summary of Emergency Response Activities, Limited Soil Excavation and Work Plan for Site Assessment and Soil Excavation Activities"*, dated February 20, 2009 (Trevet 2009). In addition, this section also presents a description of the excavation and removal of JP-5 contaminated soil at the site.

2.1 EMERGENCY RESPONSE AND INITIAL SOIL SAMPLING

The following summarizes the emergency response activities (including initial soil sampling) that were conducted at the site between December 12 and 30, 2008. Selected figures and tables from the February 20, 2009 Emergency Response Report are included in Appendix B.

- On December 8, 2008, a Marine Corps F/A 18D crashed in the University City neighborhood of San Diego, California, approximately two miles west of Marine Corps Air Station MCAS Miramar. Emergency response/first responder activities were performed by numerous parties, including the Marine Corps, the United States Navy, City of San Diego, County of San Diego, and others. Once emergency response activities abated, the Marine Corps emergency reclamation team in conjunction with mishap investigators began retrieving aircraft parts. Aircraft reclamation and mishap investigative work continued at the site until December 12, 2008.

- Between December 12 and 30, 2008, Black Gold Industries (BGI) collected soil samples from 4406 and 4416 Cather Avenue (the site), and from properties in the neighborhood. The initial sampling was conducted to classify waste (impacted soil and fire debris) for disposal purposes, and to assess the soil at the crash site for constituents that may have been

present in the construction materials in the homes, on the aircraft (fuels), or by products of the fire.

- Soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, diesel, and extended range hydrocarbons, JP-5 (jet fuel); total recoverable petroleum hydrocarbons (TRPH), metals, asbestos, and/or polychlorinated biphenyls (PCBs).

- On December 12, 2008 water samples were collected from three backyard pools in the neighborhood (located at 4371 Huggins, 4391 Huggins, and 4480 Cather Avenue) and analyzed for oil and grease and TRPH. Oil and grease and TRPH were not detected in any of the swimming pool samples.

Results of the initial soil sampling conducted at 4406 and 4416 Cather Avenue and surrounding properties indicated the following:

- That a release of JP-5 resulting from the crash of the F/A 18D had occurred. Concentrations of JP-5 were detected in surface soil in the northeast corner of 4406 Cather Avenue at concentrations of 1,310 and 3,600 mg/kg.

- Low concentrations of TRPH were detected in the neighborhood soil samples. Low concentrations of TRPH can be attributed to multiple sources, including asphalt and naturally occurring organics. The TRPH levels detected in the neighborhood samples (maximum concentration of 54 mg/kg) are consistent with those that would be anticipated for naturally occurring organics in soil. Detected concentrations of TRPH did not appear to be crash related or represent a risk to human health.

- Asbestos and PCBs were not detected in samples analyzed for asbestos and PCBs.

- Metals were detected in soil samples collected from the site and neighborhood properties but concentrations appeared to be either within

the range of naturally occurring background concentrations or below County of San Diego screening levels (Trevet 2009).

2.2 SUMMARY OF LIMITED SOIL EXCAVATION – FEBRUARY 4, 2009

On February 4, 2009, a limited excavation was conducted near the northeast corner of 4406 Cather, where previous sampling in December 2008 noted elevated (1,310 and 3,600 mg/kg) concentrations of JP-5. The excavation was performed using a backhoe that was guided by a hand-held photoionization detector (PID) to screen for organic vapors associated with JP-5. During excavation activities petroleum hydrocarbon odors were noted within the excavation area. Excavated soil was placed directly from the backhoe into two roll-off bins.

The limited excavation resulted in the establishment of an excavation measuring approximately 19 feet in length (north to south), 9 to 10 feet in width, and 1.25 to 3 feet deep (see Figures 5 and 6 in Appendix B). The majority of the excavation was approximately 1.5 feet deep, with a deeper (approximately 3 feet deep) portion located in the north-central portion of the excavation. The total volume of the excavated material was approximately 11 cubic yards. This resulted in 15.97 tons of soil that was manifested and transported to the U. S. Ecology disposal facility near Beatty, Nevada, by General Environmental Management, Inc., a licensed waste transporter (Trevet 2009).

Ten soil confirmation samples were collected from the side-walls and floor of the excavation. The analytical results indicated that the samples contained concentrations of JP-5 ranging from non-detectable (< 11 mg/kg) to 17,000 mg/kg. The highest concentration of JP-5 was reported for sample 020409-10, collected from a depth of approximately three feet bgs. This sample was collected from the deepest portion of the excavation.

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3.0 GEOLOGIC AND HYDROGEOLOGIC SETTING

This section presents the geologic and hydrogeologic setting of the site and vicinity.

3.1 GEOLOGIC SETTING

A review of Bulletin 200 of the California Division of Mines and Geology (Kennedy 1975) indicates that the Site vicinity is underlain by nearshore deposits of the Lindavista Formation. As described in Bulletin 200, the formation consists of sediments deposited on a 10-kilometer long wave cut platform. The Lindavista Formation is predominately composed of moderate reddish-brown interbedded sandstone and conglomerates. Iron-rich cementation (often hematite) gives the formation its characteristic red to reddish-brown color and its cementation. Formation materials are interpreted to be derived from the older sedimentary rocks within San Diego embayment. Beneath the Lindavista Formation lies Tertiary-Age Scripps Formation. The Scripps Formation generally consists of pale yellowish-brown, medium-grained sandstone.

3.2 LOCAL GEOLOGIC SETTING

Based on review of the U.S. Geologic Survey (USGS) 7.5-Minute La Jolla, California Quadrangle topographic map, dated 1967 and photorevised in 1975, with minor revisions in 1994 (USGS, 1967; revised 1975) and the recent land survey of the site as described in Section 4.4, the site is located at an elevation of approximately 365 feet above mean sea level (msl).

Visual observations conducted at the site suggest that the northern and eastern margins of the site contained a thin veneer of fill material on formerly landscaped embankments, with Lindavista Formation present underneath the fill material along the northern and eastern site edges. The limited excavation performed on February 4, 2009 (Trevet 2009) encountered a thin veneer (approximately 1 to 1.5 feet thick) of disturbed fill underlain by tan to yellow, moist medium-grained sand. This sand is tentatively interpreted as the upper portion of the Scripps Formation. The depth to the Scripps Formation at and in the vicinity of the site is variable, based on elevation, and is believed to be present within the upper several feet at 4406 and 4416 Cather Avenue.

In addition, during exploratory drilling and soil sampling conducted on March 9, 2009 the tan to yellow medium-grained sand encountered at the site graded to a fine to medium-grained sand with approximately 10 to 20 percent clay. At approximately 16 feet below grade a clay layer was encountered having a minimum thickness of two feet. The fine to medium grained sand and clay layer encountered is also consistent with Scripps Formation material.

3.3 HYDROGEOLOGIC SETTING

The California Regional Water Quality Control Board, San Diego Region (CRWQCB) indicated in the 1994 Water Quality Control Plan, San Diego Basin (9), that the site is present within the Miramar Hydrologic Area (906.40) of the Penasquitos Hydrologic Unit (906.00). Groundwater in the Miramar Hydrologic Area is designated as having potential beneficial use for industrial uses, and is exempt from municipal or domestic supply use.

The groundwater flow direction is estimated to be generally west to northwest. Depth to groundwater is estimated to be in excess of 100 feet bgs. This estimate is based on the approximate elevation of the site (365 feet msl), and the elevation of the floor of Rose Canyon (approximately 220 feet msl). Rose Canyon is located approximately 500 feet north of the site. No potable drinking water wells are known or suspected to be present within 0.5 mile of the site.

3.4 TOPOGRAPHY

As noted above, the site is located at an elevation of approximately 365 feet msl. The site is located immediately west of the local topographic high point. The residential lots located adjacent to the site to the east are approximately 4 to 5 feet in elevation higher than the site. The lots located adjacent to the west and south of the site are located at approximately the same elevation as the site. Runoff from the site would drain from the east, exiting the site on the western portion of the properties. Runoff from the residential properties in the neighborhood is directed to the City of San Diego municipal storm drain system.

4.0 SITE ASSESSMENT AND REMEDIAL EXCAVATION METHODS

This section describes the sampling rationale and field methods used to conduct the site assessment and remedial excavation. Field activities included soil sampling, surveying, and soil excavation. In addition, laboratory analyses that were performed on the soil samples are presented in this section.

4.1 PLANNING

The following activities were performed prior to on site soil sampling, laboratory analysis, and remedial excavation.

- On February 20, 2009 the document "*Summary of Emergency Response Activities, Limited Soil Excavation and Work Plan for Site Assessment and Soil Excavation Activities"* (Trevet 2009) was submitted to the County of San Diego DEH. The document presented a Work Plan to conduct both additional soil sampling and a remedial excavation at the 4406 and 4416 Cather Avenue properties. The County of San Diego DEH, issued a work plan approval letter on February 25, 2009. A copy of the approval letter is included in Appendix A.
- A permit application was submitted to DEH in advance of exploratory drilling and soil sampling activities (conducted on March 9, 2009) in the event that the exploratory borings exceeded a depth of 20 feet bgs. The permit included property owner consent forms obtained by the Marine Corps. The borings drilled on March 9, 2009 did not exceed 16 feet bgs, and consequently, the permit was not required.

4.2 SAMPLING RATIONALE

This section presents the sampling rationale for site assessment and remedial excavation conducted at 4406 and 4416 Cather Avenue. Site assessment activities were conducted on March 3 and 9, 2009 and March 16 and 17, 2009 and were based on the findings of the

initial soil sampling activities conducted in December 2008 and the results of the limited excavation conducted on February 4, 2009 (Trevet 2009).

4.2.1 March 3, 2009 Surface and Subsurface Soil Sampling

The surface and subsurface soil sampling was conducted on March 3, 2009. Sixteen surface (0 to 0.5 feet bgs) samples were collected from a grid pattern across the 4406 and 4416 Cather Avenue (Figure 3) and analyzed for JP-5 and metals. Two samples with detected concentrations of JP-5 were also analyzed for polynuclear aromatic hydrocarbons (PAHs).

The collection of surface samples on a grid pattern across 4406 and 4416 Cather Avenue was conducted for two reasons.

1. To confirm whether JP-5, known to have been released in the northeast corner of the site, had been mixed with surface soil as a result of activities such as structure demolition or storm water management (berming) (Trevet 2009).

2. To support previous, limited sampling that indicated that metals were not released into soil as a result of the crash and fire.

Two samples with detected concentrations of JP-5 were also analyzed for PAHs. This is because PAHs are constituents of jet fuels, diesel, and other heavy hydrocarbons. They can also be formed as a byproduct of combustion during residential structural fires. As a pollutant they are a concern because some compounds have been identified as carcinogenic.

Subsurface soil samples were collected at selected locations across the site at depths of approximately 1.5 to 2 feet bgs and analyzed for JP-5. One sample was also analyzed for PAHs. These samples were collected in areas on the 4406 and 4416 Cather Avenue properties that were unpaved and/or not within the footprint of the foundations of the former structures prior to the crash, as shown of Figure 4. This sampling rationale was developed based on a much greater likelihood that soil in these areas could have been

directly impacted by a release of JP-5, as opposed to subsurface soil beneath former foundations, concrete driveways, and sidewalks that would not have been directly impacted by a release of JP-5. The sample locations were selected based on the location of structures and unpaved areas at the time of the crash and an understanding of where release of fuel would have most likely occurred. Because of this they are referred to as "Judgmental Samples."

4.2.2 March 9, 2009 Direct Push Sampling

On March 9, 2009, soil samples were collected to delineate the horizontal and vertical extent of JP-5 in soil in the northeast corner of 4406 Cather Avenue where a release of JP-5 is known to have occurred based on previous (December 2008 and February 2009) sampling. This is the area of the limited soil excavation conducted on February 4, 2009. Figure 5 shows the direct-push sampling locations. Soil samples were collected to a maximum depth of 16 feet bgs and analyzed for JP-5. Four samples were also analyzed for PAHs.

In addition, soil samples were also collected at approximately 2 feet below where surface sample results from the March 3, 2009 event indicated elevated concentrations of JP-5 or detected concentrations of PAHs. This was done to confirm the vertical extent of the contaminants found in the surface soil.

4.2.3 March 16 and 17, 2009 Remedial Excavation

On March 16 and 17, 2009 soil was excavated from the northeast corner of 4406 Cather Avenue. Several other localized areas, where elevated JP-5 and detectable PAHs had been detected in surface samples, were also removed at this time. Confirmation soil samples were collected from within the excavation and the other shallow removal areas to confirm soil containing JP-5 in excess of 100 mg/kg and detectable PAHs had been removed.

4.3 SOIL SAMPLING

Soil samples were collected using disposable, pre-cleaned, individually bagged, and factory sealed plastic scoops; a hand auger which was decontaminated prior to use each day and in between sampling locations; or using a core barrel lined with a disposable acetate liner via a direct push drill rig which was decontaminated prior to use each day and in between sampling locations.

Samples collected using a disposable scoop or hand auger were transferred into a laboratory provided, pre-cleaned glass jar with a Teflon lined lid. The sample containers were labeled, a custody seal affixed across the lid and container body, and documented on a chain-of-custody form. Sample containers were individually bagged, wrapped with bubble wrap (to prevent breakage), and stored in a sample cooler with bagged ice.

Samples collected using the direct push drill rig were collected in acetate liners. The liners were cut to approximately 6" lengths. The cut liners were sealed using Teflon sheets with tight-fitting plastic caps. The sample liners were labeled, a custody seal affixed across the plastic cap and the liner body, and documented on a chain-of-custody form. Sample liners were individually bagged and stored in a sample cooler with bagged ice.

Soil samples were either sent to a fixed-base analytical laboratory or delivered to an on site mobile laboratory (as discussed in Section 4.5). Prior to submitting the samples to the fixed-base analytical laboratory custody seals were affixed to the front and back of the sample cooler. Delivery to the analytical laboratory was either via a laboratory courier or shipped priority overnight using Federal Express (FedEx). Soil samples delivered to the on site mobile laboratory were hand delivered immediately to the chemist operating the mobile laboratory.

4.4 SURVEYING

Soil sampling locations and the extent of the excavation were surveyed by Landmark Surveying, a licensed land surveyor. Locations were surveyed using the horizontal datum, North American Datum 1983 (NAD83), and the vertical datum, North American Vertical

Datum 1988 (NAVD88). A copy of the survey location map and coordinates is provided in Appendix C.

4.5 LABORATORIES AND ANALYTICAL METHODS

Soil samples and field quality control samples (equipment rinsates and source blanks) were collected in accordance with the approved Work Plan. Samples collected during the February 4, 2009 and March 3, 2009 sampling events were submitted to EMAX Laboratories, Inc. located in Torrance, California for analysis. EMAX is a State of California-certified and Naval Facilities Engineering Service Center-evaluated laboratory. Soil samples collected during the direct push sampling and the remedial excavation were submitted to the H & P Mobile Geochemisty, Inc. mobile laboratory.

Soil samples were analyzed for one or more of the following analyses:

- Total petroleum hydrocarbons as JP-5 using Environmental Protection Agency (EPA) Method 3550B/8015
- California Assessment Manual 17 (CAM 17) Metals (Metals) using EPA Method 6020A (fixed-base laboratory only)
- Polynuclear aromatic hydrocarbons (PAHs) using EPA Method 3550B/8270C SIM (fixed-base laboratory only)

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5.0 SITE ASSESSMENT AND REMEDIAL EXCAVATION RESULTS

The following sections present a summary of the results of the site assessment and remedial excavation activities that were conducted at the 4406 and 4416 Cather Avenue properties.

Soil analytical results of each sampling event are presented on Tables 1 though 5 and graphically depicted on Figures 3 through 8. Laboratory analytical reports are included as Appendix D. Photographs of the site assessment and remedial excavation activities are presented in Appendix E.

5.1 MARCH 3, 2009 SURFACE AND SUBSURFACE SOIL SAMPLING

On March 3, 2009 16 surface soil samples and 12 subsurface soil samples (1.5 to 2 feet bgs) were collected from 4406 and 4416 Cather Avenue. The following presents the results of the surface and shallow subsurface sampling.

5.1.1 Surface Sampling

The 16 surface samples (030309-13 through 030309-28) were collected from a grid pattern across the 4406 and 4416 Cather Avenue site (Figure 3) and analyzed for JP-5 and metals as described in Section 4.2.1. In addition, two samples (030309-13 and 030309-28) were also analyzed for PAHs. Sample 030309-28 was selected for PAH analysis because it had the highest detected concentration of JP-5 of the 16 surface samples. Sample 020209-13 was selected because it had relatively high detected concentration of JP-5 and there were visual indications of burn debris around the sample location.

JP-5 and PAH Results

The results of the JP-5 analysis indicate concentrations ranged from non-detectable (< 10 mg/kg) to a maximum concentration of 380 mg/kg in the surface samples. The two highest JP-5 results (380 mg/kg and 180 mg/kg) were detected in samples 030309-28 and 030309-24, respectively. These surface samples were collected near the northeast corner of 4406 Cather Avenue. This is in the area of the known release of JP-5, where the

limited excavation was conducted on February 4, 2009. The remaining 14 surface soil samples ranged from non-detectable (< 10 mg/kg) to 72 mg/kg. Six of the 14 samples were either non-detectable (< 10 mg/kg) for JP-5 or contained an estimated concentration less than 10 mg/kg. Five samples contained concentrations of JP-5 between 11 and 31 mg/kg, one sample contained 51 mg/kg of JP-5, and one sample contained 72 mg/kg of JP-5.

The 14 low level detections (below 100 mg/kg) in shallow soil are believed to represent disturbed soil, rather than significant release points. The highest detected concentrations of the 14 low level detections, 72 mg/kg in 030309-13, was detected at a location within the footprint of a former driveway (refer to Figure 3) which likely indicates that the soil was deposited at this location by surface soil disturbing activities during emergency response and demolition activities. This was later confirmed by a hand auger sample collected two feet below this location (on March 9, 2009) that contained non-detectable concentrations of JP-5 (refer to Figure 3). Similarly, the surface soil samples collected on March 3, 2009, containing 51 mg/kg, 180 mg/kg, and 380 mg/kg of JP-5, were confirmed to have non-detectable concentrations of JP-5 in soil (collected on March 9, 2009) at depths of approximately 2 feet below the original soil sample location.

Two surface samples were analyzed for PAHs, 030309-13 and 030309-28. These samples exhibited concentrations of JP-5 at 72 mg/kg and 380 mg/kg, respectively. PAHs were not detected in sample 030309-28 (< 5.7 mg/kg) but were detected in sample 030309-13 as presented in Table 2. A hand auger sample collected March 9, 2009, from 2 feet below this location indicated non-detectable concentrations of PAHs. It should also be noted that the surface soil around sample 030909-13 was excavated during remedial excavation activities conducted on March 16 through 18, 2009.

Analytical results for JP-5 and PAHs for the surface samples are presented in Tables 1 and 2. Sample locations are depicted on Figure 3.

Metals Results

The results of the metals analysis indicated that all 16 surface soil samples contained metal concentrations below site screening levels, with the exception of arsenic. Screening levels are based on the County of San Diego Fall 2007 Wildfire Structural Debris Removal guidelines (a copy of the guidelines is presented in Appendix D of the "*Summary of Emergency Response Activities, Limited Soil Excavation and Work Plan for Site Assessment and Soil Excavation Activities"*, dated February 20, 2009 [Trevet 2009]).

Arsenic was reported in each sample, with a range in concentrations of 4.23 mg/kg to 17.10 mg/kg. Although arsenic was detected at concentrations above the County of San Diego screening levels, it is not believed that the concentrations of arsenic represent metals or ash contamination resulting from the crash and/or resulting fire based on the following:

- The County of San Diego screening level for arsenic is a conservative number that may not represent actual background levels of arsenic in this portion of San Diego County. Metals are naturally-occurring constituents of the earth's crust. The U.S. Geological Survey (1984) reports naturally-occurring arsenic background concentrations in western U.S. soils at concentrations of up to 97 mg/kg.

- The range in arsenic concentrations at the site is within the range of naturally occurring arsenic concentrations in soil at MCAS Miramar. A background metals study was conducted at MCAS Miramar to assess concentrations of naturally occurring metals in soil. Naturally occurring arsenic concentrations at MCAS Miramar range between 1.5 and 34.3 mg/kg (BNI, 2004). The variability in the range of arsenic concentrations at MCAS Miramar is due to the variability of the geology. MCAS Miramar is underlain by the Lindavista Formation and Scripps Formation (Kennedy 1975). As described in Section 3.0, soil at the site is also underlain by both the Lindavista Formation and Scripps Formation. Therefore, the range of arsenic concentrations measured in site soil (4.23

mg/kg to 17.10 mg/kg) is consistent with the variability associated with the geologic formations present at the site.

Analytical results for metals in the surface samples are presented in Table 3. Sample locations are depicted on Figure 3.

5.1.2 Subsurface Judgmental Soil Sampling

Twelve subsurface (1.5 to 2 feet bgs) judgmental soil samples (030309-01 through 030309-12) were collected on March 3, 2009. These samples were collected in areas on the 4406 and 4416 Cather Avenue that were unpaved and/or not within the footprint of the foundations of the former structures prior to the crash, described in Section 4.2.1, and shown on Figure 4.

The 12 subsurface (1.5 to 2 foot bgs) soil samples were analyzed for JP-5. JP-5 was not detected (< 10 mg/kg) in any of the 12 samples. The results of the laboratory analysis of these 12 soil samples are presented on Table 1 and depicted on Figure 4.

5.2 MARCH 9, 2009 DIRECT PUSH SOIL SAMPLING

On March 9, 2009 additional soil sampling was conducted to delineate the horizontal and vertical extent of JP-5 in soil around and below the footprint of the limited excavation in the northeast corner of 4406 Cather Avenue. Five direct push borings were advanced, one to the north (Boring B-8), south (Boring B-4), east (Boring B-7), and west (Boring B-2) of the footprint of the former limited excavation, and one boring through the center (Boring B3) where a JP-5 concentration of 17,000 mg/kg (020409-10) had been previously reported at three feet bgs. The locations of the direct push borings are shown on Figures 5, 6, and 7.

The borings were advanced to a maximum depth of 16 feet bgs. JP-5 was only detected in two samples, both collected from Boring B3 (advanced through the center of the previous limited excavation). JP-5 was detected at 4 feet and 6 feet bgs at concentrations of 3,500 mg/kg (sample 030909-03-4) and 12,000 mg/kg (sample 030909-03-6). Samples

collected from 8 feet, 10 feet, 12 feet, and 16 feet bgs from this boring were all non-detectable for JP-5 (<10 mg/kg). Table 4 presents the direct push soil sample results.

In addition to the direct push borings, six hand auger samples were collected from 2 feet bgs to further assess concentrations of JP-5 in soil around the footprint of the limited excavation, and below detected concentrations of JP-5 from the March 3, 2009 sampling event. Samples 030909-1-03, 030909-5-2.5, and 030909-6-2 were collected below samples from March 3, 2009 with concentrations of JP-5 of 180 mg/kg (030309-24), 51 mg/kg (030309-20), and 72 mg/kg (030309-13). All three of these deeper samples were non-detect for JP-5 (< 10 mg/kg).

5.3 REMEDIAL EXCAVATION AND SITE CLEANUP

The following section summarizes the remedial excavation activities conducted in March 16, 2009 and general site maintenance activities conducted on March 17 and 18, 2009.

5.3.1 Remedial Excavation

On March 16, 2009, a remedial excavation was conducted based upon the results from the previous sampling activities. In summary, approximately 50 cubic yards of soil was excavated from the northeast portion of the site where recent sampling indicated JP-5 contaminated soil extended to approximately 7 feet bgs. In addition, approximately 10 cubic yards of soil was excavated from surface areas where elevated JP-5 had previously been reported (around sample locations 030909-13, and 030909-20 and 030909-24).

The excavation was conducted using a backhoe/excavator. The excavated soil, along with waste generated during the previous sampling event was placed in six 20 cubic yard capacity bins. The excavated soil was transported to a U. S. Ecology disposal facility near Beatty, Nevada, by General Environmental Management, Inc., a licensed waste transporter. Soil from the remedial excavation was disposed of at the U.S. Ecology facility because soil from the excavation contained concentrations of JP-5 in excess of 1,000 mg/kg. Copies of the waste manifests are provided in Appendix F.

The dimensions of the final excavation were approximately 21 feet in length (north to south) approximately 10 feet in width, and ranged from 3 feet bgs in the north and south ends of the excavation to 8 feet bgs within the majority of the excavation.

A total of 14 confirmation samples were collected from the sidewalls and floor of the excavation and analyzed for JP-5 using an on site mobile laboratory. Confirmation soil samples were hand delivered to an onsite mobile laboratory. Analytical results indicate that JP-5 was not detected (< 10 mg/kg) in any of the fourteen confirmation soil samples. One sample (031609-08) collected from the bottom of the excavation was also analyzed by a fixed-base laboratory for PAHs. The analytical result indicated that PAHs were not detected (<5.9 µg/kg). The results of the confirmation soil sampling are summarized in Table 5 and presented on Figures 6, 7, and 8.

The excavation was backfilled on March 17, 2009. Approximately 60 cubic yard of clean backfill material from Vulcan Materials were used to backfill the excavation as well as other shallow removal areas. The excavation was backfilled and compacted in 1 foot intervals and compaction testing was conducted by Ninyo and Moore Geotechnical and Environmental Sciences. A copy of the compaction testing report is included in Appendix G.

5.3.2 General Site Maintenance

On March 17 and 18, 2009 general site maintenance and soil removal activities continued. The purpose of this activity was to remove soil from around the site that was discolored and/or may have contained low concentrations of JP-5. It should be noted that this removed material did not contain chemical constituents above regulatory action levels or landfill acceptance levels but was removed in an effort to leave the site in a condition ready for grading for residential construction. Approximately 60 tons of soil and minimal debris were removed from the site using three 20 cubic yard end-dump soil trucks. Soil removed from the site during general site maintenance activity was disposed of at the Miramar Landfill. Copies of the waste manifests are included in Appendix F. A photograph of the site at the completion of excavation and maintenance activities is included as the last photograph in Appendix E.

6.0 QUALITY CONTROL

This section discusses the field and laboratory quality control samples and data validation.

6.1 FIELD QUALITY CONTROL

Field quality control samples included equipment rinsates, source blanks, and mobile laboratory confirmation samples.

6.1.1 Equipment Rinsate

Equipment rinsates are a sample of analyte-free, reagent-grade water collected from a final rinse of sampling equipment after the decontamination procedure has been performed. The purpose of the equipment rinsate is to determine the effectiveness of the decontamination procedure and potential for cross-contamination during sampling events. The equipment rinsates were analyzed for JP-5. Both rinsate samples were free of any contaminants. No data therefore were qualified based on this field QC criterion.

6.1.2 Source Blank

Source blank samples consist of analyte-free, reagent-grade water provided by the laboratory to be used for the collection of equipment rinsate samples. Source blank samples determine if the waster used for the equipment rinsate contributes to the analytes detected in the equipment rinsate. The Source Blank was free of any contaminants. No data therefore were qualified based on this field QC criterion.

6.1.3 Mobile Laboratory Confirmation Samples

Selected samples (approximately 10%) analyzed by the mobile laboratory were submitted to the fixed-base laboratory for analysis of JP-5. The fixed-base laboratory results confirm the non-detection results and the detectable TPH were within concentration ranges received by the mobile laboratory.

6.2 LABORATORY QUALITY CONTROL

Laboratory quality control samples included matrix spike and matrix spike duplicate (MS/MSD) samples. The MS/MSD samples were analyzed by the laboratory at a frequency of approximately 1 of 20 samples. MS/MSD samples are to assess the sample matrix effect on the extraction efficiency of analytes of concern. The MS and MSD recoveries were within acceptable QC limits. No data therefore have been qualified based on this QC criterion.

6.3 DATA QUALITY AND DATA VALIDATION

Data verification included review of the hardcopy data reports to assure that the data correctly represented the analytical measurement, compliance of the QA and QC goals, identify any non-technical errors in the data package for correction (e.g., typographical errors), verify that the sample identifiers on the laboratory hard copy reports matched those on the COC form, and to verify that all required field and laboratory documentation is included in the data package

The sample results were validated by LDC, a third party independent data validation company. The data was validated at 100 percent EPA Level IV. The validation was performed in accordance with the Contract Laboratory Program National Functional Guidelines for Organic Data Review; EPA 540/R-99-008 (EPA 1999), and Contract Laboratory Program National Functional Guidelines for Inorganic Data Review; EPA 540-R-04-004 (EPA 2004), Quality control limits were specified by the laboratory performing the analysis. The qualifiers, listed below and, in the validation report, were applied to the affected data.

- J - Result is estimated
- U - Analyte is not detected at or above the stated reporting limit
- R - Data are rejected
- UJ - Analyte is not detected, but there is an uncertainty about reporting limit

The validation report did not qualify any of the laboratory results.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The following presents the conclusions and recommendations of the site assessment and remedial excavation at the 4406 and 4416 Cather Avenue properties.

7.1 CONCLUSIONS

Based on the results of the site assessment and remedial excavation activities conducted at 4406 and 4416 Cather Avenue, the primary conclusions are:

- The crash resulted in a release of JP-5 at the site.
- The JP-5 release was primarily confined to the northeast corner of the site, where the majority of the F/A 18D came to rest.
- JP-5 contaminated soils in excess of 100 mg/kg were excavated and removed from the site.
- Detected metal concentrations in soil at the site do not indicate that metals were released as a result of the crash or resulting fire in excess of screening levels or background values.
- There is no increased risk at the site to human health or the environment (in excess of ambient background levels) as a result of the crash.

These conclusions are supported by the following:

- JP-5 concentrations in excess of 100 mg/kg were confined to the northeast corner of the site, coincident with the location where the jet fuselage and wings came to rest. Soil containing in excess of 100 mg/kg JP-5 was excavated and removed from the site from March 16 through 18, 2009. Approximately 50 cubic yard of soil was excavated from the northeast corner of 4406 Cather Avenue on March 16, 2009. The resulting excavation measured approximately 21 feet by 10 feet by 8 feet. JP-5 was

not detected in the confirmation soil samples collected from the floor and sidewalls of the excavation.

- On March 16, 2009 approximately 10 cubic yards of soil were also excavated from other areas at the site where PAHs were detected in surface soil. PAHs were not detected in soil collected from 2 feet bgs in the southwest corner of the site.

- Surface soil samples collected in multiple locations at the site contained low concentrations (between non-detectable and 31 mg/kg) of JP-5. The JP-5 at these locations is associated with multiple iterations of shallow surface soil disturbance at the site during emergency response activities, site demolition activities, and soil management for site access and storm water management and diversion. This was confirmed through soil samples collected at depths of 2 feet bgs across the site that contained non-detectable concentrations of JP-5.

- Metals detected in soil across the site were reported at concentrations below site screening levels, with the exception of arsenic. Arsenic was reported in each sample above the screening criteria with a maximum of concentration of 17.10 mg/kg. It is believed that the concentrations of arsenic do not represent metals or ash contamination resulting from the crash and/or the resulting fire because arsenic is a naturally occurring element, and is commonly found throughout San Diego County in excess of the criteria. Background arsenic concentrations at MCAS Miramar have been reported between 1.5 and 34.3 mg/kg (BNI, 2004).

7.2 RECOMMENDATIONS

Based on the conclusions of the study presented in this report, there is no increased risk to human health or the environment at the site as a result of the crash, and the properties are suitable for residential reconstruction. It is recommended, therefore, that the County of San Diego consider the VAP case H39734-001 closed with no further action required.

8.0 REFERENCES

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Kennedy, M.P. 1975. Geology of the San Diego Metropolitan Area, California. Bulletin 200. California Division of Mines and Geology.

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Trevet. 2009. Summary of Emergency Response Activities, Limited Soil Excavation, and Work Plan for Site Assessment and Soil Excavation Activities, F/A 18D Crash Site, University City Neighborhood. February.

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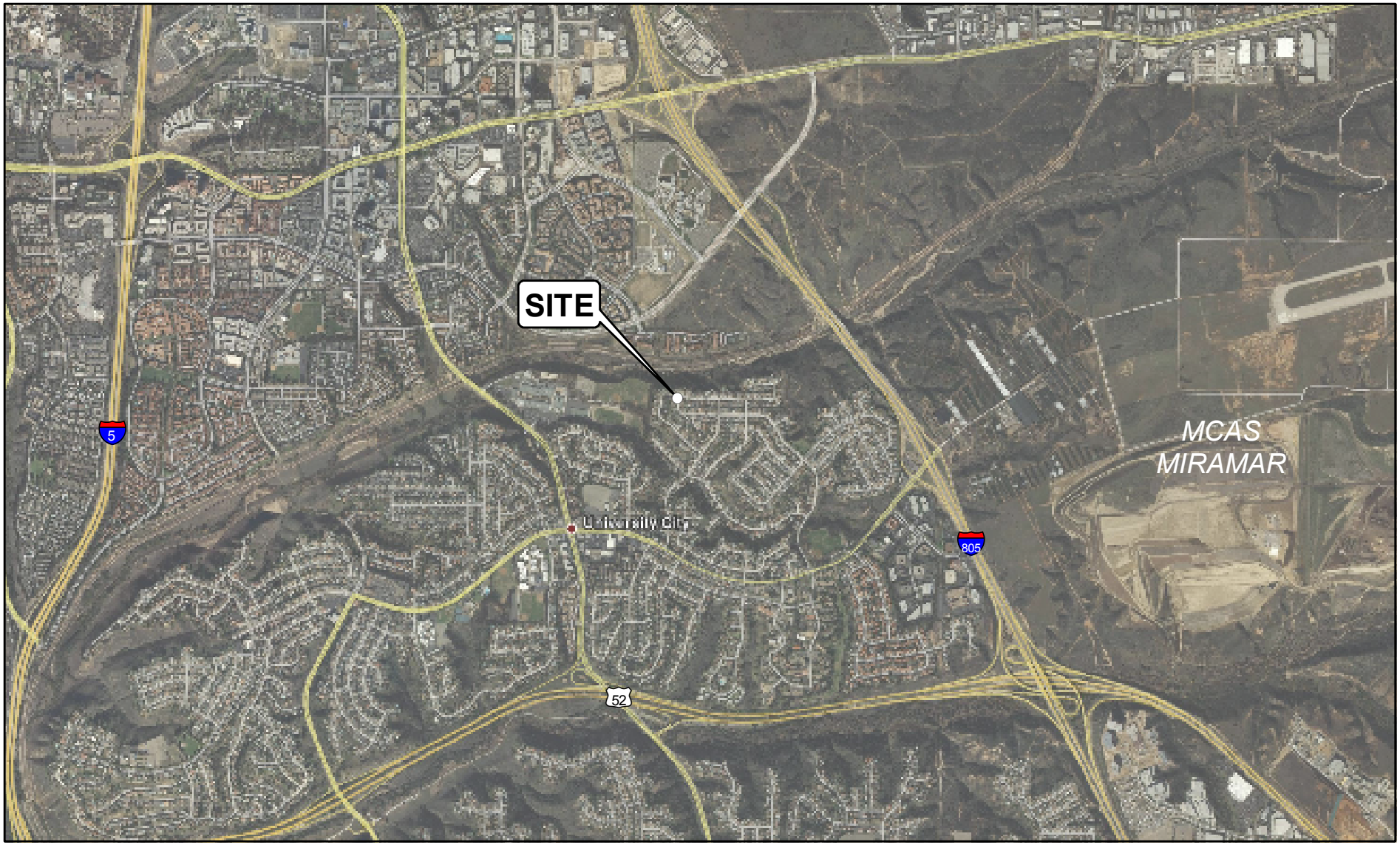
FIGURES



SOURCE: GOOGLE EARTH IMAGE, DATE UNKNOWN, SANGIS FEATURE CLASS

GRAPHIC SCALE

0 .25 .50 1.0

(IN MILES)

1 INCH = 1/2 MILE

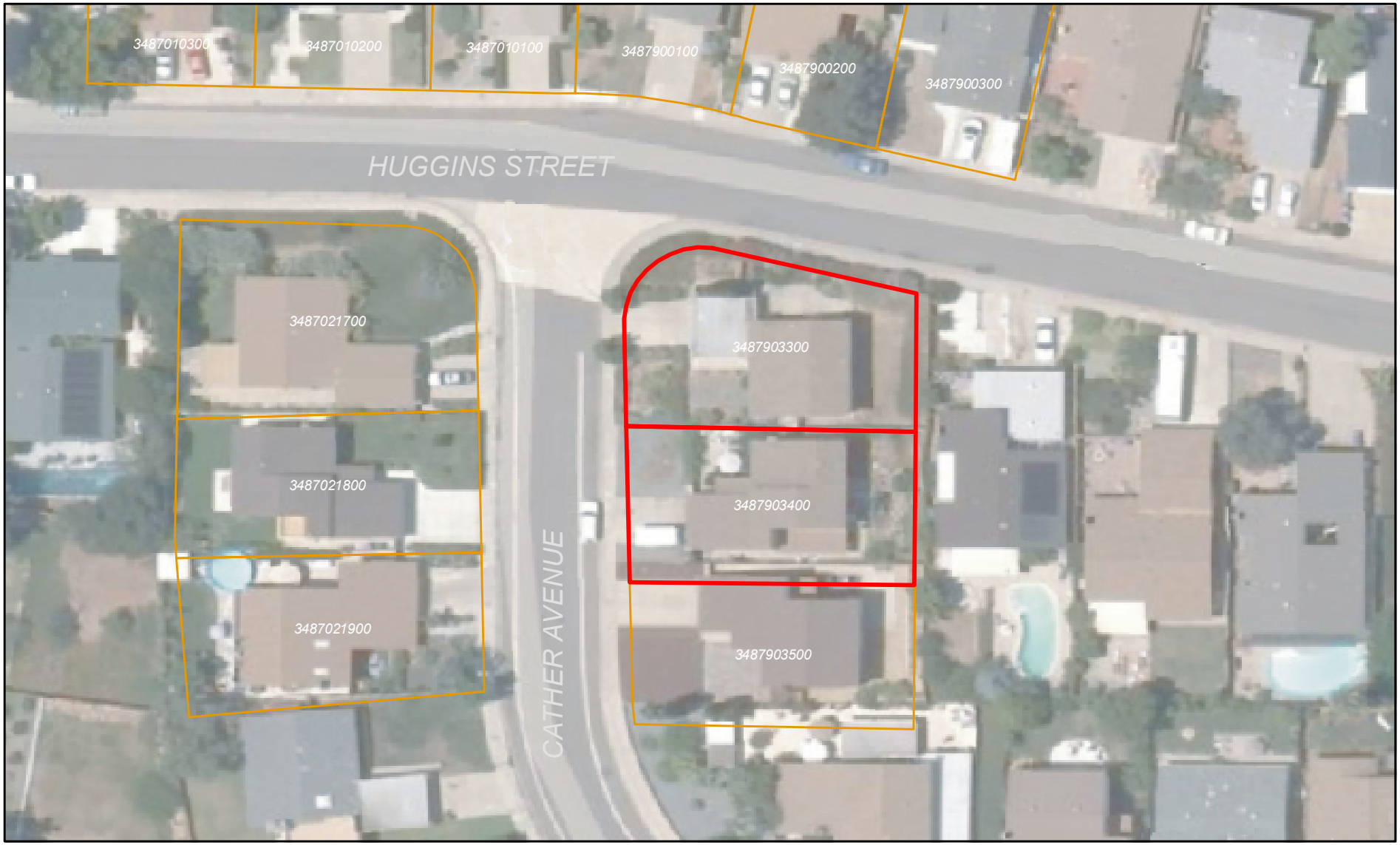
FIGURE 1

SITE LOCATION MAP

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003



SOURCE: VIRTUAL EARTH IMAGE, DATE UNKNOWN, SANGIS FEATURE CLASSES

LEGEND

- SITE
- PARCEL BOUNDARIES, COUNTY OF SAN DIEGO, WITH ASSESSOR'S PARCEL NUMBERS

N

GRAPHIC SCALE

0 25 50 100

(IN FEET)

1 INCH = 50 FEET

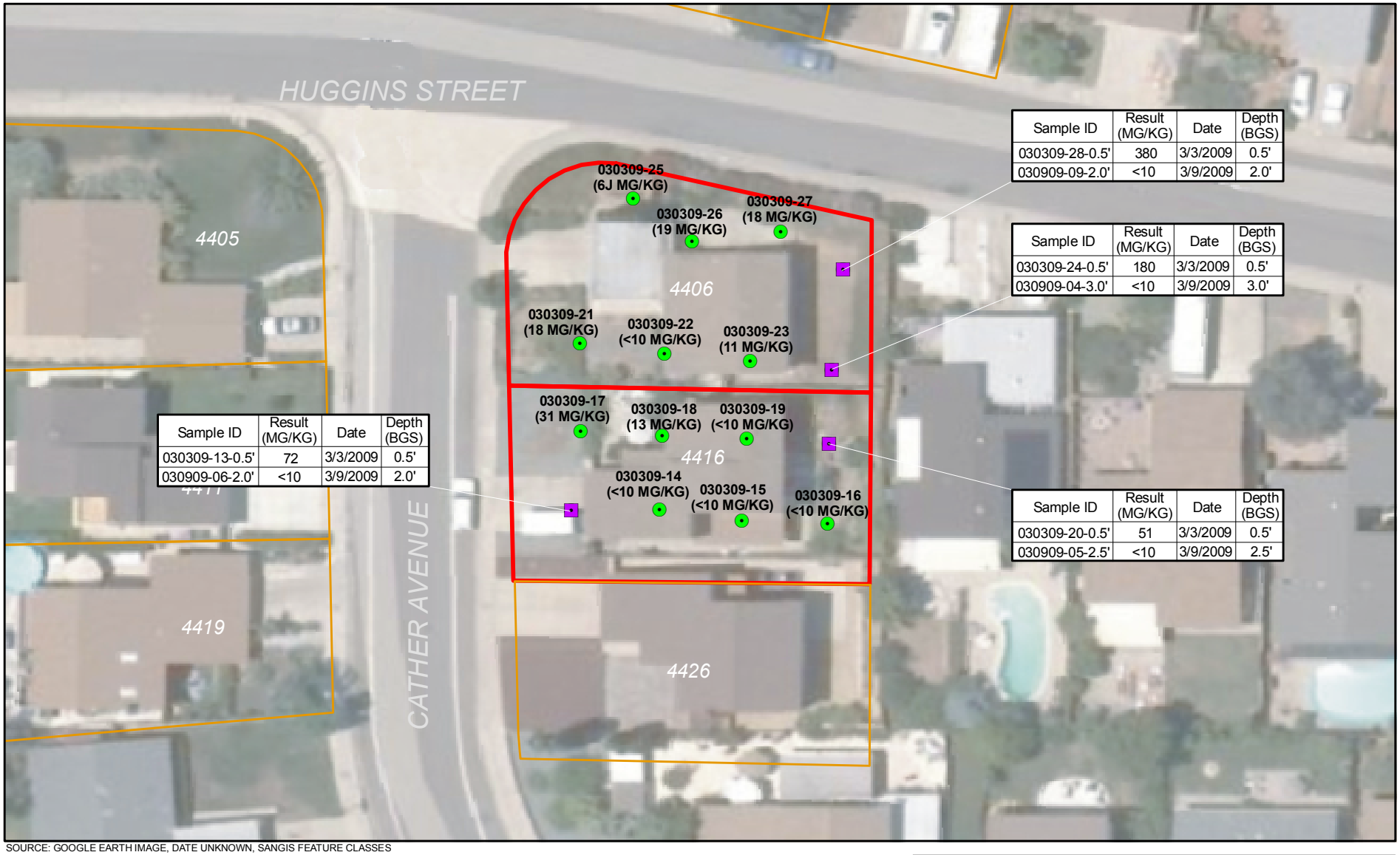
FIGURE 2

SITE VICINITY MAP

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003



Sample ID	Result (MG/KG)	Date	Depth (BGS)
030309-28-0.5'	380	3/3/2009	0.5'
030909-09-2.0'	<10	3/9/2009	2.0'

Sample ID	Result (MG/KG)	Date	Depth (BGS)
030309-24-0.5'	180	3/3/2009	0.5'
030909-04-3.0'	<10	3/9/2009	3.0'

Sample ID	Result (MG/KG)	Date	Depth (BGS)
030309-13-0.5'	72	3/3/2009	0.5'
030909-06-2.0'	<10	3/9/2009	2.0'

Sample ID	Result (MG/KG)	Date	Depth (BGS)
030309-20-0.5'	51	3/3/2009	0.5'
030909-05-2.5'	<10	3/9/2009	2.5'

SOURCE: GOOGLE EARTH IMAGE, DATE UNKNOWN, SANGIS FEATURE CLASSES

LEGEND

- **<10** JP-5 CONCENTRATIONS
- APPROXIMATE LOCATION OF SURFACE SOIL SAMPLES FROM 0 TO 0.5 FEET BELOW GROUND SURFACE, COLLECTED ON 3/3/2009.
- PAIRED SURFACE AND SUBSURFACE SOIL SAMPLE LOCATIONS
- SITE
- PARCEL BOUNDARIES, COUNTY OF SAN DIEGO, WITH STREET ADDRESS NUMBERS

NOTES:
< - LESS THAN THE ANALYTICAL REPORTING LIMIT
(MG/KG) - MILLIGRAMS PER KILOGRAM

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 INCH = 40 FEET

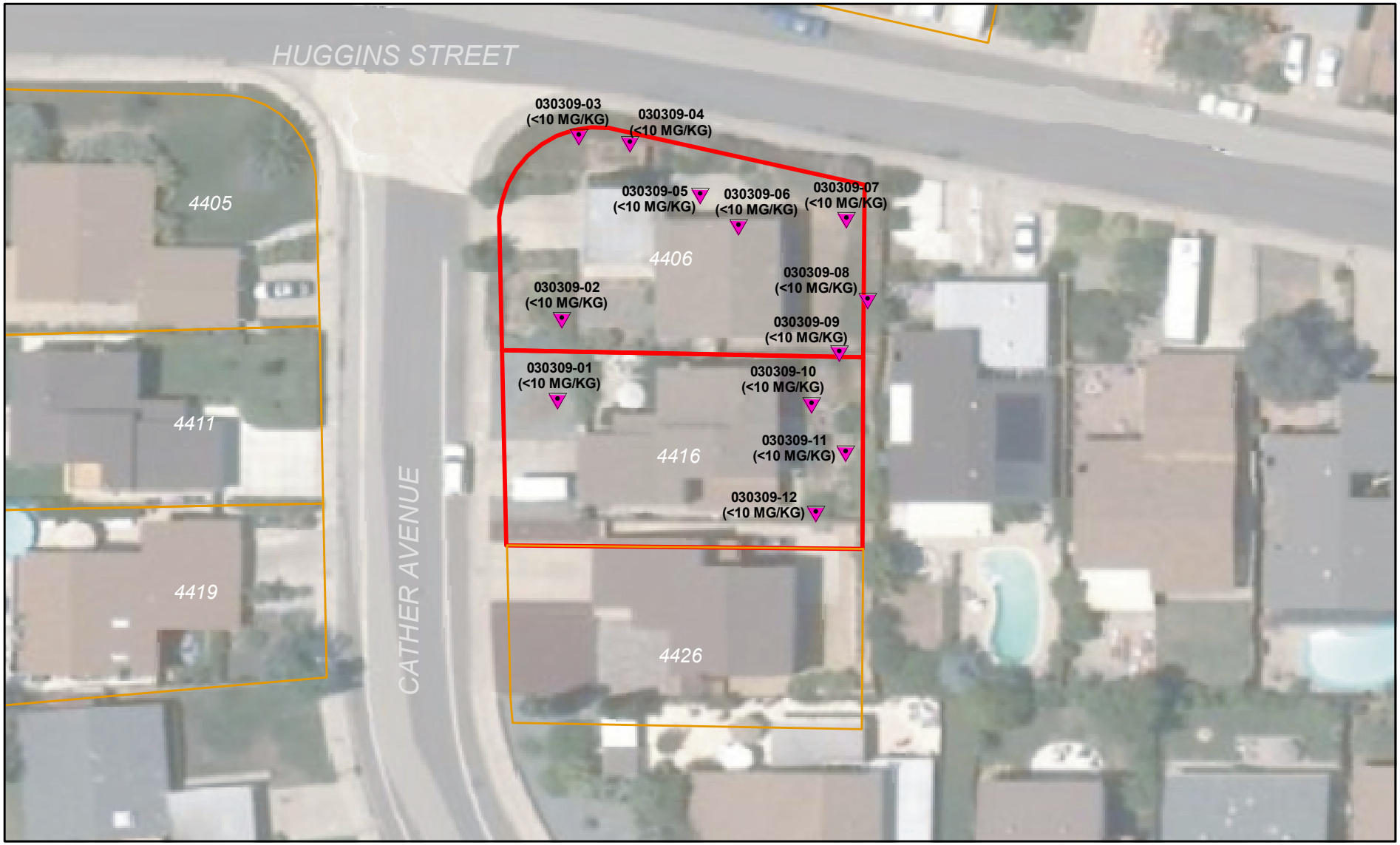
FIGURE 3

JP-5 SURFACE SOIL AND SELECTED SUBSURFACE SAMPLES - MARCH 3, 2009

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003



SOURCE: GOOGLE EARTH IMAGE, DATE UNKNOWN, SANGIS FEATURE CLASSES

LEGEND

- **<10** JP-5 CONCENTRATIONS
- APPROXIMATE LOCATION OF JUDGMENTAL SOIL SAMPLES FROM 2 FEET BELOW GROUND SURFACE, COLLECTED ON 3/3/2009
- SITE
- PARCEL BOUNDARIES, COUNTY OF SAN DIEGO, WITH STREET ADDRESS NUMBERS

NOTES:
< - LESS THAN THE ANALYTICAL REPORTING LIMIT
(MG/KG) - MILLIGRAMS PER KILOGRAM

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 INCH = 40 FEET

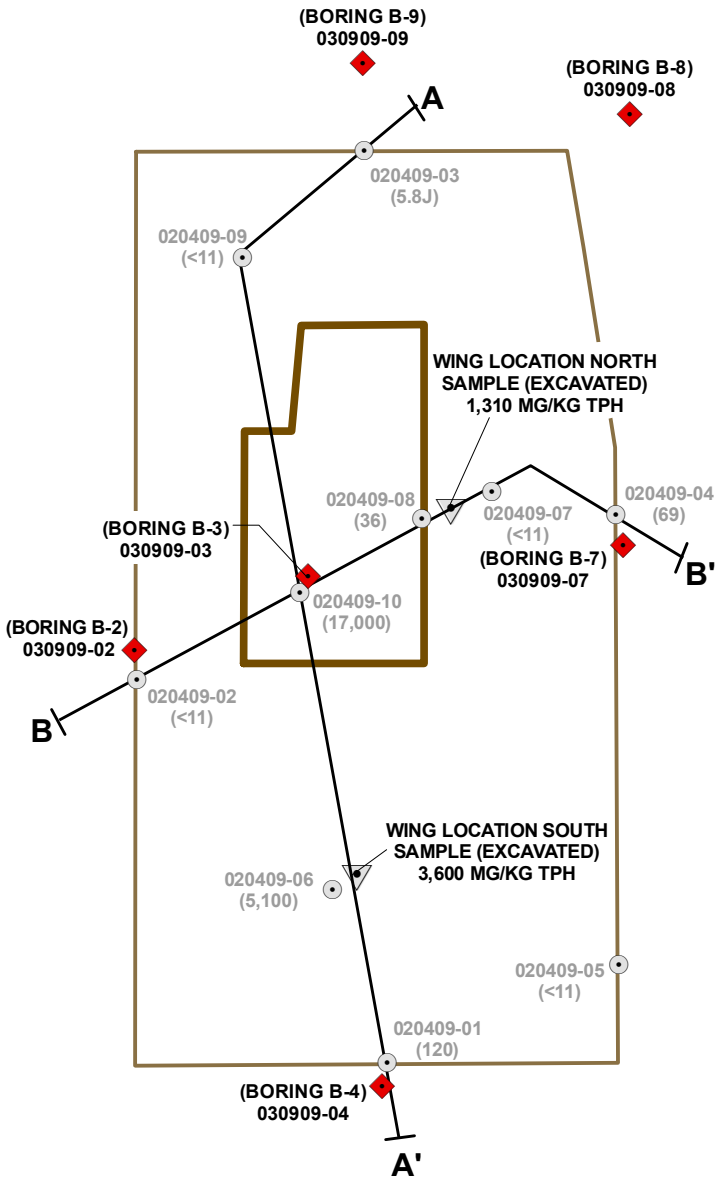
FIGURE 4

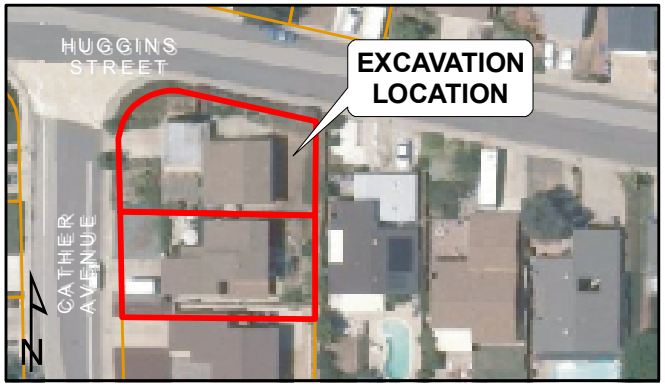
JP-5 IN 2 FOOT DEPTH INTERVAL
JUDGMENTAL SAMPLES - MARCH 3, 2009

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003





LEGEND

- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 12/30/2008
- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 2/4/2009
- APPROXIMATE LOCATION OF DIRECT-PUSH SOIL SAMPLES, COLLECTED ON 3/9/2009
- GEOLOGIC CROSS SECTION
- EXCAVATION DEPTH OF AVERAGE 1.5FT BGS. VARYING FROM 1.2 TO 1.8 FEET BGS
- DEEPER PORTION OF EXCAVATION, AVERAGING, APPROXIMATELY 3 FEET BGS

NOTES:

BGS	BELOW GROUND SURFACE
TPH	TOTAL PETROLEUM HYDROCARBONS
<	LESS THAN THE REPORTING LIMIT
J	ESTIMATED CONCENTRATION
MG/KG	MILLIGRAMS PER KILOGRAMS
	REPORTED CONCENTRATION IN MG/KG

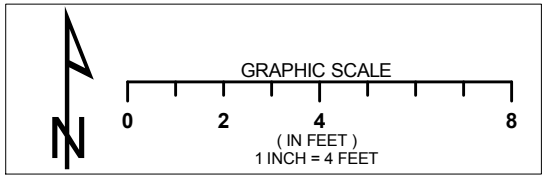


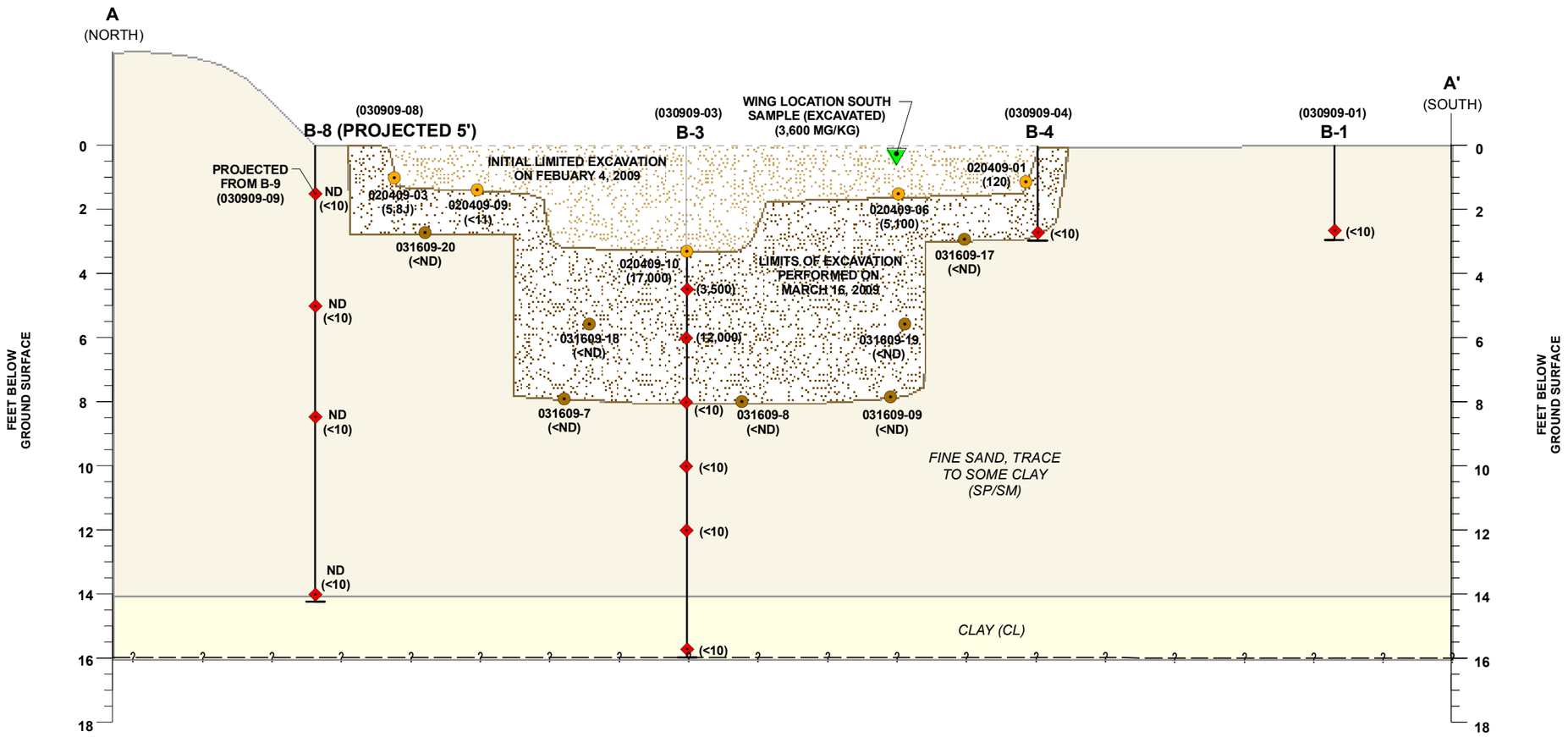
FIGURE 5

DIRECT-PUSH SAMPLE LOCATIONS - MARCH 9, 2009

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003



LEGEND

- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 12/30/2008
- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 2/4/2009
- APPROXIMATE LOCATION OF SOIL BORINGS, COLLECTED ON 3/9/2009
- APPROXIMATE LOCATION OF CONFIRMATION SOIL SAMPLES, COLLECTED ON 3/16/2009
- LIMITS OF EXCAVATION PERFORMED ON 2/4/2009
- LIMITS OF EXCAVATION PERFORMED ON 3/16/2009

NOTES:

BGS	BELOW GROUND SURFACE
<	LESS THAN THE REPORTING LIMIT
J	ESTIMATED CONCENTRATION
MG/KG	MILLIGRAMS PER KILOGRAMS REPORTED CONCENTRATION IN MG/KG

GRAPHIC SCALE

0 2 4 6

(IN FEET)

1 INCH = 4 FEET (HORIZONTAL/ VERTICAL)

FIGURE 6

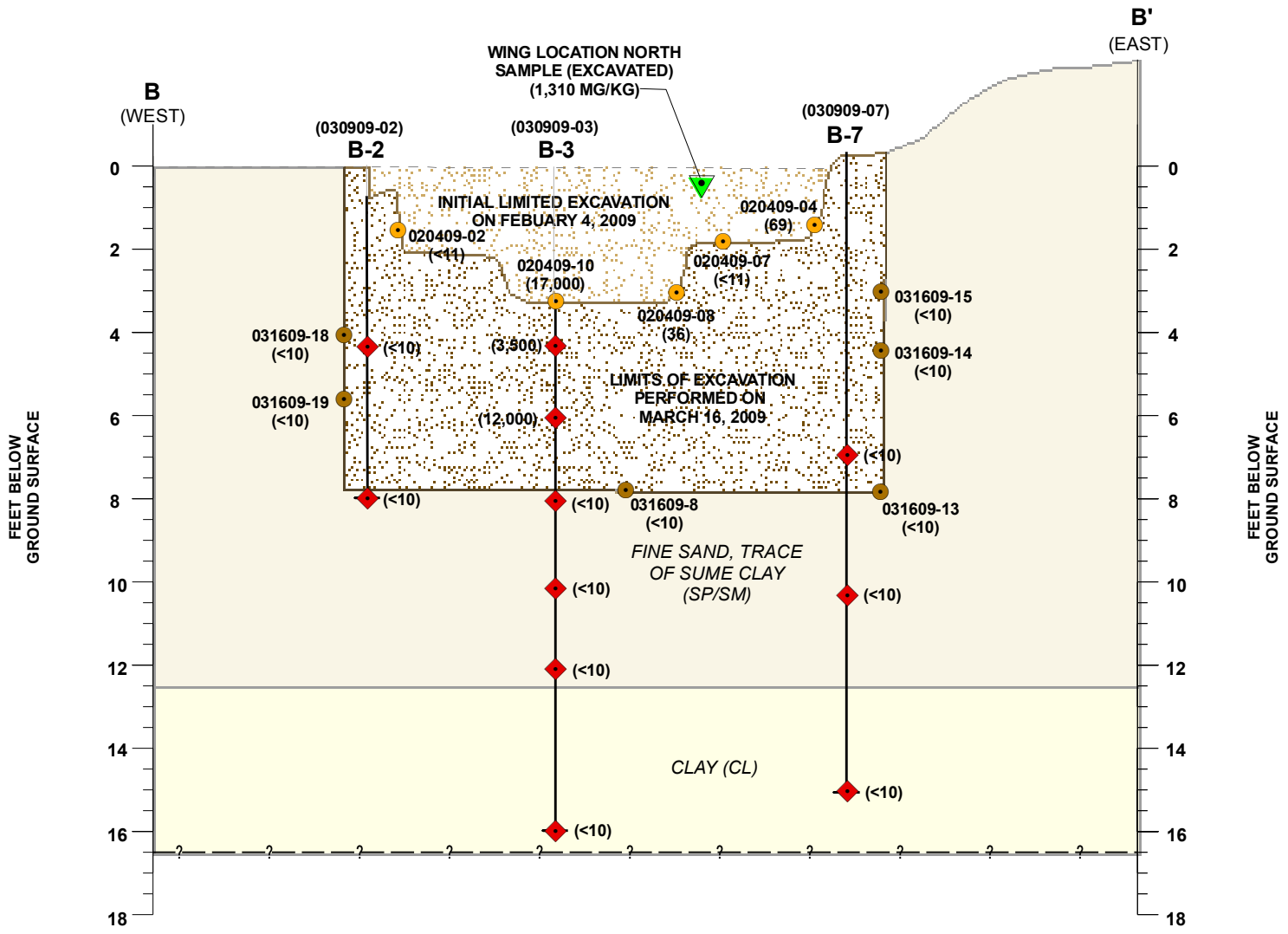
EXTENT OF FINAL EXCAVATION AND SOIL SAMPLE RESULTS A-A'

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607

TASK ORDER NO.: DO-003



LEGEND

- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 12/30/2008
- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 2/4/2009
- APPROXIMATE LOCATION OF SOIL BORINGS, COLLECTED ON 3/9/2009
- APPROXIMATE LOCATION OF CONFIRMATION SOIL SAMPLES, COLLECTED ON 3/16/2009
- LIMITS OF EXCAVATION PERFORMED ON 2/4/2009
- LIMITS OF EXCAVATION PERFORMED ON 3/16/2009

NOTES:

BGS	BELOW GROUND SURFACE
<	LESS THAN THE REPORTING LIMIT
J	ESTIMATED CONCENTRATION
MG/KG	MILLIGRAMS PER KILOGRAMS
	REPORTED CONCENTRATION IN MG/KG

GRAPHIC SCALE

0 2 4 6

(IN FEET)

1 INCH = 4 FEET (HORIZONTAL/ VERTICAL)

FIGURE 7

EXTENT OF FINAL EXCAVATION AND SOIL SAMPLE RESULTS B-B'

TREVET

MARCH 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003

TABLES

TABLE 1
TPH AS JP-5 IN SURFACE AND SUBSURFACE SOIL
March 3 and 9, 2009
4406 and 4416 Cather Avenue

Sample Location	Sample I.D.	Approximate Depth (feet bgs)	Date	units	ANALYSES		Comments
					TPH as JP-5	PAHs	
Judgmental sample location	030309-01	2	3/3/2009	mg/kg	<11	na	
	030309-02	2	3/3/2009	mg/kg	<12	na	
	030309-03	2	3/3/2009	mg/kg	<12	na	
	030309-04	2	3/3/2009	mg/kg	<12	na	
	030309-05	2	3/3/2009	mg/kg	<12	na	
	030309-06	2	3/3/2009	mg/kg	<11	na	
	030309-07	2	3/3/2009	mg/kg	<11	see Table 2	
	030309-08	2	3/3/2009	mg/kg	<11	na	
	030309-09	2	3/3/2009	mg/kg	<11	na	
	030309-10	2	3/3/2009	mg/kg	<11	na	
	030309-11	2	3/3/2009	mg/kg	<11	na	
	030309-12	2	3/3/2009	mg/kg	<11	na	
Surface grid sample	030309-13	surface	3/3/2009	mg/kg	**72**	see Table 2	excavated and removed
Confirmation sample	030909-06-2	2 (below 030309-13)	3/9/2009	mg/kg	<10	see Table 2	
Surface grid sample	030309-14	surface	3/3/2009	mg/kg	<11	na	
	030309-15	surface	3/3/2009	mg/kg	<11	na	
	030309-16	surface	3/3/2009	mg/kg	<11	na	
	030309-17	surface	3/3/2009	mg/kg	**31**	na	
	030309-18	surface	3/3/2009	mg/kg	**13**	na	
	030309-19	surface	3/3/2009	mg/kg	<12	na	
	030309-20	surface	3/3/2009	mg/kg	**51**	na	excavated and removed
Confirmation sample	030909-05-2.5	2.5 (below 030309-20)	3/9/2009	mg/kg	<10	na	
Surface grid sample	030309-21	surface	3/3/2009	mg/kg	**18**	na	
	030309-22	surface	3/3/2009	mg/kg	<12	na	
	030309-23	surface	3/3/2009	mg/kg	**11**	na	
	030309-24	surface	3/3/2009	mg/kg	**180**	na	excavated and removed
Confirmation sample	030909-01-3	3 (below 030309-24)	3/9/2009	mg/kg	<10	na	
Surface grid sample	030309-25	surface	3/3/2009	mg/kg	**6.0J**	na	
	030309-26	surface	3/3/2009	mg/kg	**19**	na	
	030309-27	surface	3/3/2009	mg/kg	**18**	na	
	030309-28	surface	3/3/2009	mg/kg	**380**	see Table 2	excavated and removed

TABLE 1
TPH AS JP-5 IN SURFACE AND SUBSURFACE SOIL
March 3 and 9, 2009
4406 and 4416 Cather Avenue

notes:

Refer to Figure 3 and Figure 4

Bolded values indicate detected concentrations.

Excavated soil was transported to the U.S. Ecology disposal facility near Beatty Nevada by a licensed waste transporter.

acronyms/abbreviations:

bgs	below ground surface
TPH	total petroleum hydrocarbons. EPA Method 8015
JP-5	jet propellant fuel #5
PAH	polynuclear aromatic hydrocarbons
na	not analyzed
mg/kg	milligrams per kilogram
<	less then the laboratory reporting limit
J	estimate concentration. Detected between the laboratory method detection limit (MDL) and reporting limit (RL).

TABLE 2
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) IN SOIL
4406 and 4416 Cather Avenue

Analyte	Sample Identification	030309-07	030309-13	030909-06-2	030909-03-6	030909-03-8	030909-03-10	030909-03-12	030309-28	031609-1	031609-8
	Date collected	March 3, 2009	March 3, 2009	March 9, 2009	March 9, 2009	March 9, 2009	March 9, 2009	March 9, 2009	March 3, 2009	March 16, 2009	March 16, 2009
	Depth	2 feet bgs	surface	2 feet	6 feet	8 feet	10 feet	12 feet	surface	surface	8 feet
	units										
Acenaphthene	µg/kg	<5.4	<6.0	<5.7	19	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Acenaphthylene	µg/kg	<5.4	<6.0	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Anthracene	µg/kg	<5.4	27	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Benzo(a)anthracene	µg/kg	<5.4	25	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Benzo(a)pyrene	µg/kg	<5.4	22	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Benzo(b)fluoranthene	µg/kg	<5.4	24	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Benzo(k)fluoranthene	µg/kg	<5.4	<6.0	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Benzo(g,h,i)perylene	µg/kg	<5.4	20	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Chrysene	µg/kg	<5.4	16	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Dibenzo(a,h)anthracene	µg/kg	<5.4	<6.0	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Fluoranthene	µg/kg	<5.4	66	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Fluorene	µg/kg	<5.4	130	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Indeno(1,2,3-CD)pyrene	µg/kg	<5.4	16	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Naphthalene	µg/kg	<5.4	100	<5.7	180	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Phenanthrene	µg/kg	<5.4	77	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Pyrene	µg/kg	<5.4	82	<5.7	<5.7	<5.7	<5.7	<5.7	<5.8	<27	<5.9
Comments			excavated and removed	sample collected below 030309-13	excavated and removed	excavated and removed				sample excavated and removed at north edge of excavation	bottom of final excavation

notes:
Excavated soil was transported to the U.S. Ecology disposal facility near Beatty Nevada by a licensed waste transporter.

acronyms/abbreviations:

bgs	below ground surface
µg/kg	micrograms per kilogram
<	less then the laboratory reporting limit

TABLE 3
METALS IN SURFACE SOIL
March 3, 2009
4406 and 4416 Cather Avenue

Analyte	units	Sample Identification															Soil Screening Levels	Range in Background Concentration
		030309-13	030309-14	030309-15	030309-16	030309-17	030309-18	030309-19	030309-20	030309-21	030309-22	030309-23	030309-24	030309-25	030309-26	030309-27	030309-28	
		Surface Location 13	Surface Location 14	Surface Location 15	Surface Location 16	Surface Location 17	Surface Location 18	Surface Location 19	Surface Location 20	Surface Location 21	Surface Location 22	Surface Location 23	Surface Location 24	Surface Location 25	Surface Location 26	Surface Location 27	Surface Location 28	
Antimony	mg/kg	0.506J	0.208J	0.236J	0.60	0.499J	0.285J	0.196J	0.576J	0.496J	0.346J	0.286J	0.420J	0.416J	0.416J	0.447J	0.75	30	--
Arsenic	mg/kg	17.10	7.72	9.80	4.23	11.30	12.10	9.45	6.45	13.00	10.50	13.50	7.32	10.40	14.80	11.90	9.41	3.5	1.5 to 34.3
Barium	mg/kg	61.70	45.20	85.20	33.60	79.70	48.70	36.30	45.60	93.30	59.90	62.90	59.20	57.00	68	85	65.2	5,200	--
Beryllium	mg/kg	0.92	0.97	0.58	0.305J	0.80	0.83	0.61	0.558J	0.77	0.456J	0.86	0.569J	0.69	0.79	0.68	0.59	75	--
Cadmium	mg/kg	0.560J	0.256J	0.151J	0.258J	0.65	0.216J	0.135J	0.238J	0.435J	0.365J	0.261J	0.60	0.138J	0.563J	0.462J	1.1	1.7	--
Chromium	mg/kg	12.60	7.25	6.84	9.28	36.60	9.82	9.53	12.20	11.20	12.30	9.01	10.10	11.90	11.3	11.5	9.7	122	--
Cobalt	mg/kg	8.18	12.80	4.97	2.74	6.63	9.33	3.73	4.68	8.21	4.51	9.72	5.79	5.16	7.26	6.38	4.98	660	--
Copper	mg/kg	17.80	6.32	8.41	15.20	22.10	10.30	9.12	12.80	18.40	14.10	11.40	15.90	12.80	16.3	12.9	16.20	2,500	--
Lead	mg/kg	14.40	4.51	7.10	8.48	21.10	6.86	5.55	9.95	17.00	24.70	8.20	10.10	13.40	12.2	24.8	15	150	--
Molybdenum	mg/kg	0.79	0.250J	0.285J	0.305J	0.75	0.415J	0.216J	0.317J	0.67	0.69	0.414J	0.333J	0532J	0.538J	0.459J	0.454J	380	--
Nickel	mg/kg	18.20	8.12	6.08	4.56	10.20	8.07	5.71	6.37	8.42	6.78	8.72	7.28	10.70	7.77	7.36	6.82	1,600	--
Selenium	mg/kg	0.284J	0.209J	0.153J	0.307J	0.252J	0.228J	0.198J	0.327J	0.353J	0.333J	0.197J	0.256J	0.257J	0.268J	0.243J	0.245J	380	--
Silver	mg/kg	<0.60	<0.561	<0.558	0.192J	0.154J	<0.577	<0.577	<0.575	<0.600	0.140J	<0.568	0.170J	<0.592	<0.579	<0.565	0.546J	100	--
Thallium	mg/kg	0.360J	0.0175J	0.141J	0.124J	0.157J	0.160J	0.149J	0.160J	0.158J	0.142J	0.150J	0.131J	0.140J	0.156J	0.160J	0.132J	5	--
Vanadium	mg/kg	26.90	19.50	18.60	19.80	25.70	25.60	23.90	26.40	26.70	27.10	24.70	20.90	28.40	26.6	27.3	22.9	530	--
Zinc	mg/kg	75.90	34.40	32.10	70.30	76.80	38.00	35.50	54.40	60.70	60.60	45.60	74.10	53.90	56.7	61.7	67.4	23,000	--
Comments		excavated and removed							excavated and removed				excavated and removed				excavated and removed		

notes:

Soil Screening Levels obtained from the County of San Diego Debris Removal and Clean-up Guidelines, dated November 8, 2007.

Maximum background concentration for arsenic based on background levels for metals at Marine Corps Air Station Miramar (Bechtel 2004)

Excavated soil was transported to the U.S. Ecology disposal facility near Beatty Nevada by a licensed waste transporter.

acronyms/abbreviations:

bgs	below ground surface
Metals	EPA Methods 6010, 6020, and 7471 (mercury)
mg/kg	milligrams per liter
ND	not detected
<	less then the laboratory reporting limit

TABLE 4
TPH AS JP-5 IN SUBSURFACE SOIL
March 9, 2009
Northeast Corner of 4406 Cather Avenue (excavation area)

Boring Identification	Sample Identification	depth	units	ANALYSES		Comments
				TPH as JP-5	PAHS	
Boring 1	030909-01-3	3 feet	mg/kg	<10	na	
Boring 2	030909-02-4	4 feet	mg/kg	<10	na	
	030909-02-8	8 feet	mg/kg	<10	na	
Boring 3	030909-03-4	4 feet	mg/kg	**3,500**	na	excavated and removed
	030909-03-6	6 feet	mg/kg	**12,000**	see Table 2	excavated and removed
	030909-03-8	8 feet	mg/kg	<10	see Table 2	
	030909-03-10	10 feet	mg/kg	<10	see Table 2	
	030909-03-12	12 feet	mg/kg	<10	see Table 2	
	030909-03-16	16 feet	mg/kg	<10	na	
Boring 4	030909-04-3	3 feet	mg/kg	<10	na	
Boring 7	030909-07-7	7 feet	mg/kg	<10	na	
	030909-07-11	11 feet	mg/kg	<10	na	
	030909-07-15	15 feet	mg/kg	<10	na	

TABLE 4
TPH AS JP-5 IN SUBSURFACE SOIL
March 9, 2009
Northeast Corner of 4406 Cather Avenue (excavation area)

Boring Identification	Sample Identification	depth	units	ANALYSES		Comments
				TPH as JP-5	PAHS	
Boring 8	030909-08-5	5 feet	mg/kg	<10	na	
	030909-08-9	9 feet	mg/kg	<10	na	
	030909-08-13	13 feet	mg/kg	<10	na	
Boring 9	030909-09-2	2 feet	mg/kg	<10	na	
Boring 10	030909-10-2	2 feet	mg/kg	<10	na	
Boring 11	030909-11-2	2 feet	mg/kg	<10	na	

notes:

Refer to Figure 5, Figure 6, and Figure 7.

Excavated soil was transported to the U.S. Ecology disposal facility near Beatty Nevada by a licensed waste transporter.

acronyms/abbreviations:

bgs	below ground surface
TPH	total petroleum hydrocarbons.
JP-5	jet propellant fuel #5
mg/kg	milligrams per kilogram
<	less then the
J	estimate concentration. Detected between the laboratory method detection limit (MDL) and the reporting limit (RL).

TABLE 5
CONFIRMATION SOIL SAMPLES FROM REMEDIAL EXCAVATION
March 16, 2009
4406 Cather Avenue

Sample I.D.	Location with Excavation	units	Analysis	
			TPH as JP-5	PAHs
031609-7	Bottom - north site	mg/kg	<10	na
031609-8	Bottom - central	mg/kg	<10	see Table 2
031609-9	Bottom - south side	mg/kg	<10	na
031609-11	South bench - east side	mg/kg	<10	na
031609-12	South bench - west side	mg/kg	<10	na
031609-13	Bottom - east central	mg/kg	<10	na
031609-14	East wall - north side	mg/kg	<10	na
031609-15	East wall - south side	mg/kg	<10	na
031609-16	South wall - east side	mg/kg	<10	na
031609-17	South wall - west side	mg/kg	<10	na
031609-18	West wall - south side	mg/kg	<10	na
031609-19	West wall - north side	mg/kg	<10	na
031609-20	North wall - west side	mg/kg	<10	na
031609-21	North wall - east side	mg/kg	<10	na

acronyms/abbreviations:

bgs	below ground surface
TPH	total petroleum hydrocarbons. EPA Method 8015
JP-5	jet propellant fuel #5
PAH	polynuclear aromatic hydrocarbons
na	not analyzed
mg/kg	milligrams per kilogram
<	less then the laboratory reporting limit

APPENDIX A

County of San Diego Department of Environmental Health Work Plan Approval Letter

County of San Diego

GARY W. ERBECK
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
619-338-2222/FAX 619-338-2315/1-800-253-9933
http://www.sdcdeh.org

JACK MILLER
ASSISTANT DIRECTOR

February 25, 2009

Lieutenant Colonel B. M. Hall
Marine Corps Air Station Miramar
P. O. Box 452001
San Diego, CA 92145-2001

Dear Sir:

WORK PLAN APPROVAL LETTER
VOLUNTARY ASSISTANCE PROGRAM #H39734-001
MARINE AVIATION MISHAP SITE
4406 AND 4416 CATHER AVENUE, SAN DIEGO, CA 92122

Staff of the County of San Diego, Department of Environmental Health (DEH), Site Assessment and Mitigation Program (SAM), reviewed the *Summary of Emergency Response Activities Limited Soil Excavation and Work Plan for Additional Site Assessment and Soil Excavation Activities* for the above-referenced site. The summary report/work plan, dated February 20, 2009, was prepared by Trevet, Inc., and received on the date of issue. The purpose of this letter is to notify the Marine Corps of the conditional approval of the work plan for additional site assessment and soil excavation activities.

The initial portion of the submittal includes a summary of the emergency response activities performed in the aftermath of the crash of a Marine Corps F/A 18 aircraft at the site on December 8, 2008. The summary also documents the removal and disposal of structural, vehicular, landscape, and aircraft debris, as well as ash, resulting from the crash and ensuing fire. Preliminary environmental site assessment activities are also described in the summary, including the collection and analysis of soil and air samples, as well as water samples from nearby swimming pools, and the excavation of a small area of the site impacted by a fuel leak from a damaged aircraft wing.

The Work Plan included in the submittal proposes the following additional site assessment activities:

- The collection and analysis of 16 soil samples from the crash site (i.e., 4406 and 4416 Cather Avenue) from depths of approximately 0.5 to 1 foot below ground surface (bgs). The samples are intended to represent the soil that has been disturbed by post-crash activities at the site and would be analyzed for metals and to determine if JP-5 is present. If JP-5 were detected, the sample containing the highest concentration would also be analyzed for polynuclear aromatic hydrocarbons (PAHs).

- The collection and analysis of 12 soil samples from depths of approximately 2 to 3 feet bgs in areas of the crash site that were not previously covered with pavement or building foundations. The samples would be analyzed for the presence of JP-5. If JP-5 were detected, the sample with the highest concentration would also be tested for PAHs.

- The advancement and sampling of five direct-push borings to assess the horizontal and vertical extent of JP-5-impacted soil in the northeast corner of crash site. The area was previously excavated to allow soil sampling and removal of a portion of the impacted soil. Soil samples would be collected at five-foot intervals and where changes in lithology and/or staining or odors were noted. Selected samples would be analyzed for the presence of JP-5. The sample with the highest TPH concentration would also be tested for PAHs.

A contingency plan is included with the work plan that addresses the follow-up activities to be performed if JP-5 is detected at concentrations in excess of 100 milligrams per kilogram in the soil samples collected 2-3 feet bgs. Direct-push borings would be advanced and sampled to assess the horizontal and vertical extent of the impacted soil and provisions for the excavation of up to 100 cubic yards of soil are provided.

Analytical results and findings of the additional site assessment activities would be documented in an addendum to the summary report/work plan that is the subject of this review.

The Work Plan is approved with the following conditions:

1. A drilling/soil sampling method other than direct-push (e. g., hollow-stem auger) should be available as a contingency if the direct-push equipment encounters a condition of refusal before the desired depth of penetration is achieved.

2. Each of the borings proposed for the previously excavated, JP-5-impacted area in the northeast portion of the crash site must be continuously sampled. Samples may be selected for analysis based on visual observation, odors, organic vapor readings, and/or lithologic changes.

3. Borings locations for the previously excavated, JP-5-impacted area (Figure 8) may be revised during field operations based on previous sample analytical results and mobile laboratory analytical results for newly-collected samples.

Please call me at (619) 338-2455 if you have any questions concerning this work plan approval.

Sincerely,

Carol A. Fenner

CAROL A. FENNER, P.G. #7223
Project Manager
Site Assessment and Mitigation Program

CAF:kd

cc: Susan Van Winkle, NAVFAC

APPENDIX B

Selected Figures and Tables from the Summary of Emergency Response Activities, Limited Soil Excavation and Work Plan for Site Assessment and Soil Excavation report dated February 20, 2009

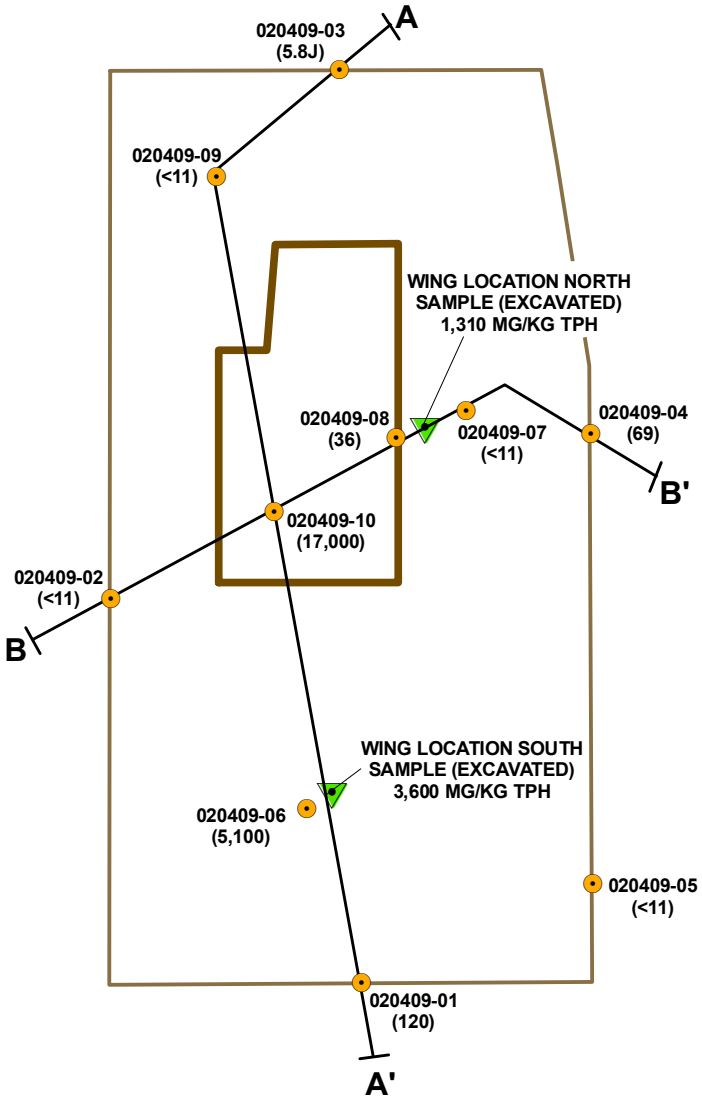
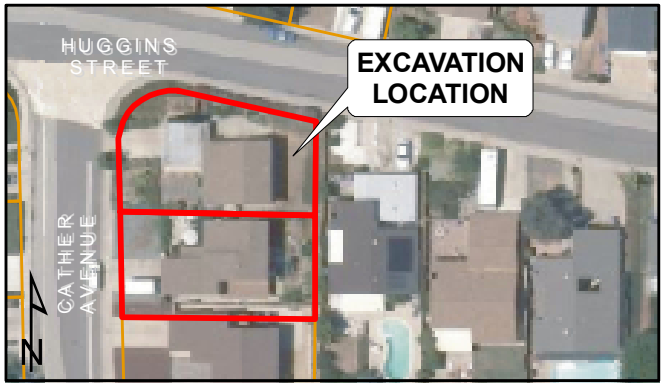


FIGURE FROM THE "SUMMARY OF EMERGENCY RESPONSE ACTIVITIES, LIMITED SOIL EXCAVATION, AND WORK PLAN FOR SITE ASSESSMENT AND SOIL EXCAVATION ACTIVITIES," DATED FEBRUARY 20, 2009



LEGEND

- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 12/30/2008
- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 2/4/2009
- GEOLOGIC CROSS SECTION
- EXCAVATION DEPTH OF AVERAGE 1.5FT BGS. VARYING FROM 1.2 TO 1.8 FEET BGS
- DEEPER PORTION OF EXCAVATION, AVERAGING, APPROXIMATELY 3 FEET BGS

NOTES:

BGS	BELOW GROUND SURFACE
TPH	TOTAL PETROLEUM HYDROCARBONS
<	LESS THAN THE REPORTING LIMIT
J	ESTIMATED CONCENTRATION
MG/KG	MILLIGRAMS PER KILOGRAMS
	REPORTED CONCENTRATION IN MG/KG

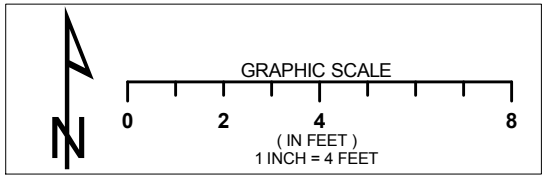


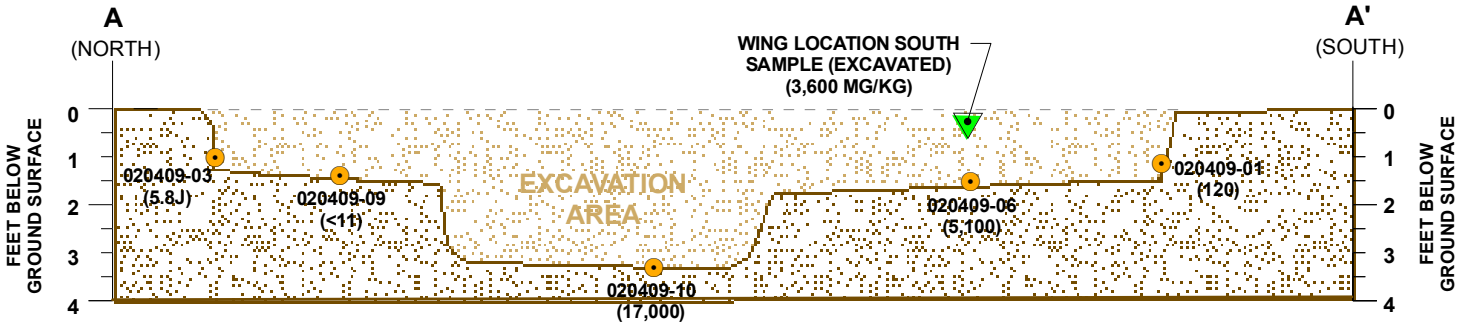
FIGURE 5

LIMITED EXCAVATION AND CROSS SECTION LOCATION MAP

TREVET

FEBRUARY 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003



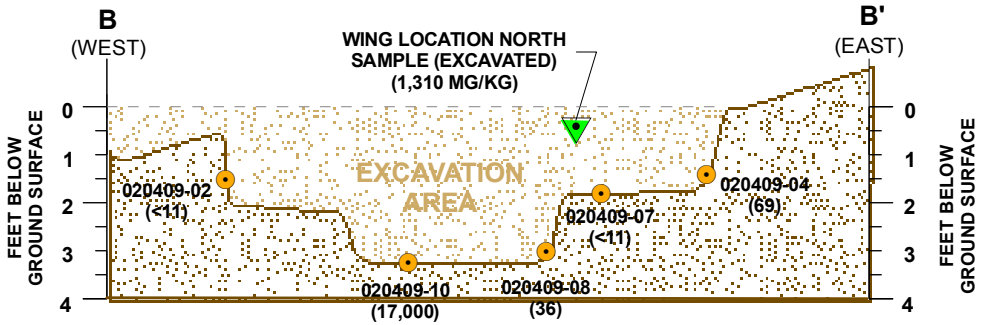


FIGURE FROM THE "SUMMARY OF EMERGENCY RESPONSE ACTIVITIES, LIMITED SOIL EXCAVATION, AND WORK PLAN FOR SITE ASSESSMENT AND SOIL EXCAVATION ACTIVITIES," DATED FEBRUARY 20, 2009

LEGEND

- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 12/30/2008
- APPROXIMATE LOCATION OF SOIL SAMPLES, COLLECTED ON 2/4/2009
- EXCAVATION DEPTH OF AVERAGE 1.5FT BGS. VARYING FROM 1.2 TO 1.8 FEET BGS
- DEEPER PORTION OF EXCAVATION, AVERAGING, APPROXIMATELY 3 FEET BGS

NOTES:

BGS	BELOW GROUND SURFACE
<	LESS THAN THE REPORTING LIMIT
J	ESTIMATED CONCENTRATION
MG/KG	MILLIGRAMS PER KILOGRAMS
	REPORTED CONCENTRATION IN MG/KG

GRAPHIC SCALE

0 2 4 6

(IN FEET)

1 INCH = 4 FEET (HORIZONTAL/ VERTICAL)

FIGURE 6

CROSS SECTIONS A-A' AND B-B'

TREVET

FEBURARY 2009

CONTRACT NO.: N62473-09-D-2607
TASK ORDER NO.: DO-003

TABLE 6
LIMITED EXCAVATION SOIL SAMPLE RESULTS
February 4, 2009
Northeast Corner of 4406 Cather Avenue

Sample Identification	Location within Excavation	Date Sampled	units	ANALYSIS TPH as JP-5
020409-01	south sidewall	2/4/2009	mg/kg	**120**
020409-02	east sidewall	2/4/2009	mg/kg	<11
020409-03	north sidewall	2/4/2009	mg/kg	**5.8J**
020409-04	west sidewall	2/4/2009	mg/kg	**69**
020409-05	southeast side	2/4/2009	mg/kg	<11
020409-06	south central bottom	2/4/2009	mg/kg	**5,100**
020409-07	east central	2/4/2009	mg/kg	<11
020409-08	central bottom	2/4/2009	mg/kg	**36**
020409-09	northwest bottom	2/4/2009	mg/kg	<11
020409-10	central bottom	2/4/2009	mg/kg	**17,000**

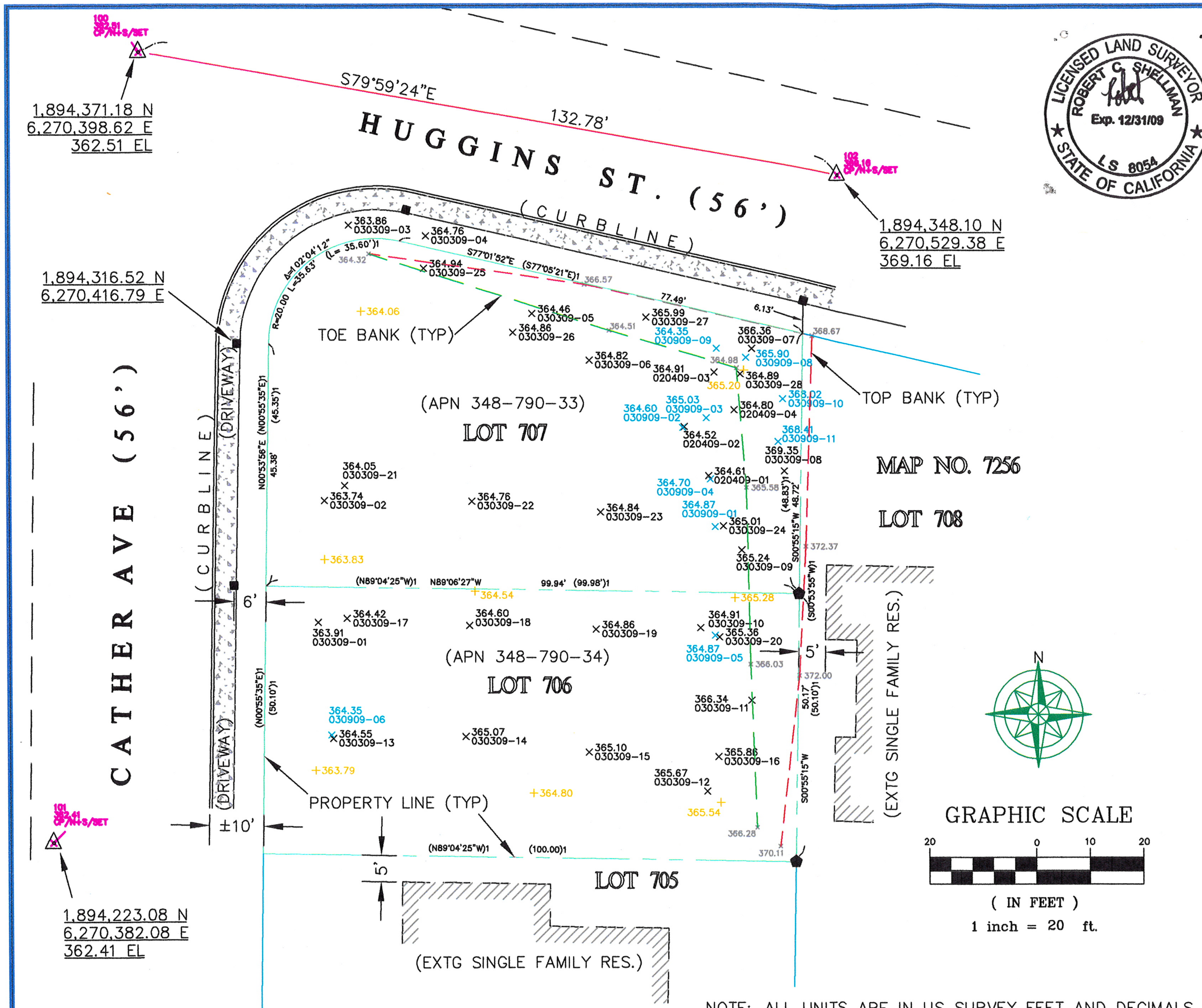
notes:
Bolded values indicate detected concentrations.
Refer to Figure 5 and 6

acronyms/abbreviations:

bgs	below ground surface
TPH	total petroleum hydrocarbons. EPA Method 8015
JP-5	jet propellant fuel #5
mg/kg	milligrams per kilogram
<	less then the laboratory reporting limit
J	estimate concentration. Detected between the laboratory method detection limit (MDL) and reporting limit (RL).

APPENDIX C

Survey Map and Coordinate List



LEGEND

- FOUND 1/2" SQUARE STEEL BAR
- FOUND LEAD/ BRASS TAG & TACK STAMPED "RCE 13862" PER ( )1 ON A 6 FT OFFSET AT PROPERTY LINE EXT. APPROX. 0.5' FROM BACK WALK
- SURVEY CONTROL POINT
- ( )1 RECORD DATA PER MAP NO. 7256 "UNIVERSITY VILLAGE UNIT NO. 10"
- × 360.00 030309-09 — 03/09/09 BORE SAMPLE SITES
- × 360.00 030309-09 — 03/13/09 ADD'L BORE SAMPLE SITES
- + 360.00 — 03/23/09 OVER-EX SPOT ELEV.
- × 360.00 — TOE & TOP BANK SPOT ELEV.

PURPOSE OF SURVEY: IS TO DENOTE/ RECORD THE POSITIONS OF THE SOIL BORE LOCATIONS RELATIVE TO: EACH OTHER, A FIXED DATUM AND EXISTING IMPROVEMENTS

HORIZONTAL DATUM & COORDINATE SYSTEM:
ZONE 6, NAD83', 2007 EPOCH ADJUSTMENT DERIVED FROM THE CALIFORNIA SPATIAL REFERENCE CENTER AND THE SAN DIEGO COUNTY REAL TIME NETWORK (SDCRTN).

VERTICAL DATUM:
NAVD88' GPS DERVIED USING A GEIOD MODEL ESTIMATED ABSOLUTE ACCURACY +/-0.25'

SURVEY MAP

SHOWING SOIL BORE LOCATIONS ACROSS
LOTS 706 & 707, MAP NO. 7256
"UNIVERSITY VILLAGE UNIT NO. 10 AS DESCRIBED
IN DOC. 75-270080 & 1994-0326286

SAN DIEGO COUNTY CALIFORNIA

MARCH 25, 2009

LANDMARK SURVEYING
4591 POMONA AVE.
LA MESA, CA 91941
PH/FAX (619) 589-0056
landmarksurveying@gmail.com

NOTE: ALL UNITS ARE IN US SURVEY FEET AND DECIMALS THEREOF

SHEET 1 OF 1 DRWG: RS 09-012

09-012.CR5 03/26/09 15:03:23

Point	Northing	Easting	Elevation	Description
1	1,894,338.6500	6,270,437.8414	0.00	
500	1,894,326.6152	6,270,528.8936	369.25	TBC
501	1,894,319.4563	6,270,542.3892	370.06	BW
502	1,894,344.8866	6,270,449.2116	364.80	TBC/BC
503	1,894,341.4089	6,270,427.9822	363.11	TBC/POC
504	1,894,319.0586	6,270,413.4897	361.90	TBC/EC
505	1,894,316.3155	6,270,413.3533	361.87	TBC/DW
506	1,894,299.1604	6,270,413.0196	361.85	TBC/DW
507	1,894,302.7364	6,270,417.0820	362.04	BW
508	1,894,246.0459	6,270,412.0825	362.16	TBC/DW
509	1,894,220.0720	6,270,377.6986	362.13	LG
510	1,894,309.2365	6,270,378.7844	361.52	LG
511	1,894,386.9115	6,270,421.9856	362.89	LG
512	1,894,350.7694	6,270,580.3977	370.92	LG
513	1,894,212.6500	6,270,415.5331	362.48	BW
514	1,894,229.5572	6,270,411.7737	361.86	TBC/DW
515	1,894,311.0600	6,270,506.2455	364.91	020409-03
516	1,894,310.7135	6,270,511.0749	364.89	030309-28
517	1,894,315.4400	6,270,513.2369	366.36	030309-07
518	1,894,291.6534	6,270,505.1348	364.61	020409-01
519	1,894,304.0136	6,270,509.9628	364.80	020409-04
520	1,894,300.8827	6,270,500.6421	364.52	020409-02
521	1,894,282.2429	6,270,507.8843	365.01	030309-24
522	1,894,277.7488	6,270,511.3251	365.24	030309-09
523	1,894,292.4982	6,270,519.2943	369.35	030309-08
524	1,894,284.8345	6,270,484.8886	364.84	030309-23
525	1,894,263.1957	6,270,503.5859	364.91	030309-10
526	1,894,261.4912	6,270,507.1144	365.36	030309-20
527	1,894,249.6221	6,270,513.0405	366.34	030309-11
528	1,894,239.0411	6,270,506.8269	365.86	030309-16
529	1,894,232.6015	6,270,504.7203	365.67	030309-12
530	1,894,239.9318	6,270,482.5542	365.10	030309-15
531	1,894,262.9412	6,270,484.0001	364.86	030309-19
532	1,894,313.3477	6,270,482.8926	364.82	030309-06
533	1,894,321.3135	6,270,493.5922	365.99	030309-27
534	1,894,322.0760	6,270,472.1855	364.46	030309-05
535	1,894,318.5248	6,270,468.5977	364.86	030309-26
536	1,894,286.9499	6,270,460.7620	364.76	030309-22
537	1,894,263.6866	6,270,460.2545	364.59	030309-18
538	1,894,263.6738	6,270,460.2573	364.60	030309-18
539	1,894,242.8884	6,270,459.4083	365.07	030309-14
540	1,894,242.5994	6,270,434.5461	364.55	030309-13
541	1,894,264.3049	6,270,431.8700	363.91	030309-01
542	1,894,265.0441	6,270,437.2506	364.42	030309-17
543	1,894,287.1347	6,270,433.0892	363.74	030309-02
544	1,894,289.9294	6,270,436.9268	364.05	030309-21
545	1,894,330.5827	6,270,451.9096	364.94	030309-25
546	1,894,336.6888	6,270,452.2890	364.76	030309-04
547	1,894,338.6500	6,270,437.8414	363.86	030309-03
551	1,894,243.2701	6,270,434.2202	364.35	030909-06
552	1,894,282.1380	6,270,506.3348	364.87	030909-01
553	1,894,291.0701	6,270,505.5295	364.70	030909-04
554	1,894,315.5453	6,270,506.7258	364.35	030909-09
555	1,894,313.8042	6,270,512.1749	365.90	030909-08
556	1,894,306.0820	6,270,519.0352	368.02	030909-10
557	1,894,298.0950	6,270,518.1706	368.41	030909-11
558	1,894,302.5139	6,270,504.7670	365.03	030909-03
559	1,894,300.7389	6,270,500.3535	364.60	030909-02
560	1,894,261.7949	6,270,506.2913	364.87	030909-05
561	1,894,225.8311	6,270,513.9965	366.28	toe
562	1,894,256.3551	6,270,512.8691	366.03	toe

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Point	Northing	Easting	Elevation	Description
563	1,894,289.4256	6,270,512.2052	365.58	toe
564	1,894,311.8583	6,270,510.4147	364.98	toe/cor
565	1,894,317.8663	6,270,524.5238	368.67	tb/cor
566	1,894,292.5223	6,270,523.1054	371.84	tb
567	1,894,278.4103	6,270,523.2546	372.37	tb
568	1,894,254.2176	6,270,521.9907	372.00	tb
569	1,894,222.2967	6,270,518.3321	370.11	tb
570	1,894,318.8932	6,270,486.6199	364.51	toe
571	1,894,333.2892	6,270,441.6467	364.32	dylt
572	1,894,327.5242	6,270,482.0527	366.57	tb
600	1,894,344.8823	6,270,450.5559	364.79	BM/FND
601	1,894,344.9093	6,270,449.3250	364.69	TBC/BC
602	1,894,316.3718	6,270,413.2842	361.83	TBC/DW
650	1,894,322.4716	6,270,440.0909	364.06	ovr/ex
652	1,894,311.3870	6,270,511.7563	365.20	ovr/ex
653	1,894,268.7594	6,270,509.9928	365.28	ovr/ex
654	1,894,230.4601	6,270,507.2290	365.54	ovr/ex
655	1,894,232.2345	6,270,472.1312	364.80	ovr/ex
656	1,894,270.0595	6,270,461.2980	364.54	ovr/ex
659	1,894,236.5876	6,270,431.2437	363.79	ovr/ex
660	1,894,276.0519	6,270,433.0934	363.83	ovr/ex

APPENDIX D

Laboratory Analytical Results and Chain of Custody Documentation

March 3, 2009 Surface Soil and Shallow Subsurface Soil Samples
(EMAX Laboratories)

- Total Petroleum Hydrocarbons (TPH) as JP-5
- Metals
- Polynuclear Aromatic Hydrocarbons (PAHs)

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-01	Date Analyzed:	03/04/09 00:40
Lab Samp ID:	C020-01	Dilution Factor:	1
Lab File ID:	LC03044A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	11.5
Calib. Ref.:	LC03041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	77	50-150
HEXACOSANE	91	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-02	Date Analyzed:	03/04/09 00:56
Lab Samp ID:	C020-02	Dilution Factor:	1
Lab File ID:	LC03045A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	16.3
Calib. Ref.:	LC03041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	6.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	77	50-150
HEXACOSANE	89	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-03	Date Analyzed:	03/04/09 01:46
Lab Samp ID:	C020-03	Dilution Factor:	1
Lab File ID:	LC03048A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	16.1
Calib. Ref.:	LC03041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	6.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	78	50-150
HEXACOSANE	87	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-04	Date Analyzed:	03/04/09 02:02
Lab Samp ID:	C020-04	Dilution Factor:	1
Lab File ID:	LC03049A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	18.5
Calib. Ref.:	LC03041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	6.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	80	50-150
HEXACOSANE	90	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected	: 03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received	: 03/03/09
Batch No.	: 09C020	Date Extracted	: 03/03/09 17:00
Sample ID	: 030309-05	Date Analyzed	: 03/04/09 02:19
Lab Samp ID	: C020-05	Dilution Factor	: 1
Lab File ID	: LC03050A	Matrix	: SOIL
Ext Btch ID	: DSC004S	% Moisture	: 14.3
Calib. Ref.	: LC03041A	Instrument ID	: GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	80	50-150
HEXACOSANE	92	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-06	Date Analyzed:	03/04/09 02:35
Lab Samp ID:	C020-06	Dilution Factor:	1
Lab File ID:	LC03051A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	10.4
Calib. Ref.:	LC03041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	74	50-150
HEXACOSANE	86	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-07	Date Analyzed:	03/04/09 03:41
Lab Samp ID:	C020-07	Dilution Factor:	1
Lab File ID:	LC03055A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	8.1
Calib. Ref.:	LC03054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.4

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	83	50-150
HEXACOSANE	90	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-08	Date Analyzed:	03/04/09 03:57
Lab Samp ID:	C020-08	Dilution Factor:	1
Lab File ID:	LC03056A	Matrix	: SOIL
Ext Btch ID:	DSC004S	% Moisture	: 8.5
Calib. Ref.:	LC03054A	Instrument ID	: GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	82	50-150
HEXACOSANE	88	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-09	Date Analyzed:	03/04/09 04:14
Lab Samp ID:	C020-09	Dilution Factor:	1
Lab File ID:	LC03057A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	10.0
Calib. Ref.:	LC03054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	76	50-150
HEXACOSANE	84	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-10	Date Analyzed:	03/04/09 04:31
Lab Samp ID:	C020-10	Dilution Factor:	1
Lab File ID:	LC03058A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	9.6
Calib. Ref.:	LC03054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	82	50-150
HEXACOSANE	91	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-11	Date Analyzed:	03/04/09 04:47
Lab Samp ID:	C020-11	Dilution Factor:	1
Lab File ID:	LC03059A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	11.6
Calib. Ref.:	LC03054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	79	50-150
HEXACOSANE	87	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C020	Date Extracted:	03/03/09 17:00
Sample ID:	030309-12	Date Analyzed:	03/04/09 05:04
Lab Samp ID:	C020-12	Dilution Factor:	1
Lab File ID:	LC03060A	Matrix :	SOIL
Ext Btch ID:	DSC004S	% Moisture :	10.3
Calib. Ref.:	LC03054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	82	50-150
HEXACOSANE	89	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-13	Date Analyzed:	03/05/09 19:44
Lab Samp ID:	C021-01	Dilution Factor:	1
Lab File ID:	LC05036A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	16.6
Calib. Ref.:	LC05028A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	72	12	6.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	70	50-150
HEXACOSANE	88	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-14	Date Analyzed:	03/05/09 21:23
Lab Samp ID:	C021-02	Dilution Factor:	1
Lab File ID:	LC05042A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	10.8
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	82	50-150
HEXACOSANE	81	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-15	Date Analyzed:	03/05/09 21:39
Lab Samp ID:	C021-03	Dilution Factor:	1
Lab File ID:	LC05043A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	10.4
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	75	50-150
HEXACOSANE	81	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-16	Date Analyzed:	03/05/09 21:55
Lab Samp ID:	C021-04	Dilution Factor:	1
Lab File ID:	LC05044A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	11.7
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	73	50-150
HEXACOSANE	96	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-17	Date Analyzed:	03/05/09 22:12
Lab Samp ID:	C021-05	Dilution Factor:	1
Lab File ID:	LC05045A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	10.3
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	31	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	67	50-150
HEXACOSANE	110	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-18	Date Analyzed:	03/05/09 22:28
Lab Samp ID:	C021-06	Dilution Factor:	1
Lab File ID:	LC05046A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.3
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	13	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	73	50-150
HEXACOSANE	85	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-19	Date Analyzed:	03/05/09 22:45
Lab Samp ID:	C021-07	Dilution Factor:	1
Lab File ID:	LC05047A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.3
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	79	50-150
HEXACOSANE	82	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-20	Date Analyzed:	03/05/09 23:01
Lab Samp ID:	C021-08	Dilution Factor:	1
Lab File ID:	LC05048A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.1
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	51	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	73	50-150
HEXACOSANE	89	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-21	Date Analyzed:	03/05/09 23:18
Lab Samp ID:	C021-09	Dilution Factor:	1
Lab File ID:	LC05049A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	16.7
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	18	12	6.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	79	50-150
HEXACOSANE	87	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-22	Date Analyzed:	03/05/09 23:34
Lab Samp ID:	C021-10	Dilution Factor:	1
Lab File ID:	LC05050A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.7
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	72	50-150
HEXACOSANE	88	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-23	Date Analyzed:	03/05/09 23:50
Lab Samp ID:	C021-11	Dilution Factor:	1
Lab File ID:	LC05051A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	12.0
Calib. Ref.:	LC05041A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	11	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	79	50-150
HEXACOSANE	86	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-24	Date Analyzed:	03/06/09 00:56
Lab Samp ID:	C021-12	Dilution Factor:	1
Lab File ID:	LC05055A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.9
Calib. Ref.:	LC05054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	180	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	64	50-150
HEXACOSANE	86	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-25	Date Analyzed:	03/06/09 01:13
Lab Samp ID:	C021-13	Dilution Factor:	1
Lab File ID:	LC05056A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	15.5
Calib. Ref.:	LC05054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	6.0J	12	5.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	73	50-150
HEXACOSANE	88	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-26	Date Analyzed:	03/06/09 01:29
Lab Samp ID:	C021-14	Dilution Factor:	1
Lab File ID:	LC05057A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.6
Calib. Ref.:	LC05054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	19	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	77	50-150
HEXACOSANE	97	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-27	Date Analyzed:	03/06/09 01:46
Lab Samp ID:	C021-15	Dilution Factor:	1
Lab File ID:	LC05058A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	11.5
Calib. Ref.:	LC05054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	18	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	74	50-150
HEXACOSANE	91	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 16:45
Sample ID:	030309-28	Date Analyzed:	03/06/09 02:02
Lab Samp ID:	C021-16	Dilution Factor:	1
Lab File ID:	LC05059A	Matrix :	SOIL
Ext Btch ID:	DSC010S	% Moisture :	13.3
Calib. Ref.:	LC05054A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	380	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	73	50-150
HEXACOSANE	91	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 13:00
Sample ID:	030309-29 Source Blank	Date Analyzed:	03/05/09 18:38
Lab Samp ID:	C021-17	Dilution Factor:	0.94
Lab File ID:	LC05032A	Matrix :	WATER
Ext Btch ID:	DSC007W	% Moisture :	NA
Calib. Ref.:	LC05028A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.47	0.094

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	82	40-130
HEXACOSANE	83	40-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021	Date Extracted:	03/04/09 13:00
Sample ID:	030309-30 Equipment Rinsate	Date Analyzed:	03/05/09 18:55
Lab Samp ID:	C021-18	Dilution Factor:	0.94
Lab File ID:	LC05033A	Matrix :	WATER
Ext Btch ID:	DSC007W	% Moisture :	NA
Calib. Ref.:	LC05028A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.47	0.094

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	84	40-130
HEXACOSANE	85	40-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-13	Date Analyzed:	03/06/09 20:56
Lab Samp ID:	C021-01	Dilution Factor:	1
Lab File ID:	98C05025	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	16.6
Calib. Ref.:	98C05017	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.506J	0.600	0.120
Arsenic	17.1	0.600	0.120
Barium	61.7	0.600	0.120
Beryllium	0.921	0.600	0.120
Cadmium	0.560J	0.600	0.120
Chromium	12.6	0.600	0.120
Cobalt	8.18	0.600	0.120
Copper	17.8	0.600	0.240
Lead	14.4	0.600	0.120
Molybdenum	0.793	0.600	0.120
Nickel	18.2	0.600	0.120
Selenium	0.284J	0.600	0.120
Silver	ND	0.600	0.120
Thallium	0.360J	0.600	0.120
Vanadium	26.9	0.600	0.120
Zinc	75.9	1.20	0.600

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-13DL	Date Analyzed:	03/06/09 21:03
Lab Samp ID:	C021-01J	Dilution Factor:	5
Lab File ID:	98C05026	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	16.6
Calib. Ref.:	98C05017	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	3.00	0.600
Arsenic	17.7	3.00	0.600
Barium	67.8	3.00	0.600
Beryllium	1.01J	3.00	0.600
Cadmium	0.634J	3.00	0.600
Chromium	13.6	3.00	0.600
Cobalt	8.82	3.00	0.600
Copper	19.3	3.00	1.20
Lead	15.2	3.00	0.600
Molybdenum	0.786J	3.00	0.600
Nickel	19.4	3.00	0.600
Selenium	ND	3.00	0.600
Silver	ND	3.00	0.600
Thallium	ND	3.00	0.600
Vanadium	29.1	3.00	0.600
Zinc	87.2	6.00	3.00

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-14	Date Analyzed:	03/06/09 21:09
Lab Samp ID:	C021-02	Dilution Factor:	1
Lab File ID:	98C05027	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	10.8
Calib. Ref.:	98C05017	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.208J	0.561	0.112
Arsenic	7.72	0.561	0.112
Barium	45.2	0.561	0.112
Beryllium	0.973	0.561	0.112
Cadmium	0.256J	0.561	0.112
Chromium	7.25	0.561	0.112
Cobalt	12.8	0.561	0.112
Copper	6.32	0.561	0.224
Lead	4.51	0.561	0.112
Molybdenum	0.250J	0.561	0.112
Nickel	8.12	0.561	0.112
Selenium	0.209J	0.561	0.112
Silver	ND	0.561	0.112
Thallium	0.175J	0.561	0.112
Vanadium	19.5	0.561	0.112
Zinc	34.4	1.12	0.561

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-15	Date Analyzed:	03/06/09 21:15
Lab Samp ID:	C021-03	Dilution Factor:	1
Lab File ID:	98C05028	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	10.4
Calib. Ref.:	98C05017	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.236J	0.558	0.112
Arsenic	9.80	0.558	0.112
Barium	85.2	0.558	0.112
Beryllium	0.576	0.558	0.112
Cadmium	0.151J	0.558	0.112
Chromium	6.84	0.558	0.112
Cobalt	4.97	0.558	0.112
Copper	8.41	0.558	0.223
Lead	7.10	0.558	0.112
Molybdenum	0.258J	0.558	0.112
Nickel	6.08	0.558	0.112
Selenium	0.153J	0.558	0.112
Silver	ND	0.558	0.112
Thallium	0.141J	0.558	0.112
Vanadium	18.6	0.558	0.112
Zinc	32.1	1.12	0.558

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-16	Date Analyzed:	03/06/09 21:34
Lab Samp ID:	C021-04	Dilution Factor:	1
Lab File ID:	98C05031	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	11.7
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.599	0.566	0.113
Arsenic	4.23	0.566	0.113
Barium	33.6	0.566	0.113
Beryllium	0.305J	0.566	0.113
Cadmium	0.258J	0.566	0.113
Chromium	9.28	0.566	0.113
Cobalt	2.74	0.566	0.113
Copper	15.2	0.566	0.227
Lead	8.48	0.566	0.113
Molybdenum	0.305J	0.566	0.113
Nickel	4.56	0.566	0.113
Selenium	0.307J	0.566	0.113
Silver	0.192J	0.566	0.113
Thallium	0.124J	0.566	0.113
Vanadium	19.8	0.566	0.113
Zinc	70.3	1.13	0.566

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-17	Date Analyzed:	03/06/09 21:40
Lab Samp ID:	C021-05	Dilution Factor:	1
Lab File ID:	98C05032	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	10.3
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.499J	0.557	0.111
Arsenic	11.3	0.557	0.111
Barium	79.7	0.557	0.111
Beryllium	0.802	0.557	0.111
Cadmium	0.649	0.557	0.111
Chromium	36.6	0.557	0.111
Cobalt	6.63	0.557	0.111
Copper	22.1	0.557	0.223
Lead	21.1	0.557	0.111
Molybdenum	0.750	0.557	0.111
Nickel	10.2	0.557	0.111
Selenium	0.252J	0.557	0.111
Silver	0.154J	0.557	0.111
Thallium	0.157J	0.557	0.111
Vanadium	25.7	0.557	0.111
Zinc	76.8	1.11	0.557

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-18	Date Analyzed:	03/06/09 21:46
Lab Samp ID:	C021-06	Dilution Factor:	1
Lab File ID:	98C05033	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.3
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.285J	0.577	0.115
Arsenic	12.1	0.577	0.115
Barium	48.7	0.577	0.115
Beryllium	0.827	0.577	0.115
Cadmium	0.216J	0.577	0.115
Chromium	9.82	0.577	0.115
Cobalt	9.33	0.577	0.115
Copper	10.3	0.577	0.231
Lead	6.86	0.577	0.115
Molybdenum	0.415J	0.577	0.115
Nickel	8.07	0.577	0.115
Selenium	0.228J	0.577	0.115
Silver	ND	0.577	0.115
Thallium	0.160J	0.577	0.115
Vanadium	25.6	0.577	0.115
Zinc	38.0	1.15	0.577

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-19	Date Analyzed:	03/06/09 21:52
Lab Samp ID:	C021-07	Dilution Factor:	1
Lab File ID:	98C05034	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.3
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.196J	0.577	0.115
Arsenic	9.45	0.577	0.115
Barium	36.3	0.577	0.115
Beryllium	0.611	0.577	0.115
Cadmium	0.135J	0.577	0.115
Chromium	9.53	0.577	0.115
Cobalt	3.73	0.577	0.115
Copper	9.12	0.577	0.231
Lead	5.55	0.577	0.115
Molybdenum	0.216J	0.577	0.115
Nickel	5.71	0.577	0.115
Selenium	0.198J	0.577	0.115
Silver	ND	0.577	0.115
Thallium	0.149J	0.577	0.115
Vanadium	23.9	0.577	0.115
Zinc	35.5	1.15	0.577

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-20	Date Analyzed:	03/06/09 21:59
Lab Samp ID:	C021-08	Dilution Factor:	1
Lab File ID:	98C05035	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.1
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.567J	0.575	0.115
Arsenic	6.45	0.575	0.115
Barium	45.6	0.575	0.115
Beryllium	0.558J	0.575	0.115
Cadmium	0.238J	0.575	0.115
Chromium	12.2	0.575	0.115
Cobalt	4.68	0.575	0.115
Copper	12.8	0.575	0.230
Lead	9.95	0.575	0.115
Molybdenum	0.317J	0.575	0.115
Nickel	6.37	0.575	0.115
Selenium	0.327J	0.575	0.115
Silver	ND	0.575	0.115
Thallium	0.160J	0.575	0.115
Vanadium	26.4	0.575	0.115
Zinc	54.4	1.15	0.575

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-21	Date Analyzed:	03/06/09 22:05
Lab Samp ID:	C021-09	Dilution Factor:	1
Lab File ID:	98C05036	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	16.7
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.496J	0.600	0.120
Arsenic	13.0	0.600	0.120
Barium	93.3	0.600	0.120
Beryllium	0.767	0.600	0.120
Cadmium	0.435J	0.600	0.120
Chromium	11.2	0.600	0.120
Cobalt	8.21	0.600	0.120
Copper	18.4	0.600	0.240
Lead	17.0	0.600	0.120
Molybdenum	0.668	0.600	0.120
Nickel	8.42	0.600	0.120
Selenium	0.353J	0.600	0.120
Silver	ND	0.600	0.120
Thallium	0.158J	0.600	0.120
Vanadium	26.7	0.600	0.120
Zinc	60.7	1.20	0.600

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-22	Date Analyzed:	03/06/09 22:11
Lab Samp ID:	C021-10	Dilution Factor:	1
Lab File ID:	98C05037	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.7
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.346J	0.579	0.116
Arsenic	10.5	0.579	0.116
Barium	59.9	0.579	0.116
Beryllium	0.456J	0.579	0.116
Cadmium	0.365J	0.579	0.116
Chromium	12.3	0.579	0.116
Cobalt	4.51	0.579	0.116
Copper	14.1	0.579	0.232
Lead	24.7	0.579	0.116
Molybdenum	0.690	0.579	0.116
Nickel	6.78	0.579	0.116
Selenium	0.333J	0.579	0.116
Silver	0.140J	0.579	0.116
Thallium	0.142J	0.579	0.116
Vanadium	27.1	0.579	0.116
Zinc	60.6	1.16	0.579

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-23	Date Analyzed:	03/06/09 22:17
Lab Samp ID:	C021-11	Dilution Factor:	1
Lab File ID:	98C05038	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	12.0
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.286J	0.568	0.114
Arsenic	13.5	0.568	0.114
Barium	62.9	0.568	0.114
Beryllium	0.858	0.568	0.114
Cadmium	0.261J	0.568	0.114
Chromium	9.01	0.568	0.114
Cobalt	9.72	0.568	0.114
Copper	11.4	0.568	0.227
Lead	8.20	0.568	0.114
Molybdenum	0.414J	0.568	0.114
Nickel	8.72	0.568	0.114
Selenium	0.197J	0.568	0.114
Silver	ND	0.568	0.114
Thallium	0.150J	0.568	0.114
Vanadium	24.7	0.568	0.114
Zinc	45.6	1.14	0.568

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-24	Date Analyzed:	03/06/09 22:23
Lab Samp ID:	C021-12	Dilution Factor:	1
Lab File ID:	98C05039	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.9
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.420J	0.581	0.116
Arsenic	7.32	0.581	0.116
Barium	59.2	0.581	0.116
Beryllium	0.569J	0.581	0.116
Cadmium	0.595	0.581	0.116
Chromium	10.1	0.581	0.116
Cobalt	5.79	0.581	0.116
Copper	15.9	0.581	0.232
Lead	10.1	0.581	0.116
Molybdenum	0.333J	0.581	0.116
Nickel	7.28	0.581	0.116
Selenium	0.256J	0.581	0.116
Silver	0.170J	0.581	0.116
Thallium	0.131J	0.581	0.116
Vanadium	20.9	0.581	0.116
Zinc	74.1	1.16	0.581

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-25	Date Analyzed:	03/06/09 22:30
Lab Samp ID:	C021-13	Dilution Factor:	1
Lab File ID:	98C05040	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	15.5
Calib. Ref.:	98C05029	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.416J	0.592	0.118
Arsenic	10.4	0.592	0.118
Barium	57.0	0.592	0.118
Beryllium	0.689	0.592	0.118
Cadmium	0.318J	0.592	0.118
Chromium	11.9	0.592	0.118
Cobalt	5.16	0.592	0.118
Copper	12.8	0.592	0.237
Lead	13.4	0.592	0.118
Molybdenum	0.532J	0.592	0.118
Nickel	10.7	0.592	0.118
Selenium	0.257J	0.592	0.118
Silver	ND	0.592	0.118
Thallium	0.140J	0.592	0.118
Vanadium	28.4	0.592	0.118
Zinc	53.9	1.18	0.592

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-26	Date Analyzed:	03/06/09 22:48
Lab Samp ID:	C021-14	Dilution Factor:	1
Lab File ID:	98C05043	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.6
Calib. Ref.:	98C05041	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.416J	0.579	0.116
Arsenic	14.8	0.579	0.116
Barium	67.9	0.579	0.116
Beryllium	0.785	0.579	0.116
Cadmium	0.563J	0.579	0.116
Chromium	11.3	0.579	0.116
Cobalt	7.26	0.579	0.116
Copper	16.3	0.579	0.231
Lead	12.2	0.579	0.116
Molybdenum	0.538J	0.579	0.116
Nickel	7.77	0.579	0.116
Selenium	0.268J	0.579	0.116
Silver	ND	0.579	0.116
Thallium	0.156J	0.579	0.116
Vanadium	26.6	0.579	0.116
Zinc	56.7	1.16	0.579

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-27	Date Analyzed:	03/06/09 22:55
Lab Samp ID:	C021-15	Dilution Factor:	1
Lab File ID:	98C05044	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	11.5
Calib. Ref.:	98C05041	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.447J	0.565	0.113
Arsenic	11.9	0.565	0.113
Barium	84.8	0.565	0.113
Beryllium	0.675	0.565	0.113
Cadmium	0.462J	0.565	0.113
Chromium	11.5	0.565	0.113
Cobalt	6.38	0.565	0.113
Copper	12.9	0.565	0.226
Lead	24.8	0.565	0.113
Molybdenum	0.459J	0.565	0.113
Nickel	7.36	0.565	0.113
Selenium	0.243J	0.565	0.113
Silver	ND	0.565	0.113
Thallium	0.160J	0.565	0.113
Vanadium	27.3	0.565	0.113
Zinc	61.7	1.13	0.565

METHOD 6020A
METALS BY ICP-MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
SDG NO.	: 09C021	Date Extracted:	03/04/09 10:15
Sample ID:	030309-28	Date Analyzed:	03/06/09 23:01
Lab Samp ID:	C021-16	Dilution Factor:	1
Lab File ID:	98C05045	Matrix :	SOIL
Ext Btch ID:	IMC005S	% Moisture :	13.3
Calib. Ref.:	98C05041	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	0.746	0.577	0.115
Arsenic	9.41	0.577	0.115
Barium	65.2	0.577	0.115
Beryllium	0.593	0.577	0.115
Cadmium	1.05	0.577	0.115
Chromium	9.74	0.577	0.115
Cobalt	4.98	0.577	0.115
Copper	16.2	0.577	0.231
Lead	15.0	0.577	0.115
Molybdenum	0.454J	0.577	0.115
Nickel	6.82	0.577	0.115
Selenium	0.245J	0.577	0.115
Silver	0.546J	0.577	0.115
Thallium	0.132J	0.577	0.115
Vanadium	22.9	0.577	0.115
Zinc	67.4	1.15	0.577

METHOD 7471A
MERCURY BY COLD VAPOR

Client : TREVET
Project : MIRAMAR SITE INVESTIGATION
Batch No. : 09C021
Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGC006SB	ND	1	NA	0.100	0.0330	03/04/0914:20	03/04/0912:00	M47C004010	M47C004008	HGC006S	NA	03/04/09
LCS1S	HGC006SL	0.890	1	NA	0.100	0.0330	03/04/0914:22	03/04/0912:00	M47C004011	M47C004008	HGC006S	NA	03/04/09
LCD1S	HGC006SC	0.893	1	NA	0.100	0.0330	03/04/0914:24	03/04/0912:00	M47C004012	M47C004008	HGC006S	NA	03/04/09
030309-13	C021-01	ND	1	16.6	0.120	0.0396	03/04/0914:29	03/04/0912:00	M47C004014	M47C004008	HGC006S	03/03/09	03/03/09
030309-13DL	C021-01J	ND	5	16.6	0.600	0.198	03/04/0914:31	03/04/0912:00	M47C004015	M47C004008	HGC006S	03/03/09	03/03/09
030309-13MS	C021-01M	1.12	1	16.6	0.120	0.0396	03/04/0914:33	03/04/0912:00	M47C004016	M47C004008	HGC006S	03/03/09	03/03/09
030309-13MSD	C021-01S	1.11	1	16.6	0.120	0.0396	03/04/0914:35	03/04/0912:00	M47C004017	M47C004008	HGC006S	03/03/09	03/03/09
030309-14	C021-02	ND	1	10.8	0.112	0.0370	03/04/0914:37	03/04/0912:00	M47C004018	M47C004008	HGC006S	03/03/09	03/03/09
030309-15	C021-03	ND	1	10.4	0.112	0.0368	03/04/0914:39	03/04/0912:00	M47C004019	M47C004008	HGC006S	03/03/09	03/03/09
030309-16	C021-04	ND	1	11.7	0.113	0.0374	03/04/0914:45	03/04/0912:00	M47C004022	M47C004020	HGC006S	03/03/09	03/03/09
030309-17	C021-05	0.0617J	1	10.3	0.111	0.0368	03/04/0914:47	03/04/0912:00	M47C004023	M47C004020	HGC006S	03/03/09	03/03/09
030309-18	C021-06	ND	1	13.3	0.115	0.0381	03/04/0914:49	03/04/0912:00	M47C004024	M47C004020	HGC006S	03/03/09	03/03/09
030309-19	C021-07	ND	1	13.3	0.115	0.0381	03/04/0914:51	03/04/0912:00	M47C004025	M47C004020	HGC006S	03/03/09	03/03/09
030309-20	C021-08	ND	1	13.1	0.115	0.0380	03/04/0914:53	03/04/0912:00	M47C004026	M47C004020	HGC006S	03/03/09	03/03/09
030309-21	C021-09	ND	1	16.7	0.120	0.0396	03/04/0914:56	03/04/0912:00	M47C004027	M47C004020	HGC006S	03/03/09	03/03/09
030309-22	C021-10	0.284	1	13.7	0.116	0.0382	03/04/0914:58	03/04/0912:00	M47C004028	M47C004020	HGC006S	03/03/09	03/03/09
030309-23	C021-11	ND	1	12.0	0.114	0.0375	03/04/0915:00	03/04/0912:00	M47C004029	M47C004020	HGC006S	03/03/09	03/03/09
030309-24	C021-12	0.0407J	1	13.9	0.116	0.0383	03/04/0915:02	03/04/0912:00	M47C004030	M47C004020	HGC006S	03/03/09	03/03/09
030309-25	C021-13	ND	1	15.5	0.118	0.0391	03/04/0915:04	03/04/0912:00	M47C004031	M47C004020	HGC006S	03/03/09	03/03/09
030309-26	C021-14	0.0965J	1	13.6	0.116	0.0382	03/04/0915:10	03/04/0912:00	M47C004034	M47C004032	HGC006S	03/03/09	03/03/09
030309-27	C021-15	ND	1	11.5	0.113	0.0373	03/04/0915:12	03/04/0912:00	M47C004035	M47C004032	HGC006S	03/03/09	03/03/09
030309-28	C021-16	ND	1	13.3	0.115	0.0381	03/04/0915:14	03/04/0912:00	M47C004036	M47C004032	HGC006S	03/03/09	03/03/09

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : TREVET	Date Collected: 03/03/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/03/09
Batch No. : 09C020A	Date Extracted: 03/05/09 16:30
Sample ID: 030309-07	Date Analyzed: 03/05/09 23:31
Lab Samp ID: C020-07	Dilution Factor: 1
Lab File ID: RCJ116	Matrix : SOIL
Ext Btch ID: SVC012S	% Moisture : 8.1
Calib. Ref.: RAJ353	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.4	2.7
ACENAPHTHYLENE	ND	5.4	2.7
ANTHRACENE	ND	5.4	2.7
BENZO(A)ANTHRACENE	ND	5.4	2.7
BENZO(A)PYRENE	ND	5.4	2.7
BENZO(B)FLUORANTHENE	ND	5.4	2.7
BENZO(K)FLUORANTHENE	ND	5.4	2.7
BENZO(G,H,I)PERYLENE	ND	5.4	2.7
CHRYSENE	ND	5.4	2.7
DIBENZO(A,H)ANTHRACENE	ND	5.4	2.7
FLUORANTHENE	ND	5.4	2.7
FLUORENE	ND	5.4	2.7
INDENO(1,2,3-CD)PYRENE	ND	5.4	2.7
NAPHTHALENE	ND	5.4	2.7
PHENANTHRENE	ND	5.4	2.7
PYRENE	ND	5.4	2.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	85	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021A	Date Extracted:	03/13/09 11:30
Sample ID:	030309-13	Date Analyzed:	03/13/09 18:35
Lab Samp ID:	C021-01	Dilution Factor:	1
Lab File ID:	RCJ308	Matrix :	SOIL
Ext Btch ID:	SVC033S	% Moisture :	16.6
Calib. Ref.:	RAJ353	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	6.0	3.0
ACENAPHTHYLENE	ND	6.0	3.0
ANTHRACENE	27	6.0	3.0
BENZO(A)ANTHRACENE	25	6.0	3.0
BENZO(A)PYRENE	22	6.0	3.0
BENZO(B)FLUORANTHENE	24	6.0	3.0
BENZO(K)FLUORANTHENE	ND	6.0	3.0
BENZO(G,H,I)PERYLENE	20	6.0	3.0
CHRYSENE	16	6.0	3.0
DIBENZO(A,H)ANTHRACENE	ND	6.0	3.0
FLUORANTHENE	66	6.0	3.0
FLUORENE	130	6.0	3.0
INDENO(1,2,3-CD)PYRENE	16	6.0	3.0
NAPHTHALENE	100	6.0	3.0
PHENANTHRENE	77	6.0	3.0
PYRENE	82	6.0	3.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	67	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: TREVET	Date Collected:	03/03/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/03/09
Batch No.	: 09C021A	Date Extracted:	03/13/09 11:30
Sample ID:	030309-28	Date Analyzed:	03/13/09 19:30
Lab Samp ID:	C021-16	Dilution Factor:	1
Lab File ID:	RCJ311	Matrix :	SOIL
Ext Btch ID:	SVC033S	% Moisture :	13.3
Calib. Ref.:	RAJ353	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.8	2.9
ACENAPHTHYLENE	ND	5.8	2.9
ANTHRACENE	ND	5.8	2.9
BENZO(A)ANTHRACENE	ND	5.8	2.9
BENZO(A)PYRENE	ND	5.8	2.9
BENZO(B)FLUORANTHENE	ND	5.8	2.9
BENZO(K)FLUORANTHENE	ND	5.8	2.9
BENZO(G,H,I)PERYLENE	ND	5.8	2.9
CHRYSENE	ND	5.8	2.9
DIBENZO(A,H)ANTHRACENE	ND	5.8	2.9
FLUORANTHENE	ND	5.8	2.9
FLUORENE	ND	5.8	2.9
INDENO(1,2,3-CD)PYRENE	ND	5.8	2.9
NAPHTHALENE	23	5.8	2.9
PHENANTHRENE	ND	5.8	2.9
PYRENE	ND	5.8	2.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	73	40-130

RL: Reporting Limit

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- 02

CHAIN-OF-CUSTODY RECORD

09 C020

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME	AIRBILL NUMBER: EMAX courier pickup @ project site
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889
LABORATORY ID (FOR LABORATORY):

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	ANALYSES REQUIRED: TPH-JP5 by EPA Method 8015B	COMMENTS
1	030309-01	3/3/09	1006	1		X	S	24 hr Rush	X	
2	030309-02	3/3/09	1029	2		X	S	24 hr Rush	X	MS/MSD
3	030309-03	3/3/09	1043	1		X	S	24 hr Rush	X	
4	030309-04	3/3/09	1053	1		X	S	24 hr Rush	X	
5	030309-05	3/3/09	1107	1		X	S	24 hr Rush	X	
6	030309-06	3/3/09	1122	1		X	S	24 hr Rush	X	
7	030309-07	3/3/09	1139	1		X	S	24 hr Rush	X	
8	030309-08	3/3/09	1150	1		X	S	24 hr Rush	X	
9	030309-09	3/3/09	1205	1		X	S	24 hr Rush	X	
10	030309-10	3/3/09	1211	1		X	S	24 hr Rush	X	

RELINQUISHED BY (Signature)	DATE 3/3/09	RECEIVED BY (Signature) Keith Stout	LABORATORY INSTRUCTIONS/COMMENTS
COMPANY TREVET	TIME 1256	COMPANY EMAX	**24 HOUR RUSH TAT - PLEASE EXPEDITE**
RELINQUISHED BY (Signature) Keith Stout	DATE 3/3/09	RECEIVED BY (Signature)	
COMPANY EMAX	TIME 1455	COMPANY EMAX	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
			COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

T=3.5°C

COC NUMBER MCAS- 02

TREVET
9888 Carroll Centre Road, Suite 228
San Diego, CA 92126

CHAIN-OF-CUSTODY RECORD

09C0204

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME	AIRBILL NUMBER: EMAX courier pickup @ project site
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	8270 SIM EPA 8310 PAHs 3/4/09	
1	030309-01	3/3/09	1006	1		X	S	24 hr Rush	X		
2	030309-02	3/3/09	1029	2		X	S	24 hr Rush	X		MS/MSD
3	030309-03	3/3/09	1043	1		X	S	24 hr Rush	X		
4	030309-04	3/3/09	1053	1		X	S	24 hr Rush	X		
5	030309-05	3/3/09	1107	1		X	S	24 hr Rush	X		
6	030309-06	3/3/09	1122	1		X	S	24 hr Rush	X		8270 SIM
7	030309-07	3/3/09	1139	1		X	S	24 hr Rush	X	X	EPA 8310 PAHs 5 DAY ADDED 3/4/09 TAT
8	030309-08	3/3/09	1150	1		X	S	24 hr Rush	X		
9	030309-09	3/3/09	1205	1		X	S	24 hr Rush	X		
10	030309-10	3/3/09	1211	1		X	S	24 hr Rush	X		

ANALYSES REQUIRED

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889

LABORATORY ID (FOR LABORATORY)

COMMENTS

RELINQUISHED BY (Signature)	DATE 3/3/09	RECEIVED BY (Signature) Keith Stout	
COMPANY Trevet	TIME 1256	COMPANY EMAX	
RELINQUISHED BY (Signature) Keith Stout	DATE 3/3/09	RECEIVED BY (Signature)	
COMPANY EMAX	TIME 1455	COMPANY EMAX	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS

24 HOUR RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

T=3.5°C

T-09

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- 03

CHAIN-OF-CUSTODY RECORD

09 C020

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	10034-0003
SAMPLER NAME	AIRBILL NUMBER
	EMAX courier pickup @ project site
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED

LABORATORY NAME
EMAX Labs
Torrance, CA
(310) 618-8889

LABORATORY ID (FOR LABORATORY)

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
11	030309-11	3/3/09	1220	1		X	S	24 hr Rush	X	
12	030309-12	3/3/09	1227	2		X	S	24 hr Rush	X	

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/3/09	Keith Stout
COMPANY	TIME	COMPANY
TREVET	1256	EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
Keith Stout	3/3/09	
COMPANY	TIME	COMPANY
EMAX	1455	EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

24 HOUR RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- **04**

09 C021

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	**10034-0003**
SAMPLER NAME	AIRBILL NUMBER
	EMAX courier pickup @ project site
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	CAM 17 METALS	COMMENTS
1	030309-13	3/3/09	1014	2		X	S	5 Day	X	X	MS/MSD
2	030309-14	3/3/09	1049	1		X	S	5 Day	X	X	
3	030309-15	3/3/09	1051	1		X	S	5 Day	X	X	
4	030309-16	3/3/09	1058	1		X	S	5 Day	X	X	
5	030309-17	3/3/09	1102	1		X	S	5 Day	X	X	
6	030309-18	3/3/09	1105	1		X	S	5 Day	X	X	
7	030309-19	3/3/09	1108	1		X	S	5 Day	X	X	
8	030309-20	3/3/09	1112	1		X	S	5 Day	X	X	
9	030309-21	3/3/09	1115	1		X	S	5 Day	X	X	
10	030309-22	3/3/09	1120	1		X	S	5 Day	X	X	

LABORATORY NAME
EMAX Labs
Torrance, CA
(310) 618-8889

LABORATORY ID (FOR LABORATORY)

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/3/09	Keith Stout
COMPANY	TIME	COMPANY
TREVET	1256	EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
Keith Stout	3/3/09	
COMPANY	TIME	COMPANY
EMAX	1455	EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

5 DAY TAT

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

TRV0901_

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

CHAIN-OF-CUSTODY RECORD

COC NUMBER MCAS- 04

09 C021

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.:
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME:	AIRBILL NUMBER: EMAX courier pickup @ project site
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889

LABORATORY ID (FOR LABORATORY):

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	CAM 17 METALS	PAH (8270SIM)	COMMENTS
1	030309-13	3/3/09	1014	2		X	S	5 Day	X	X	X	MS/MSD
2	030309-14	3/3/09	1049	1		X	S	5 Day	X	X		
3	030309-15	3/3/09	1051	1		X	S	5 Day	X	X		
4	030309-16	3/3/09	1058	1		X	S	5 Day	X	X		
5	030309-17	3/3/09	1102	1		X	S	5 Day	X	X		
6	030309-18	3/3/09	1105	1		X	S	5 Day	X	X		
7	030309-19	3/3/09	1108	1		X	S	5 Day	X	X		
8	030309-20	3/3/09	1112	1		X	S	5 Day	X	X		
9	030309-21	3/3/09	1115	1		X	S	5 Day	X	X		
10	030309-22	3/3/09	1120	1		X	S	5 Day	X	X		

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	3/3/09	Keith Stout
COMPANY: TREVET	TIME: 1256	COMPANY: EMAX
Keith Stout	3/3/09	[signature]
COMPANY: EMAX	TIME: 1455	COMPANY: EMAX
	DATE:	
COMPANY:	TIME:	COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS:

5 DAY TAT

SAMPLING COMMENT:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- **05**

09 C021

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: **Miramar Site Investigation**	PURCHASE ORDER NO.:
PROJECT LOCATION: **Cather Ave. / Huggins St.**	PROJECT NO.: **10034-0003**
SAMPLER NAME:	AIRBILL NUMBER: EMAX courier pickup @ project site
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889
LABORATORY ID (FOR LABORATORY):

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	CAM 17 METALS	COMMENTS
1	030309-23	3/3/09	1125	1		X	S	5 Day	X	X	
2	030309-24	3/3/09	1128	1		X	S	5 Day	X	X	
3	030309-25	3/3/09	1133	1		X	S	5 Day	X	X	
4	030309-26	3/3/09	1135	1		X	S	5 Day	X	X	
5	030309-27	3/3/09	1139	1		X	S	5 Day	X	X	
6	030309-28	3/3/09	1144	1		X	S	5 Day	X	X	

3/3/09

RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)
[signature] COMPANY: TREVET	DATE: 3/3/09 TIME: 1256	Keith Staut COMPANY: EMAX
Keith Staut COMPANY: EMAX	DATE: 3/3/09 TIME: 1455	[signature] COMPANY: EMAX
COMPANY:	DATE: TIME:	COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS

5 DAY TAT

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

CHAIN-OF-CUSTODY RECORD

COC NUMBER MCAS- 05

09 C021

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	10034-0003
SAMPLER NAME	AIRBILL NUMBER
	EMAX courier pickup @ project site
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	CAM 17 METALS	PAH 8270 SIM													
11	030309-23	3/3/09	1125	1		X	S	5 Day	X	X														
12	030309-24	3/3/09	1128	1		X	S	5 Day	X	X														
13	030309-25	3/3/09	1133	1		X	S	5 Day	X	X														
14	030309-26	3/3/09	1135	1		X	S	5 Day	X	X														
15	030309-27	3/3/09	1139	1		X	S	5 Day	X	X														
16	030309-28	3/3/09	1144	1		X	S	5 Day	X	X	X													

ANALYSES REQUIRED

LABORATORY NAME: EMAX Labs, Torrance, CA (310) 618-8889

LABORATORY ID (FOR LABORATORY)

COMMENTS

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/3/09	
COMPANY: TREVET	TIME: 1756	COMPANY: EMAX
RELINQUISHED BY (Signature): Keith Strout	DATE: 3/3/09	RECEIVED BY (Signature):
COMPANY: EMAX	TIME: 1455	COMPANY: EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

5 DAY TAT

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

2981

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

CHAIN-OF-CUSTODY RECORD

COC NUMBER MCAS- **06**

09C021

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	**10034-0003**
SAMPLER NAME	AIRBILL NUMBER
	EMAX courier pickup @ project site
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	CAM 17 METALS
030309-29	3/3/09	1280	2		X	W	5 Day	X	X
030309-30	3/3/09	1210	2		X	W	5 DAY	X	X

LABORATORY NAME
EMAX Labs
Torrance, CA
(310) 618-8889

LABORATORY ID (FOR LABORATORY)

COMMENTS

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/3/09	Keith Stout
COMPANY	TIME	COMPANY
TREVET	1256	EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
Keith Stout	3/3/09	
COMPANY	TIME	COMPANY
EMAX	1455	EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

5 DAY TAT

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: 3.5 SAMPLE CONDITION: ☐ INTACT BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

March 9, 2009 Direct Push Soil Sampling
(H&P Mobile Geochemistry [mobile laboratory] and Mobile Laboratory Confirmation Samples Sent to EMAX Laboratories)

- Total Petroleum Hydrocarbons (TPH) as JP-5
- Polynuclear Aromatic Hydrocarbons (PAHs)

H&P Mobile Geochemistry Inc.

Trevet, Inc. 9888 Carroll Centre Road, Suite 228 San Diego, CA 92126	Project: MC030909-W1 Project Number: 10034-003 / 4401 Cather Street Project Manager: Mr. Bob Breglio	Reported: 12-Mar-09 12:44

TPH by GC FID

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
030909-01-3 (E903028-01) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-02-4 (E903028-02) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-02-8 (E903028-03) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-03-4 (E903028-04) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	3600	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-03-6 (E903028-05) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	12000	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-03-12 (E903028-06) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-03-16 (E903028-07) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-04-3 (E903028-08) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-05-2.5 (E903028-09) Soil	**Sampled: 09-Mar-09**	**Received: 09-Mar-09**							
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	

H&P Mobile Geochemistry Inc.

Trevet, Inc. 9888 Carroll Centre Road, Suite 228 San Diego, CA 92126	Project: MC030909-W1 Project Number: 10034-003 / 4401 Cather Street Project Manager: Mr. Bob Breglio	Reported: 12-Mar-09 12:44

TPH by GC FID

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
030909-06-2 (E903028-10) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-07-7 (E903028-11) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-07-11 (E903028-12) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-07-15 (E903028-13) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-08-5 (E903028-14) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-08-9 (E903028-15) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-08-13 (E903028-16) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-09-2 (E903028-17) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-10-2 (E903028-18) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	

H&P Mobile Geochemistry Inc.

Trevet, Inc. 9888 Carroll Centre Road, Suite 228 San Diego, CA 92126	Project: MC030909-W1 Project Number: 10034-003 / 4401 Cather Street Project Manager: Mr. Bob Breglio	Reported: 12-Mar-09 12:44

TPH by GC FID

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
030909-11-2 (E903028-19) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-03-8 (E903028-20) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	
030909-03-10 (E903028-21) Soil Sampled: 09-Mar-09 Received: 09-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC90902	09-Mar-09	09-Mar-09	DHS LUFT	

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- ML01

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	10034-0003
SAMPLER NAME	AIRBILL NUMBER
John Willis	Hand carry sample to mobile lab
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
1	030909-01-3 ✓	030909	0935	1		X	X (JDW)	mobile	X	
2	030909-02-4 ✓	3-9-09	1005	1		X			X	
	~~030909-02-8~~ (JDW)	3-9-09	1010	1		X			X	Hold - possible incorrect interval.
3	030909-02-8 ✓	3-9-09	1020	1		X			X	
4	030909-03-4	3-9-09	1059	1		X			X	
5	030909-03-6	3-9-09	1105	1		X			X	
6	030909-03-12	3-9-09	1119	1		X			X	
7	030909-03-16	3-9-09	1149	1		X			X	
8	030909-04-3	3-9-09	1213	1		X		✓	X	
9	030909-05-2.5	3-9-09	1220	1		X		✓	X	

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3-9-09	
COMPANY	TIME	COMPANY
Trevet	1224	H+P
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	1528	
COMPANY	TIME	COMPANY
H&P	3-9-09	Trevet
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

LABORATORY NAME
H & P Mobile
Carlsbad CA

LABORATORY ID (FOR LABORATORY)
MC030909-W1

SAMPLING COMMENT:
ON-SITE MOBILE LAB

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- ML02

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	10034-0003
SAMPLER NAME	AIRBILL NUMBER
John Willis	Hand carry sample to mobile lab
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B
10	030909-06-2	3-9-09	1230	1		X		Mobile	X
11	030909-07-7	3-9-09	1243	1		X			X
12	030909-07-11	3-9-09	1255	1		X			X
13	030909-07-15	3-9-09	1310	1		X			X
14	030909-08-5	3-9-09	1325	1		X			X
15	030909-08-9	3-9-09	1331	1		X			X
16	030909-08-13	3-9-09	1341	1		X			X
17	030909-09-2	3-9-09	1402	1		X			X
18	030909-10-2	3-9-09	1405	1		X			X
19	030909-11-2	3-9-09	1412	1		X			X

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3-9-09	
COMPANY	TIME	COMPANY
Trevet	1445	H+P
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	18:28	
COMPANY	TIME	COMPANY
H&P	3-9-09	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

LABORATORY NAME
H & P Mobile
Carlsbad CA

LABORATORY ID (FOR LABORATORY)
MC030909-W1

COMMENTS

SAMPLING COMMENT:
ON-SITE MOBILE LAB

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- ML03

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.	ANALYSES REQUIRED	LABORATORY NAME
Miramar Site Investigation		TPH-JP5 by EPA Method 8015B	H & P Mobile Carlsbad CA
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003		LABORATORY ID (FOR LABORATORY): MC030909-W1
SAMPLER NAME: John Willis / Bob Bregante	AIRBILL NUMBER: Hand carry sample to mobile lab		
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106		

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
20	030909-03-8	3-9-09	1410	1		X			X	
21	030909-03-10	3-9-09	1410	1		X			X	

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3.9.09	
COMPANY: Trevet	TIME: 1528	COMPANY: H+P
RELINQUISHED BY (Signature)	DATE: 3-9-09	RECEIVED BY (Signature)
COMPANY: H+P	TIME: 15:28	COMPANY: Trevet
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
ON-SITE MOBILE LAB

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/10/09
Batch No.	: 09C137	Date Extracted:	03/12/09 11:30
Sample ID:	030909-03-6	Date Analyzed:	03/13/09 15:40
Lab Samp ID:	C137-01	Dilution Factor:	1
Lab File ID:	LC13007A	Matrix :	SOIL
Ext Btch ID:	DSC027S	% Moisture :	12.1
Calib. Ref.:	LC13003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	21	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	87	50-150
HEXACOSANE	83	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/10/09
Batch No.	: 09C137	Date Extracted:	03/12/09 11:30
Sample ID:	030909-03-8	Date Analyzed:	03/13/09 15:57
Lab Samp ID:	C137-02	Dilution Factor:	1
Lab File ID:	LC13008A	Matrix :	SOIL
Ext Btch ID:	DSC027S	% Moisture :	13.0
Calib. Ref.:	LC13003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	89	50-150
HEXACOSANE	84	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/10/09
Batch No.	: 09C137	Date Extracted:	03/12/09 11:30
Sample ID:	030909-03-10	Date Analyzed:	03/13/09 16:30
Lab Samp ID:	C137-04	Dilution Factor:	1
Lab File ID:	LC13010A	Matrix :	SOIL
Ext Btch ID:	DSC027S	% Moisture :	12.9
Calib. Ref.:	LC13003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	89	50-150
HEXACOSANE	86	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/10/09
Batch No.	: 09C137	Date Extracted:	03/12/09 11:30
Sample ID:	030909-03-12	Date Analyzed:	03/13/09 16:14
Lab Samp ID:	C137-03	Dilution Factor:	1
Lab File ID:	LC13009A	Matrix :	SOIL
Ext Btch ID:	DSC027S	% Moisture :	11.6
Calib. Ref.:	LC13003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	88	50-150
HEXACOSANE	85	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/10/09
Batch No.	: 09C137	Date Extracted:	03/12/09 13:30
Sample ID:	030909-ER equipment rinsate	Date Analyzed:	03/13/09 19:49
Lab Samp ID:	C137-05	Dilution Factor:	0.94
Lab File ID:	LC13022A	Matrix :	WATER
Ext Btch ID:	DSC028W	% Moisture :	NA
Calib. Ref.:	LC13016A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.47	0.094

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	62	40-130
HEXACOSANE	81	40-150

Parameter	H-C Range
JP5	C8 -C18

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/10/09
Batch No.	: 09C137	Date Extracted:	03/12/09 11:30
Sample ID:	030909-03-6	Date Analyzed:	03/13/09 01:41
Lab Samp ID:	C137-01	Dilution Factor:	1
Lab File ID:	RCJ319	Matrix :	SOIL
Ext Btch ID:	SVC030S	% Moisture :	12.1
Calib. Ref.:	RAJ353	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	19	5.7	2.8
ACENAPHTHYLENE	ND	5.7	2.8
ANTHRACENE	ND	5.7	2.8
BENZO(A)ANTHRACENE	ND	5.7	2.8
BENZO(A)PYRENE	ND	5.7	2.8
BENZO(B)FLUORANTHENE	ND	5.7	2.8
BENZO(K)FLUORANTHENE	ND	5.7	2.8
BENZO(G,H,I)PERYLENE	ND	5.7	2.8
CHRYSENE	ND	5.7	2.8
DIBENZO(A,H)ANTHRACENE	ND	5.7	2.8
FLUORANTHENE	ND	5.7	2.8
FLUORENE	ND	5.7	2.8
INDENO(1,2,3-CD)PYRENE	ND	5.7	2.8
NAPHTHALENE	180	5.7	2.8
PHENANTHRENE	ND	5.7	2.8
PYRENE	ND	5.7	2.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	70	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : TREVET	Date Collected: 03/09/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/10/09
Batch No. : 09C137	Date Extracted: 03/12/09 11:30
Sample ID: 030909-03-8	Date Analyzed: 03/13/09 01:59
Lab Samp ID: C137-02	Dilution Factor: 1
Lab File ID: RCJ320	Matrix : SOIL
Ext Btch ID: SVC030S	% Moisture : 13.0
Calib. Ref.: RAJ353	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.7	2.9
ACENAPHTHYLENE	ND	5.7	2.9
ANTHRACENE	ND	5.7	2.9
BENZO(A)ANTHRACENE	ND	5.7	2.9
BENZO(A)PYRENE	ND	5.7	2.9
BENZO(B)FLUORANTHENE	ND	5.7	2.9
BENZO(K)FLUORANTHENE	ND	5.7	2.9
BENZO(G,H,I)PERYLENE	ND	5.7	2.9
CHRYSENE	ND	5.7	2.9
DIBENZO(A,H)ANTHRACENE	ND	5.7	2.9
FLUORANTHENE	ND	5.7	2.9
FLUORENE	ND	5.7	2.9
INDENO(1,2,3-CD)PYRENE	ND	5.7	2.9
NAPHTHALENE	ND	5.7	2.9
PHENANTHRENE	ND	5.7	2.9
PYRENE	ND	5.7	2.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	73	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : TREVET	Date Collected: 03/09/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/10/09
Batch No. : 09C137	Date Extracted: 03/12/09 11:30
Sample ID: 030909-03-10	Date Analyzed: 03/13/09 02:36
Lab Samp ID: C137-04	Dilution Factor: 1
Lab File ID: RCJ322	Matrix : SOIL
Ext Btch ID: SVC030S	% Moisture : 12.9
Calib. Ref.: RAJ353	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.7	2.9
ACENAPHTHYLENE	ND	5.7	2.9
ANTHRACENE	ND	5.7	2.9
BENZO(A)ANTHRACENE	ND	5.7	2.9
BENZO(A)PYRENE	ND	5.7	2.9
BENZO(B)FLUORANTHENE	ND	5.7	2.9
BENZO(K)FLUORANTHENE	ND	5.7	2.9
BENZO(G,H,I)PERYLENE	ND	5.7	2.9
CHRYSENE	ND	5.7	2.9
DIBENZO(A,H)ANTHRACENE	ND	5.7	2.9
FLUORANTHENE	ND	5.7	2.9
FLUORENE	ND	5.7	2.9
INDENO(1,2,3-CD)PYRENE	ND	5.7	2.9
NAPHTHALENE	ND	5.7	2.9
PHENANTHRENE	ND	5.7	2.9
PYRENE	ND	5.7	2.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	72	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : TREVET	Date Collected: 03/09/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/10/09
Batch No. : 09C137	Date Extracted: 03/12/09 11:30
Sample ID: 030909-03-12	Date Analyzed: 03/13/09 02:18
Lab Samp ID: C137-03	Dilution Factor: 1
Lab File ID: RCJ321	Matrix : SOIL
Ext Btch ID: SVC030S	% Moisture : 11.6
Calib. Ref.: RAJ353	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.7	2.8
ACENAPHTHYLENE	ND	5.7	2.8
ANTHRACENE	ND	5.7	2.8
BENZO(A)ANTHRACENE	ND	5.7	2.8
BENZO(A)PYRENE	ND	5.7	2.8
BENZO(B)FLUORANTHENE	ND	5.7	2.8
BENZO(K)FLUORANTHENE	ND	5.7	2.8
BENZO(G,H,I)PERYLENE	ND	5.7	2.8
CHRYSENE	ND	5.7	2.8
DIBENZO(A,H)ANTHRACENE	ND	5.7	2.8
FLUORANTHENE	ND	5.7	2.8
FLUORENE	ND	5.7	2.8
INDENO(1,2,3-CD)PYRENE	ND	5.7	2.8
NAPHTHALENE	ND	5.7	2.8
PHENANTHRENE	ND	5.7	2.8
PYRENE	ND	5.7	2.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	59	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: TREVET	Date Collected:	03/09/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/17/09
Batch No.	: 09C217	Date Extracted:	03/18/09 11:45
Sample ID:	030909-06-2	Date Analyzed:	03/19/09 12:41
Lab Samp ID:	C217-05	Dilution Factor:	1
Lab File ID:	RCJ445	Matrix :	SOIL
Ext Btch ID:	SVC040S	% Moisture :	12.9
Calib. Ref.:	RCJ4431	Instrument ID :	T-0E4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.7	2.9
ACENAPHTHYLENE	ND	5.7	2.9
ANTHRACENE	ND	5.7	2.9
BENZO(A)ANTHRACENE	ND	5.7	2.9
BENZO(A)PYRENE	ND	5.7	2.9
BENZO(B)FLUORANTHENE	ND	5.7	2.9
BENZO(K)FLUORANTHENE	ND	5.7	2.9
BENZO(G,H,I)PERYLENE	ND	5.7	2.9
CHRYSENE	ND	5.7	2.9
DIBENZO(A,H)ANTHRACENE	ND	5.7	2.9
FLUORANTHENE	ND	5.7	2.9
FLUORENE	ND	5.7	2.9
INDENO(1,2,3-CD)PYRENE	ND	5.7	2.9
NAPHTHALENE	ND	5.7	2.9
PHENANTHRENE	ND	5.7	2.9
PYRENE	ND	5.7	2.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	74	40-130

RL: Reporting Limit

Revised COC 09C137

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS-09

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
Miramar Site Investigation		EMAX Labs Torrance, CA (310) 618-8889
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003	LABORATORY ID (FOR LABORATORY)
SAMPLER NAME: Bieglio	AIRBILL NUMBER	
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106	

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	PAH 8270 SIM	COMMENTS
030909-03-6	3.9.09	1105	1	X			5	X	X	
030909-03-8	3.9.09	1410	1	X			5	X	X	
030909-03-12	3.9.09	1119	1	X			5	X	X	
030909-03-10	3.9.09	1410	1	X			5	X	X	
030909-EB	3.9.09	1405 ~~1500~~	2	X			5	X		

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
Bieglio	3/10/09	Ruth Stout
COMPANY: Trevet	TIME: 11:40	COMPANY: EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

1002

March 16, 2009 Remedial Excavation Confirmation Samples
(H&P Mobile Geochemistry [mobile laboratory] and Mobile Laboratory Confirmation Samples Sent to EMAX Laboratories)

- Total Petroleum Hydrocarbons (TPH) as JP-5
- Polynuclear Aromatic Hydrocarbons (PAHs)

H&P Mobile Geochemistry Inc.

Trevet, Inc. 9888 Carroll Centre Road, Suite 228 San Diego, CA 92126	Project: MC031609-W1 Project Number: 10034-003 / 4401 Cather Ave. Project Manager: Mr. Bob Breglio	Reported: 20-Mar-09 09:05

TPH by GC FID

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
031609-01 (E903066-01) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	28	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-02 (E903066-02) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-03 (E903066-03) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-04 (E903066-04) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	60	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-05 (E903066-05) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	230	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-06 (E903066-06) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-07 (E903066-07) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-08 (E903066-08) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-09 (E903066-09) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	

H&P Mobile Geochemistry Inc.

Trevet, Inc. 9888 Carroll Centre Road, Suite 228 San Diego, CA 92126	Project: MC031609-W1 Project Number: 10034-003 / 4401 Cather Ave. Project Manager: Mr. Bob Breglio	Reported: 20-Mar-09 09:05

TPH by GC FID

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
031609-10 (E903066-10) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-11 (E903066-11) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-12 (E903066-12) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-13 (E903066-13) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-14 (E903066-14) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-15 (E903066-15) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-16 (E903066-16) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-17 (E903066-17) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-18 (E903066-18) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	

H&P Mobile Geochemistry Inc.

Trevet, Inc. 9888 Carroll Centre Road, Suite 228 San Diego, CA 92126	Project: MC031609-W1 Project Number: 10034-003 / 4401 Cather Ave. Project Manager: Mr. Bob Breglio	Reported: 20-Mar-09 09:05

TPH by GC FID

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
031609-19 (E903066-19) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-20 (E903066-20) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-21 (E903066-21) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	
031609-22 (E903066-22) Soil Sampled: 16-Mar-09 Received: 16-Mar-09									
JP-5 (C10-C16)	ND	10	mg/kg	1	EC91606	16-Mar-09	16-Mar-09	DHS LUFT	

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS-~~TS~~ ML04

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO
Cather Ave. / Huggins St.	10034-0003
SAMPLER NAME	AIRBILL NUMBER
Brad Lio	
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED: TPH-JP5 by EPA Method 8015B

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889
LABORATORY ID (FOR LABORATORY):

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS
031609-1	3/16/09	0920	1		X			North of Former excavation
031609-2	3/16/09	0941	1		X			NE of Former Excavation
031609-3	3.16.09	0922	1		X			E of Former Excavation
031609-4	3.16.09	1015	1		X			Stockpile
031609-5	3.16.09	1016	1		X			Stockpile
031609-6	3.16.09	1017	1		X			Stockpile
031609-7	3.16.09	1050	1		X			North bottom 7ft
031609-8	3.16.09	1051	1		X			Central ~~Center~~ Bottom 7ft
031609-9	3.16.09	1054	1		X			South Bottom 6ft
031609-10	3.16.09	1121	1		X			Deep Soil Stockpile

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/16/09	
COMPANY	TIME	COMPANY
Trevet	1541	H+P
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/16/09	
COMPANY	TIME	COMPANY
H+P	1541	Trevet
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: INTACT BROKEN
COOLER SEAL: INTACT BROKEN

SAMPLING COMMENT:

COC NUMBER MCAS-~~T~~ 1105

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME: Breglio	AIRBILL NUMBER
PROJECT CONTACT: Gerald Tamaniro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

ANALYSES REQUIRED: TPH-JP5 by EPA Method 8015B

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889
LABORATORY ID (FOR LABORATORY):

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5	COMMENTS
031609-11	3/16/09	1	1215		X			X	South Beach East
031609-12	3-16-09	1	1220		X			X	South Beach west
031609-13	3-16-09	1	1225		X			X	Floor - east Central
031609-14	3-16-09	1	1230		X			X	East wall ~~South~~ north
031609-15	3-16-09	1	1235		X			X	East wall South
031609-16	3-16-09	1	1239		X			X	South wall east
031609-17	3-16-09	1	1241		X			X	South wall west
031609-18	3-16-09	1	1243		X			X	west wall South
031609-19	3-16-09	1	1245		X			X	west wall north
031609-20	3-16-09	1	1248		X			X	north wall west

RELINQUISHED BY (Signature): [illegible]	DATE: 3/16/09	RECEIVED BY (Signature): [illegible]	LABORATORY INSTRUCTIONS/COMMENTS
COMPANY: Trevet	TIME: 1541	COMPANY: H+P	**RUSH TAT - PLEASE EXPEDITE**
RELINQUISHED BY (Signature): [illegible]	DATE: 3/16/09	RECEIVED BY (Signature): [illegible]	
COMPANY: H+P	TIME: 1541	COMPANY: Trevet	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ( ) INTACT BROKEN COOLER SEAL: ( ) INTACT ( ) BROKEN

SAMPLING COMMENT:

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS-~~165~~ ML06

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.	ANALYSES REQUIRED	LABORATORY NAME
Miramar Site Investigation		TPH-JP5 by EPA Method 8015B	EMAX Labs Torrance, CA (310) 618-8889
PROJECT LOCATION Cather Ave. / Huggins St.	PROJECT NO. 10034-0003		LABORATORY ID (FOR LABORATORY)
SAMPLER NAME N. Bragg	AIRBILL NUMBER		
PROJECT CONTACT Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER (858) 578-8859 ext 106		

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
031609-21	3/16/09	~~1169~~ 1	1250		4			X	north wall west
031609-22	3/16/09	1	1445		4			X	South of Excavation

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
N. Bragg	3/16/09	
COMPANY: Trevet	TIME: 1541	COMPANY: H+P
RELINQUISHED BY (Signature)	DATE: 3/16/09	RECEIVED BY (Signature)
	TIME: 1541	COMPANY: Trevet
COMPANY: H+P		
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ( ) INTACT BROKEN
COOLER SEAL: ( ) INTACT ( ) BROKEN

SAMPLING COMMENT:

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/16/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/17/09
Batch No.	: 09C217	Date Extracted:	03/18/09 10:45
Sample ID:	031609-1	Date Analyzed:	03/18/09 14:03
Lab Samp ID:	C217-01	Dilution Factor:	1
Lab File ID:	LC18007A	Matrix :	SOIL
Ext Btch ID:	DSC039S	% Moisture :	6.3
Calib. Ref.:	LC18003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	61	11	5.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	72	50-150
HEXACOSANE	142	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : TREVET	Date Collected: 03/16/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/17/09
Batch No. : 09C217	Date Extracted: 03/18/09 10:45
Sample ID: 031609-7	Date Analyzed: 03/18/09 14:19
Lab Samp ID: C217-02	Dilution Factor: 1
Lab File ID: LC18008A	Matrix : SOIL
Ext Btch ID: DSC039S	% Moisture : 12.8
Calib. Ref.: LC18003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	77	50-150
HEXACOSANE	94	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/16/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/17/09
Batch No.	: 09C217	Date Extracted:	03/18/09 10:45
Sample ID:	031609-8	Date Analyzed:	03/18/09 14:36
Lab Samp ID:	C217-03	Dilution Factor:	1
Lab File ID:	LC18009A	Matrix :	SOIL
Ext Btch ID:	DSC039S	% Moisture :	15.2
Calib. Ref.:	LC18003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	12	5.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	73	50-150
HEXACOSANE	86	50-150

Parameter	H-C Range
JP5	C8 -C18

METHOD 3550B/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TREVET	Date Collected:	03/16/09
Project	: MIRAMAR SITE INVESTIGATION	Date Received:	03/17/09
Batch No.	: 09C217	Date Extracted:	03/18/09 10:45
Sample ID:	031609-9	Date Analyzed:	03/18/09 14:52
Lab Samp ID:	C217-04	Dilution Factor:	1
Lab File ID:	LC18010A	Matrix :	SOIL
Ext Btch ID:	DSC039S	% Moisture :	12.2
Calib. Ref.:	LC18003A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
JP5	ND	11	5.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	72	50-150
HEXACOSANE	91	50-150

Parameter	H-C Range
JP5	C8 -C18

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : TREVET	Date Collected: 03/16/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/17/09
Batch No. : 09C217	Date Extracted: 03/18/09 11:45
Sample ID: 031609-1	Date Analyzed: 03/19/09 13:00
Lab Samp ID: C217-01	Dilution Factor: 5
Lab File ID: RCJ446	Matrix : SOIL
Ext Btch ID: SVC040S	% Moisture : 6.3
Calib. Ref.: RCJ4431	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	27	13
ACENAPHTHYLENE	ND	27	13
ANTHRACENE	ND	27	13
BENZO(A)ANTHRACENE	ND	27	13
BENZO(A)PYRENE	ND	27	13
BENZO(B)FLUORANTHENE	ND	27	13
BENZO(K)FLUORANTHENE	ND	27	13
BENZO(G,H,I)PERYLENE	ND	27	13
CHRYSENE	ND	27	13
DIBENZO(A,H)ANTHRACENE	ND	27	13
FLUORANTHENE	ND	27	13
FLUORENE	ND	27	13
INDENO(1,2,3-CD)PYRENE	ND	27	13
NAPHTHALENE	ND	27	13
PHENANTHRENE	ND	27	13
PYRENE	ND	27	13

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	71	40-130

RL: Reporting Limit

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : TREVET	Date Collected: 03/16/09
Project : MIRAMAR SITE INVESTIGATION	Date Received: 03/17/09
Batch No. : 09C217	Date Extracted: 03/18/09 11:45
Sample ID: 031609-8	Date Analyzed: 03/19/09 12:23
Lab Samp ID: C217-03	Dilution Factor: 1
Lab File ID: RCJ444	Matrix : SOIL
Ext Btch ID: SVC040S	% Moisture : 15.2
Calib. Ref.: RCJ4431	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.9	2.9
ACENAPHTHYLENE	ND	5.9	2.9
ANTHRACENE	ND	5.9	2.9
BENZO(A)ANTHRACENE	ND	5.9	2.9
BENZO(A)PYRENE	ND	5.9	2.9
BENZO(B)FLUORANTHENE	ND	5.9	2.9
BENZO(K)FLUORANTHENE	ND	5.9	2.9
BENZO(G,H,I)PERYLENE	ND	5.9	2.9
CHRYSENE	ND	5.9	2.9
DIBENZO(A,H)ANTHRACENE	ND	5.9	2.9
FLUORANTHENE	ND	5.9	2.9
FLUORENE	ND	5.9	2.9
INDENO(1,2,3-CD)PYRENE	ND	5.9	2.9
NAPHTHALENE	ND	5.9	2.9
PHENANTHRENE	ND	5.9	2.9
PYRENE	ND	5.9	2.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	74	40-130

RL: Reporting Limit

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS-~~T~~ ML04

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME: Braglio	AIRBILL NUMBER
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

ANALYSES REQUIRED: TPH-JP5 by EPA Method 8015B

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889
LABORATORY ID (FOR LABORATORY):

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
031609-1	3/16/09	0920	1		X			X	North of Former excavation
031609-2	3/16/09	0921	1		X			X	NE of Former Excavation
031609-3	3-16-09	0922	1		X			X	E of Former Excavation
031609-4	3-16-09	1015	1		X			X	Stockpile
031609-5	3-16-09	1016	1		X			X	Stockpile
031609-6	3-16-09	1017	1		X			X	Stockpile
031609-7	3-16-09	1050	1		X			X	North bottom 7ft
031609-8	3-16-09	1051	1		X			X	Center/Center bottom 7ft
031609-9	3-16-09	1054	1		X			X	South Bottom 6ft
031609-10	3-16-09	1121	1		X			X	Deep Soil Stockpile

	DATE		COMPANY
RELINQUISHED BY (Signature): M. Braglio	3/16/09	RECEIVED BY (Signature): [illegible]	
COMPANY: Trevet	TIME: 1541	COMPANY: H&P	
RELINQUISHED BY (Signature): [illegible]	DATE: 3/16/09	RECEIVED BY (Signature): M. Braglio	
COMPANY: H+P	TIME: ~~1~~ 1541	COMPANY: Trevet	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ( ) INTACT BROKEN
COOLER SEAL: ( ) INTACT ( ) BROKEN

SAMPLING COMMENT:

COC NUMBER MCAS-~~TS~~ ML05

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.:
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME: Breglio	AIRBILL NUMBER:
PROJECT CONTACT: Gerald Tamaniro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

ANALYSES REQUIRED: TPH-JP5 by EPA Method 8015B

LABORATORY NAME: EMAX Labs, Torrance, CA, (310) 618-8889

LABORATORY ID (FOR LABORATORY):

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
031609-11	3/16/09	1	1215		X			X	South Bench East
031609-12	3-16-09	1	1220		X			X	South Bench west
031609-13	3-16-09	1	1225		X			X	Floor - east Central
031609-14	3-16-09	1	1230		X			X	East wall ~~South~~ north
031609-15	3-16-09	1	1235		X			X	East wall South
031609-16	3-16-09	1	1239		X			X	South wall east
031609-17	3-16-09	1	1241		X			X	South wall west
031609-18	3-16-09	1	1243		X			X	west wall South
031609-19	3-16-09	1	1245		X			X	west wall north
031609-20	3-16-09	1	1248		X			X	North wall west

RELINQUISHED BY (Signature):	DATE: 3/16/09	RECEIVED BY (Signature):	
COMPANY: Trevet	TIME: 1541	COMPANY: H+P	
RELINQUISHED BY (Signature):	DATE: 3/16/09	RECEIVED BY (Signature):	
COMPANY: H+P	TIME: 1541	COMPANY: Trevet	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	

LABORATORY INSTRUCTIONS/COMMENTS:

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ( ) INTACT BROKEN
COOLER SEAL: ( ) INTACT ( ) BROKEN

SAMPLING COMMENT:

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS-~~TS~~ ML06

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.
Miramar Site Investigation	
PROJECT LOCATION	PROJECT NO.
Cather Ave. / Huggins St.	10034-0003
SAMPLER NAME	AIRBILL NUMBER
N Breglio	
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
Gerald Tamashiro - TREVET	(858) 578-8859 ext 106

ANALYSES REQUIRED

LABORATORY NAME
EMAX Labs
Torrance, CA
(310) 618-8889

LABORATORY ID (FOR LABORATORY)

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	COMMENTS
031609-21	3/16/09	~~1154~~ 1	1250		4			X	north wall east
031609-22	3/16/09	1	1140		4			X	South of Excavation

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
N Breglio	3/16/09	
COMPANY	TIME	COMPANY
Trevet	1541	H+P
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	3/16/09	N Breglio
COMPANY	TIME	COMPANY
H+P	1541	Trevet
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ( ) INTACT BROKEN
COOLER SEAL: ( ) INTACT ( ) BROKEN

SAMPLING COMMENT:

TREVET
9888 Carroll Centre Road, Sutie 228
San Diego, CA 92126

COC NUMBER MCAS- 07

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Miramar Site Investigation	PURCHASE ORDER NO.
PROJECT LOCATION: Cather Ave. / Huggins St.	PROJECT NO.: 10034-0003
SAMPLER NAME: Braglio	AIRBILL NUMBER
PROJECT CONTACT: Gerald Tamashiro - TREVET	PROJECT CONTACT PHONE NUMBER: (858) 578-8859 ext 106

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	TPH-JP5 by EPA Method 8015B	PAHs by 8270 SIM	COMMENTS
031609-1	3/16/09	0926	1		X	S	48	X	X	
031609-7	3/16/09	1050	1		X	S	48	X		
031609-8	3/16/09	1051	1		X	S	48	X	X	
031609-9	3/16/09	1054	1		X	S	48	X		
030909-06	3/9/09	1230	1		X	S	48		X	2 feet

RELINQUISHED BY (Signature): Nicholas Braglio	DATE: 3/17/09	RECEIVED BY (Signature): Keith Stout	
COMPANY: Trevet	TIME: 1210	COMPANY: EMAX	
RELINQUISHED BY (Signature): Keith Stout	DATE: 3-17-09	RECEIVED BY (Signature):	
COMPANY: EMAX	TIME: 1445	COMPANY: emax	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS

RUSH TAT - PLEASE EXPEDITE

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: 2.9 °C SAMPLE CONDITION: ☒ INTACT ☐ BROKEN
COOLER SEAL: ☒ INTACT ☐ BROKEN

LABORATORY NAME: EMAX Labs, Torrance, CA (310) 618-8889

LABORATORY ID (FOR LABORATORY): 09C217

SAMPLING COMMENT:

APPENDIX E

Photographs

Photograph 1: March 3, 2009 – Surface and Subsurface Soil Sampling. Decontamination Station.

Photograph 2: March 3, 2009 – Sample Location 030309-01, Showing 24-inch Mark on Hand Auger in Borehole

Photograph 3: March 9, 2009 – H&P Mobile Analytical Laboratory (Camper) Parked Adjacent to the Site

Photograph 4: March 9, 2009 – Direct Push Drilling

Photograph 5: March 16, 2009 – Soil Bin Arrival

Photograph 6: March 16, 2009 – Scraping Up Surface Soil with Burned Material

Photograph 7: March 16, 2009 – Scraping Up Surface Soil with Burned Material

Photograph 8: March 16, 2009 – Loading Surface Soil with Burned Material

Photograph 9: March 16, 2009 – Removing Backfill Material from Area of Initial Soil Removal Action conducted on February 4, 2009.

Photograph 10: March 16, 2009 – Removing Backfill from Area of Initial Soil Removal Action, Polyethylene Sheeting Visible

Photograph 11: March 16, 2009 – Removing Backfill from Area of Initial Soil Removal Action, Polyethylene Sheeting Visible

Photograph 12: March 16, 2009 – Excavation of Soil Impacted by JP-5

Photograph 13: March 16, 2009 – Excavation of Soil Impacted by JP-5, Showing Benching on East Side of Excavation

Photograph 14: March 16, 2009 – Excavation of Soil Impacted by JP-5, Showing Benching on West Side of Excavation

Photograph 15: March 16, 2009 – Photograph of Excavation in Progress, Facing Southwest

Photograph 16: March 16, 2009 – Removal of Initial Bench on East Side of Excavation

Photograph 17: March 16, 2009 – Cutting a Second Bench on East Side of Excavation

Photograph 18: March 16, 2009 – Photoionization Detector and Dust Monitor on Perimeter Fence North of Excavation

Photograph 19: March 16, 2009 – Completed Excavation Prior to Backfill, Facing South

Photograph 20: March 16, 2009 – Completed Excavation Prior to Backfill, Facing East

Photograph 21: March 16, 2009 – Completed Excavation with Caution Flagging at the End of the Day

Photograph 22: March 17, 2009 – Compaction Testing by Ninyo & Moore during Backfill of Excavation

Photograph 23: March 17, 2009 – Compaction of Clean Imported Material during Backfill of Excavation

Photograph 24: March 17, 2009 – Compaction of Clean Imported Material during Backfill of Excavation

Photograph 25: March 17, 2009 – Site Cleanup Following Backfill of Excavation

Photograph 26: March 17, 2009 – Delivery of Clean Imported Material

Photograph 27: March 17, 2009 – Slope Restoration Following Site Cleanup

Photograph 28: View to the east of 4406 and 4416 Cather Avenue following completions of remedial excavation activities and general site maintenance.

APPENDIX F

Waste Manifests

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 189233-201 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CA9170024740
2. Page 1 of: 1
3. Emergency Response Phone: (800) 326-1011
4. Manifest Tracking Number: 002043977 FLE

5. Generator's Name and Mailing Address
Commanding Officer (Environmental Mgmt)
P.O. Box 452001 MCAS Miramar Bldg 6022
San Diego, CA 92145-2001
Generator's Phone: 858-577-1108/6533

Generator's Site Address (if different than mailing address)
MCAS Miramar
45249 Miramar Way
San Diego, CA 92145

6. Transporter 1 Company Name: General Environmental Management, Inc.
U.S. EPA ID Number: CAD983649880

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
U.S. Ecology Corp.
Highway 95 - 12 miles south of Beatty
Beatty, NV 89003
Facility's Phone: 800 239 3943
U.S. EPA ID Number: NVT330010000

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA hazardous waste solid (Soil Contaminated with Fuels)	001	CM	00020	Y	181
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1107015814I 1X20 CY Roll Off 9007, ARHS JP-5 fuel
Bin #128 TR. 3420 Wt. 14,700 7.35 Tons
Copy Manifest and CD to: 3191 Temple Ave #250
SF44000GM0009 DO#609 MCAS Miramar Pomona, CA. 91768
4406 Cather Ave.
San Diego, CA 92112

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible] Signature: [signature] Month 3 Day 16 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] Signature: [signature] Month 3 Day 16 Year
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

RECEIVED
3530
MAR 17 2009
By [signature]

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 189235-201 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	CA9170024740	1	(800) 326-1011	002043978 FLE

GENERATOR

5. Generator's Name and Mailing Address
Commanding Officer (Environmental Mgmt)
P.O Box 452001 MCAS Miramar Bldg 6022
San Diego, CA 92145-2001
Generator's Phone: 858-577-1108/6533

Generator's Site Address (if different than mailing address)
MCAS Miramar
45249 Miramar Way
San Diego, CA 92145

6. Transporter 1 Company Name: General Environmental Management, Inc. — U.S. EPA ID Number: CA0983648880

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
U.S. Ecology Corp.
Highway 95 - 12 miles south of Beatty
Beatty, NV 89003
Facility's Phone: 800 239 3943
U.S. EPA ID Number: NVT330010000

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA hazardous waste solid (Soil Contaminated with Fuels)	001	CM	00020	Y	181
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
11070158181, 1x20 CY Roll Off 9807, NT89, JRS Fuel — Copy Manifest and CD to:
Bin# 129 TW: 3260 WT: 16,190 — 3191 Temple Ave. #250
SP4400060009 00F609 MCAS Miramar — Pomona, CA 91768
4406 Cather Ave. San Diego CA 92112

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: D K McGuinness — Signature: [signature] — Month 3 Day 16 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jose T Vasquez — Signature: [signature] — Month 3 Day 16 Year 09
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

RECEIVED 3530 MAR 17 2009 [initials]

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 189234-201 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CA9170024740
2. Page 1 of: 1
3. Emergency Response Phone: (800) 326-1011
4. Manifest Tracking Number: 002043979 FLE

GENERATOR

5. Generator's Name and Mailing Address:
Commanding Officer (Environmental Mgmt)
P.O. Box 452001 MCAS Miramar Bldg 6022
San Diego, CA 92145 2001

Generator's Phone: 858 577-1108/6533

Generator's Site Address (if different than mailing address):
MCAS Miramar
45249 Miramar Way
San Diego, CA 92145

6. Transporter 1 Company Name: General Environmental Management, Inc.
U.S. EPA ID Number: CAD983649880

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
U.S. Ecology Corp.
Highway 95 - 12 miles south of Beatty
Beatty, NV 89003
Facility's Phone: 800 239 3943
U.S. EPA ID Number: NVT330010000

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA hazardous waste solid (Soil Contaminated with Fuels)	001	CM	00020	Y	181
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1107015814A, 1X20 CV Roll Off 9807, 8785, 2&5 Fuel
Bin# 484 TH: 3200 WT: 16,140
SP4400600009 D0#909 MCAS Miramar
4406 Cather Ave., San Diego CA 92112

Copy Manifest and CD to:
3191 Temple Ave, #250
Pomona, CA 91768

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: D.K. McGuinness Signature: [signature] Month Day Year: 3 / 16 / 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jose T Vasquez Signature: [signature] Month Day Year: 3 / 16 / 09
Transporter 2 Printed/Typed Name: Signature: Month Day Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

RECEIVED
MAR 17 2009
By [signature]

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 189400-201 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CA9170024740	1	(800) 326-1011	002043987 FLE

5. Generator's Name and Mailing Address
Commanding Officer (Environmental Mgmt.)
P.O. Box 452001 MCAS Miramar, Bldg# 6022
San Diego, CA 92145-2001

Generator's Site Address (if different than mailing address)
MCAS Miramar
45249 Miramar Way
San Diego, CA 92145

Generator's Phone: 858-557-1108

6. Transporter 1 Company Name: General Environmental Management, Inc. — U.S. EPA ID Number: CAD983649880

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
U.S. Ecology Corp.
Highway 95 - 12 miles south of Beatty
Beatty, NV 89003
Facility's Phone: 800 239 3943
U.S. EPA ID Number: NVT330010000

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA hazardous waste solid (Soil Contaminated with Fuels)	001	CM	00020	Y	181
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1) 070158141, 1x20 CY Roll Off, 9807, HT05, JP-5 Fuel
Bin # 130, TW 3380, NT 14,700
Copy Manifest and CD to: 3191 Temple Ave #250, Pomona, CA 91768
SP4400060009 DO#609 MCAS Miramar
4406 Cather Ave.
San Diego, CA 92112

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]	3	16	09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]	3	16	09
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

RECEIVED
3530
MAR 17 2009
By [signature]

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name	Signature	Month	Day	Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **GENERATOR'S INITIAL COPY**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 189401-201 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CA9170024740
2. Page 1 of: 1
3. Emergency Response Phone: (800) 326-1011
4. Manifest Tracking Number: 002043988 FLE

5. Generator's Name and Mailing Address
Commanding Officer (Environmental Mgmt.)
P.O. Box 452001 MCAS Miramar, Bldg ~~6~~6022
San Diego, CA 92145-2001

Generator's Phone: ~~858-545-6620~~ 858-577-1108

Generator's Site Address (if different than mailing address)
MCAS Miramar
45249 Miramar Way
San Diego, CA 92145

6. Transporter 1 Company Name: General Environmental Management, Inc. — U.S. EPA ID Number: CA0983649880

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
U.S. Ecology Corp.
Highway 95 - 12 miles south of Beatty
Beatty, NV 89003
Facility's Phone: 800 239 3943
U.S. EPA ID Number: NVT330010000

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA hazardous waste solid (Soil Contaminated with Fuels)	001	CM	00020	Y	181
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
11070158141,1x20 CY Roll-off,9807,HT85 — Copy Manifest and CD to:
Bin# 163 TN: 3380 WT: 16,680 — 3191 Temple Ave.,#250
SP4400600009 OD#609 MCAS Miramar — Pomona, CA 91768
JRS Fuel, 4406 Cather Ave. San Diego CA 92112

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: D K McGuinness — Signature: [signature] — Month 3 Day 16 Year 07

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carl Knapp — Signature: [signature] — Month 03 Day 16 Year 07
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. — GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 189403-201 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	CA9170024740	1	(800) 336-1011	00204398 9 FLE

GENERATOR

5. Generator's Name and Mailing Address
Commanding Officer (Environmental Mgmt)
P.O. Box 452001 MCAS Miramar, Bldg#5032
San Diego, CA 92145-2001
Generator's Phone: ~~858-577-1100~~ 858-577 1108

Generator's Site Address (if different than mailing address)
MCAS Miramar
45249 Miramar Way
San Diego, CA 92145

6. Transporter 1 Company Name
General Environmental Management, Inc.
U.S. EPA ID Number
CAD983649880

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
U.S. Ecology Corp.
Highway 95 - 12 miles south of Beatty
Beatty, NV 89003
Facility's Phone: 800 239 3943
U.S. EPA ID Number
NVT330010000

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA hazardous waste solid (Soil Contaminated with Fuels)	001	CM	00020	Y	181
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1) #070158141, 1x20 CY roll-off, 9807, RM85, Fuel JPS
Bin# 1172 TM: 28410 WR: 184680
Copy Manifest and CD to: 3191 Temple Ave#290 Pomona, CA 91768
8440 Cather Ave. San Diego CA 92112
SP4400600009 DO#609 MCAB Miramar

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: D.K. McGuinness
Signature:
Month: 3 Day: 1 Year: 6

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: C. Bailey
Signature:
Month: 3 Day: 16 Year:

Transporter 2 Printed/Typed Name
Signature
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

THE CITY OF SAN DIEGO
ENVIRONMENTAL SERVICES DEPARTMENT
REFUSE DISPOSAL DIVISION
9601 RIDGEHAVEN CT., SUITE 310 • SAN DIEGO, CA 92123-1636
(858) 694-7000

MIRAMAR LANDFILL
5180 CONVOY STREET
SAN DIEGO, CA 92111

Transaction #: 7835434
Account #: 8144828/MCAS
Decal #: 40075, 0, 0
Fleet #: Tag #:
Transaction Type: 01/BUS.-- NON RESIDENTIAL
Payment Type: 01/CHARGE
Hauler Type: 01/BUS.-- NON RESIDENTIAL
Vehicle Type: 007/TRUCK - 3 AXLE (10 CY)
Material Type: 004/DEMO
Origin: 001/SAN DIEGO CITY
Special Fees: LOADS REQUIRING MANIFEST

Date: 3/17/2009 14:12:40
Scale Operator: M2M
Incoming/FB02

	LBS	TONS
Gross Weight	38860.00	19.43
Tare Weight	21680.00	10.84
Net Weight	17180.00	8.59

Tip Fee	$ 661.00
Spec Fee	$ 62.00
RCBus Tax	$ 0
Recycle	$ 60.00
Total	**$ 783.00**

99.92% of Surety Bond remains

New fees went into effect: January 2, 2009. All hand unload vehicles must be in the gate before 4 PM. All VEHICLES MUST EXIT THE LANDFILL BY 5 PM

Original Copy

SIGNATURE

ES-072 (REV. 7-08)

This information is available in alternative formats upon request.

THE CITY OF SAN DIEGO
ENVIRONMENTAL SERVICES DEPARTMENT
REFUSE DISPOSAL DIVISION
9601 RIDGEHAVEN CT., SUITE 310 • SAN DIEGO, CA 92123-1636
(858) 694-7000

MIRAMAR LANDFILL
5180 CONVOY STREET
SAN DIEGO, CA 92111

Transaction #: 7835975
Account #: 8144828/MCAS
Decal #: 40378, 0, 0
Fleet #: Tag #: N9648908
Transaction Type: 01/BUS.-- NON RESIDENTIAL
Payment Type: 01/CHARGE
Hauler Type: 01/BUS.-- NON RESIDENTIAL
Vehicle Type: 007/TRUCK - 3 AXLE (10 CY)
Material Type: 004/DEMO
Origin: 001/SAN DIEGO CITY
Special Fees: LOADS REQUIRING MANIFEST

Date: 3/18/2009 09:30:49
Scale Operator: RTA
Incoming/FB03

	LBS	TONS
Gross Weight	43860.00	21.93
Tare Weight	21700.00	10.85
Net Weight	22160.00	11.08

Tip Fee	$ 853.00
Spec Fee	$ 62.00
RCBus Tax	$ 0
Recycle	$ 78.00
Total	**$ 993.00**

99.82% of Surety Bond remains

New fees went into effect: January 2, 2009. All hand unload vehicles must be in the gate before 4 PM.All VEHICLES MUST EXIT THE LANDFILL BY 5 PM

Customer Copy

SIGNATURE

ES-072 (REV. 7-08)

This information is available in alternative formats upon request.

03/26/2009 16:05 DUPLICATE OFFICE COPY

Transaction #: 7836632
Account #: 8144828/MCAS
Decal #: 40378, 0, 0
Fleet #: Tag #: N9648908
Transaction Type: 01/BUS.-- NON RESIDENTIAL
Payment Type: 01/CHARGE
Hauler Type: 01/BUS.-- NON RESIDENTIAL
Vehicle Type: 007/TRUCK - 3 AXLE (10 CY)
Material Type: 004/DEMO
Origin: 001/SAN DIEGO CITY
Special Fees: LOADS REQUIRING MANIFEST

Date: 3/18/2009 13:37:33
Scale Operator: TIR
Incoming /FB 03

	LBS	TONS
Gross Weight	35220.00	17.61
Tare Weight	21700.00	10.85
Net Weight	13520.00	6.76

Tip Fee	$ 521.00
Spec Fee	$ 62.00
RCBus Tax	$ 0
Recycle	$ 47.00
Total	**$ 630.00**

New fees went into effect: January 2, 2009. □□All hand unload vehicles must be in the gate before 4 PM.□□All VEHICLES MUST EXIT THE LANDFILL BY 5 PM

Customer Copy

THE CITY OF SAN DIEGO
ENVIRONMENTAL SERVICES DEPARTMENT
REFUSE DISPOSAL DIVISION
9601 RIDGEHAVEN CT., SUITE 310 • SAN DIEGO, CA 92123-1636
(858) 694-7000

MIRAMAR LANDFILL
5180 CONVOY STREET
SAN DIEGO, CA 92111

UTC F18

Transaction #: 7836632
Account #: 2272099/N90002
Decal #: 40378, 0, 0
Fleet #: Tag #: N9648908
Transaction Type: 10/NAVY VEHICLE
Payment Type: NV/NAVY
Hauler Type: 10/NAVY VEHICLE
Vehicle Type: 007/TRUCK - 3 AXLE (10 CY)
Material Type: 004/DEMO
Origin: 025/E. MCAS MARINE FAC.
Special Fees: LOADS REQUIRING MANIFEST

Date: 3/18/2009 13:37:33
Scale Operator: TIR
Incoming/EB03

	LBS	TONS
Gross Weight	35220.00	17.61
Tare Weight	21700.00	10.85
Net Weight	13520.00	6.76

No Fee
Tip Fee $ 0
Spec Fee $ 0
RCBus Tax $ 0
Recycle $ 0
Total $ 0

9125 Loads remaining

New fees went into effect: January 2, 2009. All hand unload vehicles must be in the gate before 4 PM. All VEHICLES MUST EXIT THE LANDFILL BY 5 PM

RECEIVED
3535
MAR 20 2009
By

Print Name _____

AS A REPRESENTATIVE OF THE COMPANY NAMED ON THIS RECEIPT, HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THIS REFUSE LOAD IS ELIGIBLE FOR DISPOSAL PER WAIVER BECAUSE IT CONSISTS OF 100% NAVY REFUSE

Customer Copy

SIGNATURE

ES-072 (REV. 7-08)

This information is available in alternative formats upon request.

APPENDIX G

Compaction Testing Report

March 20, 2009
Project No. 106567001

Mr. John Willis
Trevet, Inc.
9888 Carroll Centre Rd, Suite 228
San Diego, California 92126

Subject: Summary of Compaction Testing of Earthwork Backfill Operations
F-18 Mishap Site
4406 Cather Avenue
San Diego, California

Dear Mr. Willis:

In accordance with your request, Ninyo & Moore has provided compaction testing services during the earthwork operations needed to backfill the excavation at the subject site. The purpose of our services was to observe the contractor's backfill operations and test the materials used during the earthwork operations. We have performed field and laboratory tests on representative soil samples to evaluate the relative compaction. Our findings and conclusions are presented herein.

EARTHWORK OPERATIONS

Compacted fill was placed during the earthwork operations under our observation on March 17, 2009. The earthwork operations included the backfilling of an excavation measuring approximately 15 feet by 10 feet in plan dimension and approximately 7 feet deep. The excavation was located in the northeasterly corner of the subject residential lot. The excavation was done prior to the arrival of our field representative in conjunction with the post F-18 mishap evaluation. The excavation exposed a minor thickness of firm fill underlain by formational material. The contractor imported fill soil which was moisture conditioned and placed in 1.5 to 2 foot thick lifts. The contractor benched into the native material then placed and compacted the imported fill material with a sheepsfoot wheel attachment on a rubber tire backhoe.

LABORATORY AND FIELD TESTING

Laboratory testing was performed on a representative sample of the imported soil to evaluate the modified Proctor dry density/optimum moisture content. Laboratory testing of the modified Proctor dry density and optimum moisture content was conducted in general accordance with the American Society of Testing and Materials (ASTM) Test Method D 1557, and the results are presented in Table 1.

Our field representative was on site to observe the backfill operations and to perform in-place field density tests. The tests were performed in general accordance with ASTM D 6938 (Nuclear Gauge Method). The summary of the results of our field density tests performed in fill materials are presented in Table 2. Compaction tests were performed at 1-foot intervals from 5.5 feet below ground surface until finish grade was achieved. The specified relative compaction was 90 percent as evaluated by ASTM D 1557. The approximate locations of the field density tests are presented in Table 2.

SUMMARY

Our representative was on site to observe the backfill of the subject excavation and to perform field density testing of the earthwork operations. Based on our observations, the earthwork was performed in general accordance with industry earthwork standards. Based on our laboratory testing, the field density tests performed indicated the specified relative compaction.

LIMITATIONS

The geotechnical services outlined in this report have been conducted in accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in this area. No warranty, expressed or implied, is made regarding the observations and conclusions expressed in this report. The reported test results represent the relative compaction and moisture content at the locations tested. It is important to note that the precision of field density tests and the modified Proctor dry density tests are not exact and variations should be expected.

The reported locations of the density tests are estimated based on correlations with the site surroundings. Further accuracy is not implied.

We appreciate the opportunity to be of service on this project.

Sincerely,
NINYO & MOORE

Emil Rudolph, P.E., G.E.
Senior Engineer

Mark Cuthbert, P.E.
Principal Engineer

TMG/ER/MC/gg

Attachments: Table 1 – Modified Proctor Density Test Results
Table 2 – Summary of Field Density Tests

Distribution: (2) Addressee

Table 1 – Modified Proctor Density Test Results

Soil Type No.	Description	Dry Density (pcf)	Optimum Moisture Content (%)
1	Brown Silty SAND (import from Vulcan Materials)	123.0	12.0

Ninyo & Moore

TABLE 2

SUMMARY OF FIELD DENSITY TESTS
PROJECT NO. 106567001
TEST OF: FILL

Test No.	Date	Test of	Test Location	Depth (ft)	Soil Type No.	Field		Laboratory		Relative Compaction (%)	Specified Relative Compaction (%)	Remarks
						Moisture Content (%)	Dry Density (pcf)	Proctor Density (pcf)	Optimum Moisture Content (%)			
1 #	3/17/09	CF	Northeast quarter of excavation	5.5	1	12.3	113.6	123.0	12.0	92	90	
2 #	3/17/09	CF	Northwest quarter of excavation	4.5	1	14.3	114.5	123.0	12.0	93	90	
3 #	3/17/09	CF	Southwest quarter of excavation	3.5	1	12.0	115.2	123.0	12.0	94	90	
4 #	3/17/09	CF	Southeast quarter of excavation	2.5	1	10.0	117.0	123.0	12.0	95	90	
5 #	3/17/09	CF	Northeast quarter of excavation	1.5	1	10.6	115.6	123.0	12.0	94	90	
6 #	3/17/09	CF	Northwest quarter of excavation	Grade	1	10.9	114.1	123.0	12.0	93	90	

Notes: Test No.: (#) - Nuclear Gauge Test Method; (*) - Sand Cone Test Method; (+) - 12-inch Sand Cone Method; (^) - Drive-Cylinder Method

Test of: CF - Compacted Fill; FG - Finished Grade; SF - Slope Face