2014 Annual Munitions and Explosives of Concern Inspection Report Potrero Canyon (Lockheed Martin Beaumont Site 1) Beaumont, California

Prepared for:

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TC# 30079-B1OM.06/ October 2013

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September 3, 2014

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

Subject: Submittal of the *2014 Munitions and Explosives of Concern Inspection Report, Potrero Canyon (Lockheed Martin Beaumont Site 1), Beaumont, California*

Dear Mr. Zogaib:

Please find enclosed one hard copy of the body of the report and two compact disks with the report body and appendices of the *2014 Munitions and Explosives of Concern Inspection Report, Potrero Canyon (Lockheed Martin Beaumont Site 1), Beaumont, California* for your review and approval or comment.

If you have any questions regarding this submittal, please contact me at 818-847-9901 or brian.thorne@lmco.com.

Sincerely,

Brian T. Thorne
Remediation Project Lead

Enclosure: *2014 Munitions and Explosives of Concern Inspection Report, Potrero Canyon (Lockheed Martin Beaumont Site 1), Beaumont, California*

Copy: Mr. Gene Matsushita, Lockheed Martin (electronic copy)
Ms. Barbara Melcher, CDM Smith (electronic copy)
Mr. Tom Villeneuve, Tetra Tech (electronic copy)
Mr. Ralph Brooks, Tetra Tech (electronic copy)

BUR216 Beau1_2014 MEC report transmittal

2014 MUNITIONS AND EXPLOSIVES OF CONCERN INSPECTION REPORT
POTRERO CANYON (LOCKHEED MARTIN BEAUMONT SITE 1)
BEAUMONT, CALIFORNIA

Prepared for:

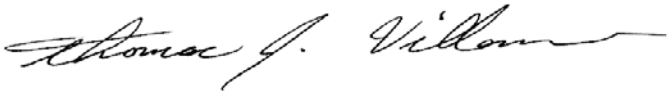
Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

September 2014

Ralph Brooks
UXO Project Manager



Thomas Villeneuve
Program Manager

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ABBREVIATIONS AND ACRONYMS

AOC	area of concern
GPS	global positioning system
HCP	Habitat Conservation Plan
HDT	Riverside County Sheriff's Hazardous Devices Team
ID	identification
LMC	Lockheed Martin Corporation
MEC	munitions and explosives of concern
MD	munitions debris
MPPEH	material potentially presenting an explosive hazard
site	Potrero Canyon (Lockheed Martin Beaumont Site 1)
Tetra Tech	Tetra Tech, Inc.
TPLZ	terraced projectile landing zone
USFWS	United States Fish and Wildlife Service
UXO	unexploded ordnance

SECTION 1 INTRODUCTION

This Munitions and Explosives of Concern Inspection Report has been prepared by Tetra Tech, Inc. on behalf of Lockheed Martin Corporation, and presents the results of the 2014 munitions and explosives of concern inspection of Potrero Canyon (Lockheed Martin Beaumont Site 1). The site is located in an undeveloped area south of the City of Beaumont, Riverside County, California (Figure 1). Most of the site is within the Beaumont City limits. Currently, the site is inactive with the exception of remedial activities performed under Consent Order 88/89-034 and Operation and Maintenance Agreement 93/94-025 with the California Department of Toxic Substances Control. California's Wildlife Conservation Board, Department of Fish and Game, Resources Agency owns approximately 94% (8,552 acres) of Potrero Canyon. The remaining 565 acres, referred to as the conservation easement, were retained by Lockheed Martin Corporation (Figure 2).

Munitions and explosives of concern investigations and removal at the site have been completed. While all reasonable steps to mitigate the risk have been taken, there is potential for residual munitions and explosives of concern to be present. As a result, Lockheed Martin Corporation has implemented a munitions and explosives of concern inspection program. The inspection program is intended to check those areas where munitions and explosives of concern were found or where inert projectiles are known to remain, and to assess whether any have been exposed by erosion or other forces. If inert projectiles or munitions and explosives of concern are found, they are removed and/or disposed of appropriately. Inspections have been conducted annually to assess if munitions and explosives of concern have been uncovered or exposed by various natural causes. The areas designated for inspection include: the streambeds in Area A (Eastern Aerojet Range), Area D (Lockheed Propulsion Company Ballistics Test Range), and Area G (Helicopter Weapons Test Area), and the Phalanx Target berm located in Area B (Rocket Motor Production Area), the berm at the base of the terraced projectile landing zone located in Area D, and the landfill located in Area H (Sanitary Landfill) (Figures 3 through 7). The locations for inspection are based on recommendations from the *Munitions and Explosives of Concern Awareness Training Plan* (Tetra Tech, 2011).

Based on site history and the findings from the first three inspections, a modified inspection schedule was proposed in the *2013 Munitions and Explosives of Concern Inspection Report* (Tetra Tech, 2013). The proposed changes were submitted to the California Department of Toxic

Substances Control in October 2013, and were approved with no comments on the proposed modifications. The 2014 inspection followed the modified schedule presented in Table 1.

Additional modifications to the inspection schedule will be proposed based on the findings from future inspections. All proposed modifications to the inspection schedule will require the approval of California Department of Toxic Substances Control.

The objectives of this report are to:

- Briefly summarize the site history.
- Describe the inspection methodology utilized.
- Report findings and disposal activities.

This Report is organized into the following sections: 1) Introduction, 2) Inspection Methodology, 3) Summary of Inspection Results, 4) Conclusions and Recommendations, and 5) References. Tables and figures are numbered sequentially in the order of their appearance in the document, and are presented at the end of the report body following Section 5.

1.1 SITE HISTORY

Historically, the site was used primarily for ranching. Between 1960 and 1963, the various parcels that make up the site were purchased by either Grand Central Rocket or Lockheed Propulsion Company. In the early 1960s Grand Central Rocket was acquired by the Lockheed Propulsion Company, bringing all of the parcels under their ownership. The property was developed and used as a remote test facility for early space and defense programs. During the active industrial life of the site from 1960 until 1974, Lockheed Propulsion Company used the facility for solid propellant mixing, testing, and disposal, as well as for ballistics testing. Explosives were used in their work; however, most munitions used on-site were reportedly practice rounds that did not contain high explosives. After 1974, the site was vacant except for occasional use by third-party lessees. All activity ceased at the site in 1991, except for ongoing environmental activities.

Based on historical data, the site has been divided into nine Operational Areas reflecting the types of activities known to have occurred on-site. Munitions and explosives of concern related activities were conducted in eight of the Operational Areas, as follows:

Area A - Eastern Aerojet Range

Area B - Rocket Motor Production Area

Area C - Burn Pit Area

Area D - Lockheed Propulsion Company Ballistics Test Range

Area F - Lockheed Propulsion Company Test Services Area

Area G - Helicopter Weapons Test Area

Area H - Sanitary Landfill

Area I – Western Aerojet Range

Figure 2 shows the eight Operational Areas included in the munitions investigations and the areas of concern that were investigated.

1.2 SUMMARY OF PREVIOUS MUNITIONS AND EXPLOSIVES OF CONCERN EVALUATIONS AND REMOVALS

Munitions and explosives of concern investigations were initiated in 2005 when two small belts of 20mm linked practice ammunition were found during the repair of a stream crossing in Area D. In November 2006, all munitions debris collected during the investigations conducted to that point was radiologically tested and no depleted uranium was identified. Removal actions were performed in 2006 and 2007. Supplemental investigations were performed in 2009 and 2010. No further investigations or removals are planned at this time.

Munitions and explosives of concern investigations or removal actions have been performed at 28 areas of concern (Figure 2). All munitions debris items found during the investigations were dual inspected, certified safe, and disposed of by a certified recycler. All munitions and explosives of concern items found during the investigation were treated on- site with donor explosives. A summary of what has been found to date in the eight operational areas during the munitions and explosives of concern investigations and removal actions is presented below.

Aerojet conducted ballistics testing in Area A. Munitions and explosives of concern investigations and the removal action resulted in the discovery and removal of inert 27.5mm and 30mm projectiles, 16mm tungsten penetrators and an inert 76mm rocket. Fragments from high explosive 30mm projectiles and several unexploded 30mm projectiles were also found.

General Dynamics reportedly tested Phalanx Gatling guns and 2.75-inch Viper Bazookas in Area B. The bazooka rockets reportedly carried explosive and shaped charges. The Gatling guns fired inert 20mm and 30mm rounds. Munitions and explosives of concern investigations resulted in the

discovery and removal of inert 20mm and 30mm projectiles in the Phalanx gun target berm and possible munitions fragments from the rockets. No munitions and explosives of concern were found.

Lockheed Martin Corporation conducted disposal activities in Area C (Burn Pit Area). Historical records indicate that industrial solvents and rocket fuel constituents were placed in pits along with off-specification solid rocket fuel and burned. Small aluminum cups containing high melting explosive (cyclo-1, 3, 5, 7-tetramethylene-2, 4, 6, 8-tetranitramine) were reportedly burned in the pits as well. Munitions and explosives of concern investigations resulted in the discovery and removal of a 30mm inert projectile (likely a projectile that missed the Phalanx gun target berm), a handful of expended 30mm cartridge activated devices, and a small amount of thick-walled fragments. The origin of the cartridges is unknown and the fragments are thought to have come from rocket fuel mixer blowout panel tests conducted adjacent to the Burn Pit Area. At least one of the blowout panel tests resulted in an explosion that destroyed the test equipment. No munitions and explosives of concern were found.

Lockheed Martin Corporation tested several weapons platforms in Area D including a Navy five-inch gun, an Army 155mm gun, 40mm and 37mm guns, land mines, and incendiary bombs. During munitions and explosives of concern investigations inert projectiles and some munitions fragments were found. Unfired large caliber burster tubes and 20mm practice rounds were also found along the streambed. These unfired items were classified as munitions and explosives of concern because the propellant in them represented a potential explosive hazard. A removal was conducted in the area of the streambed.

No munitions testing was reported to have been conducted in Area F (Lockheed Propulsion Company Test Services Area). A magazine for the storage of igniters was reportedly located in the area and small remnants of solid rocket propellant were reported to have been found at the rocket motor washout area. The magazine could not be located at the site and was likely removed when the facility was closed. The remnants of solid rocket fuel were reportedly removed in the early 1990s; none were observed during the munitions and explosives of concern investigations.

Lockheed Martin Corporation performed helicopter weapons testing in Area G. Various calibers of weapons were tested (40mm grenade launcher, 30mm cannon, and 7.62mm machine gun). All

munitions fired were reportedly inert or practice rounds. The areas of concern at this testing site were investigated and all of the projectiles recovered during the investigation were inert. No munitions and explosives of concern were found during the investigation. It was determined that a removal action was not warranted at the Area G areas of concern and projectiles (presumed to be inert) are still present.

No munitions testing was reported to have been conducted in Area H. Investigations did not result in the discovery of any munitions-related items on the surface of the landfill, but belted 7.62mm machine gun ammunition used in Area G was reportedly disposed of in the landfill. No munitions and explosives of concern were found.

Munitions were tested in Area I (Western Aerojet Range). Incendiary bomb tests were conducted at the southern end of the range and 27.5mm projectiles and 16mm tungsten penetrators were tested along the length of the range. Thick-walled munitions fragments and inert projectiles were found during the investigations. No munitions and explosives of concern were found.

1.3 INSPECTION AREAS

As discussed above, while all reasonable steps to mitigate the risk have been taken, potential for residual munitions and explosives of concern remains. The majority of the munitions and explosives of concern uncovered to date were found near the ground surface but munitions and explosives of concern detection equipment has depth limitations. Therefore, erosion could expose errant or buried munitions and explosives of concern. The inspection program is intended to check those areas where munitions and explosives of concern were found or where inert projectiles are known to remain, and to assess whether any have been exposed and pose a threat. During the course of previous investigations, six of the 28 areas investigated were found to contain munitions and explosives of concern, inert projectiles, or remnants of potential munitions and explosives of concern. Therefore, these six areas of concern were included in a routine inspection program intended to look for and continue to evaluate the potential for residual munitions and explosives of concern. In the other 22 areas, there is no evidence of potential munitions and explosives of concern contamination. The six areas of concern chosen for inspection are described below:

Area A Streambed – There are four areas of concern in Area A but only the streambed is a concern with respect to erosion. Potrero Creek runs adjacent to the Target Impact Area, area of concern.

No munitions and explosives of concern were found in the Area A Streambed area of concern but they were found in the Target Impact Area, area of concern. The banks of the streambed continue to erode material from the former Target Impact Area, area of concern. Further, secondary erosion features that drain into Potrero Creek have also developed. Some of these secondary features have developed in the Target Impact Area, area of concern, as well. As a result, the Area A Streambed area of concern and the secondary erosion features have been included in the munitions and explosives of concern inspection program. The area of concern is presented in Figure 3.

Area B Phalanx Target Berm – The Phalanx Gatling Gun is a high volume or rapid fire gun. A large number of metallic objects were detected below the surface of the target berm. During the previous munitions and explosives of concern investigations, projectiles were removed and examined from five different locations in the face of the berm. It was reported that only inert practice rounds were used during the testing of the Phalanx Gun. Inert 20mm and 30mm projectiles were recovered from the berm. No munitions and explosives of concern were recovered from the berm. The berm is steeply sloped and somewhat prone to erosion. Inert items resembling much more hazardous live munitions may erode out of the berm and collect near the base where they may be found by site users. As a result, the Phalanx Target Berm area of concern has been included in the munitions and explosives of concern inspection program to allow removal of the inert practice projectiles as they erode out of the berm. The area of concern is presented in Figure 4.

Area D Berm at the base of the Terraced Projectile Landing Zone – While no explosive projectiles were reported to have been tested at this range, fragments were found near a presumed target located up range of the berm and appeared to have been generated by explosive, not mechanical, means. The berm was investigated and detected items were removed. No munitions and explosives of concern were found, but the detection equipment has depth limitations. The berm is steeply sloped and somewhat prone to erosion. With time, undetected objects deeper in the berm could be brought to the surface by erosion. As a result, the berm at the base of the terraced projectile landing zone has been included in the munitions and explosives of concern inspection program. The area of concern is presented in Figure 5.

Area D Streambed – Bedsprings Creek bisects Area D. While no known munitions and explosives of concern activities were conducted in the drainage it appears some munitions-related items were

discarded here. Several unfired burster tubes and 20 mm practice ammunition were found in the streambed. These items are considered munitions and explosives of concern. A 100% survey/removal was conducted in the accessible area of the streambed. With time, undetected objects buried in the area could be exposed by erosion. As a result, the Area D streambed area of concern has been included in the munitions and explosives of concern inspection program. The area of concern is presented in Figure 5.

Area G Streambed – Potrero Creek meanders through the Helicopter Weapons Test Area. The streambed is located between the firing point and the range. It was reported that weapons were checked prior to testing by firing them into the southern bank of the streambed. It was also reported that only inert practice rounds were used during the testing. Investigations in Area G resulted in the recovery of small arms brass, mechanically generated 30mm fragments, and inert 40mm projectiles. No munitions and explosives of concern were found in the Area G Streambed. Due to erosion of the stream bank, inert items resembling much more hazardous live munitions may erode out and collect in the streambed where they may be found by site users. As a result, the Area G Streambed area of concern has been included in the munitions and explosives of concern inspection program to allow the removal of the inert practice projectiles if they erode out of the stream bank. The area of concern is presented in Figure 6.

Area H Sanitary Landfill – The landfill is closed and covered; however, there is anecdotal information that small arms ammunition (7.62mm) was placed in the landfill. While temporary erosion protection measures are in place, the surface of the landfill is sloped at approximately six percent and has been subject to some erosion in the past. With time erosion could expose the contents of the landfill. As a result, the Area H Sanitary Landfill area of concern has been included in the munitions and explosives of concern inspection program. Temporary erosion control measures as well as quarterly inspection will continue to be utilized until a final solution is in place. The area of concern is presented in Figure 7.

Table 2 contains a summary of the six areas of concern that have been included in the inspections, an evaluation of the types of munitions/ammunition that may have been used in each area and may potentially be present, and a summary of what has been discovered during prior routine inspections. The inspections have been conducted annually since 2011. During the first two years'

inspections, only anomalies proud of the surface were inspected. Subsurface inspections were added in 2013.

SECTION 2 INSPECTION METHODOLOGY

This section of the report discusses the methodology utilized for the inspections. It includes both the surface and the subsurface inspections. It also discusses compliance with the Habitat Conservation Plan (HCP).

2.1 SURFACE INSPECTIONS

Instrument-aided munitions and explosives of concern (MEC) surface inspections were conducted in early April of this year and were performed in the streambeds and any secondary erosion features in Areas A and D. The inspections were conducted using a White's Spectrum XLT all metals detector.

Detection equipment employed to conduct the instrument-aided surface surveys was tested using the blanket test. The blanket test is performed by taking a ferrous metallic object the size of a 20 mm projectile and placing it under a cover (a tarp). The instrument is turned on and set at the level that will be used for detection during the survey. The instrument is then swept back and forth over the area where the metallic object is located; if the instrument detects the object, it is accepted for use; if not, it is rejected and repaired or replaced. All equipment utilized during this field event was tested daily, and the test results are documented in the daily field reports in Appendix A.

Each area designated for inspection was surveyed using the instrument-aided on-line surface survey method. The survey team forms up in a line at the established base line (one of the survey area edges). The technicians then step off from the base line one at a time in an echeloned line, with the first technician following the left or right boundary of the area to be surveyed, dropping flags on the opposite side as he progressed. As each following technician moves forward, he or she pick up the previous technician's flag and drop a flag on the opposite side for the next technician in line to follow. The last technician in line leaves dropped flags to mark a path for the team to follow during the next pass. This process is repeated until the entire area is surveyed.

When suspect MEC, material potentially presenting an explosive hazard (MPPEH), or munitions debris (MD) was encountered at the surface, its location was recorded using a global positioning system (GPS) instrument and the unexploded ordnance (UXO) team attempted to identify the item

and to gather additional information such as munitions type, fuze type by function, and condition of the suspect MEC, MPPEH, or MD (e.g., fired, unfired, armed, unarmed). The item was marked with a yellow survey marker flag and given a unique identification (ID) number. All available information about the item was recorded in the logbook/Daily MEC Accountability Log, including suspect MEC location, identification, and ID number, and a digital photograph was taken of each item. In the event that MEC or MPPEH had been encountered, Tetra Tech UXO personnel would have maintained site access control and ensured personnel safety until the Riverside County Sheriff's Hazardous Devices Team (HDT) arrived and took control of the site. Tetra Tech would have supplied the GPS coordinates and available information for each item to the Riverside County Sheriff's HDT upon their arrival.

On completion of the field evaluation, recovery, and disposal of suspect MEC or MPPEH by the Riverside County Sheriff's HDT, the detector-aided surface survey would continue as described until all areas requiring periodic inspection were completed.

When subsurface anomalies were detected, the location was recorded with a GPS instrument and the coordinates were recorded in the logbook and the Daily MEC Activity Log.

2.2 SUBSURFACE INSPECTION

In Areas A and D, the inspection team excavated select anomalies detected during the inspection to confirm the completeness of the removal actions taken in these areas. Historically potentially hazardous munitions-related materials were found in both of these Operational Areas; therefore, the potential for residual MEC is possible. Historically scrap metal was found in all the areas investigated including these two. Therefore, not all of the anomalies detected would necessarily be investigated. The inspection team was instructed to excavate up to 40 anomalies detected across the two areas and inspect them to determine their nature.

When suspect MEC, MPPEH, or MD was encountered during subsurface inspection, the UXO team attempted to identify the item and to gather additional information such as munitions type, fuze type by function, and condition (e.g., fired, unfired, armed, unarmed). The item was marked with a yellow survey marker flag and given a unique ID number. All available information about the item was recorded in the logbook/Daily MEC Accountability Log, including suspect MEC location, identification, and ID number, and a digital photograph was taken of each item. For

excavated items determined to be MEC or MPPEH, the Riverside County Sheriff's HDT was contacted for disposal and Tetra Tech UXO personnel maintained site access control and ensured personnel and public safety until the HDT arrived and took control of the site. All other munitions-related items were collected, certified safe, and disposed of appropriately.

2.3 HABITAT CONSERVATION

All inspection activities were performed in accordance with the United States Fish and Wildlife Service (USFWS)-approved HCP [USFWS, 2005] and subsequent clarifications (LMC, 2006a, 2006b, and 2006c) of the HCP. Stephens' kangaroo rat awareness training was provided to the field teams prior to site entry. Prior to excavation the area was inspected by a biologist to ensure that there were no impacts to Stephens' kangaroo rats.

SECTION 3 SUMMARY OF INSPECTION RESULTS

The annual inspection for munitions and explosives of concern (MEC) was performed in early April 2014. Section 3.1 describes the results of the instrument-aided surface survey and any associated subsurface investigations.

3.1 ANNUAL INSPECTION RESULTS

Instrument-aided surface surveys were conducted at two areas of concern (AOCs). Each morning prior to initiating the surveys, the White's all metals detectors were tested. The blanket tests confirmed that all of the instruments were performing correctly, with documentation for this provided in Appendix A.

A total of 13 anomalies, one surface and 12 subsurface, were detected during the 2014 MEC inspection survey. Seven subsurface anomalies were located in Area A, and one surface and five subsurface anomalies were located in Area D. A summary of the anomalies discovered during the inspection are presented in Table 3. Each anomaly location was recorded with a handheld GPS (Figure 8). Coordinates and other details can be found in the Daily MEC Accountability Logs (Appendix A).

Six of the seven anomalies excavated in Area A were determined to be scrap metal, and the remaining anomaly was determined to be a munitions debris (MD) 30mm projectile base (Appendix B, Photos 21 and 22) located approximately eight inches below the ground surface in the streambed (Figure 8). No MEC was discovered in Area A.

Two of the five subsurface anomalies excavated in Area D were determined to be MD, one 30mm projectile base (Appendix B, Photos 7 and 8), and one unidentified munition related item (Appendix B, Photos 9 and 10). Two anomalies were determined to be MEC, one complete 20mm cartridge (Appendix B, Photos 2-6) and two linked 20mm cartridges with one complete round and one broken round (Appendix B, Photos 11-14). All three of these 20 mm cartridges have reasonably identifiable characteristics of the Training Practice (TP) variety that does not have a fuze or contain explosives, only propellant powder. Differentiation of the High Explosive (HE) from the TP variety is not always certain, particularly when the cartridges are in a degraded

condition; therefore, they were presumed to be the HE variety and treated accordingly. The Riverside County Sheriff's Hazardous Devices Team was notified of the presence of these potentially hazardous items, and they responded to treat them on-site using donor explosives. The remaining subsurface anomaly was determined to be scrap metal. The surface anomaly located in Area D was determined to be MD, a 20mm cartridge case, containing no primer or propellant (Appendix B, Photos 15 and 16). The MEC and MD were located in the streambed near the road crossing at depths ranging up to 12 inches below ground surface.

SECTION 4 CONCLUSIONS AND RECOMMENDATIONS

All surface inspections and subsurface inspections were performed in accordance with existing approved planning documents. When residual munitions and explosives of concern were uncovered, the Riverside County Sheriff's Hazardous Devices Team was called to dispose of the suspect item. Since ferrous and non-ferrous munitions were historically tested at the site, there is a potential for non-ferrous munitions-related material to remain. Because of this potential, inspections have used, and will continue to use, an all-metals detector.

Two of the six munitions and explosives of concern areas of concern were examined during the 2014 munitions and explosives of concern inspection. The two areas of concern inspected were the streambeds in the Operational Areas where munitions and explosives of concern were removed during the assessment and removal work previously conducted. A total of 13 anomalies were recorded (12 subsurface anomalies and one surface anomaly), as follows:

- Area A streambed had seven subsurface anomalies: one munitions debris and six scrap metal).
- Area D streambed had five subsurface anomalies:
    - Two had munitions and explosives of concern items (one single munitions and explosives of concern item at one anomaly, and two munitions and explosives of concern items at the other anomaly).
    - Two had munitions debris.
    - One had scrap metal.
- Area D streambed had one surface anomaly (munitions debris).

A total of three munitions and explosives of concern items recovered from two locations were treated by detonation. A total of four munitions debris items were dual inspected and certified as free of an explosive hazard.

The discovery of subsurface metallic anomalies in the inspection areas is not unanticipated since metallic anomalies, some related to munitions and explosives of concern, were found in these

areas during the assessment and removal work previously conducted. In those areas that were surveyed for assessment purposes only and a removal action was not required, only a small portion of the area of concern would have been surveyed. Regardless of the level of survey performed, finding metallic anomalies in these areas is not unanticipated. It is possible that metallic debris was present at depths below the detection capabilities of the geophysical instrumentation used for the assessments and that natural erosion processes may be moving this debris closer to the surface. It is also possible that metallic objects were transported into the area. Therefore, the presence of subsurface metallic anomalies is not necessarily indicative of munitions-related material.

Portions of Area A were historically farmed. This activity commonly results in high quantities of metallic debris including wire, fasteners, horse shoes, tools, and irrigation pipe, and many other pieces of metal, some of which were found during the assessment of the Area A streambed. Over 700 metallic anomalies were investigated in the Area A streambed and no munitions and explosives of concern or munitions-related debris were previously found.

Area D was an active gun test area where numerous exercises were carried out to study the ballistics of standard and experimental projectiles. During previous investigations a very small number of munitions were found in this streambed and these were all 20mm TP cartridges or projectiles. In addition, three large caliber cartridge primers, which may have contained a small amount of explosive, were found in the Area D streambed. A thorough search of the streambed was conducted and no source area was found.

The discovery of munitions debris in the Area A streambed and munitions debris and munitions and explosives of concern in the Area D streambed validates the concern regarding residual munitions and explosives of concern being exposed due to erosion. The Area A and Area D streambed areas of concern were surveyed, and metallic objects detected were excavated and removed during the previous removal action. The munitions debris and munitions and explosives of concern items recovered during the 2014 inspection were not detected or removed during previous operations. Discovering munitions and explosives of concern in an area where a removal had taken place validates the concerns that residual munitions and explosives of concern could be present and that continued recurring inspections are needed.

Instrument-aided surface inspections have been conducted for four years, and this is the second year subsurface investigations were performed as well. Prior to this year, these inspections and investigations had yielded no munitions and explosives of concern in the six areas of concern evaluated. This includes the two areas of concern in Area A and Area D where previous munitions and explosives of concern removal activities were conducted. This year munitions debris was found in the streambed in Area A, and munitions and explosives of concern and munitions debris were found in the streambed in Area D.

The discovery and removal of potentially hazardous munitions which may become exposed over time is the goal of the periodic inspections. Based on site history and the findings from the four routine inspections conducted to date, it is recommended that the inspection schedule presented in Table 1 to be followed for the 2015 inspection.

SECTION 5 REFERENCES

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

2. Lockheed Martin Corporation, 2006b. *Clarification Concerning Treatment of Unexploded Ordinance (UXO) Discovered During Munitions and Explosives of Concern (MEC) Characterization at Beaumont Site 1 (Potrero Creek) and at the Immediately Adjacent Metropolitan Water District (MWD) Parcel, Riverside County, California; and Analysis of Effects of Treatment Activities for the Federally-Endangered Stephens' Kangaroo Rat (SKR).* August 3, 2006.

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

4. Tetra Tech, 2011. *Munitions and Explosives of Concern (MEC) Awareness Training Plan, Former Beaumont Site 1, Beaumont, California*, March

5. Tetra Tech, 2013. *2013 Munitions and Explosives of Concern Inspection Report Potrero Canyon (Lockheed Martin Beaumont Site 1), Beaumont, California*, October 2013

6. United States Fish and Wildlife Service (USFWS), 2005. *Endangered Species Act Incidental Take Permit for Potrero Creek and Laborde Canyon Properties Habitat Conservation Plan*. October 14, 2005.

TABLES

Table 1 Munitions and Explosives of Concern Inspection Schedule

Operational Area	Inspection Area	Proposed Inspection Schedule	Inspection Rationale
A	Streambed and Secondary Erosion Features	Annual instrument (all metals) aided surface inspections. Subsurface investigation of up to 20% of metallic anomalies detected during the inspection.	Because unexploded ordnance was found in this Operational Area during the munitions and explosives of concern investigation and removal phases, inspections should continue more frequently.
B	Phalanx Target Berm	Biennial instrument (all metals) aided surface inspections.	Investigations support that only inert projectiles were fired at this area of concern. Inert projectiles are still present but exposure by natural causes appears to be limited.
D	Berm at the Base of the Terraced Projectile Landing Zone	Biennial instrument (all metals) aided surface inspections.	No munitions-related items have been recovered from this berm and erosion of the berm appears to be limited.
D	Streambed and Secondary Erosion Features	Annual instrument (all metals) aided surface inspections. Subsurface investigation of up to 20% of metallic anomalies detected during the inspection.	Because material potentially presenting an explosive hazard was found in this Operational Area during the munitions and explosives of concern investigation and removal phases, the munitions and explosives of concern inspections should continue more frequently.
G	Streambed and Secondary Erosion Features	Biennial instrument (all metals) aided surface inspections.	Investigations support that only inert projectiles were fired at this area of concern. Inert projectiles are still present but exposure by natural causes appears to be limited.
H	Landfill	Continue routine inspections to ensure the landfill cap is not being compromised and waste is not being exposed. Biennial instrument (all metals) aided surface inspections.	Small arms munitions are reported to have been buried in the landfill but no munitions-related items have been recovered from the landfill and erosion of the interim cap appears to be limited.

Note: Up to 40 anomalies from the annual inspection areas of concern in Operational Areas A and D will be excavated during subsurface investigations.

Table 2 Summary of Historical Use and Munitions and Explosives of Concern Evaluation by Area of Concern

Operational Area	Inspection Area	Documented Historical Use	MEC Related Finds During the Investigations or Removals (2005 through 2010)	Potential Residual MEC/MD	Inspection Results (2011 through 2013)
A	Streambed and Secondary Erosion Features	None known (the streambed is immediately adjacent to the Target Impact Area and erosion has advanced into the Target Impact Area)	None (726 targets dug)	30mm high explosive projectiles and MD from adjacent range/target area	No MEC or MD has been discovered proud of the surface or during recent subsurface inspections.
B	Phalanx Target Berm	Impact area for Phalanx gun tests	Inert 20mm & 30mm TP projectiles; mechanical frag	Inert 20mm & 30mm projectiles and fragments	No MEC or MD has been discovered proud of the surface or during recent subsurface inspections.
D	Berm at the Base of the Terraced Projectile Landing Zone (TPLZ)	TPLZ impact area (gun range)	None found	20mm, 37mm, 40mm, 155mm, and 5 inch TP projectiles and MD	No MEC or MD has been discovered proud of the surface or during recent subsurface inspections.
D	Streambed and Secondary Erosion Features	None known (potential disposal)	20mm TP rounds; 20mm TP projectiles, & live Primers/Igniters	20mm TP rounds, 20mm TP projectiles, & live Primers/Igniters	No MEC has been discovered proud of the surface or during recent subsurface inspections, but an inert 20mm projectile was discovered during subsurface inspections. No MEC.
G	Streambed and Secondary Erosion Features	40mm grenades, 30mm cannon projectiles, and 7.62mm machine gun bullets platform mounted guns test fired into stream bank	30mm & 40mm TP projectiles	30mm & 40mm TP projectiles	No MEC or MD has been discovered proud of the surface or during recent subsurface inspections but inert 40mm grenades have been recovered during other activities conducted on the impact range above the streambed.
H	Landfill	Sanitary landfill; anecdotal info that small arms rounds were buried here	None found	7.62mm belted ammunition	No MEC or MD has been discovered proud of the surface; subsurface inspections are not being performed at the landfill.

Table 3 Summary of Anomalies Discovered During the 2014 Routine MEC Inspection

Operational Area	Number of Surface Anomalies Recovered	Number of Subsurface Anomalies Recovered	Types of Items Recovered	
Area A - Eastern Aerojet Range	0	7	Scrap metal	six locations (subsurface)
			MD	one inert 30mm projectile base (subsurface)
Area D - LPC Ballistics Test Range	1	5	Scrap metal	one location (subsurface)
			MD	one inert 20 mm cartridge case (surface) one inert 30mm projectile base (subsurface) one inert unknown munition related item (subsurface)
			MEC	one 20 mm cartridge (subsurface) one linked 20 mm pair of cartridges (subsurface)

FIGURES

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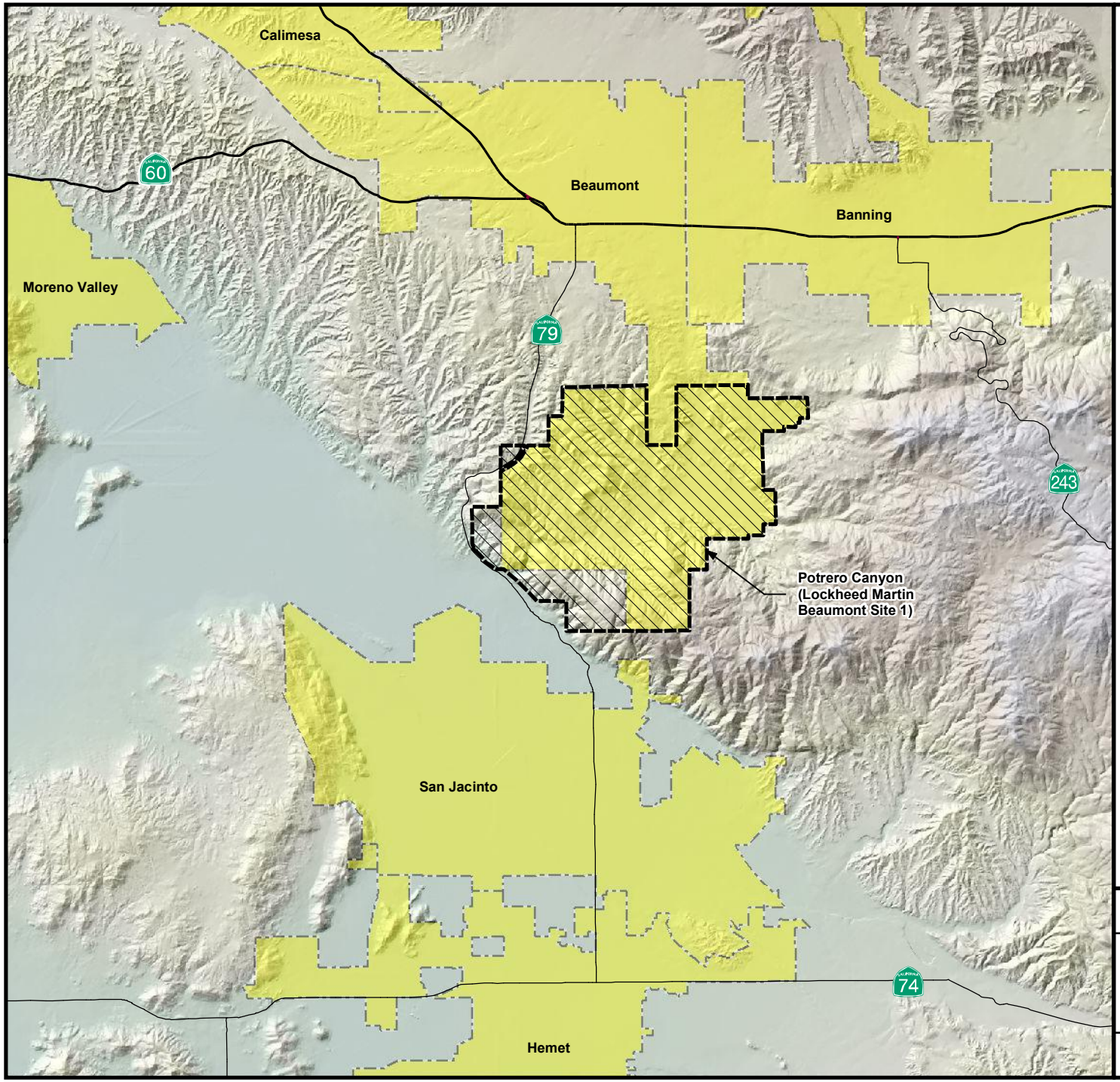

N

0 2 Miles

Adapted from:

U.S. Census Bureau TIGER line data, 2000.

LEGEND

- Interstate/Freeway
- State Highway
- County Boundary
- Potrero Canyon Property Boundary (Lockheed Martin Beaumont Site 1)
- City/Municipality

Potrero Canyon
(Lockheed Martin Beaumont Site 1)

Figure 1
Regional Location of
Potrero Canyon
(Beaumont Site 1)

TETRA TECH

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Impact Target Area

Area A
Eastern Aerojet Range (Avanti)

Debris Field

Streambed

Gun Mount

Area I
Western Aerojet Range

Area B
Rocket Motor Production Area

Airstrip AOC

Bazooka Impact Area

Blue Motor Burn Pit

Phalanx Gun Mount

Area F
LPC Test Services Area

Incendiary Bomb Test Area

Motor Washout Area

Phalanx Target Berm

Area C
Burn Pit Area

Igniter Magazine

Class A Storage

Landfill

Washout Area

End of TPLZ Range Fan

Burn Pit Area

TPLZ Firing Point

Area H
Sanitary Landfill

Firing Point

Terraced Projectile Landing Zone

Control Trailer

Streambed

Inner Range Fan

Small Test Area

Fixed Target Zone

Streambed

Area D
LPC Ballistics Test Range

Mobile Target Impact Area

Upper Range Area

Area G
Helicopter Weapons Test Area

0 1,000 2,000 Feet

Adapted from:

April 2007 aerial photograph.

LEGEND

- Munition and Explosives of Concern Areas of Concern
- Historical Operational Area Boundary
- Potrero Canyon Property Boundary (Lockheed Martin Beaumont Site 1)
- Conservation Easement Boundary

Note: AOC - Area of Concern

Potrero Canyon
(Lockheed Martin Beaumont Site 1)

Figure 2

**Historical Operational Areas
Munition and Explosives of Concern
Areas of Concern**

TETRA TECH

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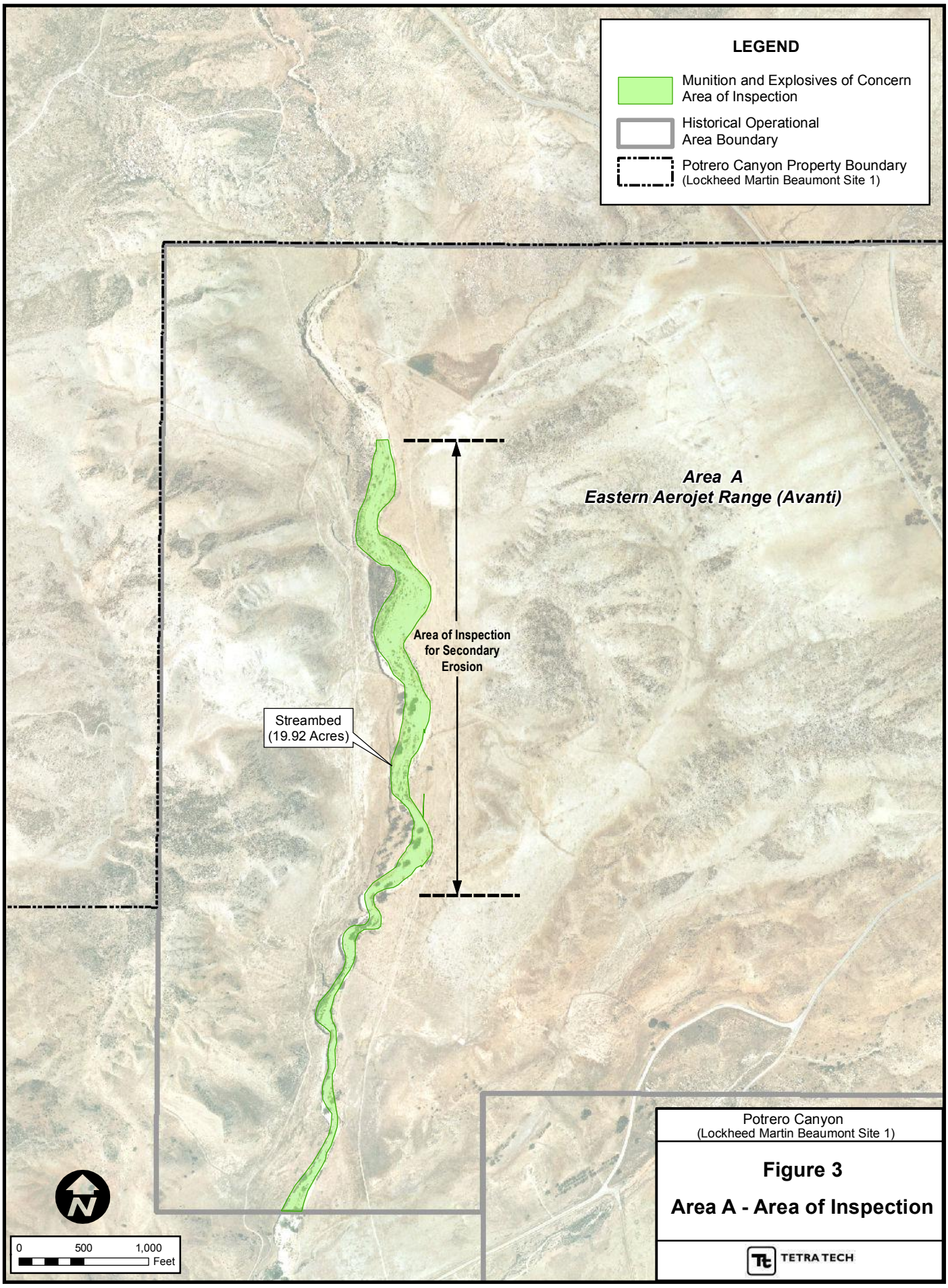

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Potrero Canyon
(Lockheed Martin Beaumont Site 1)

Figure 4

Area B - Area of Inspection

TETRA TECH

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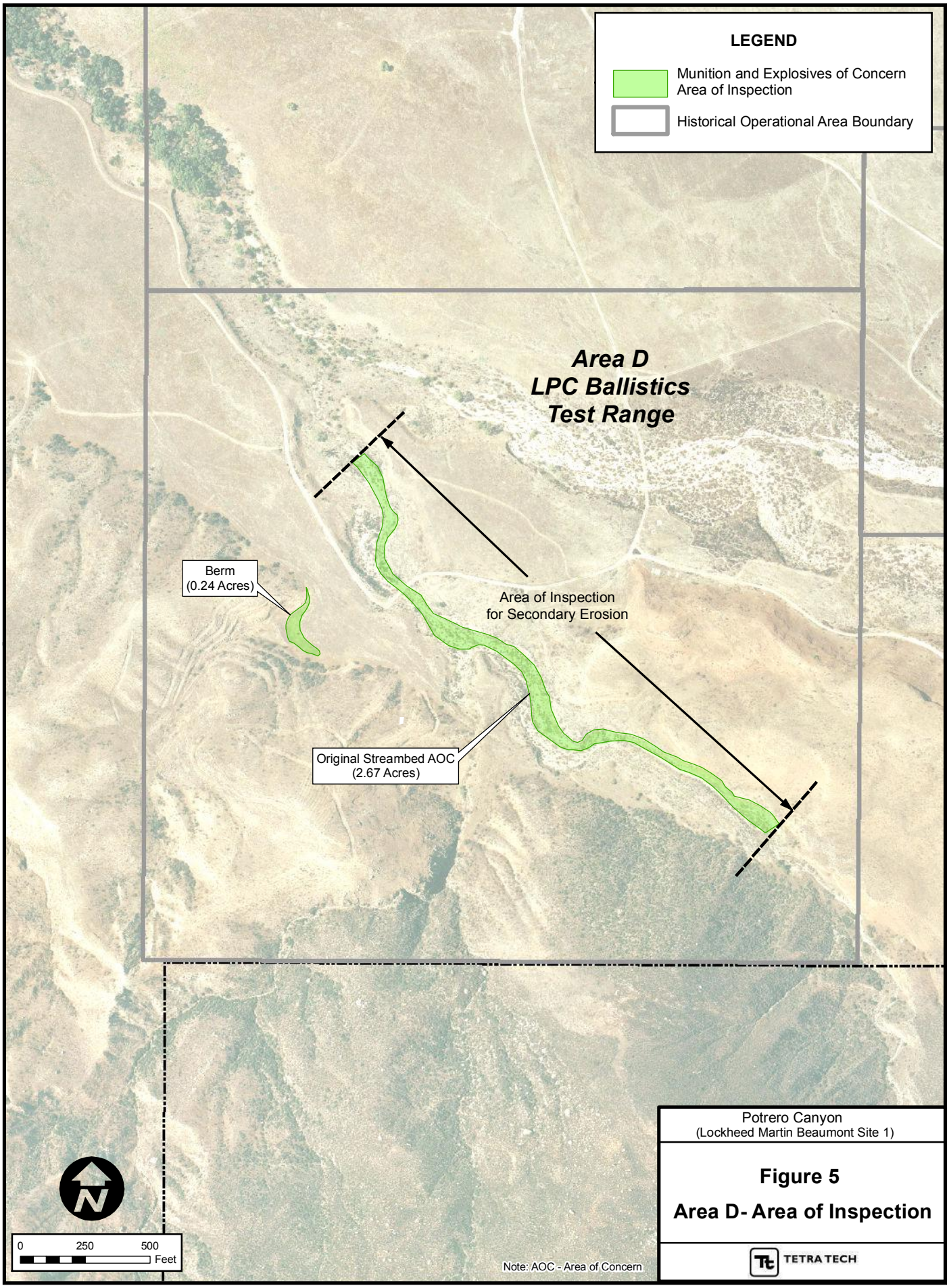


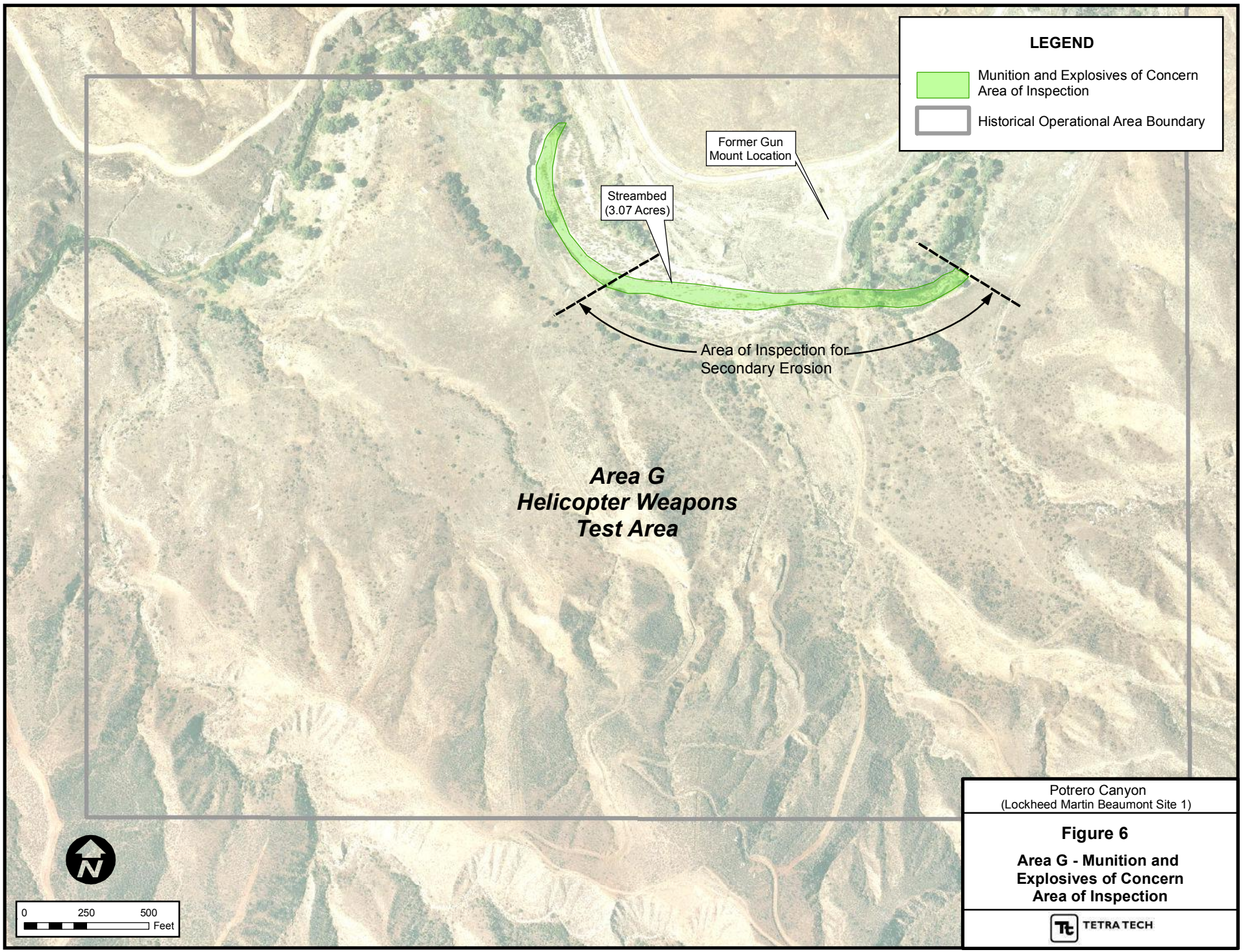
Potrero Canyon
(Lockheed Martin Beaumont Site 1)

Figure 5

Area D- Area of Inspection

TETRA TECH

X:\GIS\Lockheed 31299_BIGW24\Op_Area_G_Edit.mxd

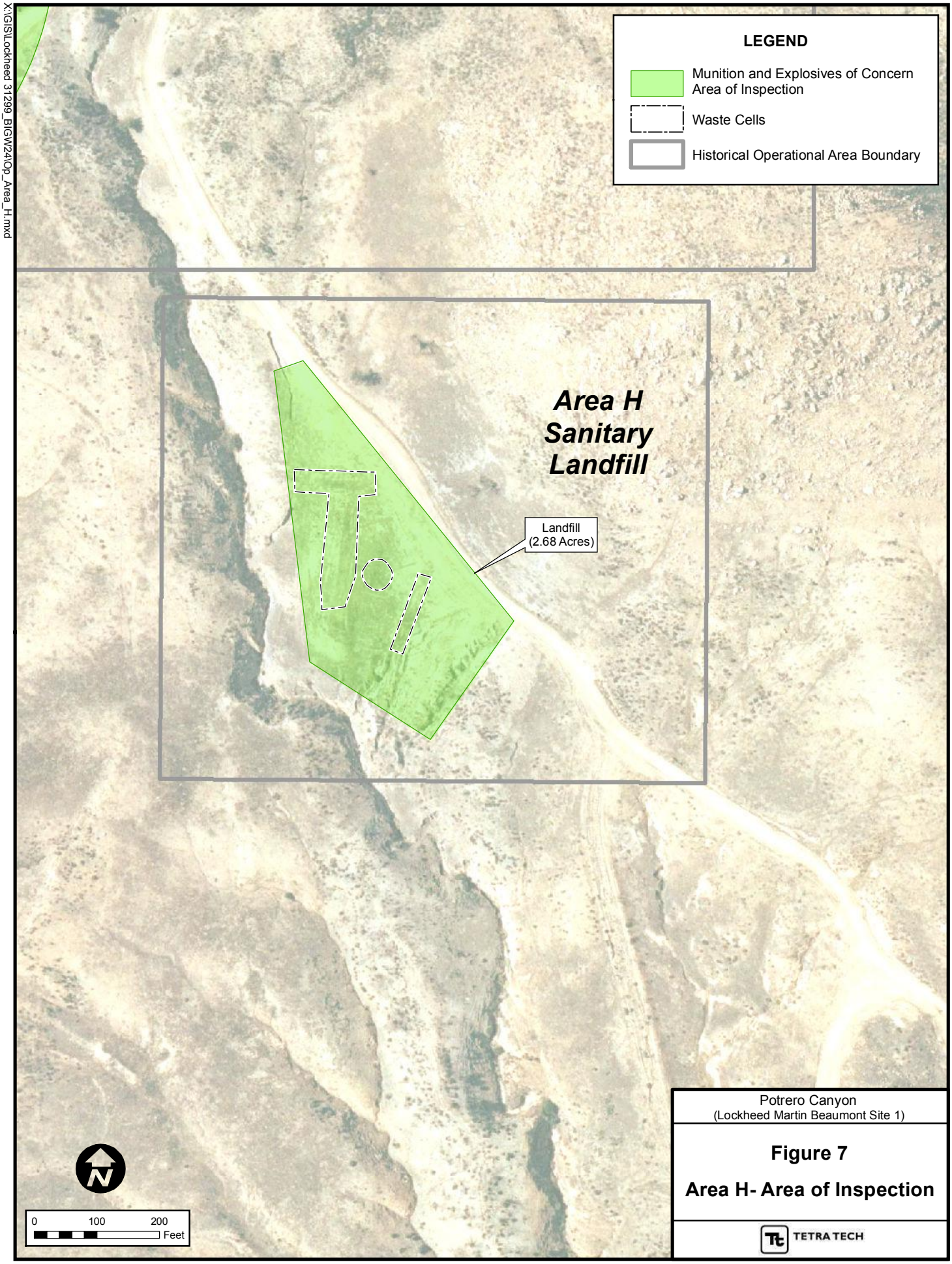


Potrero Canyon
(Lockheed Martin Beaumont Site 1)

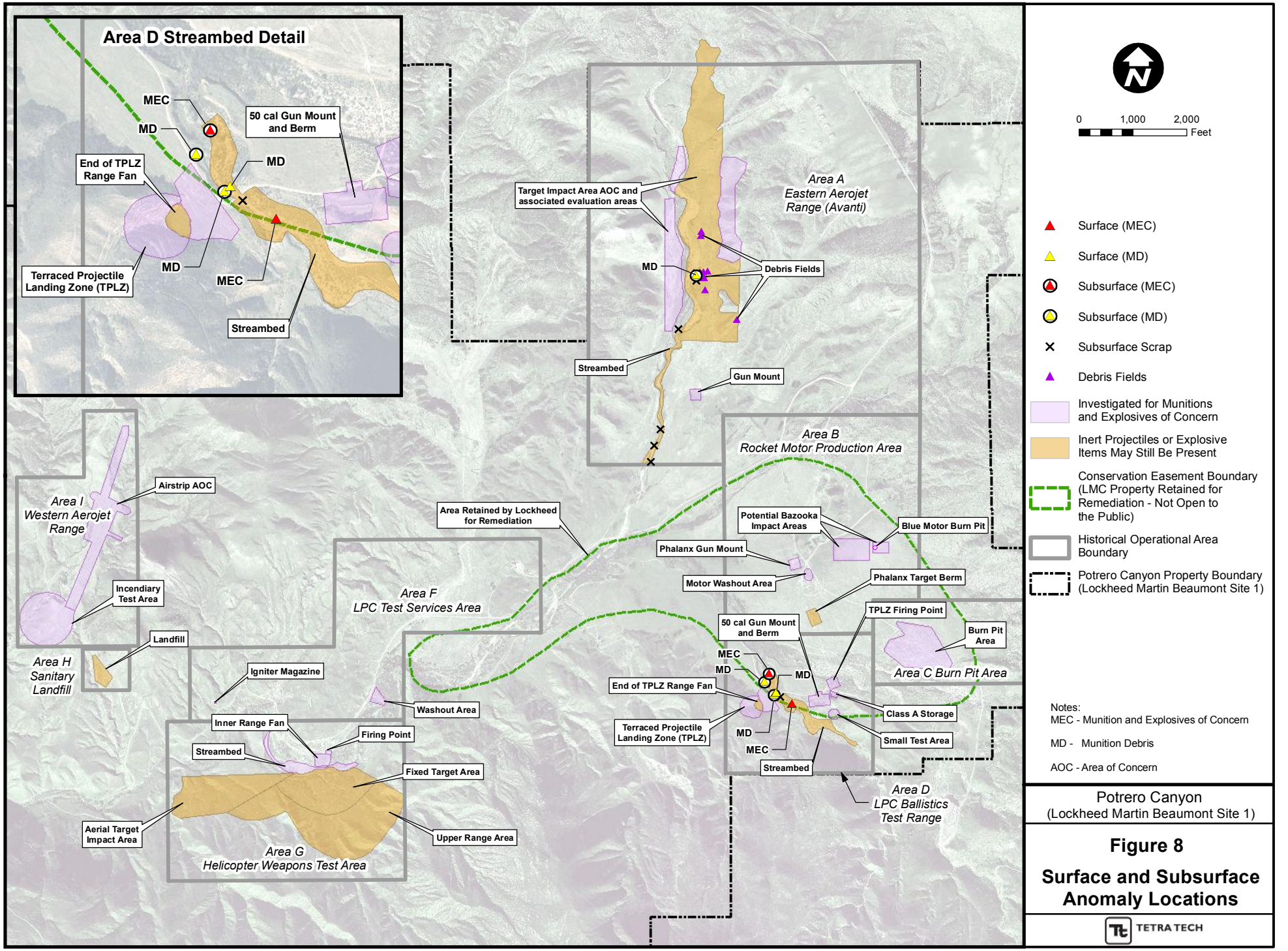
Figure 6

Area G - Munition and Explosives of Concern Area of Inspection

TETRA TECH


X:\GIS\Lockheed 31299_BIGW24\Op_Area_H.mxd
LEGEND
Munition and Explosives of Concern Area of Inspection
Waste Cells
Historical Operational Area Boundary
Area H Sanitary Landfill
Landfill (2.68 Acres)
N
0
100
200
Feet
Potrero Canyon
(Lockheed Martin Beaumont Site 1)
Figure 7
Area H- Area of Inspection
TETRA TECH

X:\GIS\Lockheed 31299_BIGW24\MEC_Targets.mxd



Notes:
MEC - Munition and Explosives of Concern

MD - Munition Debris

AOC - Area of Concern

Potrero Canyon
(Lockheed Martin Beaumont Site 1)

Figure 8

Surface and Subsurface Anomaly Locations

TETRA TECH

Appendix A – Daily Reports

Facility/Location: Beaumont, CA.

Site(s): Lockheed

PREPARATORY PHASE INSPECTION REPORT

Project Name:	MEC Inspection	Project No:	112IC06461	Report No:	001
UXO Team:	NUS	Location:	LOCKEED TEST SITE 1&2	Date:	4/4/14

I. Definable Feature of Work (see Quality Control Plan and revise list as needed)

☒ Mob/Site Preparation	☒ Demobilization	☐
☒ GPS Positional Data	☐	☐
☒ Detector Aided Surface Survey	☐	☐
☒ Intrusive Investigation	☐	☐
☒ MEC Management	☐	☐
☒ MPPEH Management	☐	☐ Other:

II. References (DOD Inst., Corporate references, SOPs, etc.):

BEAUMONT SITE 1 AND 2 HASP AND WORK PLAN

III. Personnel Present (employees performing the work**)** Attach supplemental sheet if necessary

Name	Position	Company
CHRIS PATRICK	OPS & MAINT (O&M) MANAGER	TETRA TECH LOCKHEED
PHILIP HENDERSON	BIOLOGIST	TETRA TECH LOCKHEED
MARK LADD	SUXOS/SAFETY/QC TECH III	TETRA TECH NUS
ROD RUSSELL	TEAM LEAD TECH III	TETRA TECH NUS
SHAUN WOODS	TECH II	TETRA TECH NUS
TYE TURNER	TECH I	TETRA TECH NUS

IV. Submittals Reviewed (Work Plan, EHSP, Permits, etc.) Attach supplemental sheet if necessary

Submittals Reviewed.	Item No.	Date	Approval Authority
Work Plan/HASP/APP/SOP	REV.2.1	3/28/2011	LOCKHEED/TETRA TECH

Have all submittals been approved?	☒ Yes	☐ No
If No, what items have not been submitted/ approved?		
Are all submittals on hand?	☒ Yes	☐ No
If No, what items are missing?		
Check approved submittals against delivered material. (This should be done as material arrives.)		
Comments: NONE		

V. Resources (Personnel & Equipment)

Are adequate resources on hand to effectively conduct work?	☒ Yes	☐ No
If No, what action will be taken?		

VI. Procedures (Project Manger should be involved in this stage of the inspection)

Facility/Location: Beaumont, CA.

Site(s): Lockheed

PREPARATORY PHASE INSPECTION REPORT

Project Name:	MEC Inspection	Project No:	112IC06461	Report No:	001
UXO Team:	NUS	Location:	LOCKEED TEST SITE 1&2	Date:	4/4/14

Review contract specifications. (List special requirements such as location accuracy, format for deliverables, etc.)

Discuss procedure for accomplishing the work (Reference WP Section or SOP).

THE TEAM ATTENDED A DETAILED BRIEF COVERING THE TASK (WORK PLAN), HASP IN RELATION TO GENERAL SAFETY, WILDLIFE PRESENT, ENDANGERED ANIMALS, ROUTE TO MEDICAL FACILITIES AND EMERGENCY PROCEEDURES AND RESOURCES. WE PARTICIPATED IN A TOUR OF THE WORK SITE.
SCHEDULE AS FOLLOWS:
4/5/14: SWEEP SITE 1 USING WHITES AND FLAG/GPS AREAS TO BE EXCAVATED.
4/6/14: SWEEP SITE 2 USING WHITES AND FLAG/GPS AREAS TO BE EXCAVATED.
4/7/14: EXCAVATE FLAGGED AREAS, LOG/PHOTO ITEMS AND DISPOSE ACCORDING TO THE WORK PLAN.
4/8/14: RETURN EQUIPMENT AND DEMOB AREA.

Clarify any differences (revisions needed).

VII. Resolve Differences (What did you do to resolve outstanding issues/problems)

Comments: NONE

VIII. Testing/ Surveillance

Identify Tests/ Surveillance to be performed, frequency, and by whom.

Where will the testing to take place (in the test bed, at a selected monument, etc.)?

Is the Testing/ Surveillance Plan Adequate?

IX. Safety

Review applicable portion of the Health and Safety Plan.

Has the Activity Hazard Analysis been approved? ☒ Yes ☐ No

X. Results of Inspection

☒ Acceptable ☐ Unacceptable		NCR #:
Name: MARK A. LADD	Signature:	Date: 4/4/14

QCM Comments

QCM Review

☒ Concur	☐ Non-Concur	Signature:	Date: 4/4/14

XI. Distribution

☐ PM ☒ UXO Project MGR ☐ UXOSO/QC ☐ SUXOS ☐ CLIENT REP

Facility/Location: **Beaumont, CA.**

Site(s): **Lockheed**

INITIAL PHASE INSPECTION REPORT

Project Name: MEC Inspection | Report No: 001

Project No: 112IC06461 | Location: Lockheed Test sites 1 & 2 | Date: 4/4/14

I. Definable Feature of Work (See Worksheet No. 12 and update list)

☒ Mob/Site Preparation	☒ Demobilization	☐
☒ GPS Positional Data	☐	☐
☒ Detector Aided Surface Survey	☐	☐
☒ Intrusive Investigation	☐	☐
☒ MEC Management	☐	☐
☒ MPPEH Management	☐	☐ Other:

II. References (DOD Inst, Corporate references, SOPs, etc.):

HASP AND WORK PLAN

III. Personnel Present (employees performing the work**)** Attach supplemental sheet if necessary

Name	Position	Company
MARK LADD	SUXSO/SAFETY/QC	TETRA TECH NUS
ROD RUSSELL	TEAM LEADER TECH III	TETRA TECH NUS
SHAUN WOODS	TECH II	TETRA TECH NUS
TYE TURNER	TECH II	TETRA TECH NUS

IV. Preparatory Work (equipment set up & testing, EZ set up, logbook entries, etc.)

Is preliminary work complete and correct?	☒ Yes	☐ No
If No, what action(s) will be taken?		

V. Task Execution

Is work being completed in accordance with plans and specifications?	☒ Yes	☐ No
If No, what corrective action(s) will be taken?		
Is workmanship acceptable?	☒ Yes	☐ No
If No, what action(s) will be taken?		

Facility/Location: Beaumont, CA.

Site(s): Lockheed

INITIAL PHASE INSPECTION REPORT

Project Name: MEC Inspection | Report No: 001

Project No: 112IC06461 | Location: Lockheed Test sites 1 & 2 | Date: 4/4/14

V. Resolve Differences

Comments: NONE

VI. Safety (Review work conditions using HASP and AHAs)

Comments: REVIEWED ALL SAFETY HAZARDS AND AHA'S LOCATED IN THE HASP. RECEIVED A BRIEF ON ENDANGERED WILD LIFE.

VII. Results of Inspection

☒ Acceptable	☐ Unacceptable	NCR #:
Name: MARK A. LADD	Signature:	Date: 4/4/14

QC Manager Comments

QC Manager Review

☒ Concur	☐ Non-Concur	Signature:	Date: 4/4/14

VIII. Distribution

☐ PM ☒ UXO Project MGR ☐ UXOS/QC ☐ SUXOS ☐ CLIENT REP

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/4/14**
PROJECT NO: 112IC06461	**TASK CODES**: 8.b

SUMMARY OF DAILY PROGRESS: (Update Definable Feature of Work - Quality Control Plan)

Mobilization/Site Preparation: Team mobilized on 4/3/14 with site prep on 4/4/14. Team attended Planning document review and site walk.

GPS Positional Data: N/A

Detector Aided Surface Survey: N/A

Target Reacquisition: N/A

MEC Management: N/A

MPPEH Management: N/A

Intrusive Investigation: N/A

Demobilization: N/A

Other: N/A

LIST OF MEC ITEMS ID, MPPEH ITEM ID, MDAS, OR NONE
(for documentation see MEC/MPPEH/MDAS Tracking Logs for added details)**:**

Item ID	Description	Item ID	Description

None

QUANTITY MPPEH SMALL ARMS: 0	**QUANTITY MDAS SMALL ARMS: 0**

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/4/14**

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Team mobilized on 4/3/14.

0900 Team attended the HASP/Work Plan review at the Tetra Tech office.

The team covered all field operations to be performed and reviewed AHA's for the site activities and attended a briefing on endangered species. After the review of all planning documents the team was escorted to the Tetra Tech supply building where equipment needed for the job was loaded. The team then drove to the work site and toured the area and facilities available on site. Following the site walk the team drove the route to the medical facility to ensure everyone was aware of the location. All equipment was inventoried and a supply run was made where needed items were purchased. The team stored and secured all equipment and held a post shift meeting.

IMPORTANT PHONE CALLS/DECISIONS: NONE

FIELD TASK MODIFICATIONS: NONE

WEATHER CONDITIONS: SUNNY AND LOW 70'S

VISITORS ON SITE: PHILLIP HENDERSON, TETRA TECH BIOLOGIST

PERSONNEL ON SITE: MARK LADD, ROD RESSELL, SHAUN WOODS, TYE TURNER

SIGNATURE: MARK A. LADD	**DATE: 4/4/14**

TETRA TECH

MRP FF.22
DAILY TAILGATE SAFETY BRIEFING/TRAINING RECORD

Facility/Location: Beaumont, CA.

Site(s): Lockheed

1. Briefing(s) Given By:	Name	Signature	Position
	MARK LADD		SAFETY/QC
Date: 5 Apr 14	Time: 0600	Team #: N4S	

2. Reason for Briefing:

X Initial Safety Briefing	___ New Site Procedure:_____
X Daily Safety Briefing	___ New Site Information:_____
___ New Task Briefing:_____	___ Review of Site Information
___ Periodic Safety Meeting	___ Other: (Specify)_____

3. List Today's Project Tasks (List AHA's and review with team)

Mag + Flag Site 1 Area A (Large Dry River Bed)

4. Safety Topics: (Check All That Apply – per AHA or Work Permit)

X Site Safety Personnel	___ Decontamination Procedures
X Site/Work Area Description	X Emergency Response/Equipment
X Physical Hazards	X On-Site Injuries/Illness
X Chemical/Biological Hazards	X Reporting Procedures
X Heat/Cold Stress	X Directions to Medical Facility
___ Work/Support Zones	___ Drug and Alcohol Policies
X PPE	___ Medical Monitoring
X Safe Work Practices	X Evacuation/Egress Procedures
___ Air Monitoring	X Communications
___ Task Training	___ Confined Spaces
X UXO Precautions	___ Other:

5. Remarks:

6. Personnel Attending

Name	Signature	Position
ROD RUSSELL		TEAM LEADER
SHAUN WOODS		TECH II
TYE TURNER		TECH II

TETRA TECH
MRP FF.21
DAILY SAFETY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Inspection	**Date**	4/5/14
PROJECT NO.: 112IC06461	**TASK CODES**: 8.b	

SUMMARY OF DAILY ACTIVITIES AND EVENTS:

0700: Held team safety meeting. Discussed PPE, emergency evacuation procedures, buddy system communications, site hazards, UXO notification procedures, heat stress, first aid, route to hospital, situational awareness.

0730: Team assembled and tested equipment

0800: Team began work at Site 1, Area A (large dry river bed)

Observed the team hydrating. All personnel utilizing proper PPE.

1630: Team completed work at Area A and cleaned/stored equipment

1700: Held debrief and secured.

No discrepancies noted.

VISITORS ON SITE (indicate if received Site-Specific Training)**: None**

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

None

WEATHER CONDITIONS: (temp, wind, humidity, precipitation) Low 70's and clear	**IMPORTANT TELEPHONE CALLS**: None

PERSONNEL ON SITE: See Tailgate Safety Briefing/Training Record

SIGNATURE: Mark A. Ladd **DATE**: 4/5/14

TETRA TECH
MRP FF.2
DAILY MEC ACTIVITY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/5/14**
PROJECT NO: 112IC06461	**TASK CODES**: 8.b

SUMMARY OF DAILY PROGRESS: (Update Definable Feature of Work - Quality Control Plan)

Mobilization/Site Preparation: N/A

GPS Positional Data: Collected positional data (Coordinates) of subsurface anomalies.

Detector Aided Surface Survey: Performed detector aided surface survey using White's all metals detectors.

MEC Management: N/A

MPPEH Management: N/A

Intrusive Investigation: N/A

Demobilization: N/A

Other: N/A

LIST OF MEC ITEMS ID, MPPEH ITEM ID, MDAS, OR NONE
(for documentation see MEC/MPPEH/MDAS Tracking Logs for added details)**:**

Item ID	Description	Item ID	Description

None

QUANTITY MPPEH SMALL ARMS: 0	**QUANTITY MDAS SMALL ARMS: 0**

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: _____Beaumont, CA.

Site(s): _____Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/5/14**

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Team held morning brief at 0700 and assembled equipment for the operation. The team embarked to site one Area A (large dry river bed) at 0730. Team reported in at the half way (turn around point) at 1130. The team completed the Area A at 1630. We flagged 8 anomalies for intrusive excavation and recorded each location using the GPS. The GPS coordinates are as follows:

Flag 1: 11S 0505043, UTM 3747601

Flag 2: 11S 0505081, UTM 3747785

Flag 3: 11S 0505185, UTM 3748354

Flag 4: 11S 0505284, UTM 3748630

Flag 5: 11S 0505820, UTM 3748664

Flag 6: 11S 0505287, UTM3748675

Flag 7: 11S 0505236, UTM 3748957

Flag 8: 11S 0505027, UTM 3747601

We cleaned and stored the equipment and held a post shift meeting. The team secured at 1700.

IMPORTANT PHONE CALLS/DECISIONS: NONE

FIELD TASK MODIFICATIONS: NONE

WEATHER CONDITIONS: SUNNY AND LOW 70'S

VISITORS ON SITE: None

PERSONNEL ON SITE: MARK LADD, ROD RESSELL, SHAUN WOODS, TYE TURNER

SIGNATURE: MARK A. LADD	**DATE: 4/5/14**

TETRA TECH

MRP FF.22
DAILY TAILGATE SAFETY BRIEFING/TRAINING RECORD

Facility/Location: Beaumont, CA.

Site(s): Lockheed

1. Briefing(s) Given By:	Name	Signature	Position
	MARK LADD		SAFETY/QC
Date: 4/6/14	Time: 0700	Team #: NUS	

2. Reason for Briefing:

___ Initial Safety Briefing	___ New Site Procedure:_____
X Daily Safety Briefing	___ New Site Information:_____
___ New Task Briefing:_____	___ Review of Site Information
___ Periodic Safety Meeting	___ Other: (Specify)_____

3. List Today's Project Tasks (List AHA's and review with team)

Mag + Flag Site 1 Area "D"

4. Safety Topics: (Check All That Apply – per AHA or Work Permit)

X Site Safety Personnel	___ Decontamination Procedures
X Site/Work Area Description	X Emergency Response/Equipment
X Physical Hazards	___ On-Site Injuries/Illness
X Chemical/Biological Hazards	___ Reporting Procedures
X Heat/Cold Stress	X Directions to Medical Facility
___ Work/Support Zones	___ Drug and Alcohol Policies
X PPE	___ Medical Monitoring
X Safe Work Practices	X Evacuation/Egress Procedures
___ Air Monitoring	X Communications
___ Task Training	___ Confined Spaces
X UXO Precautions	___ Other:

5. Remarks: Held a 5 min Discussion on Snake Bite First Aid.

6. Personnel Attending

Name	Signature	Position
ROD RUSSELL		TEAM LEADER
SHAUN WOODS		TECH II
TYE TURNER		TECH II

TETRA TECH
MRP FF.21
DAILY SAFETY LOG

Facility/Location: __Beaumont, CA.__

Site(s): ___Lockheed___

FIELD ACTIVITY SUBJECT: MEC Inspection	**Date**	4/6/14
PROJECT NO.: 112IC06461	**TASK CODES**: 8.b	

SUMMARY OF DAILY ACTIVITIES AND EVENTS:

0700: Held team safety meeting. Discussed environmental/ecological hazards, UXO notification procedures, heat stress, route to hospital, situational awareness.

0730: Team assembled and tested equipment

0800: Team began work at Site 1, Area D

1630: Team completed work at Area D and cleaned/stored equipment

1700: Held a post shift discussion and secured.

No discrepancies noted.

VISITORS ON SITE (indicate if received Site-Specific Training)**: None**

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

None

WEATHER CONDITIONS: (temp, wind, humidity, precipitation) Upper 70's and clear	**IMPORTANT TELEPHONE CALLS**: Chris Patrick to report suspicious activity at the bunker. (See MEC Daily Report for details)

PERSONNEL ON SITE: See Tailgate Safety Briefing/Training Record

SIGNATURE: Mark A. Ladd **DATE**: 4/6/14

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/6/14**
PROJECT NO: 112IC06461	**TASK CODES**: 8.b

SUMMARY OF DAILY PROGRESS: (Update Definable Feature of Work - Quality Control Plan)

Mobilization/Site Preparation: N/A

GPS Positional Data: Collected positional data (Coordinates) of subsurface anomalies.

Detector Aided Surface Survey: Performed detector aided surface survey using White's all metals detectors.

Intrusive Investigation: N/A

MEC Management: N/A

MPPEH Management: N/A

Demobilization: N/A

Other: N/A

LIST OF MEC ITEMS ID, MPPEH ITEM ID, MDAS, OR NONE
(for documentation see MEC/MPPEH/MDAS Tracking Logs for added details)**:**

Item ID	Description	Item ID	Description

None

QUANTITY MPPEH SMALL ARMS: 0	**QUANTITY MDAS SMALL ARMS: 0**

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: _____Beaumont, CA.

Site(s): _____Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/6/14**

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Team held morning safety brief at 0700 and assembled equipment for the operation. The team embarked to Site one Area D at 0730. The team completed the detector aided survey of Area D at 1630. We flagged 5 anomalies for intrusive excavation and recorded each location using the GPS. The GPS coordinates are as follows:

Flag 9: 11S 0505760, UTM 3740266

Flag 10: 11S 0505826, UTM 3746231

Flag 11: 11S 0505739, UTM 3746286

Flag 12: 11S 0505699, UTM 3746403

Flag 13: 11S 0505739, UTM 3746293

We cleaned and stored the equipment and held a post shift meeting. The team secured at 1700.

IMPORTANT PHONE CALLS/DECISIONS: Chris Patrick (TT Office) to report individuals making an attempt to open the TT bunker. Game Warden was called and responded.

FIELD TASK MODIFICATIONS: NONE

WEATHER CONDITIONS: SUNNY AND UPPER 70'S

VISITORS ON SITE: None

PERSONNEL ON SITE: MARK LADD, ROD RESSELL, SHAUN WOODS, TYE TURNER

SIGNATURE: MARK A. LADD	**DATE: 4/6/14**

TETRA TECH
MRP FF.21
DAILY SAFETY LOG

Facility/Location: __Beaumont, CA.__

Site(s): ___Lockheed___

FIELD ACTIVITY SUBJECT: MEC Inspection	**Date**	4/7/14
PROJECT NO.: 112IC06461	**TASK CODES**: 8.b	

SUMMARY OF DAILY ACTIVITIES AND EVENTS:

Held team tailgate meeting emphasizing on ordnance awareness. We reviewed the first aid steps for snake bites and sun exposure. I observed the team using safe work practices. Did a risk assessment and brief to the visiting bomb squad and escorted them to the work site.

No Discrepancies noted.

VISITORS ON SITE (indicate if received Site-Specific Training)**: Bob Epps and Scott Larsen of the Riverside Bomb Squad were given a site-specific brief and risk assessment.**

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

None

WEATHER CONDITIONS: (temp, wind, humidity, precipitation) Upper 70's and clear	**IMPORTANT TELEPHONE CALLS**: Riverside Bomb Squad, Tom Villeneuve, Ralph Brooks (to report MEC)

PERSONNEL ON SITE: See Tailgate Safety Briefing/Training Record

SIGNATURE: Mark A. Ladd **DATE**: 4/7/14

TETRA TECH
MRP FF.11
DIG SHEET - MANUAL TARGET EXCAVATION RESULTS

Facility/Location: _Beaumont, CA.

Site(s):_____Lockheed_____

Location or Anomaly Number (1)	Coordinates (1)		mV	Detection Equip.	Excavation Dimensions (L x W x D) (inches)/(feet)	Number of Dig Locations	Munitions-Related Items				Non-Munitions Items		No Finds
	Easting	Northing					Number and Description	MEC/ MPPEH/ MDAS	Explosive Weight (lbs)	Disposition Date	Number and Description	Approx. Weight (lbs)	Anomaly Deeper than _4__'? (Y/N)
01	11S0505043	UTM3747691	N/A	White's	8X8X3	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
02	11S0505081	UTM3747785	N/A	White's	10X10X6	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
03	11S0505185	UTM3748354	N/A	White's	10X10X6	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
04	11S0505284	UTM3748630	N/A	White's	10X10X6	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
05	11S050582	UTM3748664	N/A	White's	12X12X8	1	1-30MM BASE	MDAS	0	4/7/14	_____	_____	No
06	11S0505287	UTM3748675	N/A	White's	10X12X6	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
07	11S0505236	UTM3748957	N/A	White's	12X12X6	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
08	11S0505027	UTM3747601	N/A	White's	12X12X6	1	_____	_____	_____	_____	SCRAP METAL	.5 LBS	No
09	11S0505760	UTM3740266	N/A	White's	12X5X4	1	1-20MM FUSED	MEC	3.5OZ	4/7/14	_____	_____	No
10	11S0505826	UTM3746231	N/A	White's	12X12X6	1	1-30MM BASE	MDAS	0	4/7/14	_____	_____	No

Last Revised: 3/31/2011

TETRA TECH
MRP FF.11
DIG SHEET - MANUAL TARGET EXCAVATION RESULTS

Facility/Location: _Beaumont, CA.

Site(s):_____Lockheed_____

Location or Anomaly Number (1)	Coordinates (1)		mV	Detection Equip.	Excavation Dimensions (L x W x D) (inches)/(feet)	Number of Dig Locations	Munitions-Related Items				Non-Munitions Items		No Finds
	Easting	Northing					Number and Description	MEC/ MPPEH/ MDAS	Explosive Weight (lbs)	Disposition Date	Number and Description	Approx. Weight (lbs)	Anomaly Deeper than _4__'? (Y/N)
11	11S0505739	UTM3746286	N/A	White's	12X12X6	1	1-UNKNOWN	MDAS	0	4/7/14	_____	_____	No
12	11S0505699	UTM3746403	N/A	White's	24X18X12	1	2-20MM LINKED	MEC	7 OZ	4/7/14	_____	_____	No
13	11S0505739	UTM3746293	N/A	White's	SURFACE	1	1-20MM BASE	MDAS	0	4/7/14	_____	_____	No
													No
													No

-- = None found or unknown, not applicable.
1) Coordinates supplied by GPS

Signature: _MARK A. LADD_____Date:__4/7/14_____

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/7/14**
PROJECT NO: 112IC06461	**TASK CODES**: 8.b

SUMMARY OF DAILY PROGRESS: (Update Definable Feature of Work - Quality Control Plan)

Mobilization/Site Preparation: N/A

GPS Positional Data: N/A

Detector Aided Surface Survey: Intrusive investigations were cleared using White's all metals detectors.

Intrusive Investigation: Performed intrusive investigation of 13 subsurface anomalies.

MEC Management: Notified PD Bomb Squad of suspect MEC item. (See below).

MPPEH Management: MPPEH items were dual inspected, documented and certified MDAS, and secured in the locked sealed container. (See below).

Demobilization: The team will demobilize on 4/8/14.

Other: N/A

LIST OF MEC ITEMS ID, MPPEH ITEM ID, MDAS, OR NONE
(for documentation see MEC/MPPEH/MDAS Tracking Logs for added details)**:**

Item ID	Description	Item ID	Description
Flag 5	**30mm Projectile Base (MDAS)**	**Flag 12-1**	**20mm Projectile - linked (MEC)**
Flag 9	**20mm Projectile (MEC)**	**Flag 12-2**	**20mm Projectile - linked (MEC)**
Flag 10	**30mm Projectile Base (MDAS)**	**Flag 13**	**20mm Projectile Base (MDAS)**
Flag 11	**Unknown Munition Debris (MDAS)**		

QUANTITY MPPEH SMALL ARMS: 0	**QUANTITY MDAS SMALL ARMS: 0**

TETRA TECH

MRP FF.2

DAILY MEC ACTIVITY LOG

Facility/Location: Beaumont, CA.

Site(s): Lockheed

FIELD ACTIVITY SUBJECT: MEC Site Inspection	**Date: 4/7/14**

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0700 Team held morning safety brief and assembled equipment for the operation. The team embarked to site one Area D at 0730.

We escorted the biologist to each flag in Area D and then Area A. After the biologist was complete he exited the site at 0900. The team began intrusive excavation of targets at 0930 in Area D. The field team recovered 4 MDAS items. The field team identified 3 MEC items. Notification procedures were followed and MEC items were reported to the Sheriff's department for bomb squad disposal.

1030 the team completed Area D. The team proceeded to Area A at 1100 to begin excavation of flagged areas. The Riverside Sheriff Bomb Squad arrived at 1200 and was briefed and escorted to Area D.

1400 the Bomb Squad had completed the demo of items in Area D and SUXOS escorted them out the gate. All MEC items were rendered MDAS

1530 MDAS items were dual inspected, inventoried, certified, and secured (seal# 3869064) in the MDAS container and then secured in the TT Bunker.

1600 the team cleaned and packed equipment for shipment. We held a post shift meeting. The team secured at 1700. Custody of MDAS has been transferred to TTDIV.

All field activities have been completed.

IMPORTANT PHONE CALLS/DECISIONS: Riverside Bomb Squad to dispose of MEC items in Area D

FIELD TASK MODIFICATIONS: NONE

WEATHER CONDITIONS: SUNNY AND MID 80'S

VISITORS ON SITE: Bob Epps and Scott Larsen

PERSONNEL ON SITE: MARK LADD, ROD RESSELL, SHAUN WOODS, TYE TURNER, PHILLIP HENDERSON

SIGNATURE: MARK A. LADD	**DATE: 4/7/14**

Appendix B –Photographic Log

TETRA TECH

MRP FF.5
Photographic Log

Facility/Location: Beaumont, CA..

Site(s): Lockheed

Photograph Number	Date	Taken By (initials)	Subject/Description	Anomaly ID (if applicable)	Remarks/Comments
001	4/5/14	MAL	TEAM IN AREA A		TEAM USING WHITES
002	4/5/14	MAL	20MM MEC	FLAG 9	AREA D
003	4/5/14	MAL	20MM MEC	FLAG 9	AREA D
004	4/5/14	MAL	20MM MEC	FLAG 9	AREA D
005	4/5/14	MAL	20MM MEC	FLAG 9	AREA D
006	4/5/14	MAL	20MM MEC	FLAG 9	AREA D
007	4/5/14	MAL	30MM BASE MDAS	FLAG 10	AREA D
008	4/5/14	MAL	30MM BASE MDAS	FLAG 10	AREA D
009	4/5/14	MAL	UNKNOWN MDAS	FLAG 11	AREA D
010	4/5/14	MAL	UNKNOWN MDAS	FLAG 11	AREA D
011	4/5/14	MAL	PAIR 20MM LINKED MEC	FLAG 12	AREA D
012	4/5/14	MAL	PAIR 20MM LINKED MEC	FLAG 12	AREA D
013	4/5/14	MAL	PAIR 20MM LINKED MEC	FLAG 12	AREA D
014	4/5/14	MAL	PAIR 20MM LINKED MEC	FLAG 12	AREA D
015	4/5/14	MAL	20MM BASE EMPTY MDAS	FLAG 13	AREA D
016	4/5/14	MAL	20MM BASE EMPTY MDAS	FLAG 13	AREA D
017	4/5/14	MAL	SCRAP METAL	FLAG 1	AREA A
018	4/5/14	MAL	SCRAP METAL	FLAG 2	AREA A
019	4/5/14	MAL	SCRAP METAL	FLAG 3	AREA A
020	4/5/14	MAL	SCRAP METAL	FLAG 4	AREA A

TETRA TECH

MRP FF.5
Photographic Log

Facility/Location: Beaumont, CA..

Site(s): Lockheed

Photograph Number	Date	Taken By (initials)	Subject/Description	Anomaly ID (if applicable)	Remarks/Comments
021	4/5/14	MAL	30MM BASE EMPTY MDAS	FLAG 5	AREA A
022	4/5/14	MAL	30 MM BASE EMPTY MDAS	FLAG 5	AREA A
023	4/5/14	MAL	SCRAP METAL	FLAG 6	AREA A
024	4/5/14	MAL	SCRAP METAL	FLAG 7	AREA A
025	4/5/14	MAL	SCRAP METAL	FLAG 8	AREA A

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 001

Flag No.:
NA

COORDINATES:
N/A

DESCRIPTION:

Team Performing Survey in Area A

PHOTO - 002

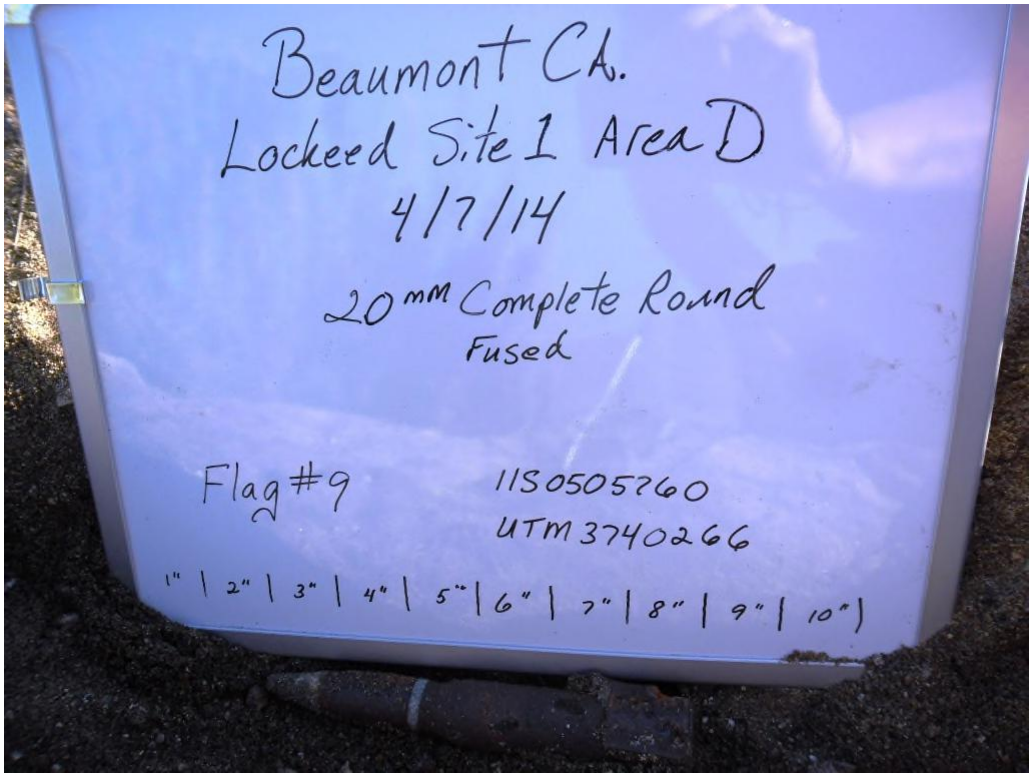
Flag No.: 9

COORDINATES:
11S0505760E
UTM3740266N

DESCRIPTION:

20mm Cartridge Unfired (MEC)

Depth: 6 Inches



2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 003

Flag No.: 9

COORDINATES:
11S0505760E
UTM3740266N

DESCRIPTION:

20mm Projectile Unfired (MEC)

Depth: 6 Inches

PHOTO - 004

Flag No.: 9

COORDINATES:
11S0505760E
UTM3740266N

DESCRIPTION:

***20mm* Cartridge Unfired(MEC)**

Depth: 6 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 005

Flag No.: 09

COORDINATES:
11S0505760E
UTM3740266N

DESCRIPTION:

20mm Cartridge Unfired (MEC)

Depth: 6 Inches

PHOTO - 006

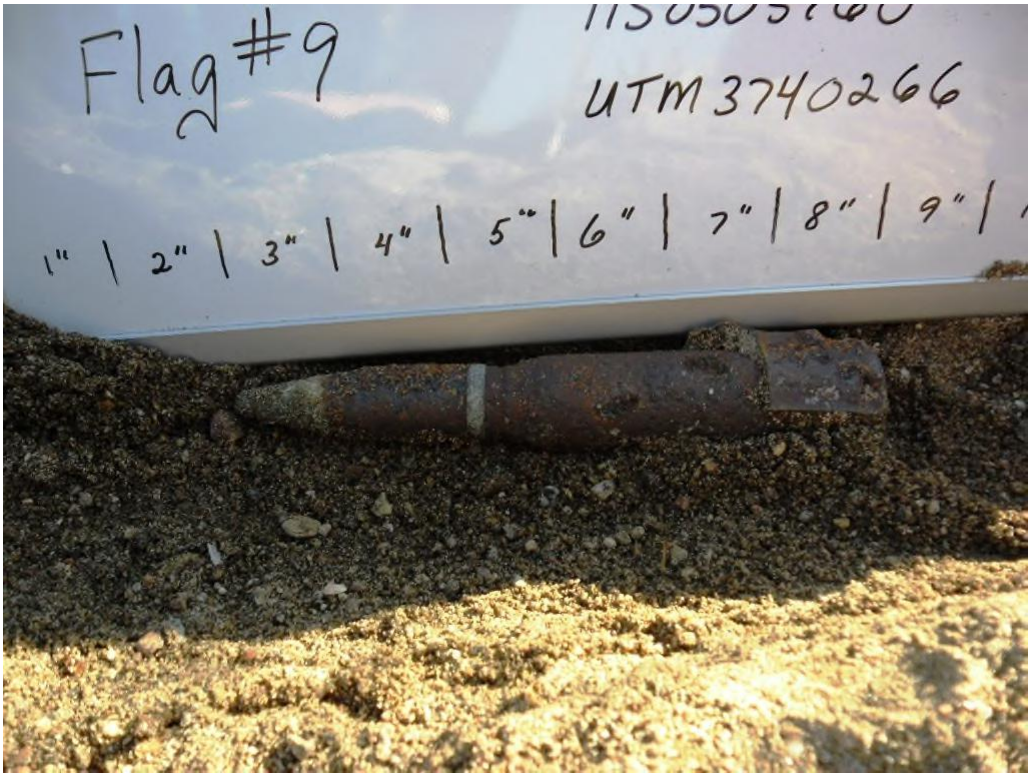
Flag No.: 09

COORDINATES:
11S0505760E
UTM3740266N

DESCRIPTION:

20mm Cartridge Unfired (MEC)

Depth: 4 Inches



2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 007

Flag No.: 10

COORDINATES:
11S0505826E
UTM3746231N

DESCRIPTION:

30mm Projectile Base (MD)

Depth: 6 Inches

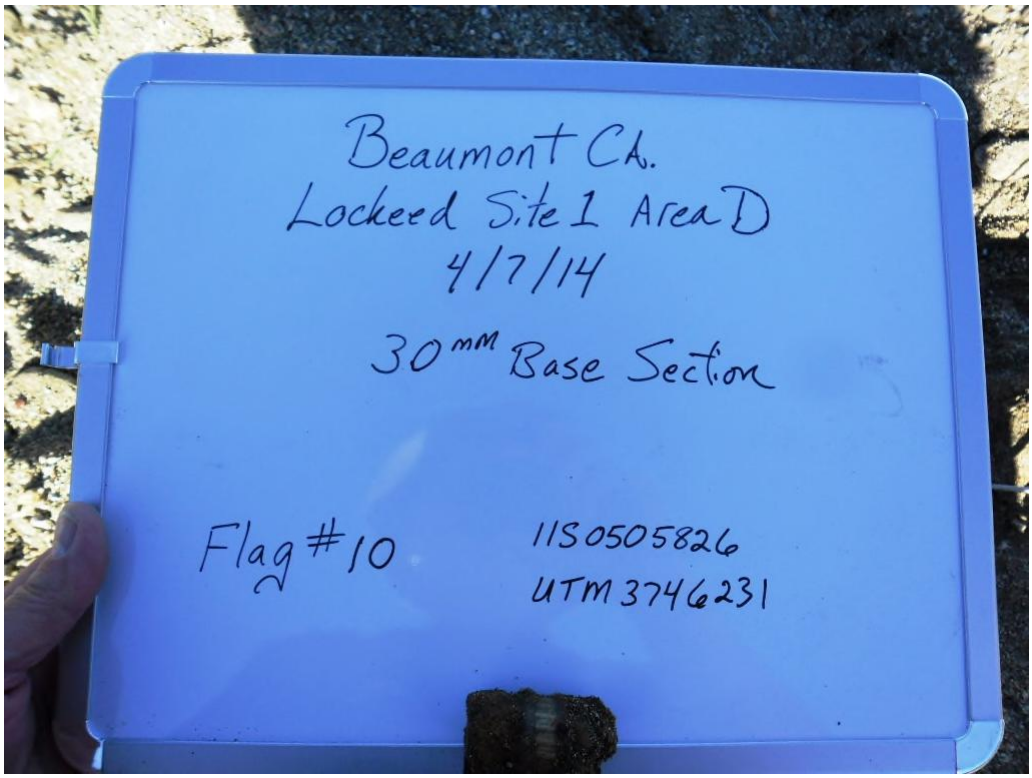


PHOTO - 008

Flag No.: 10

COORDINATES:
11S0505760E
UTM3746231N

DESCRIPTION:

30mm Projectile Base (MD)

Depth: 6 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 009

Flag No.: 11

COORDINATES:
11S0505739E
UTM3746286N

DESCRIPTION:

Unknown Munition Item (MD)

Depth: 6 Inches

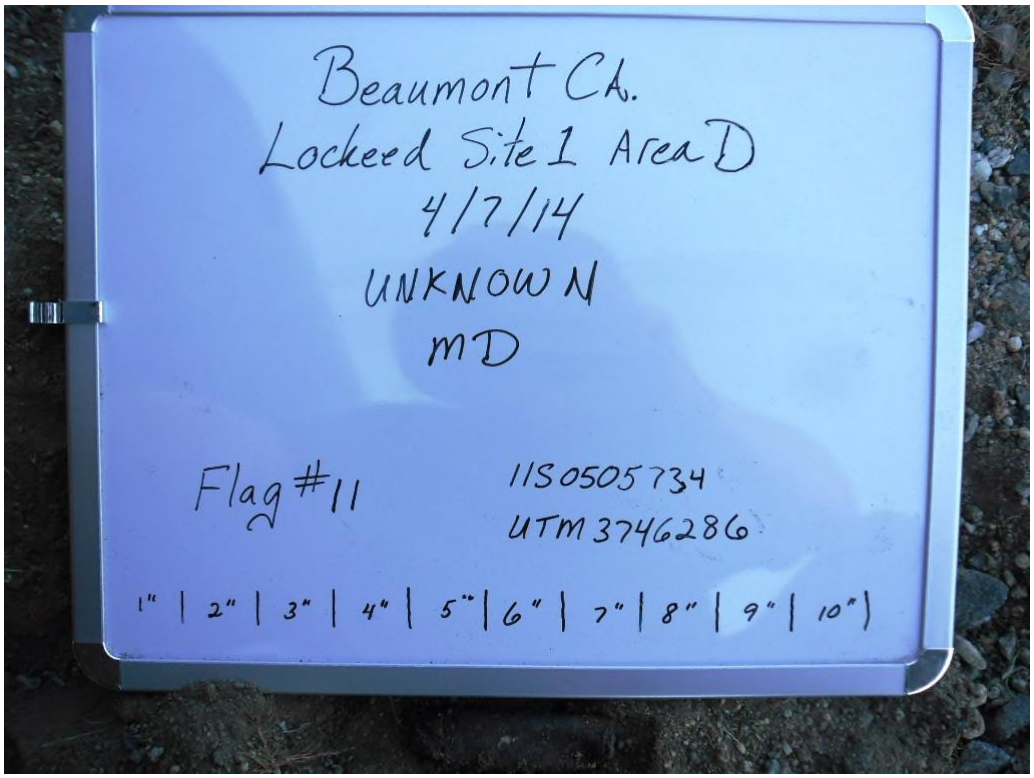


PHOTO - 010

Flag No.: 11

COORDINATES:
11S0505739E
UTM3746286N

DESCRIPTION:

Unknown Munition Item (MD)

Depth: 6 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 011

Flag No.: 12

COORDINATES:
11S0505699E
UTM3746403N

DESCRIPTION:

((2) 20mm Linked Cartridges, Unfired (MEC)

Depth: 12 Inches

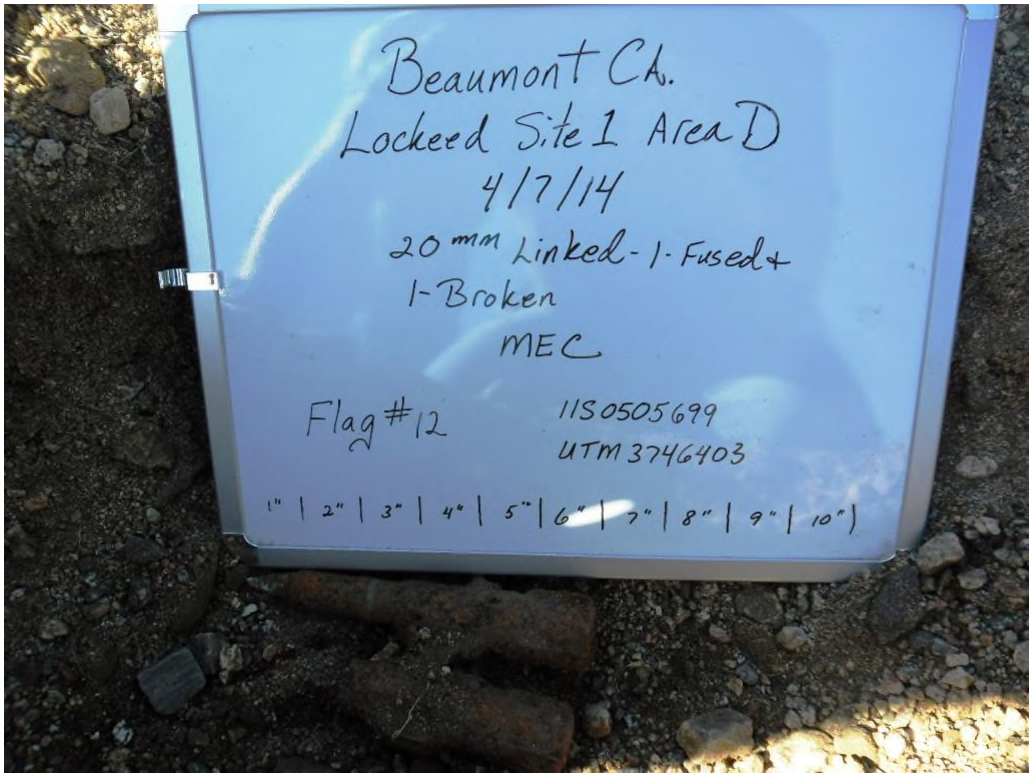


PHOTO - 012

Flag No.: 12

COORDINATES:
11S0505699E
UTM3746403N

DESCRIPTION:

((2) 20mm Linked Cartridges, Unfired (MEC)

Depth: 12 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 013

Flag No.: 12

COORDINATES:
11S0505699E
UTM3746403N

DESCRIPTION:

((2) 20mm Linked Cartridges, Unfired (MEC)

Depth: 12 Inches

PHOTO - 014

Flag No.: 12

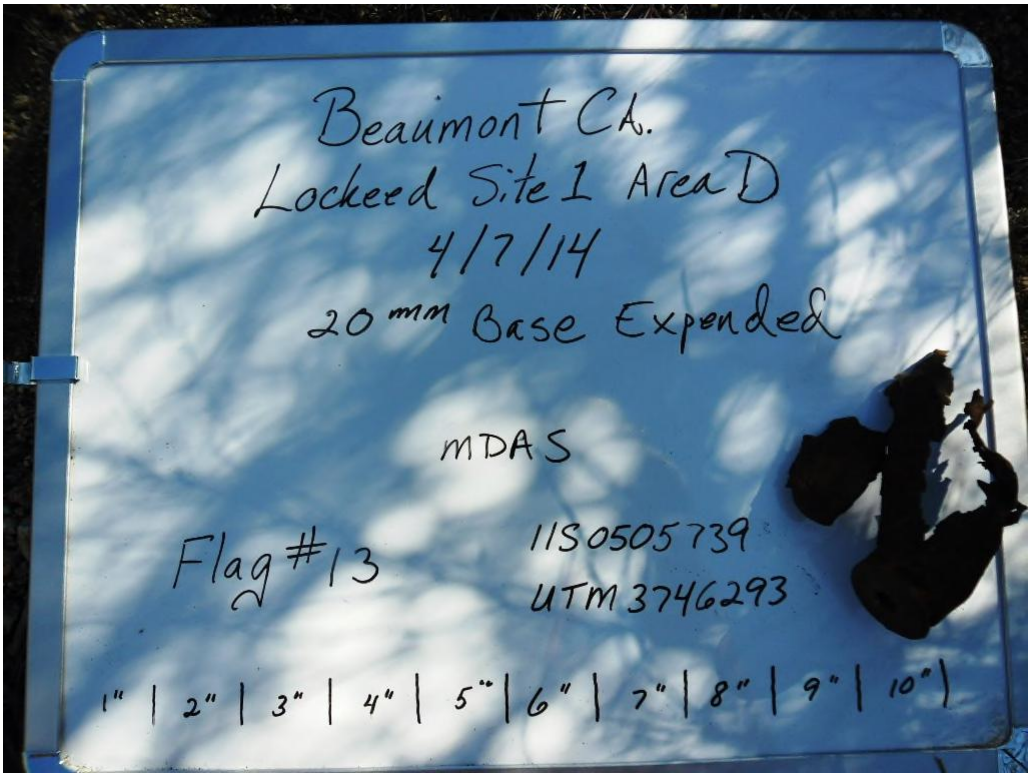
COORDINATES:
11S0505699E
UTM3746403N

DESCRIPTION:

(2) 20mm Projectiles Linked (MEC)

Depth: 12 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 015	
Flag No.: 13	
COORDINATES: 11S0505739E UTM3746293N	
DESCRIPTION: 20mm Cartridge Case, No Powder or Primer (MD) Depth: Surface	
PHOTO - 016	
Flag No.: 13	
COORDINATES: 11S0505739E UTM3746293N	
DESCRIPTION: 20mm Cartridge Case, No Powder or Primer (MD) Depth: Surface	

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 017

Flag No.: 01

COORDINATES:
11S0505043E
UTM3747691N

DESCRIPTION:

Scrap Metal

Depth: 3 Inches

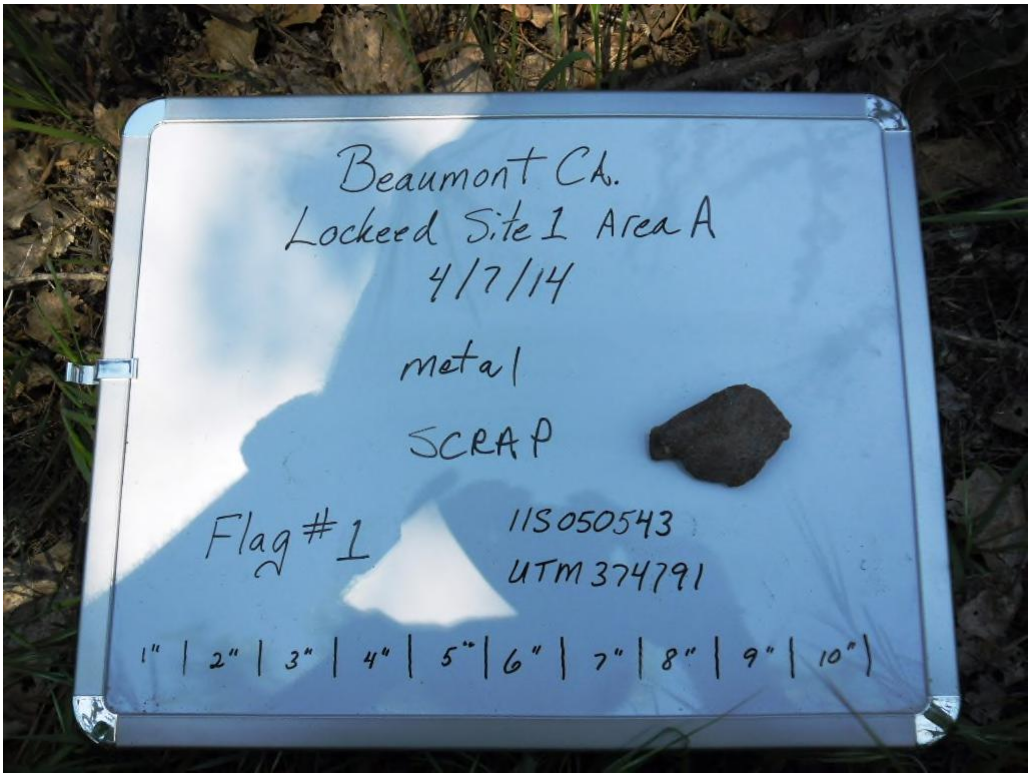


PHOTO - 018

Flag No.: 02

COORDINATES:
11S0505081
UTM3747785N

DESCRIPTION:

Scrap Metal

Depth: 6 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 019

Flag No.: 03

COORDINATES:
11S0505185E
UTM3748354N

DESCRIPTION:

Scrap Metal

Depth: 6 Inches

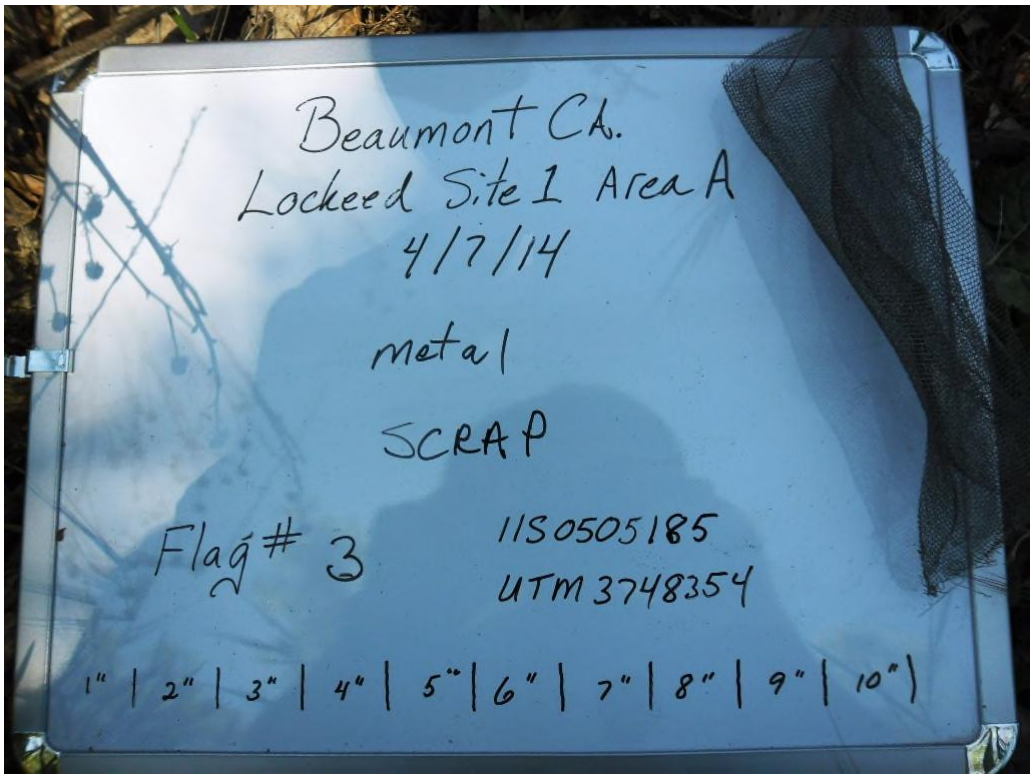


PHOTO - 020

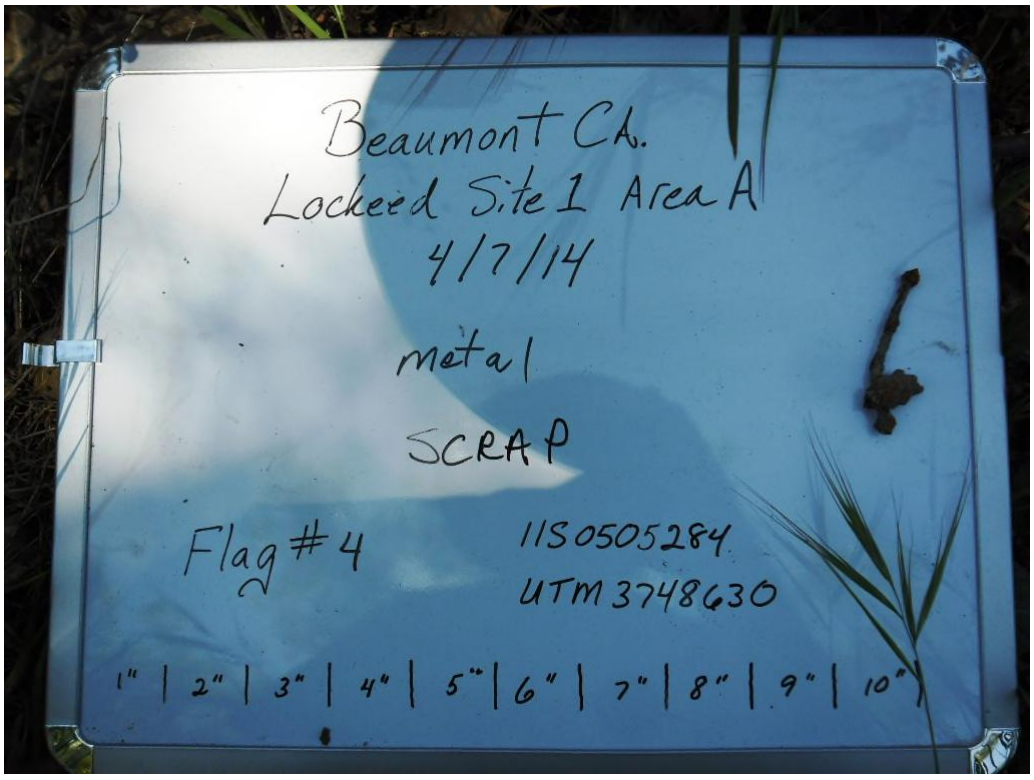
Flag No.: 04

COORDINATES:
11S0505284E
UTM3748630N

DESCRIPTION:

Scrap Metal

Depth: 6 Inches



2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 021

Flag No.: 05

COORDINATES:
11S050582E
UTM3748664N

DESCRIPTION:

30mm Projectile Base (MD)

Depth: 8 Inches

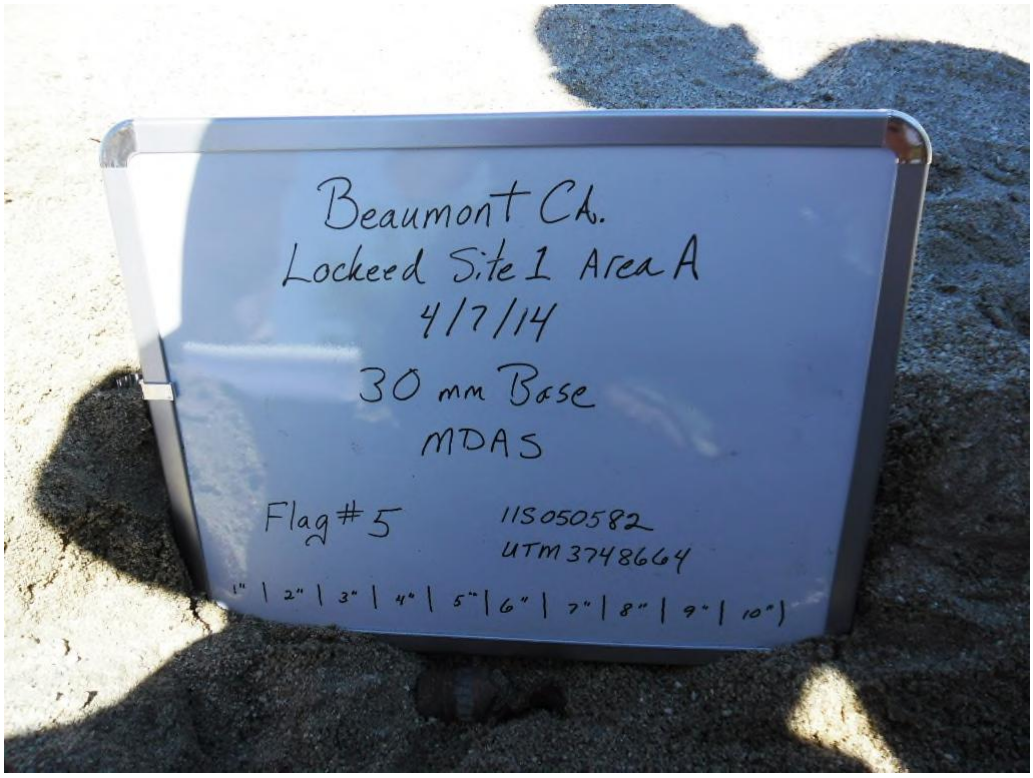


PHOTO - 022

Flag No.: 05

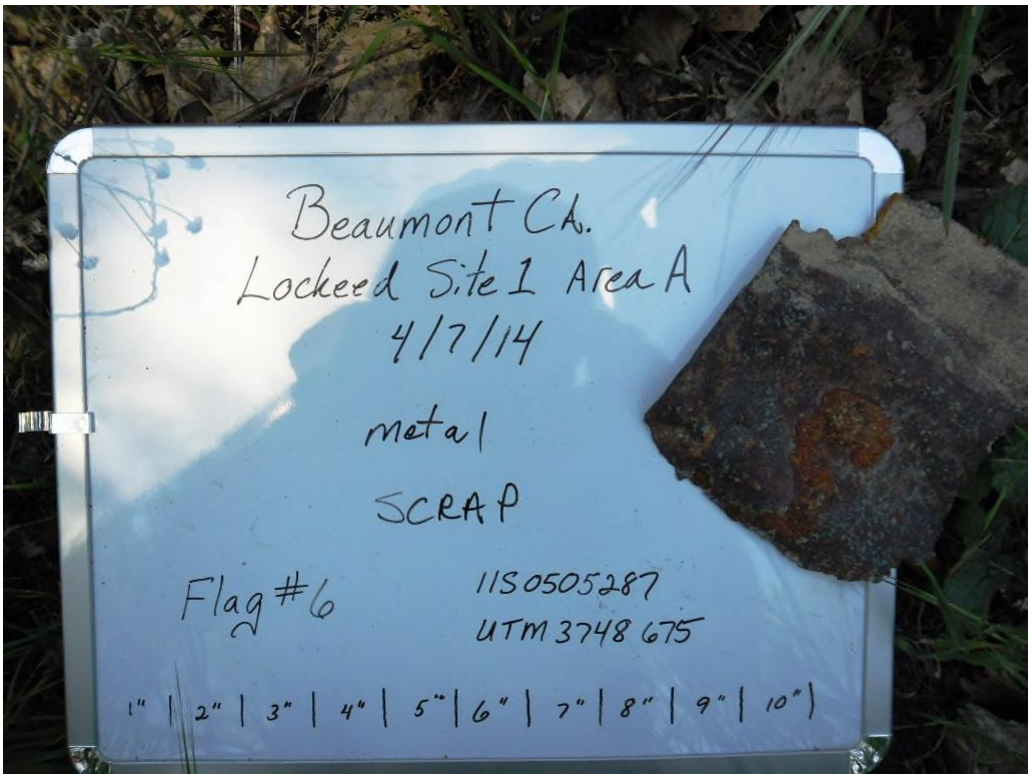
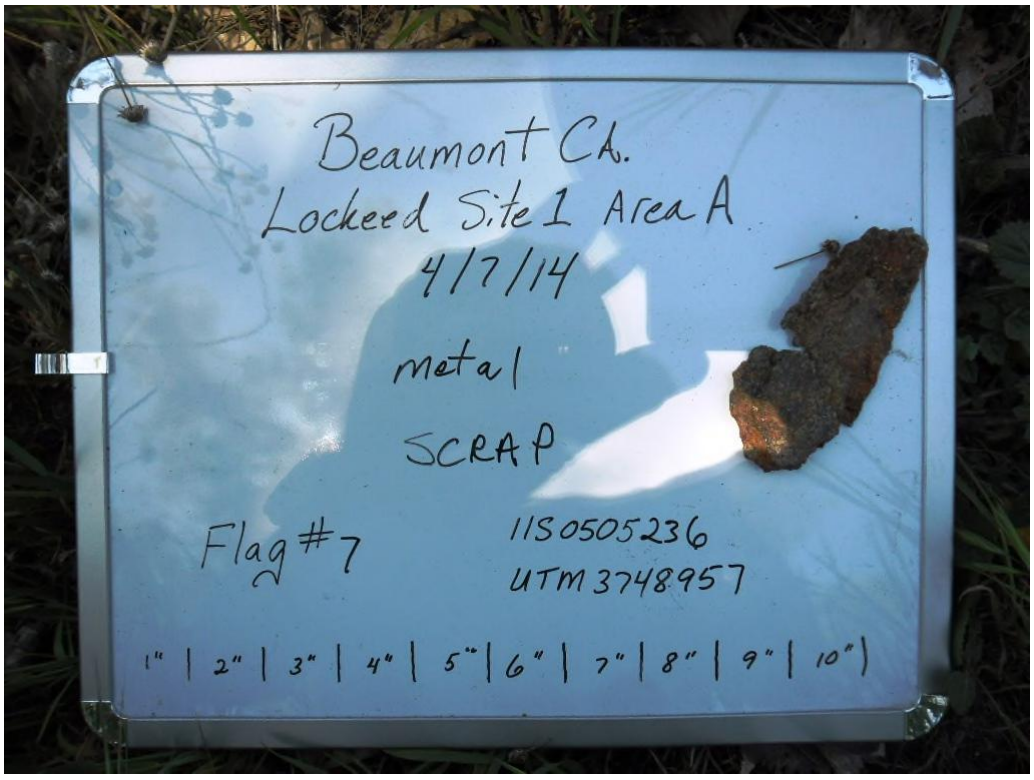
COORDINATES:
11S050582E
UTM3748664N

DESCRIPTION:

30mm Projectile Base (MD)

Depth: 8 Inches

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 023	
Flag No.: 06	
COORDINATES: **11S0505287E** **UTM3748675N**	
DESCRIPTION: **Scrap Metal** **Depth: 6 Inches**	
PHOTO - 024	
Flag No.: 07	
COORDINATES: **11S0505236E** **UTM3748957N**	
DESCRIPTION: **Scrap Metal** **Depth: 6 Inches**	

2014 MEC Inspection Report
Potrero Canyon Lockheed Martin
Beaumont Site 1

PHOTO - 025

Flag No.: 08

COORDINATES:
11S0505027E
UTM3747601N

DESCRIPTION:

Scrap Metal

Depth: 6 Inches