



**Department of Energy**  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

16-AMRP-0185

**MAY 25 2016**

Mr. D. A. Faulk, Program Manager  
Office of Environmental Cleanup  
Hanford Project Office  
U.S. Environmental Protection Agency  
825 Jadwin Avenue, Suite 210  
Richland, Washington 99352

Dear Mr. Faulk:

TRANSMITTAL OF APPROVED WASTE SITE RECLASSIFICATION FORM AND  
SUPPORTING DOCUMENTATION FOR THE 600-349, UNEXPLODED ORDNANCE  
(UXO) OUTSIDE OF 600-149, REVISION 0

Attached for your use is the approved Waste Site Reclassification Form No. 2015-014,  
and supporting documentation for the, "600-349, Unexploded Ordnance (UXO) Outside of  
600-149," Rev. 0. If you have questions, please contact me or your staff may contact John Neath  
of my staff, at (509) 372-0649.

Sincerely,

A handwritten signature in black ink that reads "Mark S. French".

Mark S. French, Director  
River Corridor Division

AMRP:JPN

Attachment

cc w/attach:  
B. Simes, EPA-HQ  
Administrative Record, H6-08

cc w/o attach:  
A. L. Espinoza, MSA  
J. A. Lerch, WCH  
D. L. Plung, WCH

## WASTE SITE RECLASSIFICATION FORM

Operable Unit: 100-IU-6

Control No.: 2015-014

Waste Site Code(s)/Subsite Code(s): 600-349

Reclassification Category: Interim  Final

Reclassification Status: Closed Out  No Action  Rejected   
RCRA Postclosure  Consolidated  None

Approvals Needed: DOE  Ecology  EPA

**Description of current waste site condition:**

The 600-349, Unexploded Ordnance (UXO) Outside of 600-149 waste site is located in the 100-IU-6 Operable Unit of the Hanford Site, north of the east end of Gable Mountain (Attachment A, Figure A-1). The site covers 49.2 ha (121.51 ac) and is identified as a buffer around the former 600-149 Small Arms Range waste site. The 600-349 waste site consisted of potential unexploded ordnance (UXO) in an area southwest of the 600-149 waste site, extending from the perimeter of the 600-149 waste site as far as a fired rifle grenade could travel. The Small Arms Range operated from the mid-1940s through the 1950s as a practice range for handguns, rifles, shotguns, machine guns, hand grenades, smoke bombs, and other small arms and incendiary devices.

**Basis for reclassification:**

Surface and subsurface munitions and explosives of concern (MEC) were removed from the 600-349 waste site. Because no hazardous substance other than UXO was associated with the 600-349 waste site, the removal of practice range-related debris and other debris and clearance of this area by UXO surveys was the necessary action to reclassify the subsite as Final Closed Out. Attachment B includes documentation supporting these surveys.

Field work at the 600-349 waste site was conducted between April 11, 2014, and September 5, 2014. Surface clearance activities were first conducted over the entire project site prior to digital geophysical mapping (DGM) and analog investigation operations. The surface clearance teams walked side-by-side 1.5 m (5 ft) apart, visually scanning the surface terrain while systematically using hand-held metal detectors to assist in finding metallic objects. All metallic surface debris within the project area was removed to a staging area. During this surface clearance, two UXO items were discovered and removed (one partial Lake Erie Jumper Repeater Tear Gas Candle and one intact Lake Erie Tru-Flite 37-mm CS/CN [tear gas] Barricade Projectile). Approximately 137.5 kg (303 lbs) of munitions debris consisting of grenade fragments and expended small arms were removed during the surface clearance. A variety of practice range-related debris and other debris were encountered during the surface clearance consisting of metal containers, nails, screws, and steel drums.

The DGM surveys could only be performed on 5.4 ha (13.3 ac) of the 49.2-ha (121.51-ac) project site due to the steep and rugged terrain, heavy vegetation, and interference from a high-voltage power line running across the site. The DGM survey identified 373 anomalies that met the threshold survey criteria. It was determined that only 209 selected anomalies were actual metallic responses. Exterior and interior surfaces of recovered material potentially presenting an explosive hazard were inspected to ensure they did not present an explosive hazard. During the intrusive investigation of the selected DGM anomalies, one UXO item (a complete Lake Erie Tru-Flite 37-mm CS/CN Barricade Projectile) and eight munitions debris items (consisting of grenade fragments) were discovered and removed.

Over the remaining 43.8 ha (108.21 ac) of the project site, the subsurface MEC removal was performed using analog methodologies (hand-held metal detectors). Investigation of anomalies identified during analog surveys resulted in the discovery and removal of 11 UXO items including 3 partial Lake Erie Jumper Repeater Tear Gas Candles, 6 complete Lake Erie Tru-Flite 37-mm CS/CN Barricade Projectiles, and 2 partial Lake Erie Tru-Flite 37-mm CS/CN Barricade Projectiles. The types of munitions debris removed consisted of grenade fragments, small arms, and a 37-mm fin assembly. Other types of practice range-related debris recovered consisted of drums and metal containers used as targets. Other general debris such as barbed wire, grounding wires/rods, chain, and construction-related material were also observed.

In total, an estimated 182 kg (400 lbs) of munitions debris was accumulated during the removal. Munitions debris were secured in two 208-L (55-gal) drums and staged for disposal. Items discovered with the possibility of containing energetic

## WASTE SITE RECLASSIFICATION FORM

**Operable Unit:** 100-IU-6

**Control No.:** 2015-014

**Waste Site Code(s)/Subsite Code(s):** 600-349

material have been removed from the site by the Yakima Firing Range 53<sup>rd</sup> Ordnance Company for offsite detonation and disposal as part of training operations.

The report submitted by the UXO team is included in Attachment B, and provides additional information on the findings of this investigation.

Attachment C includes information on the location and results of characterization sampling performed in March 2016. In March 2015, RL and EPA agreed to develop a characterization plan to evaluate lead concentrations in soil to help inform future decisions (WCH 2015). Lead concentrations observed were all below the background value of 10.2 mg/kg (DOE-RL 2014).

**References:**

DOE-RL, 2014, *Remedial Design Report/Remedial Action Work Plan Addendum for 100-FR-1, 100-FR-2, 100-IU-2, and 100-IU-6 Soils*, DOE/RL-2014-44-ADD1, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

WCH, 2015, *Characterization Sampling for Lead in the Area of the 600-349 Waste Site*, Rev. 0, Washington Closure Hanford, Richland, Washington.

**Regulator comments:**

**Waste Site Controls:**

Engineered Controls:       Yes    No      Institutional Controls:       Yes    No      O&M Requirements:       Yes    No

If any of the Waste Site Controls are checked Yes, specify control requirements including reference to the Record of Decision, TSD Closure Letter, or other relevant documents:

J. Neath

DOE Federal Project Director (printed)

Signature

Date

N/A

Ecology Project Manager (printed)

Signature

Date

C. Guzzetti

EPA Project Manager (printed)

Signature

Date

5/10/16

5/10/16

**600-349, UNEXPLODED ORDNANCE (UXO) OUTSIDE OF 600-149**

**Attachment to Waste Site Reclassification Form 2015-014**

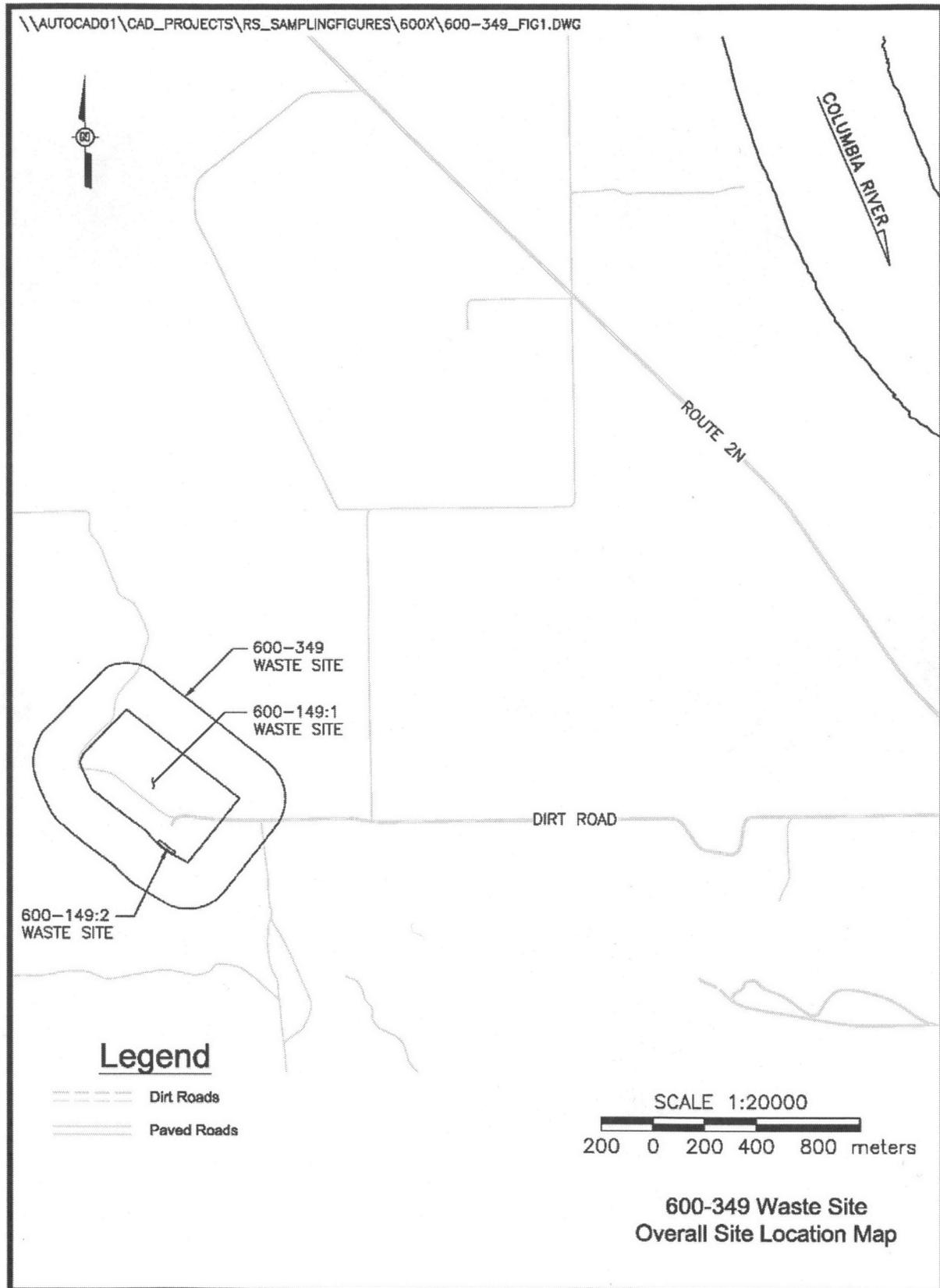
**May 2016**



**ATTACHMENT A**  
**FIGURE**



Figure A-1. The 600-349 Waste Site Location Map.





**ATTACHMENT B**  
**MUNITIONS AND EXPLOSIVES OF CONCERN (MEC)**  
**SUMMARY REPORT**



WASHINGTON CLOSURE HANFORD										JOB NO. 14655							
<b>SUPPLIER/SUBCONTRACTOR DOCUMENT STATUS STAMP</b>																	
<p>1. <input checked="" type="checkbox"/> Work may proceed.</p> <p>2. <input type="checkbox"/> Revise and resubmit. Work may proceed prior to resubmission.</p> <p>3. <input type="checkbox"/> Revise and resubmit. Work may proceed prior to resubmission subject to resolution of indicated comments.</p> <p>4. <input type="checkbox"/> Revise and resubmit. Work may not proceed.</p> <p>5. <input type="checkbox"/> Permission to proceed not required.</p>																	
<p>Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier/subcontractor and does not relieve supplier/subcontractor from full compliance with contractual obligations or release any "holds" placed on the contract.</p>																	
	CIVIL	STRUCTURAL / GEOTECHNICAL	ELECTRICAL	MECHANICAL	PROCESS / NUCLEAR	CAID	PROJECT REP.	ENVIRONMENTAL	WASTE MANAGEMENT	SAFETY	INDUSTRIAL HYGIENE	FIRE PROTECTION	QA	RADON	FIELD ENGINEER	TRAINING	OTHER
CHECK REVIEW REQUIREMENT							DS								JEF		
REVIEWED BY							DS								JEF		
<div style="display: flex; justify-content: space-between;"> <span><i>[Signature]</i></span> <span><i>[Signature]</i></span> </div>																	
Project Engineer/STR												Date					
DOCUMENT ID NUMBER																	
C036809A00-09-021-001A																	
SC/P.O. No.				SSRS ITEM				SUBMITTAL									

WCH-DE-012 (02/13/2014)

C036809A00-09-022-001A

E:1402033

**RECEIVED**

FEB 04 2015

**WCH - DOCUMENT CONTROL**

**FINAL**

**MEC SUMMARY REPORT  
600-349 MEC Removal Action**

**Hanford Site  
Richland, WA**

**Submittal No. 9-21 and No. 9-22**

*Prepared for:*

**Washington Closure Hanford LLC  
2620 Fermi Avenue  
Richland, WA 99354**

**Subcontract No: C036809A00**

*Prepared by:*

**TerranearPMC  
6722 West Kennewick Avenue  
Richland, WA 99336**

**January 2015**

**FINAL**

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**January 2015**

**C036809A00-09-021-001A  
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**FEB 04 2015**

**WCH - DOCUMENT  
CONTROL**

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CH2	channel 2
cm	centimeters
CS/CN	Tear Gas
DCR	Document Change Request
DGM	Digital Geophysical Mapping
DGPS	Differential Global Positioning System
DQOs	Data Quality Objectives
DQCR	Data Quality Control Report
DODI	Department of Defense Instruction
EOD	Explosive Ordnance Disposal
EM	Engineering Manual
ft	foot/feet
FTP	File Transfer Protocol
GPS	Global Positioning System
IAW	In accordance with
ISOs	industry standard objects
IVS	Instrument Verification Strip
kV	kilovolt
MD	munitions debris
MEC	Munitions and Explosives of Concern
mm	millimeter
MPPEH	Material Potentially Presenting an Explosive Hazard
mV	Millivolt
OH	Over Head
QA	quality assurance
QC	quality control
QC/QA	quality control/quality assurance
QCIs	Quality Control Inspections
RA	Removal Action
RTK	Real Time Kinematic
SOW	Scope of Work
STR	Subcontractor Technical Representative
SUXOS	Senior UXO Supervisor
TPMC	TerranearPMC, LLC
US	United States
USACE	U.S. Army Corps of Engineer
UXO	Unexploded Ordnance
UXOQCS	UXO Quality Control Specialist
WA	Washington
WCH	Washington Closure Hanford

## EXECUTIVE SUMMARY

TerranearPMC, LLC (TPMC) was contracted by Washington Closure Hanford LLC, under Construction Subcontract Number C036809A00, dated February 24, 2014; to complete the 600-349 Munitions and Explosives of Concern (MEC) Removal Action at the Hanford facility near Richland, Washington (WA).

The project sites are located within the 600 Area of the Hanford facility in Benton County, approximately 19 miles north of Richland, WA (Figure A-1, Appendix A). The 600-349 site covers 121.51 acres and is identified as a buffer around the Former Small Arms Rifle and Pistol Range (Site 600-149) (Figure A-2).

A 100-foot (ft) x 100-ft grid system was established over the investigation area. The grid corners were surveyed by a Washington state -licensed surveyor. Prior to the analog and DGM surveys, TPMC performed a metal detector assisted surface clearance of the 121.51 acres.

Steep and rugged terrain associated with Gable Mountain, heavy vegetation, and a high voltage power line running across the site encountered during the removal action at Site 600-349 resulted in the need to complete the MEC investigation using analog methodologies over most of the site (108.21 acres or approximately 89% of the site). In areas where possible, 13.3 acres or approximately 11% of the site, digital geophysical mapping (DGM) was performed using an EM61-MK2 system.

Using the information from previous MEC-related work at adjacent sites and data collected from the instrument verification strip, an anomaly targeting threshold value of 5 millivolts (mV) was established. The DGM survey identified 373 anomalies that met the channel 2 response threshold of 5 mV or higher. During reacquisition, it was determined that only 209 selected anomalies were actual metallic responses (a false positive percentage of approximately 44%). This large number of false positives (greater than the industry standard 15%) was determined to be caused by interference from a 230-kilovolt overhead (OH) electric power line that cuts across the site.

Exterior and interior surfaces of recovered MPPEH was inspected by a Technician II to ensure they did not present an explosive hazard. The Team Leader (UXO Technician III) then performed a 100% re-inspection of all the recovered items. Items were designated as material determined as safe (MDAS) (contains no explosive hazard or other dangerous fillers) or material documented as an explosive hazard (MDEH) based upon the initial inspection and re-inspection. Items determined to be MDEH were segregated and processed. The MDAS was further segregated into MD, RRD, and other debris.

During this surface clearance, two UXO items were discovered: one partial Lake Erie Jumper Repeater Tear Gas Candle and one intact Lake Erie Tru-Flite 37 millimeter (mm) CS/CN (tear gas) Barricade Projectiles. Approximately 3.3 pounds of Munitions Debris (MD) consisting of grenade fragments and expended small arms were removed during the surface clearance. A variety of range related debris (RRD) and other debris were encountered during the surface clearance consisting of metal containers, nails, screws, and steel drums.

One UXO item, a complete Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile and eight MD items consisting of grenade fragments were discovered and removed during the intrusive investigation of the selected DGM anomalies. The remaining DGM-related targets consisted primarily of expended small arms, other debris, and blind seed items.

The intrusive investigation of anomalies identified during analog surveys resulted in the discovery of the following 11 UXO items:

- 3 partial Lake Erie Jumper Repeater Tear Gas Candles
- 6 complete Lake Erie Tru-Flite 37mm CS/CN Barricade Projectiles;
- 2 partial Lake Erie Tru-Flite 37mm CS/CN Barricade Projectiles

The types of MD recovered consisted of grenade fragments, small arms, and a 37 mm fin assembly. The types of RRD recovered consisted of drums and metal containers used as targets. Types of other debris consisted of barbed wire, grounding wires/rods, chain, and construction-related material. The RRD and other debris were placed in a recycling growler and removed from the site. In total an estimated 400 pounds of MD debris was accumulated during the removal action. MD was placed and secured in two locked and secure 55 gallon drums and a chain of custody was established. MEC disposal was not included in this task order. The material was turned over to WCH and was to be managed via a different contract mechanism.

## **1.0 INTRODUCTION**

TerranearPMC, LLC (TPMC) was contracted by Washington Closure Hanford LLC (WCH), under Construction Subcontract Number C036809A00, dated February 24, 2014, for the 600-349 Munitions and Explosives of Concern (MEC) Removal Action at the Hanford facility near Richland, Washington (WA). This report documents the 600-349 MEC Removal Action (RA).

## 2.0 SITE BACKGROUND

WCH manages the River Corridor Closure Project at the Department of Energy's Hanford Site in southeastern WA State. The United States Army Corps of Engineers (USACE) established the Hanford Site in 1943 as an integral part of the Manhattan Engineering District mission to produce nuclear weapons for use in World War II. From 1943 until 1990, the primary mission of the Site was to produce nuclear materials.

The project sites are located within the 600 Area of the Hanford Site in Benton County, approximately 19 miles north of Richland, WA (Figure A-1, Appendix A). The 600-349 site covers 121.51 acres and is identified as a buffer around the Former Army Small Arms Rifle and Pistol Range (Site 600-149) (Figure A - 2, Appendix A). Within the vicinity there are also several co-located waste sites 600-332, 600-358, and SG4-477 (Figure A-2).

Site 600-332 (Gable Mountain Firing Range Septic Tank) contains a septic tank, associated piping, and a drain field. Site 600-358 (Scattered Waste Areas in the Vicinity of Gable Mountain Firing Range) consists of scattered Comprehensive Environmental Response, Compensation, and Liability Act regulated debris (lead battery, a lead chunk, a burn area, and a suspect pipe or drum) identified during the unexploded ordnance (UXO) characterization and clearance of Site 600-149. Site SG4-477 (Transite Piping) consists of up to 450 meters of transite piping. These sites are located at the northeastern slope of Gable Mountain west of Route 2 North, northwest of the former Hanford Town site, and approximately two miles west of the Columbia River. These sites encompass 121.51 acres.

A previous RA was performed at the 600-149:1 and 600-149 sites (TPMC, 2011). The 600-149 Small Arms Firing Range operated from the mid-1940's through the 1950's as a practice range for handguns, rifles, shotguns, machine guns, hand grenades, smoke grenades, smoke pot canisters, and incendiary devices. The complex contained four ranges used to train Hanford patrolmen in weapons use. The ranges included an Army pistol range, a Federal Bureau of Investigation "killer course" range, a submachine gun range, and a "walk and draw" pistol range.

### **3.0 OBJECTIVES**

The objective of this investigation, described in the Scope of Work (SOW) presented in the Appendix B, Data and Document DVD, is to implement a surface and subsurface removal MEC removal action at Site 600-349, located on the Hanford Site.

#### **4.0 TECHNICAL APPROACH**

The principal field tasks for this project include:

- Site Survey and Grid Delineation
- Surface Clearance
- Vegetation Clearance
- Digital Geophysical Mapping (DGM) and Reacquisition
- Analog Surveys Including Intrusive Investigation of Anomalies
- Subsurface Clearance (target anomaly resolution) of DGM targets
- Materials Potentially Presenting an Explosive Hazard (MPPEH) Inspection and Munitions Debris (MD) disposal
- MEC disposal

Details of the technical approach and methodologies are described in the MEC Characterization Plan (TPMC, 2014). No vegetation removal was allowed per WCH in order to preserve ecological resources. Site conditions encountered during field tasks that impacted the RA include: very steep slopes along Gable Mountain (Figure A-3), very thick vegetation, and a 230 kilovolt (kV) OH power line that runs across the site.

#### **4.1 SITE SURVEY AND GRID DELINEATION**

Location surveys were performed by Roger Surveying Inc. to establish control for the geophysical investigation and to establish a 100-foot (ft) by 100-ft grid over the site. Details regarding the location surveying and grid delineation are presented in Section 5.1 and 5.2.

#### **4.2 SURFACE CLEARANCE**

An instrument-aided surface clearance was completed on 100% of the 121.51-acre project site to identify and remove MPPEH and MEC items as well as metallic items located on the ground surface. The surface clearance team used hand held White XLT and White V3i all metal detectors to help identify surface metallic items visually obstructed by vegetation. Details of the surface clearance are presented in Section 5.3.

#### **4.3 DGM AND REACQUISITION**

A DGM survey was expected to be completed across approximately 48.32 acres of the site. However, due to heavy vegetation that could not be cleared and interference from a 230 kV OH power lines, only 13.3 acres were mapped with DGM methods. The geophysical data was collected using Geonics EM61-MK2 time domain electromagnetic sensors. Prior to intrusive investigation, the locations of selected DGM anomalies were reacquired with a Real Time Kinematic Global Positioning System (RTK GPS). Each point was then verified using a Geonics EM61-MK2 instrument, the same technology used to record the original geophysical data used for selection. Details of the DGM and reacquisition surveys are presented in Section 5.4.

#### **4.4 ANALOG SURVEYS INCLUDING INTRUSIVE INVESTIGATION OF ANOMALIES**

An analog survey for subsurface anomaly identification and removal was performed on 108.21 acres where DGM methods could not be used because of obstructions (heavily vegetated areas, transite pipe, boulders, etc), steep or rugged terrain, cultural resource concerns, and areas with interference associated with a 230 kV OH power line. White XLT and White V3i all metal detectors were used for the analog survey. Details of the analog surveys including intrusive investigation of anomalies are presented in Section 5.5.

#### **4.5 SUBSURFACE CLEARANCE**

A MEC subsurface clearance was performed upon selected anomalies identified within the DGM area. Details for the MEC subsurface clearance are presented in Section 5.6.

#### **4.6 MPPEH/MD DISPOSAL**

The MPPEH inspection was completed on a daily basis in accordance with (IAW) the procedures outlined in the MEC Characterization Plan and comply with the procedures outlined in USACE Engineering Manual (EM) 1110-1-4009, Chapter 14, USACE EM 385-1-97, and Department of Defense Instruction (DoDI) 4140.62. MD disposal will be completed by others at a future date. Details regarding the MD disposal and MPPEH inspection are presented in Section 5.7 and 5.8.

**5.0 PROJECT ACTIVITIES**

**5.1 LOCATION SURVEY AND MAPPING**

Location surveys were completed IAW Specification No. 0000X-SP-C0007, *Specification for Civil Surveying Services at Hanford Site (WCH, 2013)* and USACE guidance contained in Data Item Description WERS-007.01. All coordinates were in State Plane, Washington South NAD 83, US Survey ft. An existing survey monument and control point, HSWB-01 and Red RSI, near the site trailers, were used to establish survey control. The surveyor field teams were escorted by a qualified TPMC UXO Technician to provide anomaly avoidance.

TPMC established an additional temporary control point using RTK GPS which was marked with a 60D survey nail and flagging. The temporary control point was created for daily (morning and afternoon) Quality Control (QC) checks of the Rovers and Base Station. The original temporary point (CP1) was destroyed by road construction crews and replaced by another (CP2). The coordinates of the existing survey monument, control point, and TPMC QC control points are presented in Table 5-1.

**Table 5-1  
 RTK GPS Control Points**

Identifier	Easting	Northing	Elevation
HSWB-01	1906628.065	462109.955	416.87
RED RSI	1906249.63	462381.503	418.58
CP1	1906617.951	462140.326	NA
CP2	1906603.287	462148.484	NA

**5.2 GRID ESTABLISHMENT**

After the survey control points were verified, an RTK GPS base station and rovers were used to survey-in the planned 100-ft by 100-ft grid system over the entire project area to within +/- 4 inches (10 cm) location accuracy. The grids were used during the surface clearance, DGM, anomaly reacquisition, intrusive anomaly investigations, and analog surveys including intrusive investigation of anomalies. All grid corners were marked with a wooden stake. Each survey team was comprised of a licensed surveyor and a qualified UXO Technician to provide escort and MEC avoidance. Daily QC checks were performed on the surveyor's RTK GPS system to ensure they were achieving the required Data Quality Objectives (DQOs) for the location and positioning efforts. Daily QC checks were obtained by performing a check shot over a known control point and the last point staked the previous day. The site grid map of the entire site showing grid locations is shown in Figure A-4.

**5.3 MEC SURFACE CLEARANCE**

Surface clearance activities were conducted over the entire project site, for a total of approximately 121.51 acres or 537 grids, prior to DGM and analog investigation operations. Personnel searched each grid using standard visual surface clearance procedures aided by a White's all metal detector. The surface clearance teams used a line abreast formation, removing all metallic objects located on the ground surface. This standard method involved

team members walking side-by-side, separated by a 5-ft distance to ensure overlap, visually scanning the surface terrain while systematically using the hand-held metal detector to assist in finding metallic items. Pin flags were placed at the ends of the surface clearance sweep lines to aid the team in walking a straight line. The person on the end of the sweep line used the pin flags as a guide with subsequent members spacing accordingly. The sweep continued in this manner until the team reached the edge of the grid. The pin flags were then moved over to the next lane. This procedure was repeated until the entire grid had been searched.

A detailed discussion of the surface clearance results are presented in Section 8.1. All MEC, DMM, MD, RRD, and other debris within the defined project area was removed to a staging area. Material associated with historical range training operations was removed (e.g. range related debris, expended small arms), inspected, and verified to be free of explosive hazards prior to placement at a consolidation point. During the surface clearance, UXO personnel did not perform intrusive activities to remove partially buried suspect items.

## **5.4 DIGITAL GEOPHYSICAL MAPPING**

### **5.4.1 Geophysical Equipment**

The Geonics EM61-MK2 metal detector was used to complete the DGM Survey. The EM61-MK2 was selected for its ability to detect ferrous and non-ferrous materials with a high level of positional accuracy through incorporation of a survey-quality Topcon RTK GPS. Another attribute of this system is its ability to detect metals while ignoring most magnetic rocks and soil. This produces a more accurate data set and a more precise picture of potential MEC related anomalies while allowing quick and efficient location.

### **5.4.2 Positioning Equipment**

Positional data was acquired using a Topcon GR-3 RTK GPS rover attached to each EM61-MK2 system, and a Differential Global Positioning System (DGPS) base station. The RTK GPS provided precise positioning and heading data for navigation with a dynamic accuracy of +/- 0.33 ft (0.1 meter) when used with a DGPS base station. Positional data were recorded in the project coordinate system (Washington South, US Survey Ft). QC checks of the RTK GPS were performed at the beginning and end of each day using a known survey control point near the GPS base station control point.

RTK GPS requires five satellites to initialize and four after initialization. When satellite coverage or communication with the base station was lost, data collection was suspended.

The EM61-MK2 data were mated to their corresponding GPS positional information within the field data collector and associated software (i.e., NAV61MK2 and/or DAT61MK2). The DGM teams completed Survey Area Reports for each grid, which include a grid sketch, a brief grid and site condition description, and all data files associated with that grid. All Survey Area Reports are presented on the Data and Document DVD in Appendix B.

### **5.4.3 Geophysical System Verification**

TPMC implemented a geophysical system verification that included two daily surveys of the instrument verification strip (IVS) and a blind seeding program.

#### 5.4.3.1 *Instrument Verification Strip*

Prior to the start of the DGM data collection, an IVS was installed near the site trailer. The IVS consisted of two small industry standard objects (ISOs) and two survey nails buried within a designated area. The IVS was used to confirm that the geophysical and positioning equipment were functioning correctly. An area close to the IVS with no anomalies was identified as a noise strip and used to determine site-specific noise levels, and monitor the geophysical system noise levels throughout the project. The DGM teams collected readings across the IVS and noise strip daily, before and after field data collection. The QC geophysicist collected, maintained in a spreadsheet, and evaluated those data. The data are provided on the Data and Document DVD in Appendix B. A detailed discussion of the initial IVS results is included in Appendix C. Results of the daily IVS QC results are presented in Section 8.2.1.

#### 5.4.3.2 *DGM Blind Seeding Program*

TPMC managed a blind seeding program as a control measure to help verify that the geophysical system was functioning correctly. That program involved burying small ISOs throughout the survey area and comparing their known locations and expected responses with the recorded peak responses and anomaly positions. Fifty-six ISOs were buried across the proposed 48.32-acre DGM survey area. All seeds were buried at depths between 4 - 8 inches below ground surface. The seed positions were surveyed-in by TPMC with an RTK GPS. Results of the Blind Seeding Program are presented in Section 8.2.

#### 5.4.3.3 *Data Acquisition*

DGM data were collected on 13.3 acres or approximately 11% of the site using the EM61-MK2 time-domain electromagnetic sensor. Grids where DGM data were collected are shown in Figure A-5. DGM data were collected between May 28, 2014 and July 28, 2014. Two single coil EM61-MK2 systems were deployed at the manufacturer's standard coil height of 0.4 meters (1.4 ft) above ground surface. All EM61-MK2 data were positioned using a RTK GPS which reports coordinates one time per second. Coils were set up to acquire data at a rate of 10 samples per second. DGM data were collected across grids with a nominal 2-ft separation between survey lanes. Ropes and tapes were placed at 4-ft intervals to assist with maintaining lane positioning. A representative photograph of the DGM data collection is presented in the Photographic Log in Appendix D.

#### 5.4.4 *Impacts to DGM Production Rate*

Several issues were encountered at the site that limited the acreage that could be covered using DGM and/or the production rate achieved (average of approximately 0.50 acres per day).

##### 5.4.4.1 *230 kV OH Power Line*

At the start of DGM field activities, TPMC observed that a 230-kV high voltage OH power line cut across the project site's eastern edge. It was anticipated that the field generated by the power- line might interfere with the DGM capabilities. To evaluate that possibility, a test data transect was collected under, and up to 300 ft beyond, the power lines to determine the lateral extent of potential interference on the EM61-MK2 data collection process. The test transect was perpendicular to the power line. Results of the recorded EM61-MK2 test transect data are presented in Figure A-6 and show significant interference to a distance of 150 ft west and 200 ft east of the power lines. A power line influence buffer was developed (shown on Figure A-5)

based on these results. OH power line interferences eliminated 11.72 acres from the DGM survey area which consequently needed to be investigated using analog methods. Photographs of the OH power lines are in Appendix D – Photographic Log (Photos 16 and 17).

#### 5.4.4.2 *Vegetation*

Across the DGM survey area there were thick stands of sage brush, rabbit bush, and other vegetation that left either full or partial grids inaccessible to DGM data acquisition. WCH determined that the vegetation was an ecological resource that required preservation. Therefore it was determined that removal was not permitted. Direction was given to the project geophysicist to walk the DGM grids and determine which grids were either partially accessible or completely inaccessible to DGM investigations. Grids that were determined to be inaccessible were investigated with analog metal detectors. The criteria for a grid (or portion thereof) to be converted from DGM to analog investigations were:

- If a DGM grid was determined to have 25% or less of accessible area, the entire grid would be investigated via analog methods.
- If a DGM grid was determined to be partially accessible and/or have any data gaps due to vegetation, these areas were clearly delineated with pin flags for analog investigation.

Figure A-5 shows the grids that were determined as inaccessible, partially accessible, and fully accessible for DGM investigations. 23.3 acres of the DGM survey area could not be mapped due to vegetation. Representative photographs of the site vegetation are presented in the Appendix D Photographic Log.

#### 5.4.5 *Geophysical Data Processing*

At the end of each work day, the DGM teams transferred recorded files from the field tablets to the project geophysicist's computer. The project geophysicist pre-processed the data files using Gemars Trackmaker61MK2 (NAV61MK2) and Geonics DAT61MK2 software. NAV61MK2 converts data from a .P61 file format to an .M61 file format, which is compatible with the DAT61MK2 software. DAT61MK2 merges the GPS and EM61-MK2 data streams and output xyz format files with EM61-MK2 measurements, their associated geospatial positions, and time stamps. These files were uploaded to the project File Transfer Protocol (FTP) site daily. The data processor imported these files into Geosoft Oasis Montaj databases for further processing.

The data processor applied standard Geosoft processing procedures to the collected data. A latency adjustment was applied to all data files to correct for delays in transmission of data from the geophysical and GPS sensors and recording of those data on the field tablets. Latency was determined for each system daily on the IVS strip.

The four EM61-MK2 time gate channels were each leveled using a de-median filter to remove sensor drift and establish a consistent background value. Initial processing discovered data sets from grids near the power lines had interference which caused over-leveling if a simple de-median filter was used. To avoid over-leveling, the UX-Drift.GX-Drift correction tool was used to level the data. Grids that had been over-leveled were releveled using the new methodology. After the data were leveled and latency corrected, the data processor combined daily datasets and exported individual databases for each grid. Channel 2 (CH2) Geosoft grd files were created for each grid using Geosoft's minimum curvature gridding tool.

#### **5.4.6 Anomaly Identification and Target Selection**

The data processor used Geosoft's Blakely Test algorithm to select anomalies from the gridded CH2 data. As described in the MEC Characterization Plan, and confirmed during initial IVS work, a 5 millivolt (mV) threshold on CH2 was used for anomaly selection. The QC geophysicist reviewed all selected anomalies and grid data. If an anomaly was not selected by the Blakely Test algorithm, yet appeared to represent a target based on overall characteristics, it was manually selected by the geophysicist. TPMC then generated DGM response maps for each grid showing metallic responses, target selection locations with identifiers, and gaps identified for analog surveying. A representative response map is presented as Figure A-7. All data response maps are presented on the Data and Document DVD in Appendix B.

#### **5.4.7 Anomaly Reacquisition**

Following target selection, the reacquisition teams were provided with a DGM response map and summary sheet for each grid. The DGM response maps showed metallic responses, target selection locations with identifiers, and gaps identified for analog surveying. Reacquisition sheets listed the target id's, X and Y coordinates, and grid identifier. The data sheets also included space for notations related to offset distance and direction, reacquisition peak response, and other notes as needed.

Reacquisition teams used RTK GPS and EM61-MK2 equipment to reacquire targets within the DGM survey area. Pin flags were marked with the grid and target ID, then placed at each target. After all targets in a grid were marked, the EM61-MK2 system was used to pinpoint the peak response of each anomaly. The pin flag was then moved to the peak response location. If the peak response was less than the original grid value or no response was within 2.3 ft of the target, the target was considered a "no find". Offset distances and directions of pin flags (from original location to peak response location), peak response values, and any pertinent notes (i.e., surface metal, no find) were logged onto the grid reacquisition form. Following completion of reacquisition, dig sheets were generated for the UXO intrusive team. Completed Reacquisition Sheets are presented on the Data and Document DVD in Appendix B (Folder DGM Data/Reacquire Sheets).

#### **5.4.8 Geophysical Quality Control**

The DGM teams performed QC tests daily to confirm that their equipment was functioning correctly. The QC geophysicist reviewed the results of the tests and the recorded DGM data, and documented the results in excel spreadsheet tables. The QC tables are presented on the Data and Document DVD in Appendix B (Folder DGM Data/QC Data by Team/Tracking Tables).

The DGM team performed static response, static positioning repeatability, dynamic response, and dynamic positioning repeatability tests before and after each day of data collection. The static response tests involved collecting background data, then placing a standard metal object (i.e. small ISO) in the center of each EM61-MK2 coil and recording the response from that object. The DGM team performed the dynamic tests by collecting data over the noise strip and IVS. The GPS equipment was tested by measuring the location of a known point. The DGM team also collected data over blind seed items buried within the DGM survey area.

**5.4.9 Data Quality Objectives Evaluation and Documentation**

The QC geophysicist evaluated the quality control test data and production DGM data to evaluate the DQO's listed in Table 5-2.

**Table 5-2  
 Data Quality Objectives**

DQO	Process	Failure Mode
Static Repeatability	Daily Static Standard Tests	Response (mean static spike – mean static background) +/- 10% of baseline value on all Channels.
Static Background	Daily Static Standard Tests	Response +/- 2 mV on CH2.
Cross Survey Line Spacing	Geosoft Oasis Module check of all data	90% coverage with a path thickness of
Along Line Data Spacing	Geosoft Oasis Module check of all data	98% of data spacing in accessible areas must be no further than 0.82 ft (0.25 m) apart.
Data Acquisition Speed	Geosoft Oasis Module check of all data	98% of data acquisition speed must be less than 3 mile per hour.
Dynamic Positioning	Seed Location Verification/IVS Results	Seed and IVS items must be detected within 2.3 ft (0.7 m) of the surveyed location.
Dynamic Repeatability	Compare mV levels for buried items in IVS	95% of response to test item in IVS within 25% of original baseline response.
Blind Seed Detection/Selection	Geosoft Oasis Module Target Selection	Detect and select all blind seeds.
Data Leveling and Processing	Geosoft Oasis Module check of all data (excluding stationary) )production data)	Leveling and/or filtering do not remove actual anomalies from the data.
GPS Positioning	Daily check of RTK GPS over known survey point	Daily response varies from known location by less than (0.33 ft) +/-10

**5.5 ANALOG SURVEY**

**5.5.1 Analog Equipment**

The White's XLT and White's Spectra V3i all metal detectors were selected for use to assist with surface metal removal; anomaly avoidance-related work; and analog surveys including intrusive investigation of anomalies where DGM could not be performed. As with any device, the detection depth for any given target item is dependent on construction material and size, orientation below surface, and ferrous influences or other soil characteristics.

After the analog investigation began it was determined that a significant portion of the subsurface metallic objects being detected were lead bullets (non ferrous items). Since

identification and removal of these non-MEC items were not objectives of the investigation, significant time was being spent evaluating items that were not identified as a concern. TPMC evaluated alternate technologies and presented this evaluation of alternatives to WCH. WCH elected to replace the White's with the Schonstedt GA-52Cx Metal Detector. The Schonstedt detects only ferrous magnetic fields such as emitted from iron and steel objects. After receiving authorization from WCH, TPMC switched detection systems for the completion of the subsurface analog investigation

### **5.5.2 Analog Survey Methodology**

Analog MEC intrusive operations were performed on 108.21 acres, approximately 89% of the site. The objective was to identify, investigate, and remove detected anomalies using the mag & dig method in areas where DGM survey could not be performed due to electromagnetic interference, vegetation, and/or topography. Figure A-10 shows the areas (grids) where analog surveys including intrusive investigation of anomalies were performed.

To complete the analog surveys including intrusive investigation of anomalies, the Senior UXO Supervisor (SUXOS) planned the work location of the intrusive teams, taking into account team separation and safety distances. The SUXOS allocated individual grids and documentation to the UXO intrusive team leaders on a daily basis. After teams conducted their daily equipment checks in the instrument test strip, they mobilized to their designated work-area.

Individual grids were delineated with ropes, as a visual aid for the UXO intrusive teams, to ensure the grid was completely covered and an overlap between two grids occurred. Pin flags were placed at the ends of the sweep line to aid the team in walking a straight line. The person on the end of the sweep line used the pin flags as a guide until the team reached the edge of the grid, then the pin flags were moved over to be used on the next pass. This procedure was repeated until the entire grid had been searched.

Within each grid, the UXO team leader positioned his team members, such that each was separated by a 5-ft distance to ensure overlap. Each team member was equipped with a hand-held metal detector to assist in finding metallic items. When a signal was detected the UXO team would investigate and remove the anomaly before moving forward. The metal detector was then used again to verify that the target had been removed. When the UXO team did not identify another anomalous signal, the excavation was considered complete. If a signal remained, the excavation continued until the anomaly source was removed. Analog survey results are presented in Section 8.3.

### **5.5.3 Analog Blind Seeding Program**

For the analog survey including intrusive investigation of anomalies, a minimum of 12 seeds were randomly placed in each analog lot (defined as ten 100-ft by 100-ft grids). The Unexploded Ordnance Quality Control Specialist (UXOQCS) led a team that placed seeds ahead of the survey crews. Blind seeding was performed based on anticipated production rates which vary depending on the anomaly densities encountered. The depth and orientation of each seed was randomly determined by the UXOQCS team during placement. Blind seed locations, orientations, and depths were recorded by the UXOQCS. This information was not provided to the UXO clearance teams.

Blind seed recovery results were recorded by the UXO team lead, and reported to the UXOQCS at the end of each day for entry into the database. If blind seeds were not recovered,

equipment was checked and repaired as needed and the lanes impacted were resurveyed until all blind seeds were discovered. The analog blind seed evaluation performance was conducted by the UXOQCS. The analog subsurface clearance acceptance criteria for blind seed recovery was 100% for all lots. Analog blind seeding program results are presented in Section 8.3.

The seeding process as originally presented in the MEC Characterization Plan was modified after a deficiency report and a document change request (DCR) were written, approved by WCH, and implemented. The DCR is presented on the Data and Document DVD in Appendix B. More details on the modification is provided in Section 5.11.1.

## **5.6 DGM INTRUSIVE INVESTIGATION**

The objective of MEC intrusive operations in the DGM area was to investigate, identify, and resolve all flagged DGM anomalies. The SUXOS used a similar approach to that used for the analog survey to plan the intrusive teams work locations, taking into account team separation and safety distances. The SUXOS allocated individual targets and documentation to the UXO intrusive team leaders on a daily basis. After intrusive teams conducted their daily equipment checks in the instrument test strip, they mobilized to their designated work-area.

Within each grid, the UXO team leader directed his team members to excavate DGM anomaly flags. Utilizing a combination of the White's XLT and White's Spectra V3i all metal detectors, the flagged anomaly was first verified and then excavated.

The White's metal detectors were used again to verify that the target had been removed. If a signal was remaining, the excavation continued until the anomaly creating the signal was removed. As each anomaly was excavated, the team leader recorded the item(s) found. A geophysical map and digital dig sheet were continuously reviewed to ensure that the correct number of anomaly locations were excavated. In any instance where an anomaly flag had been displaced or was missing, the SUXOS was contacted and the anomaly reacquisition team replaced the flag.

After the target anomaly was removed, the location was re-checked with an EM61-MK2 in real-time mode. When there was no signal indicating a potential anomaly, the excavation was considered resolved. All MEC findings were recovered on dig sheets and incorporated into the project database. DGM intrusive investigation results are presented in Section 8.4.

## **5.7 MEC DISPOSAL**

TPMC was not responsible for disposal of MEC and MPPEH. WCH plans to contact the Yakima Firing Center Explosive Ordnance Disposal (EOD) Unit to dispose of any MEC located on the site after all field work is complete. The location and method of disposal, as well as the exclusion zone requirements and/or the final disposition of MEC items will be determined by the EOD unit.

## **5.8 MATERIAL POTENTIALLY PRESENTING AN EXPLOSIVE HAZARD MANAGEMENT AND DISPOSITION**

The MPPEH inspection and MD disposal were completed IAW the procedures outlined in the MEC Characterization Plan and comply with the procedures outlined in USACE EM 1110-1-4009, Chapter 14, for processing MPPEH and its final disposition; USACE EM 385-1-97, and DoDI 4140.62.

Exterior and interior surfaces of recovered MPPEH was inspected to ensure they did not present an explosive hazard. A Technician II performed 100% inspection of each item as it was recovered. The Team Leader (UXO Technician III) then performed a 100% re-inspection of all the recovered items. Items were designated as material determined as safe (MDAS) (contains no explosive hazard or other dangerous fillers) or material documented as an explosive hazard (MDEH) based upon the initial inspection and re-inspection. Items determined to be MDEH were segregated and processed. The MDAS was further segregated into MD, RRD, and other debris. The UXOQCS conducted daily audits of the processing operations, and also performed 100% inspections of all MDAS.

The SUXOS certified that MD and RRD were free of explosive hazards and established a chain of custody. The UXOQCS then verified that the MD and RRD were free from explosive hazards.

MD was controlled and placed in two drums and locked to prevent additional uninspected items from being added. RRD and other debris was collected and stored in a recycle bin at the project site and removed to an off-site recycling facility. A few larger pieces of range debris were also removed from the site, including eight rusted steel drums (55-gallon) used as targets, and large spools of barbed wire the UXO-crew collected. The rusted drums were crushed by an excavator and placed in the dumpster with other debris. All of the RRD and other debris also went through radiation screening by the WCH RCT.

## **5.9 FACILITIES**

WCH mobilized two trailers for TPMC and WCH personnel. Photos of the trailers are shown in the photograph log in Appendix D (photo 15).

TPMC mobilized a connex box for storing equipment; while T-posts, ropes, and signs were mobilized for boundary establishment around the 600-349 site. Site pick-up trucks were used for daily transporting of personnel to and from the job site. Fire extinguishers and eye wash bottles were located in the site pick-up trucks. A 15-minute eye-wash station was established at the site trailers.

UXO equipment consisted of White's all metal detectors and Schonstedt metal detectors. Geophysics equipment consisted of a Geonics EM61-MK2 system, a Juniper Allegro Field PC, a Topcon GR-3 RTK GPS, and a Topcon FC-200 Data controller. Tablets were utilized for data recording purposes.

Safety monitoring equipment consisted of photo ionization detectors, personnel sample pumps, noise monitors, wet bulb globe temperature heat/stress monitor, and individual heat/stress pulse monitors.

A water truck was used for site road dust suppression.

## **5.10 DEVIATIONS FROM CHARACTERIZATION PLAN**

### **5.10.1 Document Change Requests**

Document Change Request Forms documenting changes to procedures and methods presented in the MEC Characterization Plan are presented on the Data and Document DVD in Appendix B. A summary of the changes are presented below.

### **5.10.2 Analog Blind Seeding Program**

The original Characterization Plan specified that each UXO clearance team technician was to encounter, detect, and remove two seeds per lot; and the UXOCQS was to verify that specification was being met. However, early in the process it was discovered that although the correct number of seeds were being placed in each lot, they were not placed so that each technician would encounter two per day. After recommendations were made to, and approved by WCH; the process was changed so that seeds were placed randomly, technicians did not need to encounter a specific number, and the UXOQCS verified the seeds were removed daily.

### **5.10.3 Post Excavation QC of Analog Targets**

TPMC revised Section 8.11.2 Post Excavation QC of Analog Targets to better define the pass/fail criteria for analog QC inspection. The text was changed to "The UXOQCS will perform QC check on a minimum of 10% of the grid area with the same instrument as used by UXO Techs. Pass/fail criteria will be no metallic response greater than a 1" X 2" size or an item possessing a potential explosive hazard. If the grid area is free of metallic response, less than 1" X 2", it will be passed. If a metallic response is detected that is greater than 1" X 2", then the grid will fail the QC check and the entire grid will be re-worked by the UXO team."

### **5.10.4 Additional Deviations**

Additional deviations from the original characterization plan documented in DCR's on the Appendix B DVD were:

- To allow a laborer to assist with the DGM data collection.
- Removed requirement that WCH STR be notified prior to three phase meetings.
- Updated Table of Contents and List of Tables
- Defined measures for storing explosives on site if needed.
- Corrected impact of vegetation and utility power lines.
- Revised type of analog detector.
- Better defined steps needed for approaching the EM61-MK2 sensor during operations.
- Made miscellaneous grammatical changes.

## 6.0 UXO QUALITY CONTROL/QUALITY ASSURANCE

TPMC utilized a Three-Tiered QC/Quality Assurance (QC/QA) process on this project that utilized three phases of control inspections to ensure all project objectives were met. Each of the three tiers are explained as follows.

Tier 1 - Before the start of each new phase of work, a preparatory meeting was conducted by the UXOQCS and attended by the client representatives, SUXOS, Site Superintendent, other applicable QC personnel, and other key participants in the work. Specific topics for review of these meeting included:

- Review of applicable specifications and contract drawings;
- Ensure that all submittals and permits had been approved;
- Review inspection and/or testing criteria;
- Examination of the work area to assure that preliminary work had been completed satisfactorily;
- Examination that all required materials and equipment were on hand, properly stored, and ready for use;
- Review of the activity hazard analysis to assure safety requirements were met;
- Ensure that site personnel had required training;
- Discussion of procedures for the work execution; and
- Establishment of performance levels and review minimum acceptable performance standards.

Meeting minutes were logged and documented by the UXOQCS on a Daily Quality Control Report (DQCR). DQCRs for these meetings are attached to the Daily Reports in Appendix B Data and Document DVD (Daily Reports Folder).

Tier 2 - The initial phase inspection for each definable work feature occurred after a representative portion of the work had been completed. The purpose of the initial phase inspection was to verify that workmanship standards were being implemented to the level agreed upon. Notes of each phase inspection were taken by a QC representative, distributed to participants, and documented on the DQCR attached to the Daily Reports in Appendix B Data and Document DVD (Daily Reports Folder). The initial phase inspection included:

- Review minutes of the Preparatory Meeting;
- Verification of contract compliance;
- Verify plans for control inspection and testing;
- Verify level of workmanship versus standards;

- Resolve differences; and
- Review safety versus activity hazard analysis.

The Initial phase inspection was repeated for each new work crew, each new work feature, any time specified quality standards were not being met, and/or when modifications impacted existing TPMC procedures.

Tier 3 - Follow-on phase inspections occurred daily throughout the task to ensure continuing compliance with both contract specifications and the requirements of the MEC Characterization Plan. Any deficiencies were reviewed with appropriate personnel, corrected (when needed), and follow-up checks conducted to ensure that a deficiency did not continue. If deficient work was identified, TPMC implemented corrective actions immediately and provided the WCH STR with a written description within five days. The inspections and observations are documented on the DQCRs attached to the Daily Reports in Appendix B Data and Document DVD (Daily Reports Folder).

QC Inspections (QCI) were conducted on all phases and all aspects of operations by the UXOQCS as the UXO clearance teams removed MEC and MD from the grids. The UXOQCS performed metal detector sampling of at least 10 percent of each grid. If an anomaly was discovered, the UXOQCS investigated it for size, type, depth and, for DGM anomalies, distance from the pin flag. Any MEC item or metallic items exceeding the size of the smallest MEC expected in the area would fail the grid. A total of 537 individual grid QCIs were conducted and all passed. The QCI results were recorded on daily field reports included on the Appendix B Data and Document DVD (Daily Reports Folder).

A WCH QA representative performed independent metal detector sampling of 10 percent of each grid. If an anomaly was discovered, the QA representative would investigate the anomaly. Any MEC item or metallic items exceeding the size of the smallest MEC expected in the area would fail the grid. Results are discussed in Section 8.5.

## **7.0 DOCUMENTATION**

### **7.1 MEC SUMMARY REPORT**

This Report summarizes and/or includes the relevant project documentation described below. Documentation is included as appendices to this report, as appropriate.

#### **7.1.1 Work Plan**

In addition to this MEC Summary Report, the SOW required a variety of submittals including a MEC Characterization Plan that describes the goals, methods, procedures, and personnel used to accomplish the work required. Also incorporated into the Characterization Plan was the Explosive Safety Submission (Item No. 9-20), Quality Control Plan (Item No. 9-24), QC Inspection Process/Procedures (Item No. 9-25), and the MPPEH Inspection Process/Procedures (Item No. 9-27). These documents were previously submitted and approved by WCH, and are included on the Data and Document DVD in Appendix B. Field Change Request Forms documenting changes to procedures and methods presented in the MEC Characterization Plan and are also included on the DVD.

#### **7.1.2 Photographs**

TPMC used digital photography to document field activities and all MEC items. Photographs are included in Appendix D.

#### **7.1.3 Daily Reports**

The TPMC SUXOS completed daily reports (including DQCR/Safety reports) to inform the Project Manager of project status and significant issues, and log significant events. These documents are included on the Appendix B DVD.

#### **7.1.4 Briefings and Logs**

Safety briefings were held daily, prior to operations. Copies of Safety Briefings Logs are also included on the DVD.

#### **7.1.5 Quality Conformance Inspection Records**

The UXOQCS was responsible for evaluating compliance across the spectrum of project functional areas related to MEC activities (Operations, Safety, Management, etc.) IAW the approved MEC Characterization Plan, SOW, and company policies. The UXOQCS completed inspections utilizing applicable regulatory requirements from the USACE, Department of Transportation, Occupational Safety and Health Administration, and other governing entities as necessary. The UXOQCS conducted QCIs in the field and office by observing activities and verifying records and, prior to WCH/URS QA checks, performed QCIs of each grid following clearance activities. All inspections were documented in the Quality Control Inspection Records and included in the SUXOS daily report.

**8.0 RESULTS**

**8.1 MEC SURFACE CLEARANCE RESULTS**

TPMC completed a surface clearance of the entire project site covering 573 partial and full grids (121.51 acres). MPPEH consisted of expended small arms, metal cans, nails, screws and steel drums, or parts thereof. Two MEC items were identified including a tear gas candle and 37mm projectile. Approximately 3.3 pounds of MD consisting of grenade fragments and expended small arms were also removed during the surface clearance. Figure A-4 shows the grid layout. Table 8-1 summarizes the MEC items found on the surface. Figure A-8 shows the location of the identified MEC items. Photos of the MEC items are shown in Appendix D, Photographic Log.

**Table 8-1  
 Surface MEC Summary**

Type/Nomenclature	Quantity
Lake Erie Jumper Repeater Tear Gas Candle – partial	1
Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – complete	1

**8.2 DGM RESULTS**

The DGM teams collected data across 13.3 acres, approximately 11% of the site. High voltage power lines and heavy vegetation that could not be cleared resulted in a significant reduction in the completed (13.3) versus planned acreage (48.32) collected by DGM methods. As noted in Section 5.4.6, a 5 mV threshold on CH2 was selected as an anomaly selection criteria, although other targets with lower readings could be selected based upon the processing geophysicist's interpretation. A total of 373 targets were identified and reacquired by the DGM teams. An EM61-MK2 response mosaic map for the site is presented in Figure A-9.

The DGM survey identified 373 anomalies that met the ch2 response threshold of 5 mV or higher, of which 210 had metallic responses based on anomaly reacquisition by the EM61-MK2 reacquire team (a false positive percentage of approximately 44%). The "no find" rate exceeded a typical and expected rate of 15%. In response to this high no find rate, the QC Geophysicist reviewed the data and conferred with the WCH QA geophysicist to try and determine an explanation. It was determined that the majority of the no finds were a result of interference from the 230 kV power lines. The letter explaining this issue is presented in Appendix B. See section 5.4.3.4 for more information on the 230 kV OH power line interference induced in the EM61-MK2 data. Other minor causes for no finds were jarring of the EM61-MK2 system by pulling through vegetation, and the need for data leveling and gridding adjustment in several grids. DGM grid maps are presented on the Data and Document DVD in Appendix B (Folder Production Data/Final Deliverables by Grid).

**8.2.1 DGM QC Results**

The data quality objectives evaluated by the QC geophysicist include:

- Static Repeatability – Responses were confirmed to be within 10% of the baseline values on all channels.

- Static Background – Responses were confirmed to be within +/- 2 mV on CH2.
- Cross Line Spacing – Each grid was evaluated with Geosoft's footprint coverage tool to confirm that the coverage exceeded 90% with a path thickness of 2.0 ft and 98% coverage at 2.5 ft in accessible areas. In grids where it was determined that cross line spacing exceeded the DQO for a grid, the DGM data acquisition team collected additional transects within the grid to fill in gaps in the data set.
- Along Line Data Spacing – Each daily dataset was evaluated to confirm that at least 98% of data spacing in accessible areas were less than 0.82 ft.
- Dynamic Positioning – The anomaly peaks recorded over the IVS were compared with the known locations of the test items and the offsets were confirmed to be less than 2.3 ft.
- Dynamic Repeatability – The peak responses measured over IVS items were compared with baseline values and confirmed that 95% of response to test items in the IVS were within 25% of original baseline response.
- Blind Seed Detection/Selection – It was confirmed that all blind seeds were detected and selected as targets.
- Data Leveling and Processing – Each daily dataset was evaluated and the leveling/filtering effects were confirmed to have not removed any anomalies. It was determined that noise from the power lines caused the leveling of initial grids to be inappropriate. These grids were releveled with an appropriate method, as described in Section 5.4.4.
- GPS Positioning - The measured position of a marked point was compared with the known location of that point to confirm that the offset was less than 0.33 ft.

On June 2<sup>nd</sup>, the Team 2 EM61-MK2 system failed PM QC and IVS Tests. The project geophysicist was notified. A backup EM61-MK2 system was set up the next day and the initial IVS tests were successfully completed with the new system.

On June 15<sup>th</sup>, the QC geophysicist notified the project geophysicist that the Team 1 EM61-MK2 system was passing QC tests, but acquiring bad data. Further evaluation of the data showed that the decay of measured EM61-MK2 field strength between time Channels (CHs) was not within the general expected values: CH1>CH2>CH3>CH4. The data resulted in areas of data with negative background levels and excessive false positives. Electronics testing of the EM61-MK2 system was conducted and it was discovered that the console had failed. The console was replaced and the initial IVS tests were successfully completed with the new system. The affected data was recollected. The QC geophysicist documented the QC and blind seed results in excel spreadsheets which are provided on the Appendix B DVD.

### **8.3 MEC ANALOG SURVEY RESULTS**

Analog surveys including intrusive investigation of anomalies were performed on 108.21 acres. Collected MPPEH consisted of expended small arms, metal cans, nails, screws and steel drums, or parts thereof. The MEC items consisted of a partial tear gas candle and 37 mm CS/CN projectiles. Table 8-2 is a summary of the MEC discovered during the analog survey.

Locations where MEC was discovered are shown on Figure A-8. Photos of the MEC items are shown in Appendix D, Photographic Log.

**Table 8-2**  
**Analog MEC summary**

Type/Nomenclature	Quantity
Lake Erie Jumper Repeater Tear Gas Candle – partial	3
Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – complete	6
Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – partial	2

As noted in Section 5.11, during the analog survey it was determined that the seeding process had to be modified from the work plan. After implementation of the new process it was confirmed that all blind seeds were detected and recovered. Analog blind seed results are presented in a table (excel spreadsheet) on the Data and Document DVD in Appendix B. QC results are documented in Section 8.5.

**8.4 DGM INTRUSIVE INVESTIGATION RESULTS**

TPMC completed subsurface clearance on 209 DGM anomaly targets. One MEC item (a complete Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile) and eight MD items were removed during the DGM intrusive investigation. The remaining DGM-related targets consisted primarily of expended small arms, other debris, and blind seed items. Detailed results from the dig sheets are presented on the Appendix B DVD, including the specific target data.

**8.5 UXO QUALITY CONTROL/QUALITY ASSURANCE RESULTS**

Following the Three Tiered QC/QA Process:

- Preparatory meeting minutes were logged and documented by the UXOQCS on the DQCR.
- The initial phase inspection for each definable feature of work occurred after a representative portion of that feature of work had been completed. Minutes of this inspection were taken by a QC representative, distributed to participants, and documented on the DQCR).
- Follow-on phase inspections occurred daily throughout the task. The inspections and observations were documented on the DQCRs.

DQCRs are attached to the daily reports provided on the Data and Production DVD in Appendix B (Folder Daily Reports).

Daily function checks were performed daily on all analog metal detectors and documented in team leader field books.

QCIs were conducted on all phases and aspects of operations by the UXOQCS as the UXO clearance teams removed MEC and MD from the grids. The results of the QCIs were recorded on the daily field reports, included in the Appendix B DVD (Folder Daily Reports).

All of the 537 individual grids passed the QC inspection conducted by the UXOQCS. All grids passed the QA sampling completed by WCH's QA representative (10 percent of each grid).

**8.6 MPPEH MANAGEMENT AND DISPOSITION**

Disposal of all MEC will occur after project demobilization. All 14 MEC items were UXO; not DMM or MC. They had been fired at a target but had not functioned as designed. WCH plans to contact the Yakima Firing Center EOD unit to dispose of any MEC located on the site. The method of disposal, location and exclusion zone needed and/or the final disposition of MEC items will be determined by the EOD unit. Table 8-3 includes a summary of the MEC that were identified for disposal.

**Table 8-3  
 Total MEC Summary**

Type/Nomenclature	Quantity
Erie Jumper Repeater Tear Gas Candle – partial	4
Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – complete	8
Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – partial	2

Items recovered as MPPEH and certified as MDAS were MD consisting of grenade fragments, small arms debris, and a tail boom; RRD consisting of drums, and metal cans; and other debris consisting of barbed wire, chain, grounding wire/rod, horseshoe, metal fragments, nails, nuts and bolts, and staples. Two 55 gallon drums of MD were secured and padlocked until removal from site. The SUXOS established a chain of custody for these materials.

## 9.0 SUMMARY

TPMC completed a MEC Removal Action on the 121.51 acre Site 600-349 at the Hanford Site near Richland, WA. Figure A-10 shows the summary of the work completed during the RA. Approximately 108.21 acres (89%) of the site was investigated using analog mag and dig methodologies, while the remaining 13.3 acres (11%) was completed using DGM. A 100 ft x 100 ft grid system was overlain and used for the investigation.

A detector assisted surface clearance of the 121.51 acres was initially completed. During this surface clearance, two MEC items were discovered (one partial Lake Erie Jumper Repeater Tear Gas Candle and one complete Lake Erie Tru-Flite 37mm CS/CN (tear gas) Barricade Projectiles). Approximately 3.3 pounds of MD consisting of grenade fragments and expended small arms were also removed during the surface clearance.

The DGM survey identified 373 anomalies that met the ch2 response threshold of 5 mV or higher, of which 210 had metallic responses based on recheck with the EM61-MK2 reacquire team. This large number of false positives (greater than the industry standard 15%) was determined to be caused by interference from a 230 kV electric power line that cut across the site.

Exterior and interior surfaces of recovered MPPEH was inspected by a Technician II to ensure they did not present an explosive hazard. The Team Leader (UXO Technician III) then performed a 100% re-inspection of all the recovered items. Items were designated as material determined as safe (MDAS) (contains no explosive hazard or other dangerous fillers) or material documented as an explosive hazard (MDEH) based upon the initial inspection and re-inspection. Items determined to be MDEH were segregated and processed. The MDAS was further segregated into MD, RRD, and other debris. MDAS was controlled and placed in a drum and locked to prevent additional uninspected items from being added.

During the DGM intrusive investigation, one MEC item (a complete Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile) and eight MD items consisting of grenade fragments were discovered and removed. The remaining DGM targets were expended small arms, blind seeds, and debris.

The analog surveys including intrusive investigation of anomalies which identified 11 MEC items (three partial Lake Erie Jumper Repeater Tear Gas Candles, six complete Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile, and two partial Lake Erie Tru-Flite 37mm CS/CN Barricade Projectiles). The types of MD recovered consisted of grenade fragments, small arms, and a 37 mm tail fin. The types of RRD recovered consisted of drums and metal containers used as targets and the types of other debris consisted of barbed wire, grounding wires/rods, chain, and construction-related material. In total, an estimated 400 pounds of MD was accumulated during the RA and was placed and secured in two 55 gallon drums and established a chain of custody for these materials.

All 14 MEC items were UXO; not DMM or MC. They had been fired at a target but had not functioned as designed. MEC disposal was not included in this task order. The material was turned over to WCH and was to be managed via a different contract mechanism.

## 10.0 REFERENCES

TPMC, 2011, Phase III UXO Characterization Report 600-149 Former Army Pistol Range (Revision 0) Washington Closure Hanford, U.S. Department of Energy's Hanford Site.

TPMC, 2014, Munitions and Explosives of Concern (MEC) Characterization Plan (Revision 3) For the 600-349 MEC Removal Action/Removal for the 600-20, 600-332, 600-358, and SG4-477 Sites, Washington Closure Hanford, Submittal Item Numbers 9-19, 9-24, 9-25, 9-27, and 9-31, U.S. Department of Energy's Hanford Site.

WCH, Specification for Civil Surveying Services at Hanford Site, Specification No. 0000X-SP-C0007.





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*APPENDIX A*  
*FIGURES*

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Index Map

**Legend**

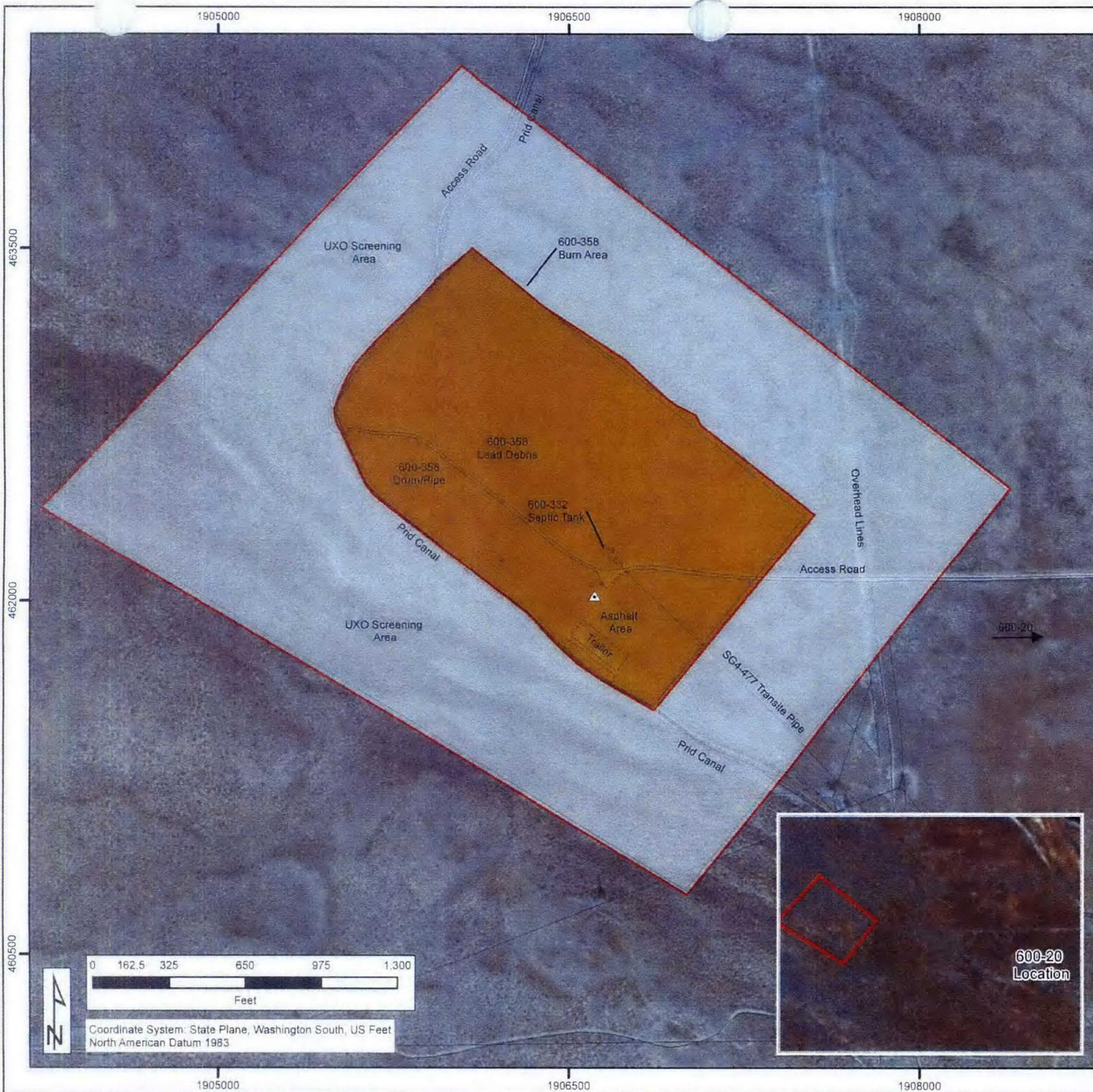
★ Site Location

**A-1**

**General Site Location**  
Hanford Federal Reservation  
Washington

TerranearPMC

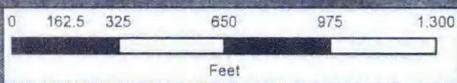
Date: 12/12/2014  
Rev:  
Drafted by: TPMS



Index Map

**Legend**

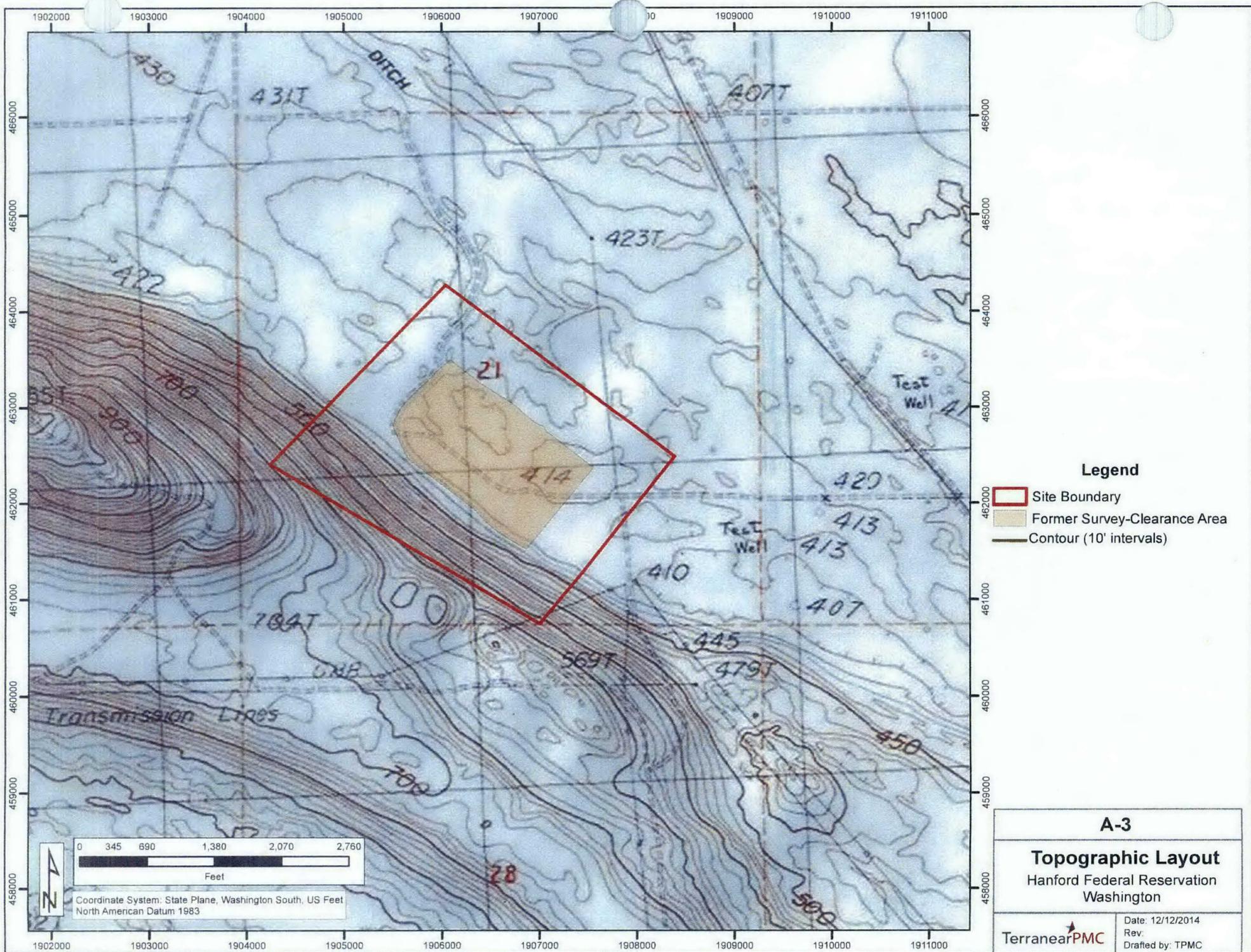
- Work Area (Site 600-349)
- Previous Work Area (Site 600-149)
- Survey Monument
- Site Details



Coordinate System: State Plane, Washington South, US Feet  
North American Datum 1983



<b>A-2</b>
<b>Site Location Map</b> Hanford Federal Reservation Washington
<span style="font-size: small; vertical-align: middle;">Date: 12/12/2014 Rev Drafted by: TPMC</span>



**Legend**

- Site Boundary
- Former Survey-Clearance Area
- Contour (10' intervals)

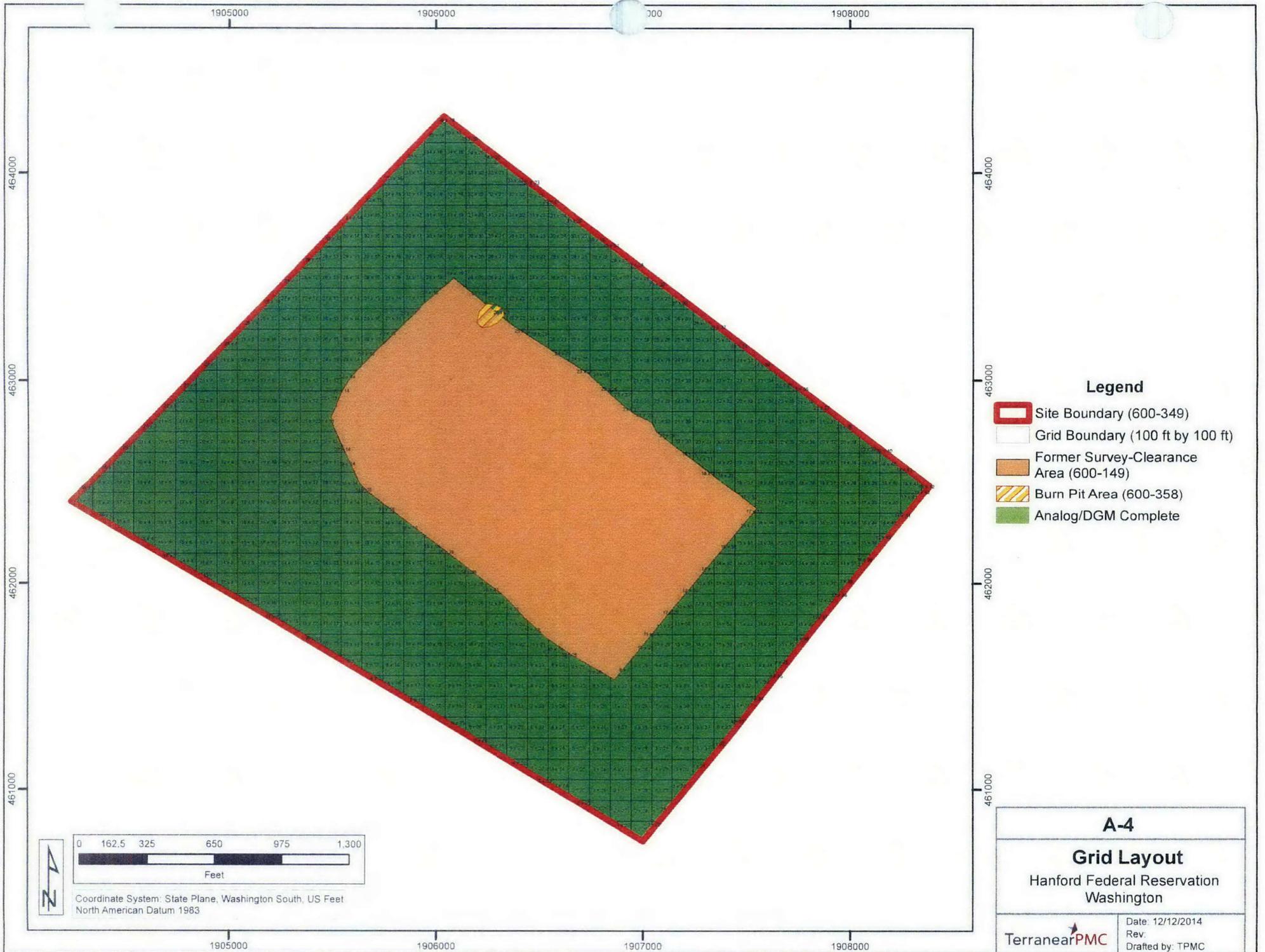
**A-3**

**Topographic Layout**  
 Hanford Federal Reservation  
 Washington

Terranear **PMC**

Date: 12/12/2014  
 Rev:  
 Drafted by: TPMC

0 345 690 1,380 2,070 2,760  
 Feet  
 Coordinate System: State Plane, Washington South, US Feet  
 North American Datum 1983



**Legend**

-  Site Boundary (600-349)
-  Grid Boundary (100 ft by 100 ft)
-  Former Survey-Clearance Area (600-149)
-  Burn Pit Area (600-358)
-  Analog/DGM Complete

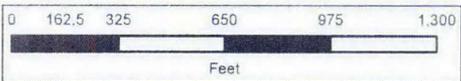
**A-4**

**Grid Layout**

Hanford Federal Reservation  
Washington

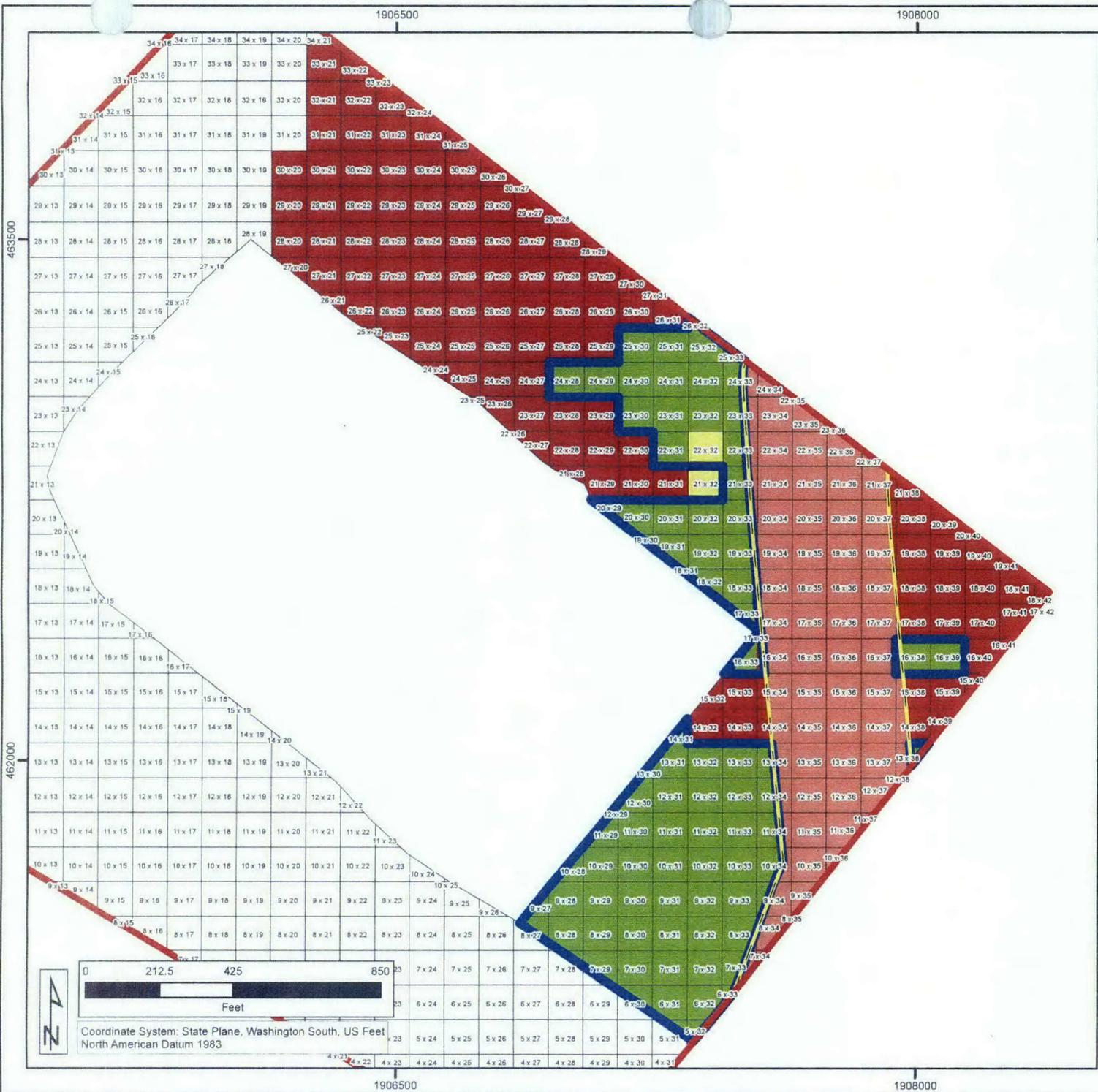
Terranear  PMC

Date: 12/12/2014  
Rev:  
Drafted by: TPMC

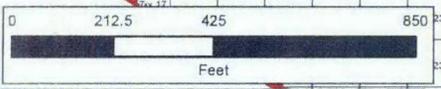


Coordinate System: State Plane, Washington South, US Feet  
North American Datum 1983





- Legend**
- Powerline Buffer  
150 ft on west; 200 ft on east
  - DGM Boundary
  - Site Boundary
  - Grid Boundary
- DGM Accessibility**
- Accessible
  - Partially Accessible
  - Inaccessible - Vegetation
  - Inaccessible - Powerline

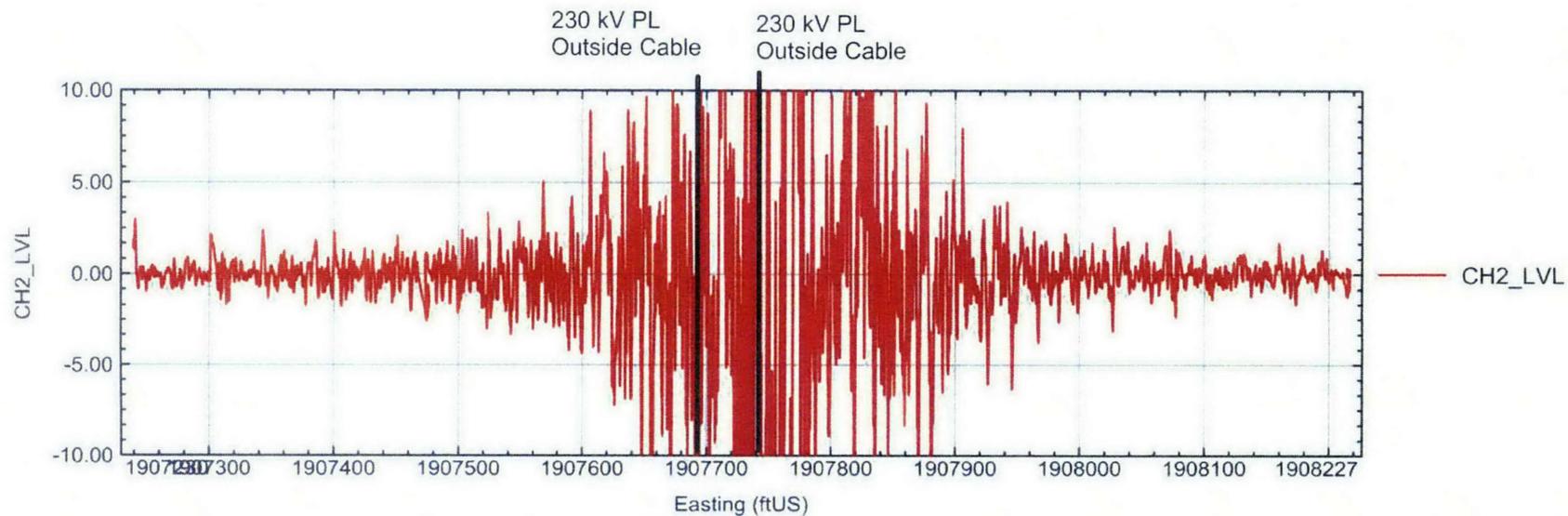


Coordinate System: State Plane, Washington South, US Feet  
North American Datum 1983

**A-5**

**DGM Survey Area**  
Hanford Federal Reservation  
Washington

Date: 11/10/2014  
Rev.  
Drafted by: TPMC



database: C:\Users\JLeberfinger\Documents\000\_EM\_Hanford\0\_From\_FTP\PWR LINE DATA\Powerline3.gdb line/group: L1

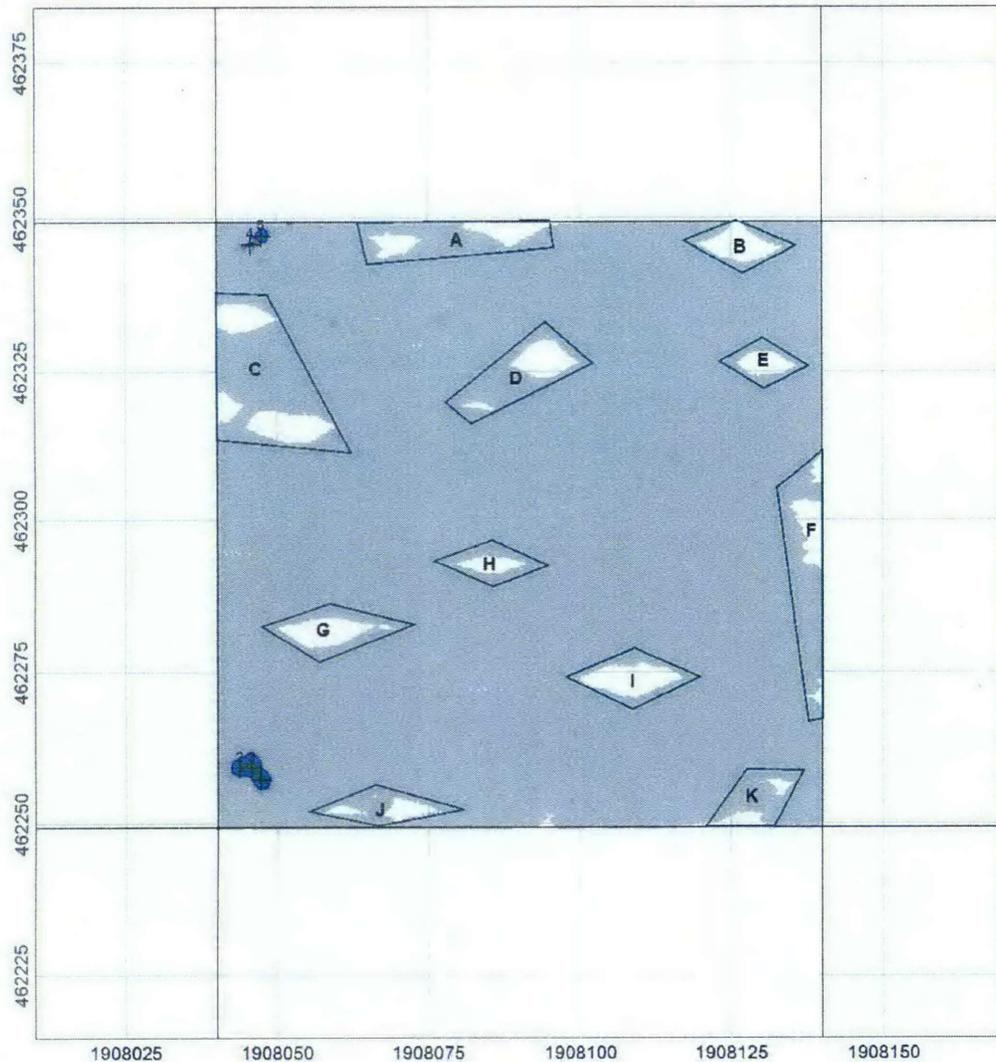
2014/05/28

**A-6**

**230 kV Power Line Response  
EM61-MK2 Response Profile**  
Hanford Federal Reservation  
Washington

TerranearPMC

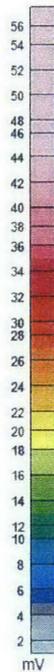
Date: 11/3/2014  
Rev:  
Drafted by: TPMC



# MAP Grid 16 x 39

## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



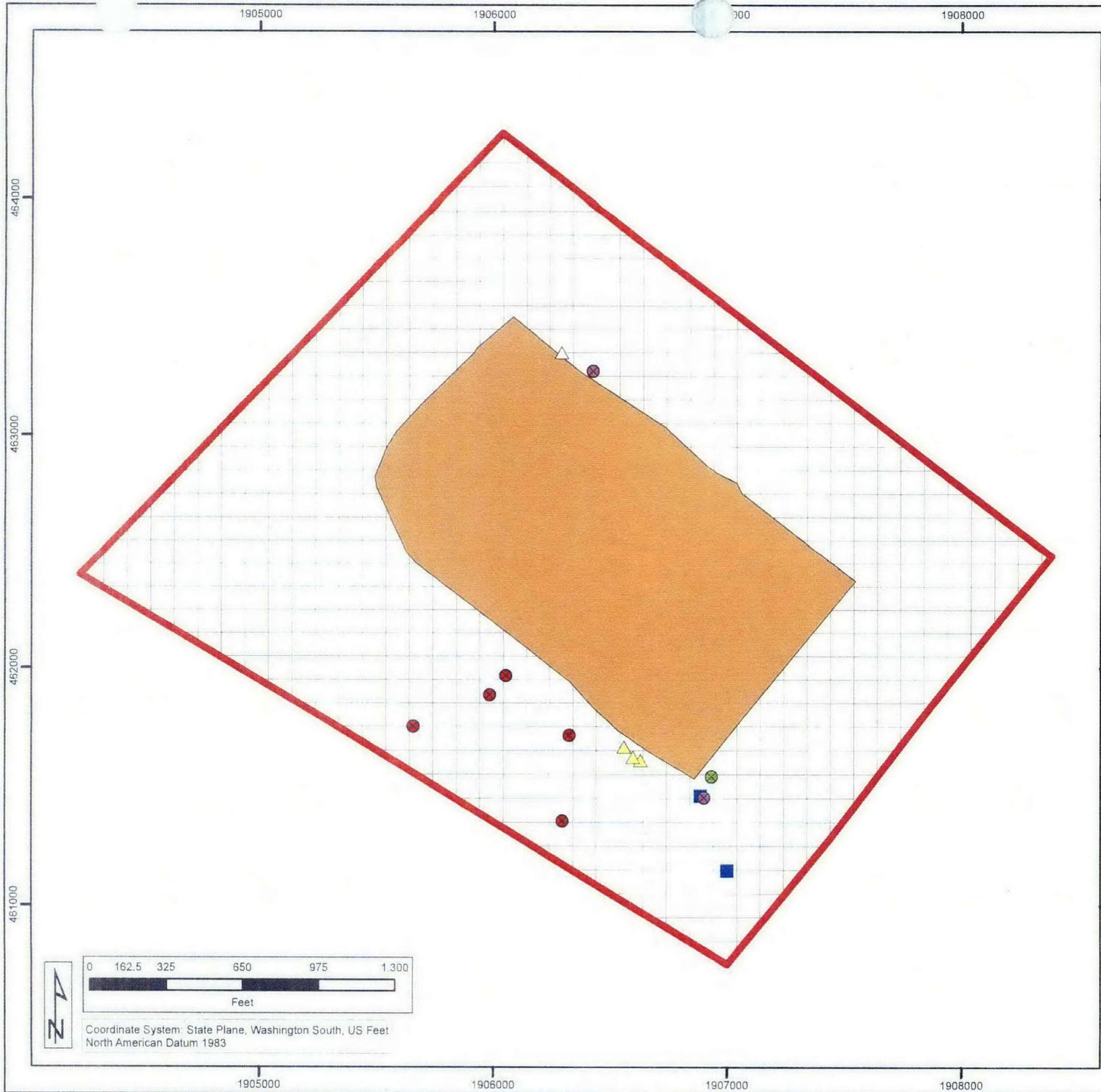
Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G16x39
Page number: 1	Approved: JLL



**A-7**

**Example DGM Grid Map**  
Hanford Federal Reservation  
Washington

TerranearPMC  
Date: 12/12/2014  
Rev:  
Drafted by: TPMC



**Legend**

- Site Boundary (600-349)
- Grid Boundary (100 ft by 100 ft)
- Former Survey-Clearance Area (600-149)

**MEC Finds**

**Surface**

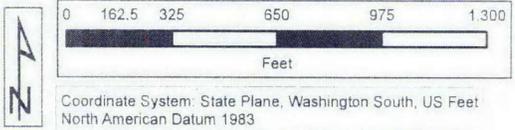
- Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – intact
- Lake Erie Jumper Repeater Tear Gas Candle – partial

**Sub Surface**

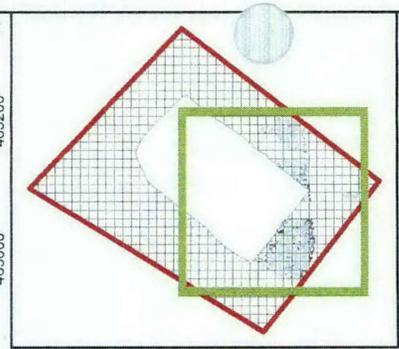
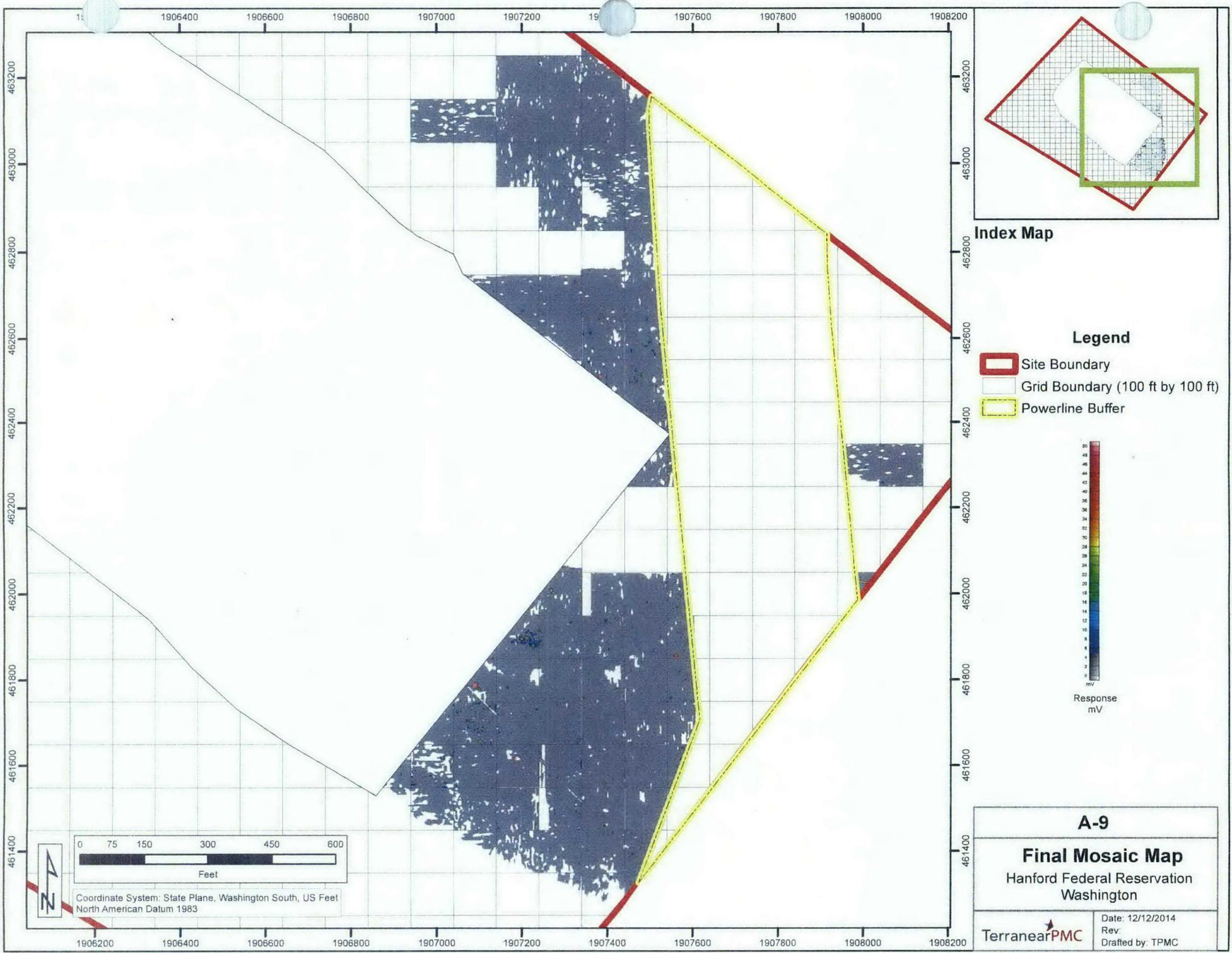
- Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – intact
- Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – partial
- Lake Erie Jumper Repeater Tear Gas Candle – partial

**DGM**

- Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile – intact



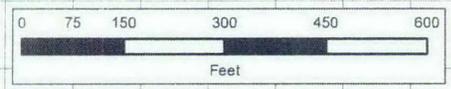
<b>A-8</b>	
<b>MEC Finds</b>	
Hanford Federal Reservation Washington	
	Date: 12/12/2014 Rev: Drafted by: TPMC



Index Map

**Legend**

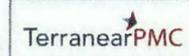
-  Site Boundary
-  Grid Boundary (100 ft by 100 ft)
-  Powerline Buffer



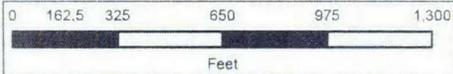
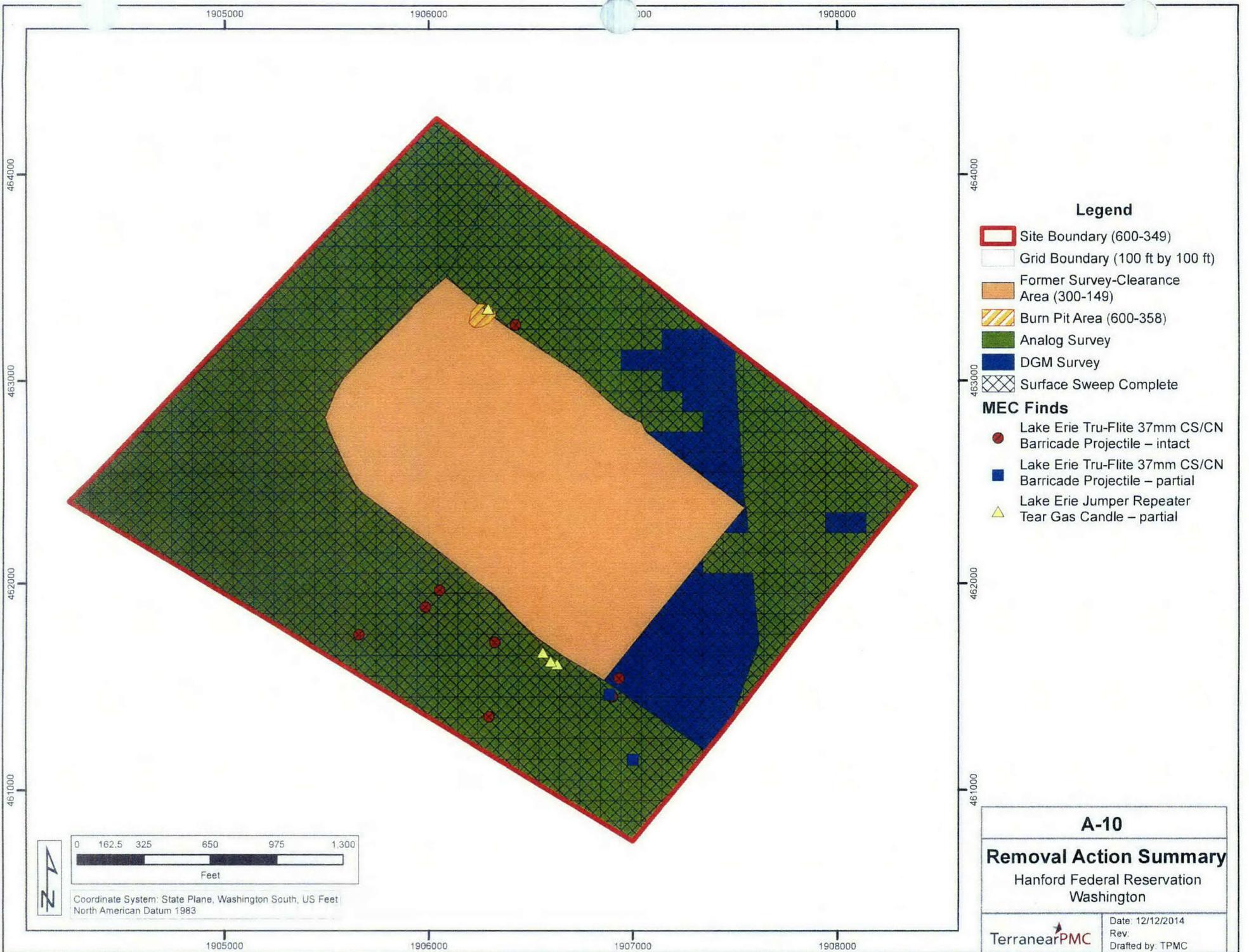
Coordinate System: State Plane, Washington South, US Feet  
North American Datum 1983

**A-9**

**Final Mosaic Map**  
Hanford Federal Reservation  
Washington



Date: 12/12/2014  
Rev:  
Drafted by: TPMC



Coordinate System: State Plane, Washington South, US Feet  
North American Datum 1983

**A-10**

**Removal Action Summary**

Hanford Federal Reservation  
Washington

TerranearPMC

Date: 12/12/2014  
Rev:  
Drafted by: TPMC

**B**

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*APPENDIX B*  
*DATA AND DOCUMENT DVD*

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*APPENDIX C*  
*INITIAL IVS RESULTS*

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# Project Start and Initial - Instrument Verification Strip Results

## 600-349 Munitions and Explosives of Concern (MEC) Removal Action at the Hanford Site near Richland, Washington

### 1.0 Introduction

The following memo details the results of the Project Start and Initial EM61-MK2 Instrument Verification Strip (IVS) surveys performed on May 20, May 21, June 03, and June 17, 2014. The Project Start IVS surveys were performed prior to the Munitions and Explosives of Concern (MEC) EM61-MK2 (EM61) Digital Geophysical Mapping (DGM) Survey at the 600-349 Munitions and Explosives of Concern (MEC) Removal Action at the Hanford Site near Richland, Washington under TerranearPMC, LLC (TPMC) Subcontract Number C036809A00 with the U.S. Department of Energy (DOE) Hanford Site in Richland, Washington. Additional initial IVS surveys were performed when the EM61 systems were replaced during the investigation. The DGM survey is being performed to support a Removal Action and Management remedy and is intended to identify potential UXO items at the 600-349 site.

### 2.0 IVS Design

1. **IVS As-Built Map and Table:** The IVS As-Built Map and Table are provided in Attachment A. All IVS seeds and control points were surveyed using a Topcon GR-3 RTK GPS system. All coordinates were in State Plane, Washington South, US Survey Feet. A background survey was performed with the EM61 to verify the IVS area was free of metallic clutter and suitable for the IVS strip.

### 3.0 IVS Test System

1. The geophysical equipment tested on the IVS were two (2) man portable Geonics EM61 systems. Each sensor array is configured with a single coil 0.5-by-1.0-m coils mounted on standard EM61 non-metallic wheels with their 1.0 m side's perpendicular to the direction of travel.
2. On June 02, 2014 Team 2s unit was replaced with a new system (Team 2b). The Initial IVS was completed with the new system prior to collecting data with it. On or around June 15, 2014 Team 1s EM61 console failed. The failed console was passing QC and IVS tests, but acquiring erroneous data (See Section 2.4.10 of the MEC Summary Report). The console was replaced and the initial IVS (Team 1b) was completed on June 17, 2014.
3. **Specifications:**
  - Sensors: One (1) EM-61 MK2 Sensor Coils
  - RTK GPS: Topcon GR-3 RTK GPS Base Station and Rovers
  - Sensor Sampling Rate: 15 Hertz (Hz)
  - GPS Sampling Rate: 1 Hz
  - Sensor Height: 42 cm from ground surface to coil bottom

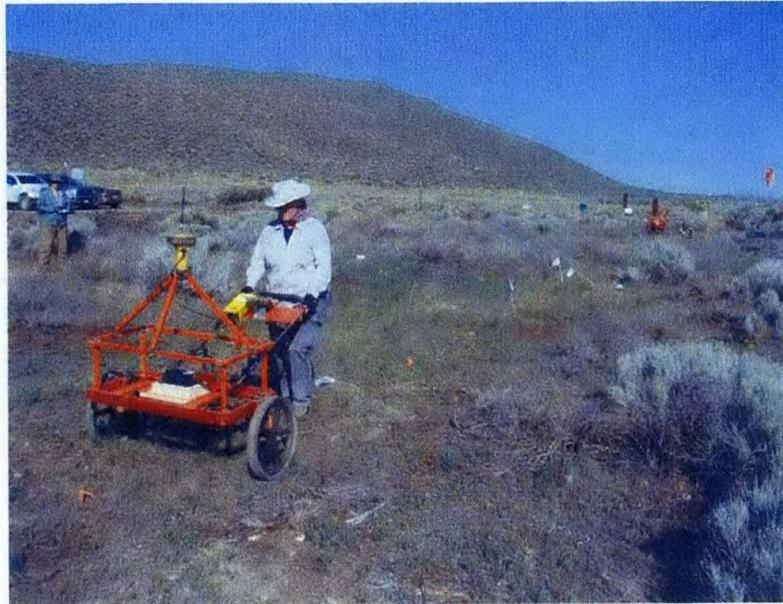


Figure 1 - EM61-MK2 Man Portable System at 600-349 IVS.  
Top coil is only used as a mount for GPS tripod.

#### 4.0 Initial IVS QC Tests

1. **GPS Test** – TPMC RTK GPS matched the control point, CP1.

Table 1 - RTK GPS Location Control Comparison

Team ID	ID – CP1 As Built Northing (feet)	ID – CP1 As Built Easting (feet)	ID – CP1 IVS QC Check Northing (feet)	ID - Noise Strip South IVS QC Test Easting (feet)	Net Offset (feet)
Team 1	462140.326	1906617.951	462140.328	1906617.954	0.000
Team 1b	462140.326	1906617.951	462140.345	1906617.974	0.001
Team 2	462140.326	1906617.951	462140.344	1906617.945	0.000
Team 2b	462140.326	1906617.951	46214.330	1906617.960	0.000

2. **Static Background and Spike Tests** – Pre-IVS and Post-IVS Static Spike Test profiles are presented in the data DVD of the MEC Summary Report. Static Test Result Tables are presented in the Attachment E Data and Document DVD.
3. **Static Vibration and Personnel Tests** - Pre-IVS and Post-IVS Static Vibration and Personnel Test profiles were reviewed in Geosoft. Static Test Result Tables are presented in the Attachment E Data and Document DVD.

4. **Latency Tests** - Latency based on the IVS Latency Test for Teams 1, 1b, 2, and 2b were 0.25, 0.22, 0.31, and 0.13 seconds, respectively.

## 5.0 IVS Data Processing

1. IVS and QC data were uploaded to the TPMC FTP site for processing on May 20, May 21, June 03, and June 17, 2014 after the Project Start and Initial IVS and QC tests were complete.
2. Specification for processing were:
  - **Processing Software:** Oasis Montaj including the UX-process and UX-Detect modules.
  - **Filter:** Demedian
  - **Latency:**
    - Team 1: 0.25 s
    - Team 1B: 0.22 s
    - Team 2: 0.31 s
    - Team 2B: 0.13 s
  - **Gridding Method:** Minimum Curvature
  - **Gridding Cell Size:** 0.5
  - **Blanking Distance:** 1.6
  - **Target Selection:** Blakeley Picker
  - **Target Selection Threshold:** 5.0 mV on Channel 2

## 6.0 IVS Results

1. All IVS seed targets were detected by Team 1, 1b, 2, and 2b's EM61 systems. See attached color IVS Response Maps in Attachment C. Target selection picks are presented in the Table below.

**Table 2 – Teams 1, 1b 2, and 2b Channel 2 IVS Seed Response Values (mV)**

<b>Easting (feet)</b>	<b>Northing (feet)</b>	<b>Target_ID</b>	<b>Ch2_value</b>
1906767.7	461981.8	Seed 1_Team 1	19.6
1906780.0	461973.0	Seed 2_Team 1	64.4
1906766.5	461981.8	Seed 1_Team 1b	21.2
1906780.0	461972.6	Seed 2_Team 1b	67.7
1906766.5	461980.0	Seed 1_Team 2	21.4
1906780.0	461973.0	Seed 2_Team 2	60.7
1906767.0	461980.0	Seed 1_Team 2b	23.9
1906780.0	461972.5	Seed 2_Team 2b	69.5

2. All IVS target selections were within the 40 cm target repeatability DQO. The IVS Results are presented in Attachment C.

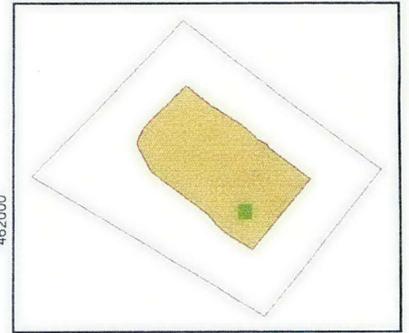
## 7.0 Summary and Recommendations

1. All seed items were detected within the IVS at the 5.0 mV threshold on Channel 2.
2. All the seed items selected targets were within the +/-10 cm DQO.
3. TPMC will collect and process data with the same specifications presented in this memo and the geophysical work plan.
4. Based on the IVS response, TPMC recommends a minimum target selection criteria of 5 mV.
5. Two additional EM61 (1B and 2B) were tested and passed on the IVS after the project start-up testing.
6. Any change to the data collection, processing, or target selection procedures will be provided to WCH for their review and approval.

# **ATTACHMENT A**

## **IVS As-Built Map**

Easting	Northing	ID
1906767.74	461981.80	ISO 1
1906780.07	461972.68	ISO 2
1906756.05	461990.73	NAIL 1
1906791.45	461963.87	NAIL 2
1906750.08	461982.76	SPIKE 1
1906786.38	461955.60	SPIKE 2



Index Map

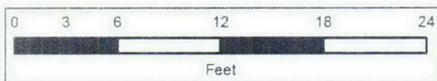
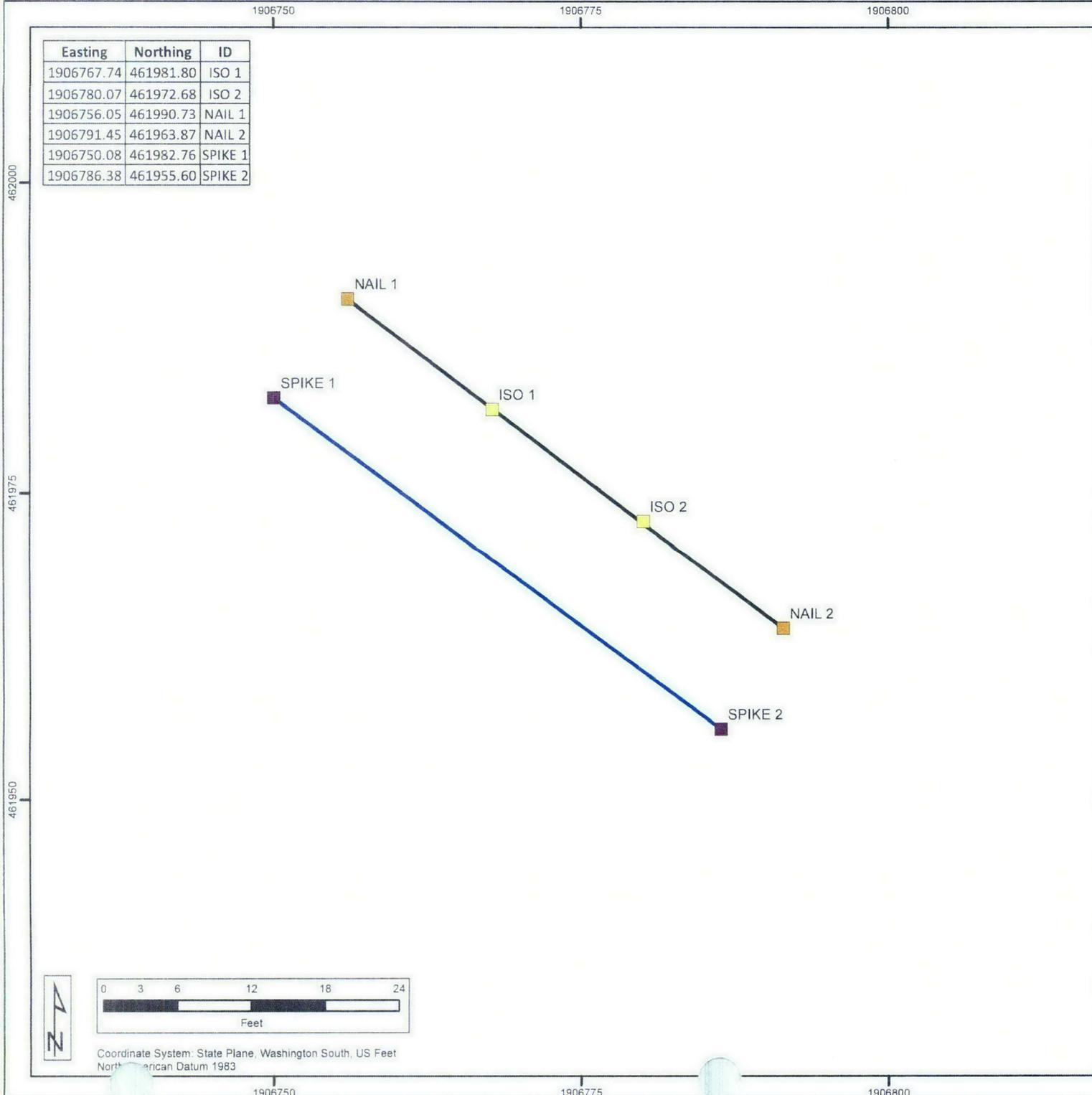
Legend

- Work Area (Site 600-349)
- Previous Work Area (Site 600-149)

IVS

- IVS
- Noise
- ISO
- Nail
- Spike\*

\*The spike was a plastic material.



Coordinate System: State Plane, Washington South, US Feet  
North American Datum 1983

### IVS Location

Hanford Federal Reservation  
Washington

Date: 10/21/2014  
 Rev: \_\_\_\_\_  
 Dra: \_\_\_\_\_  
 TPMC

**ATTACHMENT B**

**Static Test Result Tables**

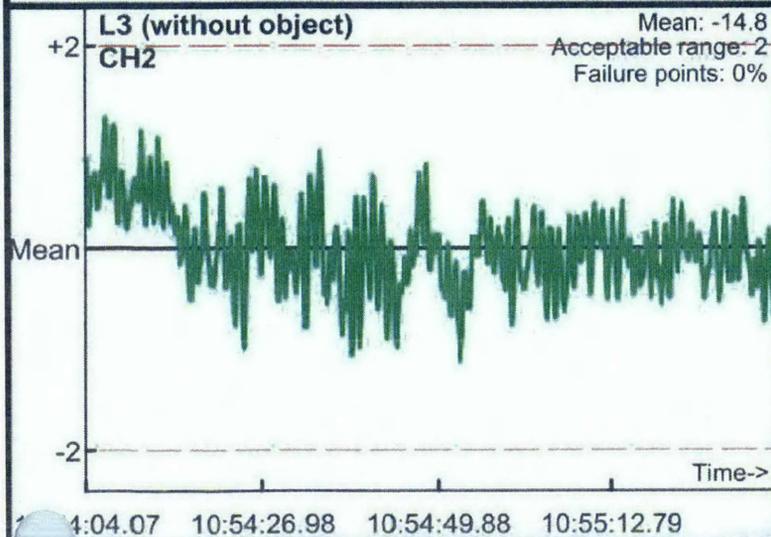
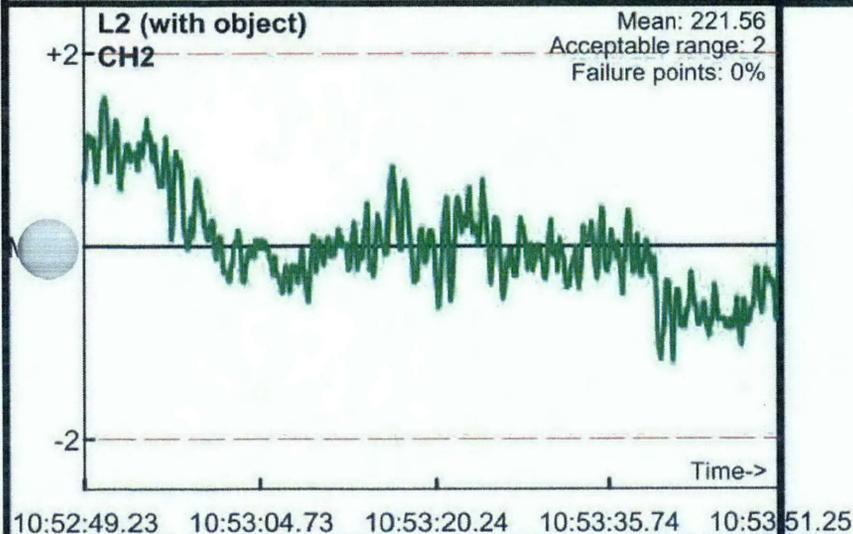
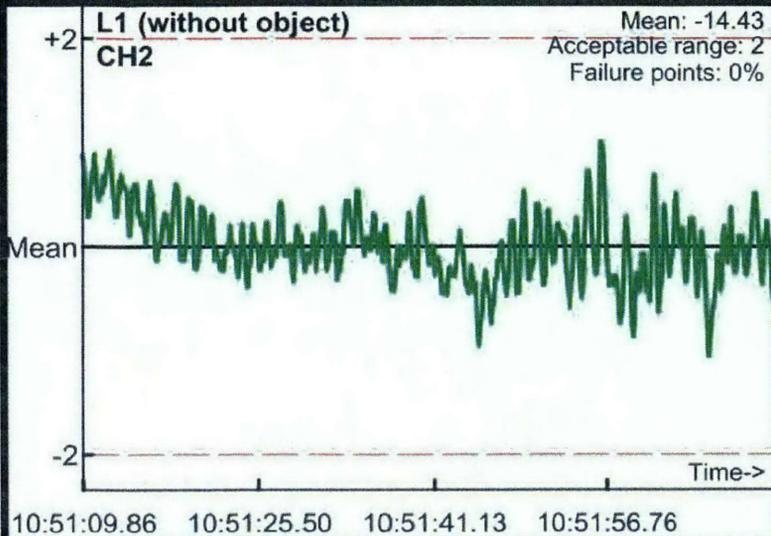


# Static Calibration Test

Project: 600-349 MEC Removal Action  
Equipment: EM-61 Mark II  
Location: IVS

Allowable failure (%): 100%  
● Outside range  
--- Acceptable limits

AM test  
Operator: LB  
Date: 05/20/2014

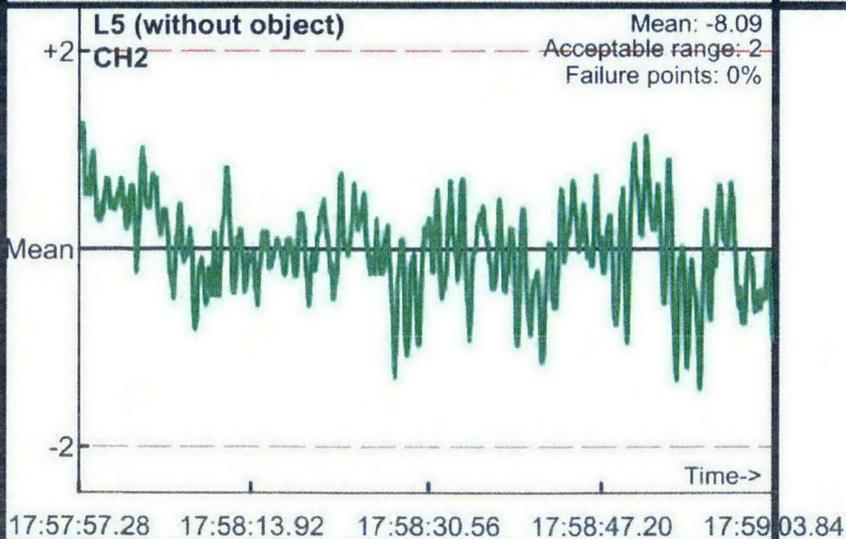
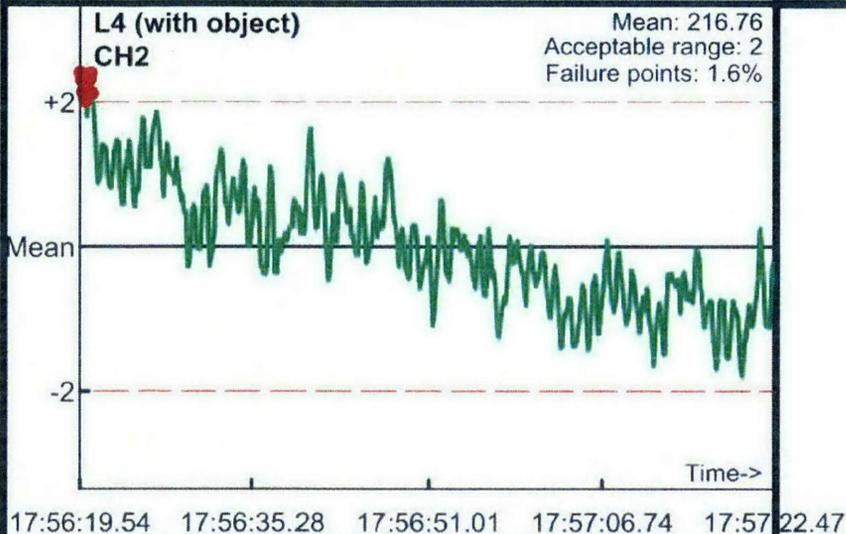
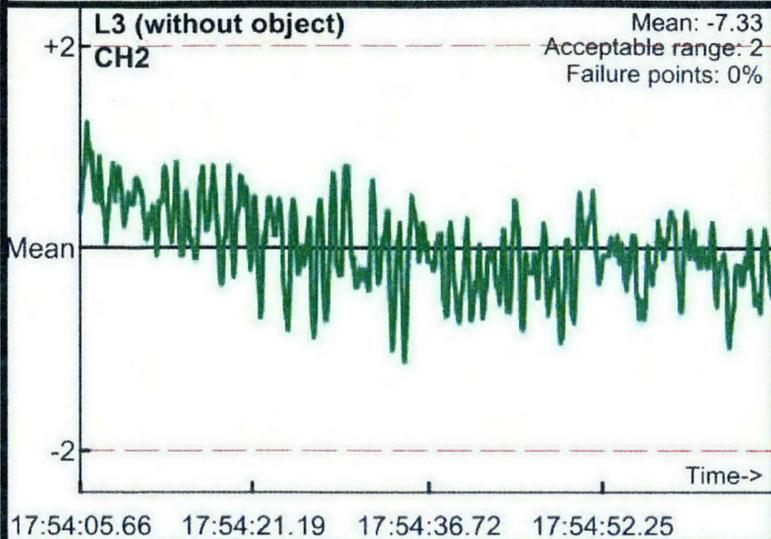


# Static Calibration Test

Project: 600-349 MEC Removal Action  
Equipment: EM-61 Mark II  
Grid/Location: IVS

Allowable failure (%): 100%  
● Outside range  
--- Acceptable limits

PM test  
Operator: J.P.  
Date: 05/20/20



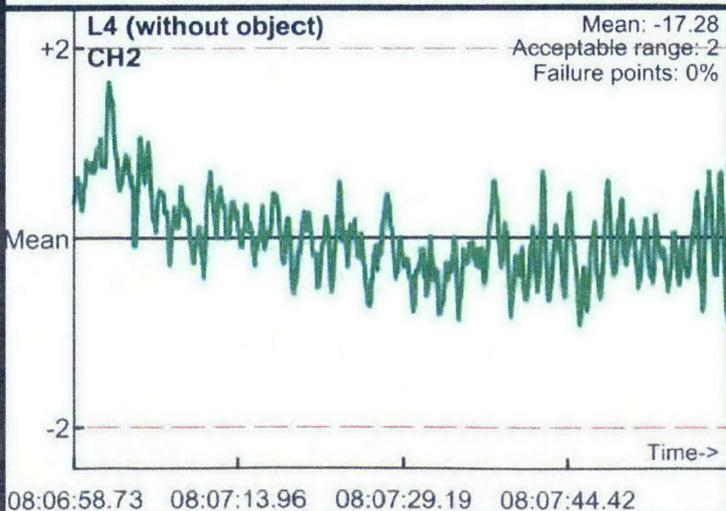
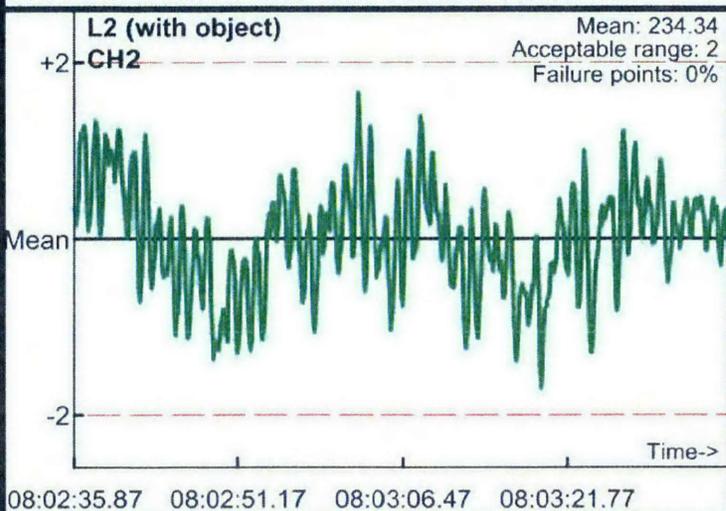
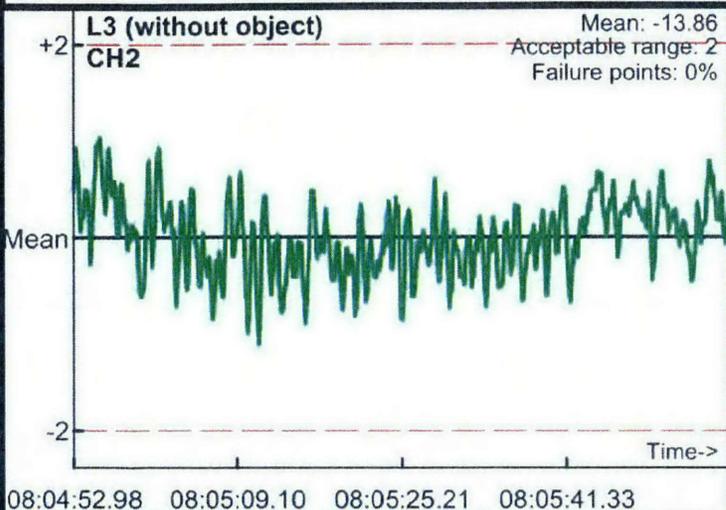


# Static Calibration Test

Project: 600-349  
Equipment: EM-61 Mark II  
Grid/Location: IVS

Allowable failure (%): 100%  
• Outside range  
Acceptable limits

AM test  
Operator: LB  
Date: 06/17/2014

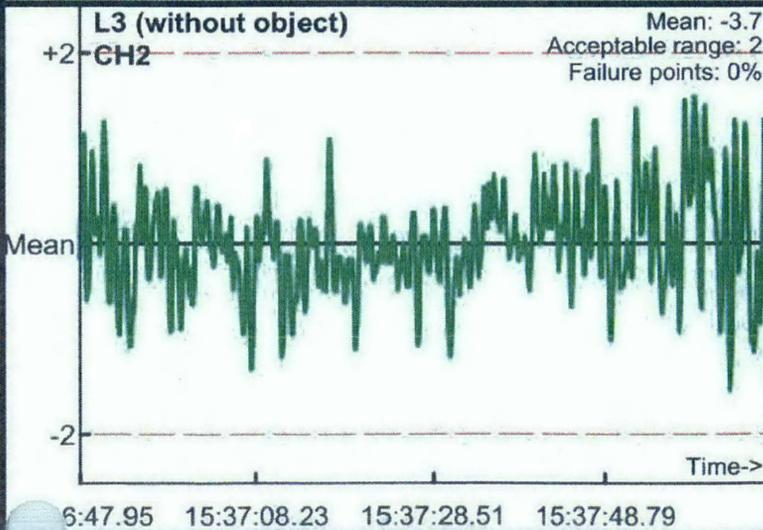
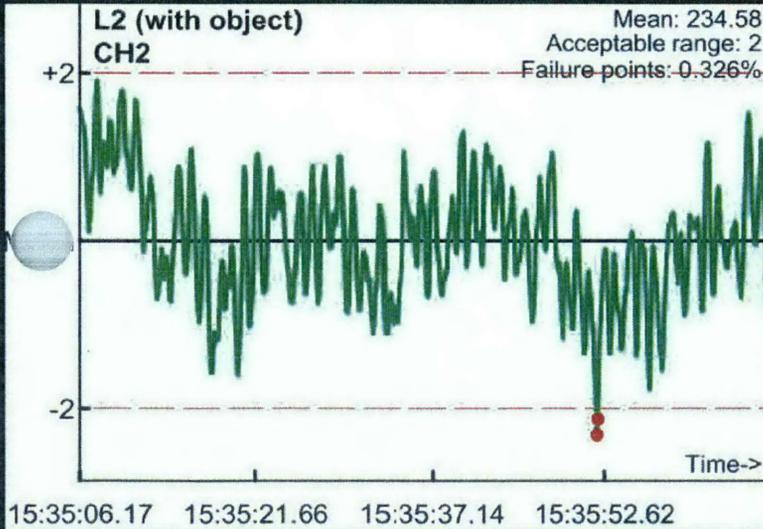
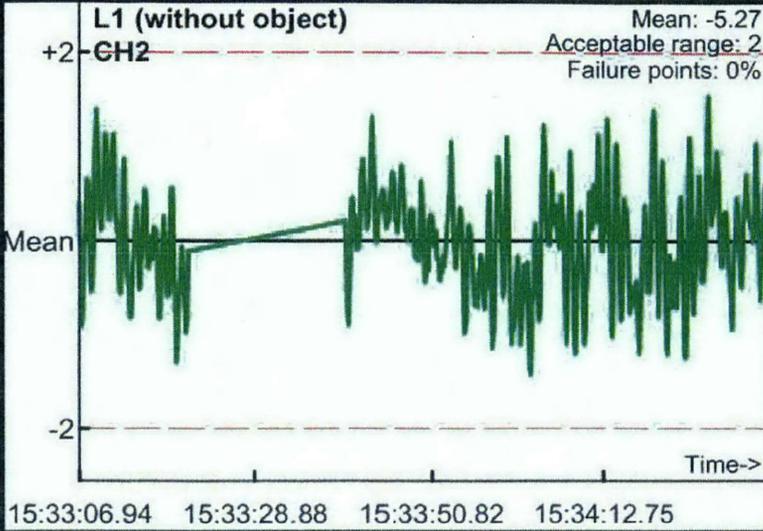


# Static Calibration Test

Project: 600-349 MEC Removal  
Equipment: EM-61 (1.0x0.5m)  
Location: IVS

Allowable failure (%): 100%  
● Outside range  
--- Acceptable limits

PM test  
Operator: LB  
Date: 06/17/2014



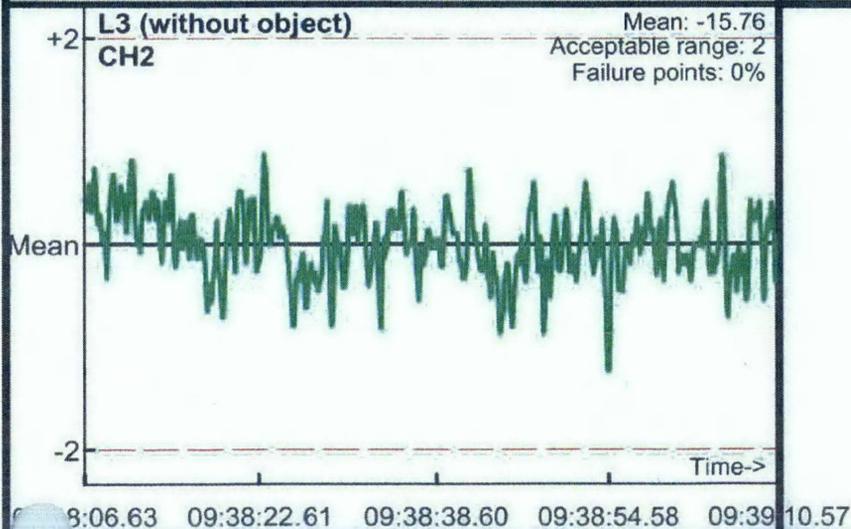
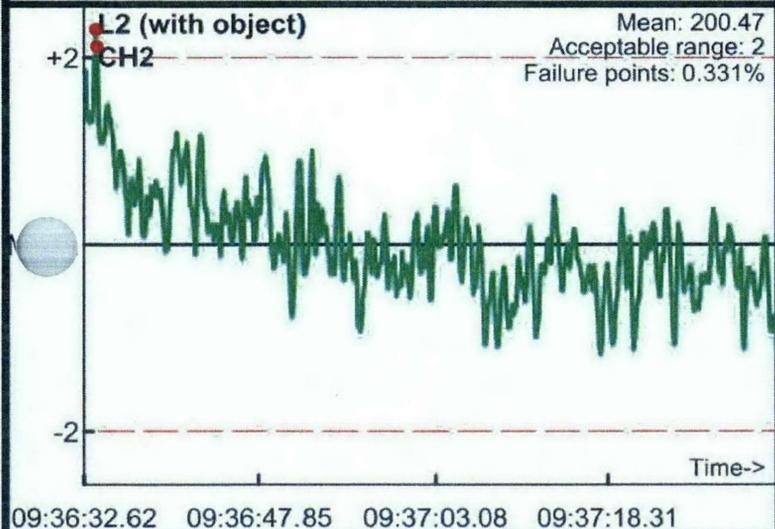
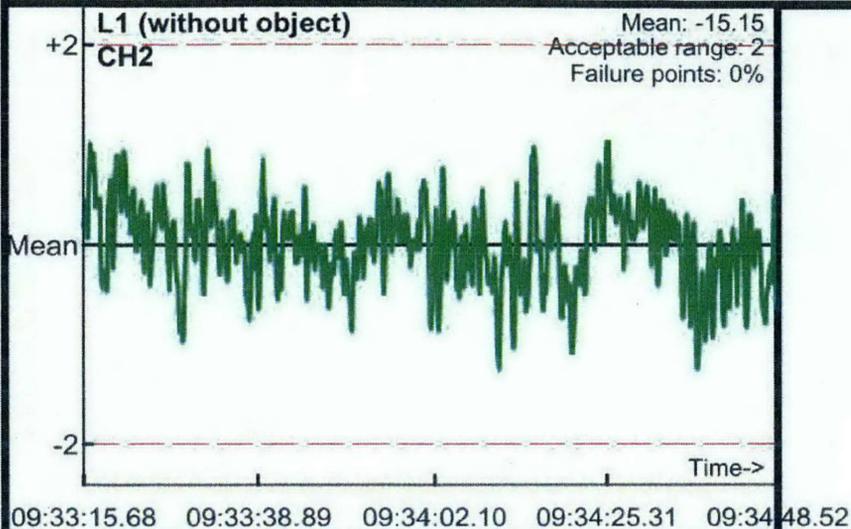


# Static Calibration Test

Project: 600-349 MEC Removal Action  
Equipment: EM-61 Mark II  
Location: IVS

Allowable failure (%): 100%  
● Outside range  
--- Acceptable limits

AM test  
Operator: EM  
Date: 05/21/2014

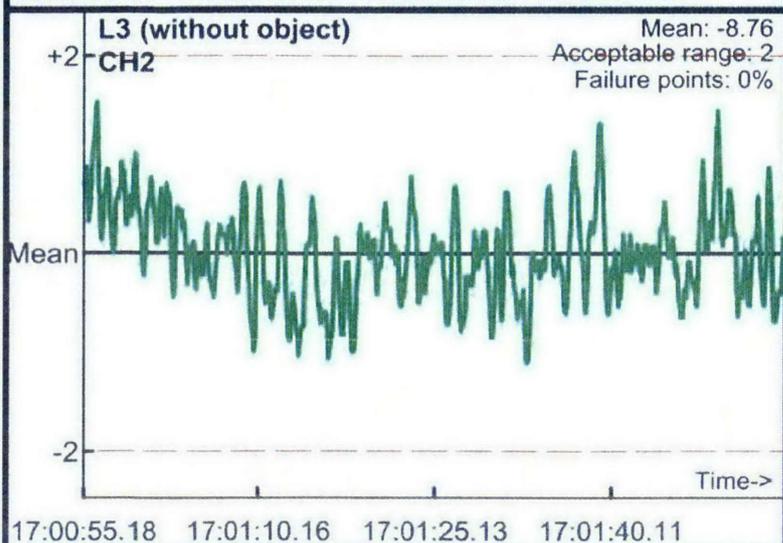
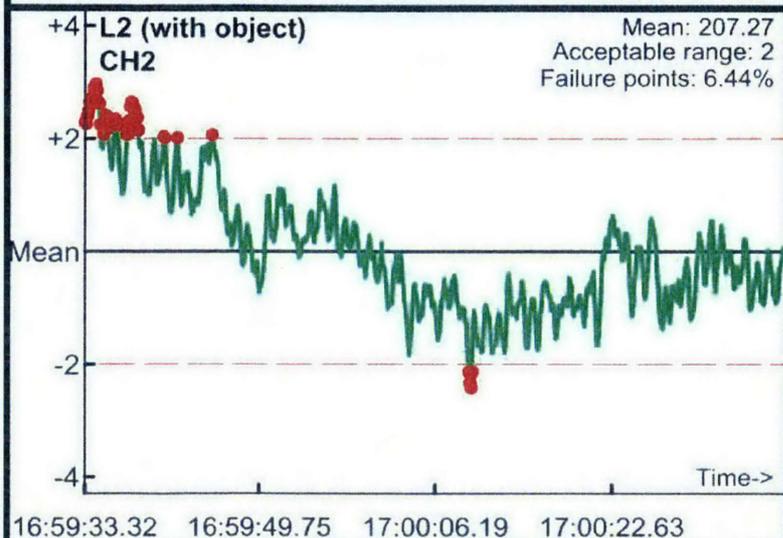


# Static Calibration Test

Project: 600-349 MEC Removal Action  
Equipment: EM-61 Mark II  
Grid/Location: IVS

Allowable failure (%): 100%  
● Outside range  
- - - Acceptable limits

PM test  
Operator: EM  
Date: 05/21/20



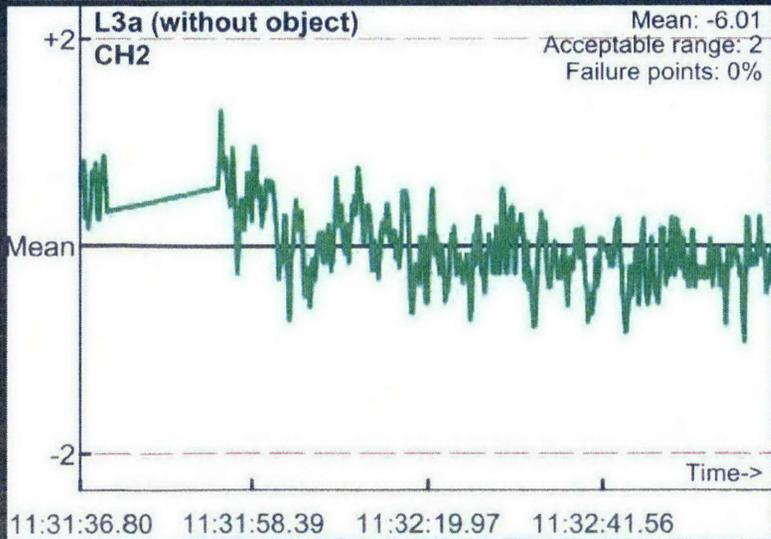
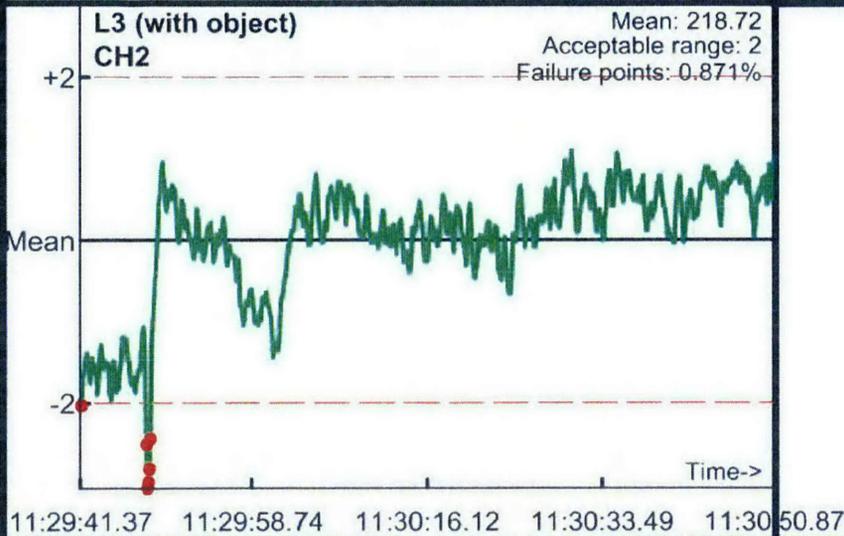
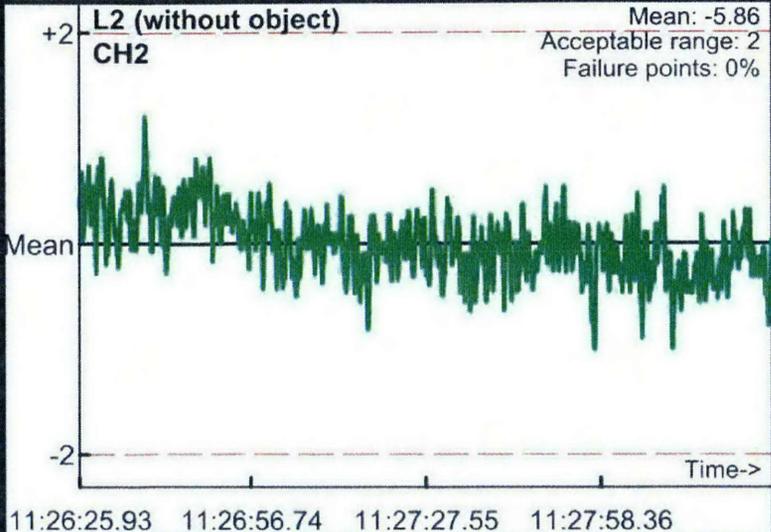


# Static Calibration Test

Project: 600-349 MEC Removal Action  
Equipment: EM-61 Mark II  
Grid/Location: IVS

Allowable failure (%): 100%  
● Outside range  
--- Acceptable limits

AM test  
Operator: J.P.  
Date: 06/03/20

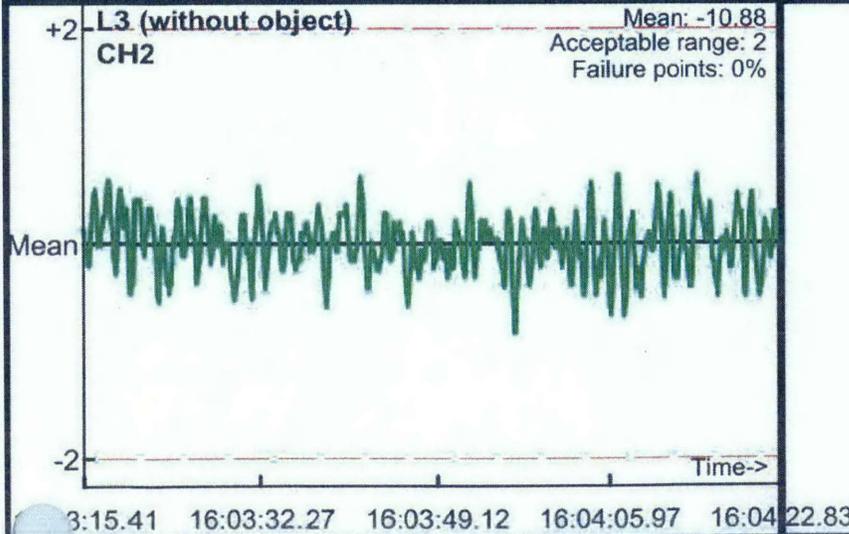
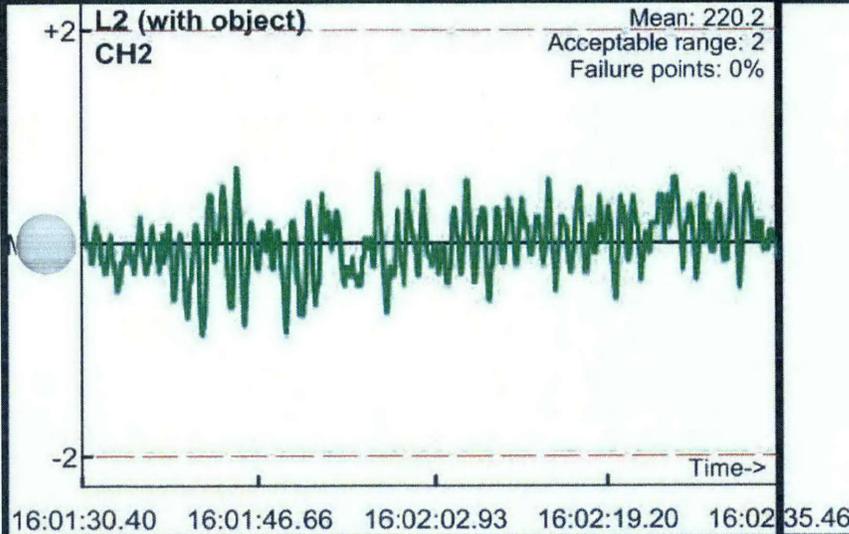
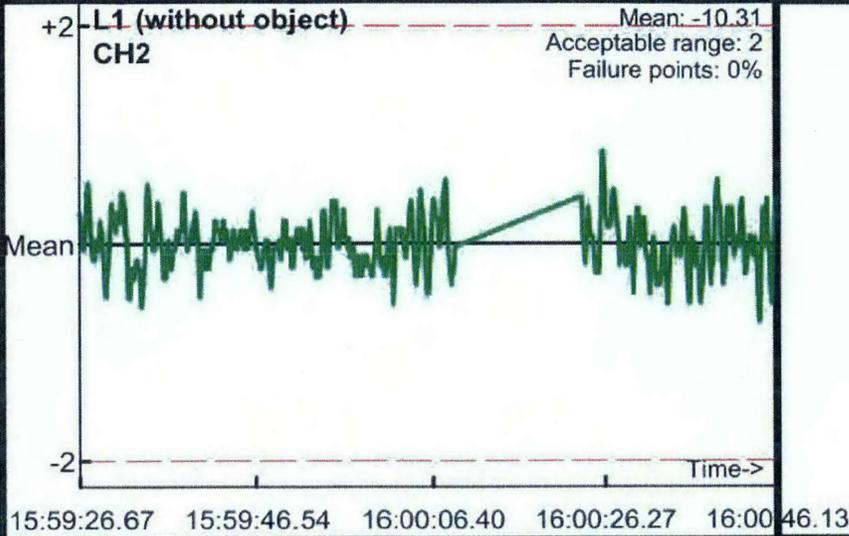


# Static Calibration Test

Project: 600-349 MEC Removal Action  
Equipment: EM-61 Mark II  
I/Location: IVS

Allowable failure (%): 100%  
● Outside range  
--- Acceptable limits

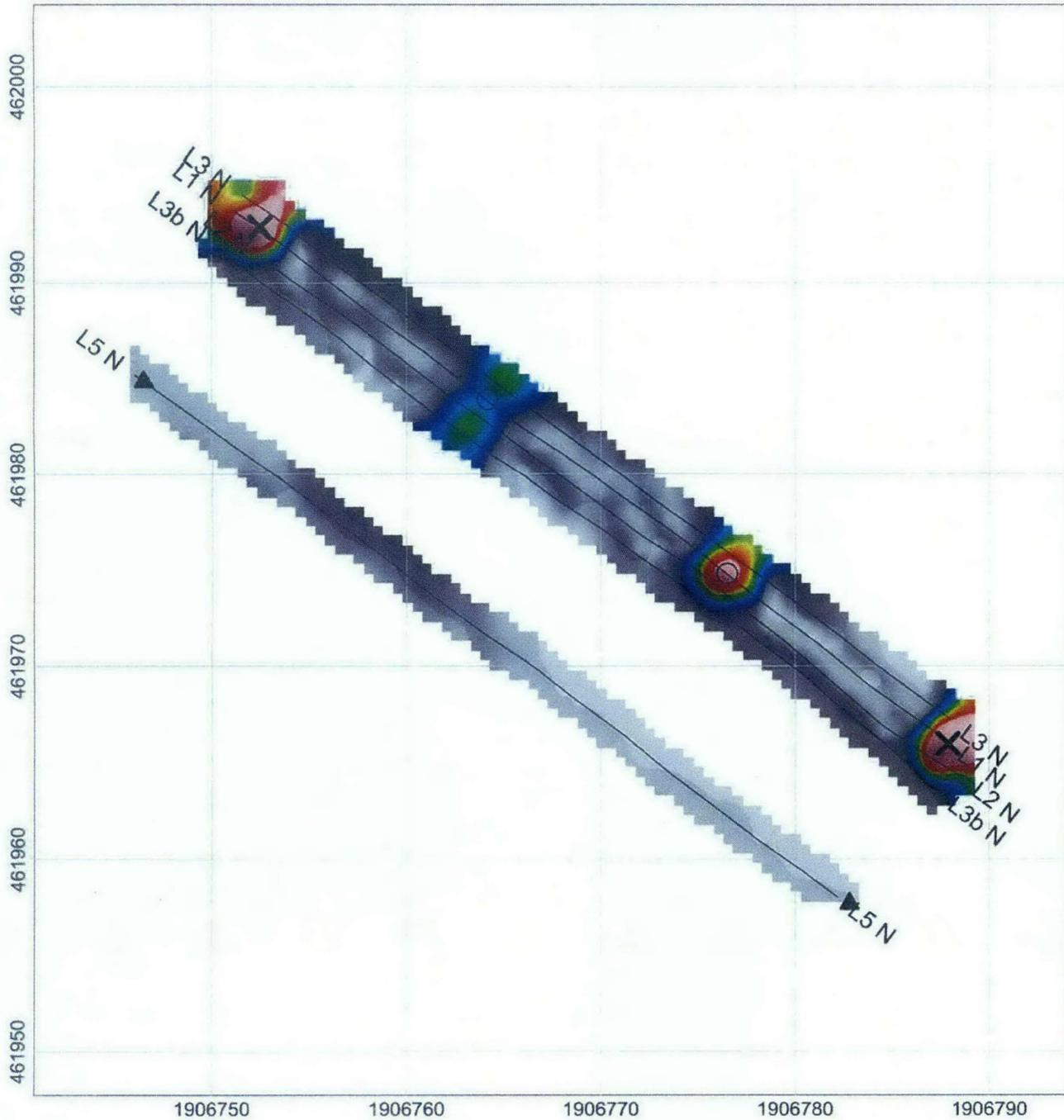
PM test  
Operator: LB  
Date: 06/03/2014



**ATTACHMENT C**

**IVS Response Maps  
And  
Initial IVS Results Tables**

# MAF Team 1 IVS



## Legend

- ISO Seed Locations
- ✕ Survey Nail Locations
- ▲ Background End Locations

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: JLL

Verified by: JLL

Date: 2014/05/21

File: IVS\_Map\_Team\_1

Page number: 1

Approved: JLL

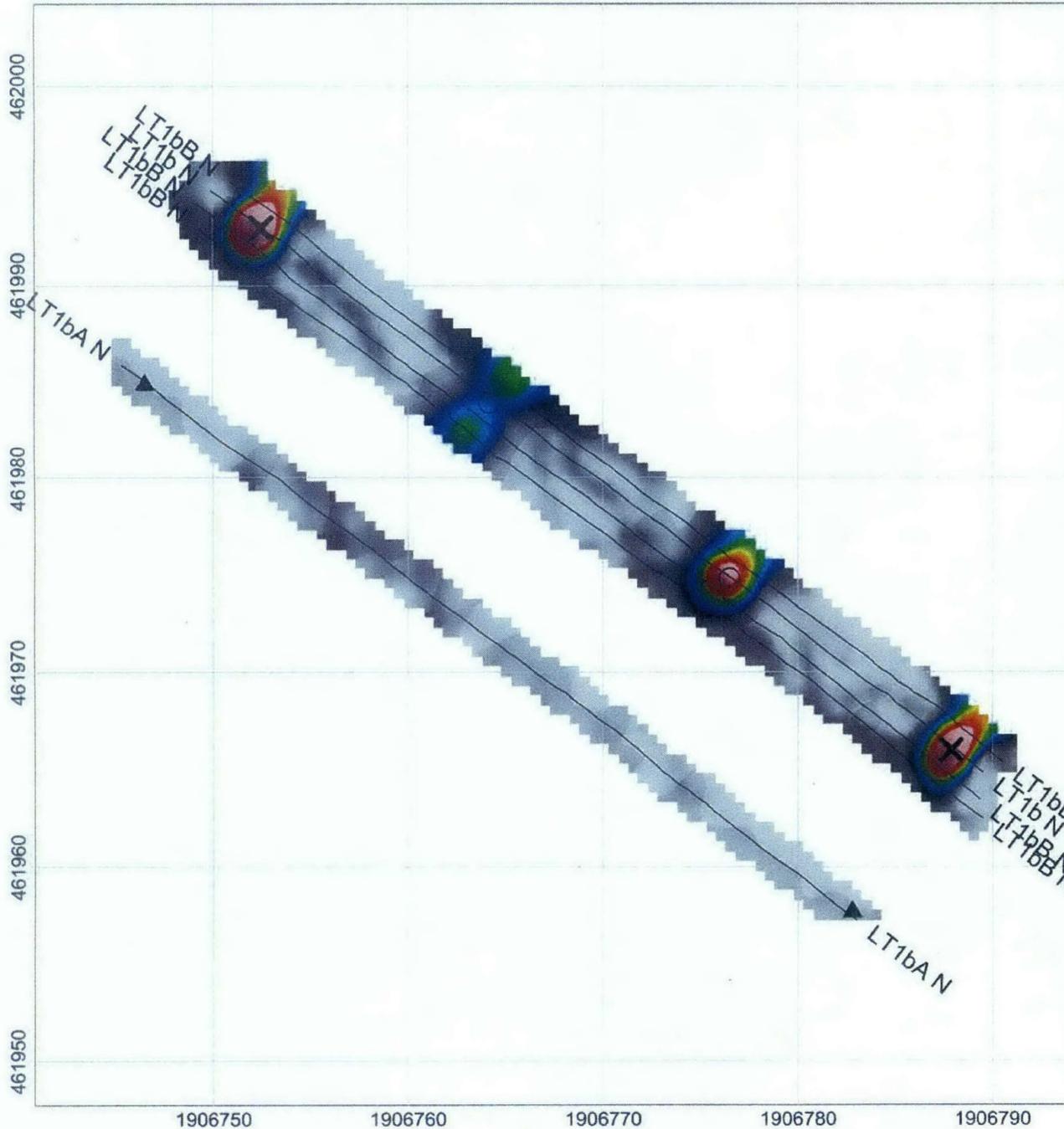
**Table 5  
Team 1 Initial IVS Results**

File Name	SEED 1					SEED 2					Background
	X_m	Y_m	Offset (ft)	Ch2_mV	% Difference	X_m	Y_m	Offset (cm)	Ch2_mV	% Difference	Standard Deviation
052014_initial_L1	1906767.73	461981.83	0.0	11.01	-4.1%	1906779.93	461972.78	0.2	68.19	-1.8%	0.54
052014_initial_L2	1906768.44	461981.33	0.8	9.34	11.7%	1906779.93	461972.78	0.2	66.14	1.3%	0.42
052014_initial_L3	1906767.83	461981.78	0.1	10.98	-3.8%	1906780.07	461972.68	0.0	66.54	0.7%	0.44
052014_initial_L4	1906767.91	461981.77	0.2	10.77	-1.8%	1906780	461972.57	0.1	67.83	-1.3%	0.43
052014_initial_L5	1906767.74	461981.8	0.0	10.79	-2.0%	1906779.87	461972.71	0.2	66.26	1.1%	0.52
052014 Team 1 IVS	1906767.55	461981.88	0.2	11.76	-11.2%	1906779.93	461972.76	0.2	68.96	-2.9%	0.28

	X Seed_Location (ft)	Y Seed_Location (ft)	Depth bgs (cm)	Depth below coil (cm)
SEED 1	1906767.74	461981.80	7.62	49.62
SEED 2	1906780.07	461972.68	17.78	59.78

Percent Difference based on the average of the 1st two IVSs (2 Line IVSs)		
	SEED 1 Average (mV)	10.58
	SEED 2 Average (mV)	66.99

# MAP Team 1b IVS



## Legend

- ISO Seed Locations
- ✕ Survey Nail Locations
- ▲ Background End Locations

Map Scale: Scale 1:106,6802  
US survey foot  
NAD 83 / NAD 83 Washington South zone (US Survey Feet)

Grid North: 0°0'0"  
Mag North: 15°20'24"

Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: JLL	Verified by: JLL
Date: 2014/05/21	File: IVS_Map_Team_1
Page number: 1	Approved: JLL

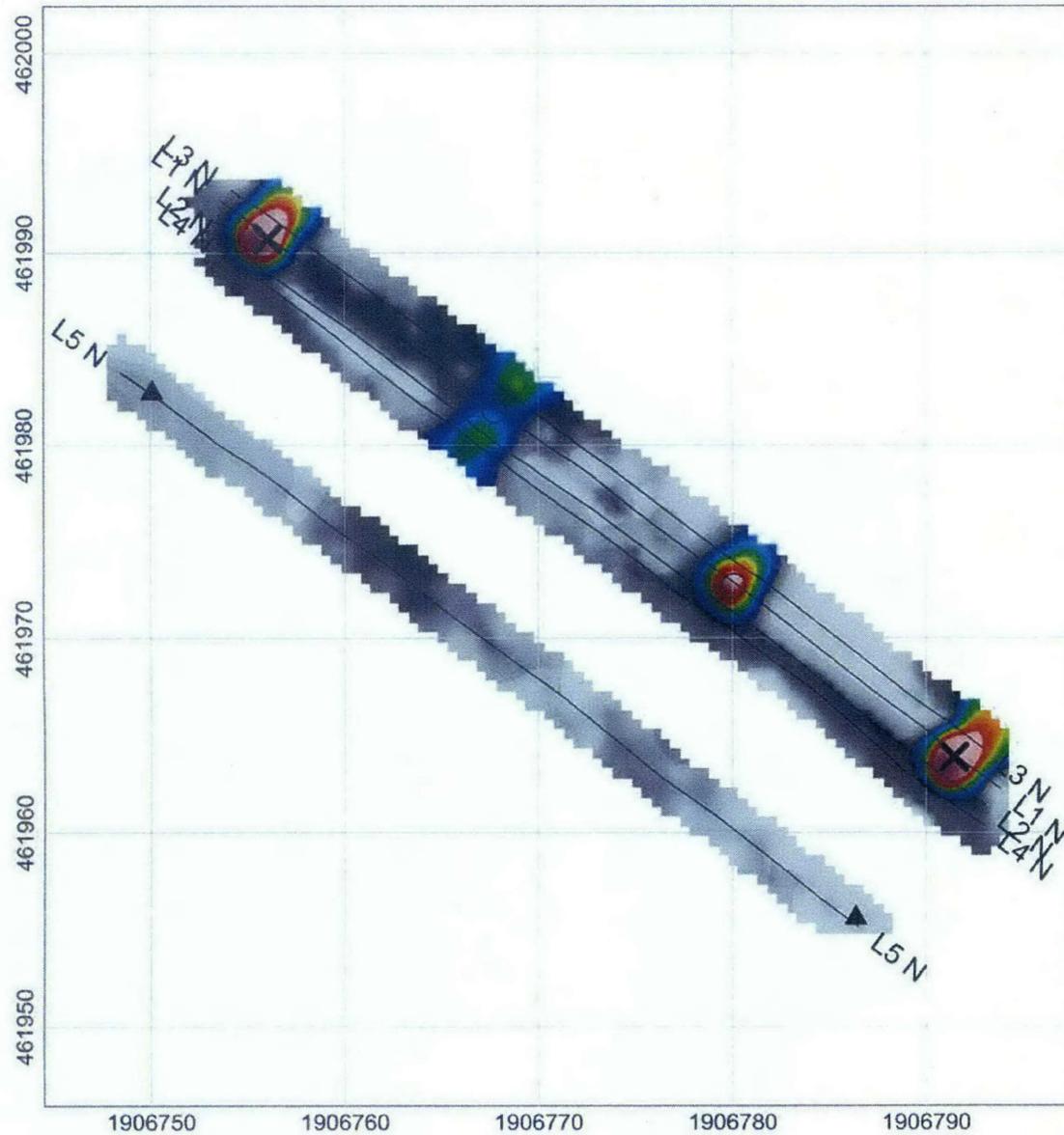
**Table 6  
Team 1B Initial IVS Results**

File Name	SEED 1					SEED 2					Background
	X_m	Y_m	Offset (ft)	Ch2_mV	% Difference	X_m	Y_m	Offset (cm)	Ch2_mV	% Difference	Standard Deviation
061714_initial_L1	1906767.83	461981.99	1961935.5	11.9	6.3%	1906779.91	461972.88	1961945.1	72.29	1.0%	0.41
061714_initial_L2	1906767.75	461981.92	1961935.4	10.43	6.9%	1906779.92	461972.96	1961945.1	70.58	1.4%	0.37
061714_initial_L3	1906767.85	461981.89	1961935.5	11.11	0.8%	1906779.94	461972.89	1961945.1	69.91	2.3%	0.49
061714_initial_L4	1906767.85	461982	1961935.5	12.2	8.9%	1906779.84	461972.94	1961945.0	73.33	2.5%	0.45
061714_initial_L5	1906767.79	461981.93	1961935.4	10.44	6.8%	1906779.83	461972.94	1961945.0	71.65	0.1%	0.41
061714 PM	1906767.77	461981.97	1961935.4	10.07	10.1%	1906779.81	461973	1961945.0	68.11	4.8%	0.29

	X Seed_Location (ft)	Y Seed_Location (ft)	Depth bgs (cm)	Depth below coil (cm)
SEED 1	1906767.74	461981.80	7.62	49.62
SEED 2	1906780.07	461972.68	17.78	59.78

Percent Difference based on the average of the 1st two IVSs (2 Line IVSs)		
SEED 1 Average (mV)	11.2	
SEED 2 Average (mV)	71.55	

# MAF Team 2 IVS



## Legend

- ISO Seed Locations
- ✕ Survey Nail Locations
- ▲ Background End Locations



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: JLL	Verified by: JLL
Date: 2014/05/21	File: IVS_Map_Team_2
Page number: 1	Approved: JLL

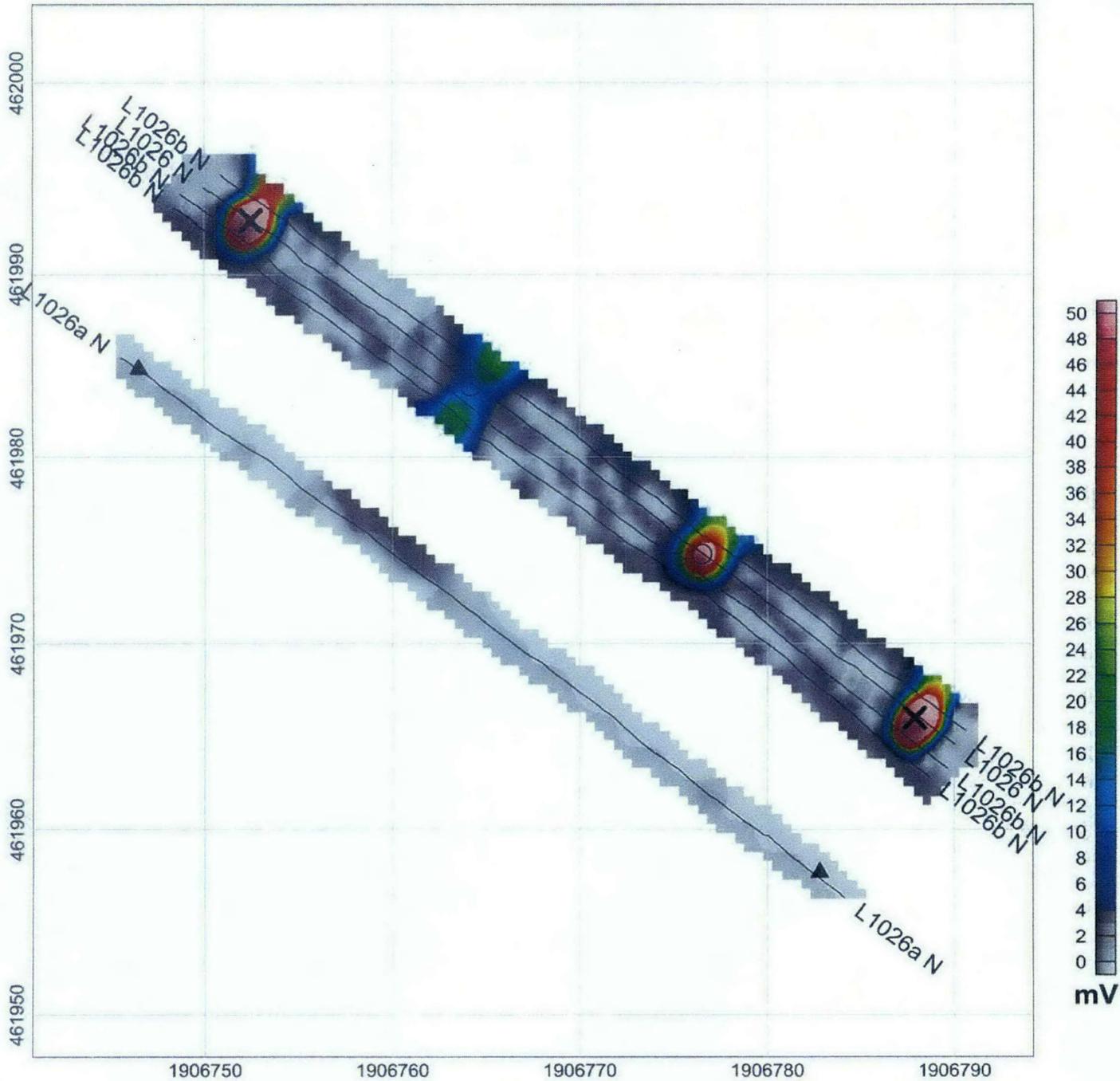
**Table 7**  
**Team 2 Initial IVS Results**

File Name	SEED 1					SEED 2					Background
	X_m	Y_m	Offset (ft)	Ch2_mV	% Difference	X_m	Y_m	Offset (cm)	Ch2_mV	% Difference	Standard Deviation
052114_initial_L1	1906767.54	461982.14	1961935.3	11.47	0.7%	1906779.47	461973.17	1961944.7	68.7	-3.1%	0.52
052114_initial_L2	1906767.49	461982.22	1961935.2	11.74	-1.6%	1906779.59	461973.11	1961944.8	66.58	0.1%	0.53
052114_initial_L3	1906767.31	461982.32	1961935.1	12.1	-4.8%	1906779.48	461973.15	1961944.7	67.29	-1.0%	0.44
052114_initial_L4	1906767.48	461982.05	1961935.2	11.98	-3.7%	1906779.4	461973.33	1961944.7	64.16	3.7%	0.62
052114_initial_L5	1906767.31	461982.22	1961935.1	10.46	9.4%	1906779.24	461973.23	1961944.5	66.44	0.3%	0.46
052114_IVS	1906767.72	461981.97	1961935.4	10.45	9.5%	1906779.88	461972.99	1961945.1	62.54	6.1%	0.36

	X Seed_Location (ft)	Y Seed_Location (ft)	Depth bgs (cm)	Depth below coil (cm)
SEED 1	1906767.74	461981.80	7.62	49.62
SEED 2	1906780.07	461972.68	17.78	59.78

Percent Difference based on the average of the 1st two IVSs (2 Line IVSs)		
	SEED 1 Average (mV)	11.55
	SEED 2 Average (mV)	66.63

# MAF Team 2b IVS



- ## Legend
- ISO Seed Locations
  - ✕ Survey Nail Locations
  - ▲ Background End Locations

Map Scale: Scale 1:106,680  
US Survey Foot  
NAD 83 / SPCS22 Washington South zone (US Survey Feet)

Grid North: 0°0'0"  
Mag North: 15°20'24"

Client: Washington Closure Hanford  
Project: 600-349 MEC Removal Action  
Contractor: TerranearPMC LLC  
Created by: JLL      Verified by: JLL  
Date: 2014/05/21      File: IVS\_Map\_Team\_1  
Page number: 1      Approved: JLL

**Table 8**  
**Team 2B Initial IVS Results**

File Name	SEED 1					SEED 2					Background
	X_m	Y_m	Offset (ft)	Ch2_mV	% Difference	X_m	Y_m	Offset (cm)	Ch2_mV	% Difference	Standard Deviation
060314_initial_L1	1906767.72	461981.96	1961935.4	13.22	14.0%	1906779.47	461973.17	1961944.7	68.7	8.0%	0.54
060314_initial_L2	1906767.96	461981.82	1961935.6	10.31	11.1%	1906779.59	461973.11	1961944.8	66.58	10.8%	0.42
060314_initial_L3	1906768.04	461981.76	1961935.7	10.91	5.9%	1906779.48	461973.15	1961944.7	67.29	9.9%	0.44
060314_initial_L4	1906767.88	461981.84	1961935.5	11.6	0.0%	1906779.4	461973.33	1961944.7	64.16	14.1%	0.43
060314_initial_L5	1906767.88	461981.91	1961935.5	11.95	3.0%	1906779.24	461973.23	1961944.5	66.44	11.0%	0.39

	X Seed_Location (ft)	Y Seed_Location (ft)	Depth bgs (cm)	Depth below coil (cm)
SEED 1	1906767.74	461981.80	7.62	49.62
SEED 2	1906780.07	461972.68	17.78	59.78

Percent Difference based on the average of the 1st two IVSs (2 Line IVSs)		
	SEED 1 Average (mV)	11.6
	SEED 2 Average (mV)	74.65



---

*APPENDIX D*  
*PHOTOGRAPHIC LOG*

---



**Photo 01**

Date: 6/16/14

MEC#: 01

Location:  
Lot A39, grid 4 x 28

Description:  
Lake Erie Tru-Flite 37mm  
CS/CN Barricade Projectile -  
Partial



**Photo 02**

Date: 7/15/2014

MEC#: 02

Location: Lot A45 grid 26 x  
22

Description: Lake Erie Tru-  
Flite 37mm CS/CN Barricade  
Projectile - Complete



**Photo 03**

Date: 7/22/2014

MEC#: 03

Location: grid 26 x 21

Description: Lake Erie  
Jumper Repeater Tear Gas  
Candle - Partial



**Photo 04**

Date: 7/22/2014

MEC#: 04

Location: Lot A26 grid 13x19

Description: Lake Erie Tru-  
Flite 37mm CS/CN Barricade  
Projectile - Complete



**Photo 05**

Date: 8/5/2014

MEC#: 05

Location: Lot A28 grid 11x15

Description: Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile - Complete



**Photo 06**

Date: 8/11/2014

MEC#: 06

Location: Lot A34 grid 7 x 21

Description: Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile - Complete



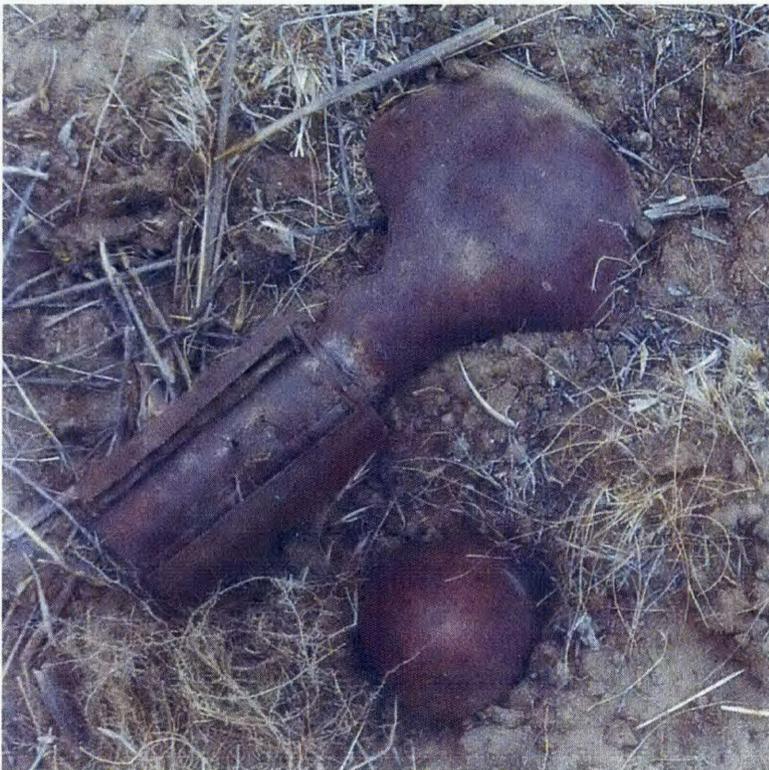
**Photo 07**

Date: 8/13/2014

MEC#: 07

Location: Lot D52 grid 8x27

Description: Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile - Partial



**Photo 08**

Date: 8/13/2014

MEC#: 08

Location: Lot 29 grid 12x18

Description: Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile - Complete



**Photo 09**

Date: 8/15/2014

MEC#: 09

Location: Lot 32 grid 10x21

Description: Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile - Complete



**Photo 10**

Date: 8/20/2014

MEC#: 10

Location: Lot 35 grid 8x27

Description: Lake Erie Tru-Flite 37mm CS/CN Barricade Projectile - Complete

**Photo 11**

Date: 8/20/2014

MEC#: 11

Location: Lot 32 grid 10x24

Description: Lake Erie  
Jumper Repeater Tear Gas  
Candle - Partial



**Photo 12**

Date: 8/22/2014

MEC#: 12

Location: Lot 35 grid 8x27

Description: Lake Erie Tru-  
Flite 37mm CS/CN Barricade  
Projectile - Partial





**Photo 13**

Date: 8/22/2014

MEC#: 13

Location: Lot 32 grid 9x24

Description: Lake Erie  
Jumper Repeater Tear Gas  
Candle - Partial



**Photo 14**

Date: 8/22/2014

MEC#: 14

Location: Lot 32 grid 9x24

Description: Lake Erie  
Jumper Repeater Tear Gas  
Candle - Partial

**Photo 15**

Overview of the site facilities.



**Photo 16**

View of the power line on site.



**Photo 17**



View of the power line on site  
(continued).

**Photo 18**



View of DGM operations.

**Photo 19**

View of DGM operations.



**Photo 20**

View of analog operations.





**Photo 21**

View of analog operations.

# **APPENDIX B**

## **MEC SUMMARY REPORT**

**600-349 MEC Removal Action**

**Hanford Site**

**Richland, WA**

**Submittal No. 9-21 and No. 9-22**

*Prepared for:*

**Washington Closure Hanford LLC  
2620 Fermi Avenue  
Richland, WA 99354  
Subcontract No: C036809A00**

*Prepared by:*

**TerranearPMC  
6722 West Kennewick Avenue  
Richland, WA 99336  
January 2015**





### DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal      Site: Site 600-349  
 Dig Date: 10 JUL      Dig Team: 2

Grid ID: 12 X 30

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Undetermined)		
1	0	SCRAP	-	-	-	-	CAN/NAILS	-	0	5	-	PASSED	REMOVED
2	0	SCRAP	-	-	-	-	(3) NAILS	-	4	.25	-	PASSED 0	REMOVED
3	0	SCRAP	-	-	-	-	CAN/NAILS	H	4	2	-	PASSED	REMOVED
4	0	SCRAP	-	-	-	-	(3) NAILS	-	8	.25	-	PASSED 3MV	REMOVED
5	0	SCRAP	-	-	-	-	(2) NAILS	-	12	.25	-	PASSED	REMOVED
6	0	SCRAP	-	-	-	-	(28) NAILS	-	12	.25	-	PASSED 4MV	REMOVED
7	0	SCRAP	-	-	-	-	(14) NAILS	-	12	.25	-	PASSED 3MV	REMOVED
8	0	SCRAP	-	-	-	-	(8) NAILS	-	8	.25	-	PASSED 3MV	REMOVED
9	0	SCRAP	-	-	-	-	(5) NAILS	-	8	.25	-	PASSED	REMOVED
10	0	SCRAP	-	-	-	-	(4) NAILS	-	6	.25	-	PASSED 3MV	REMOVED
11	0	SCRAP	-	-	-	-	(6) NAILS (3) RE	-	6	.25	-	PASSED 3MV	REMOVED
	0	<del>SCRAP</del>	-	-	-	-	<del>(6) NAILS (3) RE</del>	-	<del>6</del>	<del>.25</del>	-	<del>PASSED</del>	<del>REMOVED</del>
12	0	SCRAP	-	-	-	-	(7) NAILS	-	6	.25	-	PASSED	REMOVED
13	0	SCRAP	-	-	-	-	(4) NAILS	-	4	.25	-	PASSED 3MV	REMOVED
14	0	SCRAP	-	-	-	-	(7) NAILS	-	8	.25	-	PASSED	REMOVED
15	0	SCRAP	-	-	-	-	(8) NAILS	-	8	.25	-	PASSED	REMOVED
16	0	SCRAP	-	-	-	-	(7) NAILS	-	4	.25	-	3 MV	REMOVED
17	0	SCRAP	-	-	-	-	(6) NAILS	-	8	.25	-	PASSED MV	REMOVED
18	12" W	SCRAP	-	-	-	-	NAIL	H	4	.25	-	3 MV	REMOVED

**Notes:**

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left in place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

### DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal      Site: Site 600-349  
 Dig Date: 10 JUL      Dig Team: 2

Grid ID: 12 X30  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only					MD Only		Notes (If seed, include seed ID here)	Disposition*		
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)			Approx. Weight	MD Type (Frag, inert Inact, Partial Item, Undetermined)
19	0	SCRAP	—	—	—	—	(5) NAILS	—	6	.25	—	PASSED ZMV	REMOVED
20	0	SCRAP	—	—	—	—	(4) NAILS	—	6	.25	—	PASSED	REMOVED
21	0	SCRAP	—	—	—	—	(18) NAILS	—	8	.25	—	PASSED	REMOVED
22	0	SCRAP	—	—	—	—	(7) NAILS	—	6	.25	—	PASSED	REMOVED
23	0	SCRAP	—	—	—	—	(4) NAILS	—	4	.25	—	PASSED	REMOVED
24	0	SCRAP	—	—	—	—	(8) NAILS	—	6	.25	—	(8) NAILS PASSED	REMOVED
25	0	SCRAP	—	—	—	—	(29) NAILS	—	12	.25	—	PASSED	REMOVED
26	0	SCRAP	—	—	—	—	(1) CAN (5) NAILS	—	8	.25	—	PASSED 3MV	REMOVED
27	0	SCRAP	—	—	—	—	(12) NAILS	—	8	.25	—	PASSED	REMOVED
28	0	SCRAP	—	—	—	—	(5) NAILS (1) WIRE	—	6	.25	—	PASSED	REMOVED
29	0	SCRAP	—	—	—	—	(8) NAILS	—	4	.25	—	PASSED	REMOVED
30	0	SCRAP	—	—	—	—	(5) NAILS	—	4	.25	—	PASSED	REMOVED
31	0	SCRAP	—	—	—	—	(7) NAILS	—	8	.25	—	PASSED	REMOVED
32	0	SCRAP	—	—	—	—	(12) NAILS	—	6	.25	—	PASSED	REMOVED
33	0	SCRAP	—	—	—	—	(3) NAILS	—	6	.25	—	PASSED 3MV	REMOVED
34	0	SCRAP	—	—	—	—	(2) NAILS	—	6	.25	—	PASSED	REMOVED
35	0	SCRAP	—	—	—	—	HORSESHOE (4) NAILS	—	8	.25	—	PASSED	REMOVED
36	0	SCRAP	—	—	—	—	(11) NAILS	—	12	.25	—	PASSED	REMOVED

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left In Place, Left In Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349  
 Dig Date: 10 JUL Dig Team: 2

Grid ID: 12X30  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only					MD Only		Notes (If seed, include seed ID here)	Disposition*		
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)			Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Undetermined)
37	0	SCRAP	-	-	-	-	(3) NAILS	-	6	.25	-	PASSED 3MV	REMOVED
38	0	SCRAP	-	-	-	-	(176) NAILS	-	18"	2	-	* NOTE 1	REMOVED
39	0	SCRAP	-	-	-	-	(5) NAILS	-	10	.25	-	PASSED	REMOVED
40	0	SCRAP	-	-	-	-	(6) NAILS	-	4	.25	-	PASSED	REMOVED
41	0	SCRAP	-	-	-	-	(26) NAILS	-	8	.25	-	PASSED 3MV	REMOVED
42	0	SCRAP	-	-	-	-	(3) NAIL (2) WIRE	-	6	.25	-	PASSED 3MV	REMOVED
43	0	SCRAP	-	-	-	-	(8) NAILS	-	4	.25	-	PASSED	REMOVED
44	0	SCRAP	-	-	-	-	(7) NAILS	-	6	.25	-	PASSED 3MV	REMOVED
45	0	SCRAP	-	-	-	-	(2) NAILS	-	2	.25	-	PASSED	REMOVED
46	0	SCRAP	-	-	-	-	(7) NAILS	-	4	.25	-	PASSED	REMOVED
47	0	SCRAP	-	-	-	-	CAN/(1) WIRE	-	4	2	-	PASSED 3MV	REMOVED
48	0	SCRAP	-	-	-	-	(4) NAILS	-	8	.25	-	PASSED	REMOVED

Notes: NOTE 1: BOTTOM OF TARGET HOLE CLEAR. NAILS CONTINUED OUTSIDE THE REQUIRED CLEARANCE AREA: 10MV TO 13 MV READING

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349  
 Dig Date: 10 JUL Dig Team: 2

Grid ID: 12X30  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert, Partial Item, Undetermined)		
A	—	SCRAP	—	—	—	—	—	(4) NAILS	—	4	.25	—	REMOVED
B	—	—	—	—	—	—	—	NOTHING FOUND	—	—	—	—	—
C	—	SCRAP	—	—	—	—	—	(2) NAILS (1) CAN	—	8	.25	—	REMOVED
D	—	SCRAP	—	—	—	—	—	(4) WIRE (19) NAILS	—	6	.25	—	REMOVED
E	—	—	—	—	—	—	—	NOTHING FOUND	—	—	—	—	—
F	—	—	—	—	—	—	—	NOTHING FOUND	—	—	—	—	—
G	—	—	—	—	—	—	—	NOTHING FOUND	—	—	—	—	—
H	—	SCRAP	—	—	—	—	—	(1) NAIL	—	4	.25	—	REMOVED
I	—	—	—	—	—	—	—	NOTHING FOUND	—	—	—	—	—

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 11 JUL Dig Team: 2

Grid ID: 12 X 31

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only								MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Undetermined)			
1	0	SCRAP	—	—	—	—	(3) NAILS	—	4	.25	—	PASSED	REMOVED	
2	0	SCRAP	—	—	—	—	(1) NAIL	—	1	.25	—	SHARED HIT	REMOVED	
3	0	SCRAP	—	—	—	—	(1) NAIL	—	1	.25	—	TARGET 2-3	REMOVED	
4	18" E	SEED	—	—	—	—	45 12X31 8 HE-W	HE-W	6	.25	—	SHARED HIT	REMOVED	
5	12" W	SEED	—	—	—	—	45 12X31 8 HE-W	HE-W	6	.25	—	TARGET 4-5	REMOVED	
6	0	SCRAP	—	—	—	—	(28) NAILS	—	12	.25	—	PASSED SHARED	12X30 #6	
7	0	SCRAP	—	—	—	—	(4) NAILS	—	4	.25	—	PASSED	REMOVED	
A	—	SCRAP	—	—	—	—	(1) NAIL	—	2	.25	—	—	REMOVED	
							(2) SMALL ARMS	—	2	.25	—	—	REMOVED	

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

### DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal      Site: Site 600-349

Grid ID: 14X31

Dig Date: 11 JUL      Dig Team: 2

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Undetermined)		
1	0	NOTHING FOUND							18"	0		NOTHING FOUND	
2	0	SCRAP	-						6	1		SHARED HIT TARGET	<b>REMOVED</b>
3	0	SCRAP	-						6	1		2-3	
A	0	SCRAP	-						0-18"	0		BLBS SCRAP	REMOVED

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left In Place, Left In Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 15 JUL Dig Team: 2

Grid ID: 12X32

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Undetermined)		
1	0	SCRAP	—	—	—	—	WIRE	—	0	.25	—		REMOVED
2	0	CULTURAL	—	—	—	—			0	.25		LEFT IN	PLACE
3	0	SCRAP	—	—	—	—	DRILL BIT		∅2	.25		SHARED	<del>REMOVED</del>
4	0	SCRAP	—	—	—	—						HIT FLAG	
5	0	SCRAP	—	—	—	—						3,4,5	
6	0	SCRAP	—	—	—	—	WIRE LOOP		0	.25		SHARED	<del>REMOVED</del>
7	0	SCRAP	—	—	—	—			0			HIT FLAG	
8	0	SCRAP	—	—	—	—			0			6,7,8	

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 15 JUL Dig Team: 2

Grid ID: 12X32

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Undetermined)		
A	-	NOTHING FOUND											
B	-	NOTHING FOUND											
C	-	NOTHING FOUND											
D	-	NOTHING FOUND											
E	-	NOTHING FOUND											
F	-	NOTHING FOUND											
G	-	NOTHING FOUND											
H	-	NOTHING FOUND											

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left In Place, Left In Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 15 JUL Dig Team: 2

Grid ID: 13X32

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only						MD Only		Notes (If seed, include seed ID here)	Disposition*	
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight			MD Type (Frag, Inert Item, Partial Item, Undetermined)
A	-	SMALL ARMS SEED	—	—	—	—	2	—	4	.25	—		REMOVED
									4			44 13X32 7 VNA	REMOVED
B	-	NOTHING FOUND											
C	-	SMALL ARMS	—	—	—	—	1	—	2	.25	—		REMOVED
D	-	NOTHING FOUND											
E	-	NOTHING FOUND											

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)



DGM INTRUSTIVE INVESTIGATIONS

13X31

~~13X31~~ RC

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 16 JUL Dig Team: 2

Grid ID: \_\_\_\_\_

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only						MD Only		Notes (If seed, include seed ID here)	Disposition*	
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (Inches)	Approx. Weight			MD Type (Frag, Inert Inact, Partial Item, Undetermined)
1		NOTHING	FOUND									2 MV	
2		NOTHING	FOUND									2 MV	
3		NOTHING	FOUND									2 MV	
4	0	SCRAP					METAL PLATE		6	5		2 MV	
5	12'NE	SMALL ARMS					(i)		2	.25		2 MV	
6	0	SCRAP					WIRE		6	.25		2 MV	
7	0	SCRAP					METAL CAN		4	1		2 MV	
8	0	SCRAP					METAL PLATE		6	5		SHARED HIT	REMOVED
		SMALL ARMS					QTY		2	.25		TARGET 8-9	
9		SHARED TARGET										2 MV	
10	0	SCRAP					(i) WIRE		4	.25		2 MV	REMOVED

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left In Place, Left In Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)



DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 16 JUL Dig Team: 2

Grid ID: 12X34  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only								MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.o. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert, Partial Item, Undetermined)			
1	0	SCRAP	-	-	-	-	(2) WIRE LOOP	-	4"	.25	-	2MV	REMOVED	
2		NOTHING		FOUND		-	-	-	-	-	-	2MV	-	
3		NOTHING		FOUND		-	-	-	-	-	-	0MV	-	
4		NOTHING		FOUND		-	-	-	-	-	-	2MV	-	
5		NOTHING		FOUND		-	-	-	-	-	-	1MV	-	
6	0	SCRAP	-	-	-	-	(1) FENCE STAPLE		2	.25	-	1MV	REMOVED	
7		NOTHING		FOUND		-	-	-	-	-	-	1MV	-	
8		NOTHING		FOUND		-	-	-	-	-	-	2MV	REMOVED	
9		NOTHING		FOUND		-	-	-	-	-	-	1MV	-	
10		NOTHING		FOUND		-	-	-	-	-	-	2MV	-	

POWER LINES BACKGROUND NOISE

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349  
 Dig Date: 16 JUL Dig Team: 2

Grid ID: 12 X 34  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only					MD Only		Notes (If seed, include seed ID here)	Disposition*		
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (Inches)			Approx. Weight	MD Type (Frag, Inert, Partial Item, Undetermined)
A	-	NOTHING FOUND						-	-	-	-	-	-
B	-	NOTHING FOUND						-	-	-	-	-	-
C	-	NOTHING FOUND						-	-	-	-	-	-
D	-	SCRAP					(1) FENCE STAPLE	4	.25	-	-	-	REMOVED
E	-	SMALL ARMS					2 QTY	2	.25	-	-	-	REMOVED

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left In Place, Left In Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 16 JUL Dig Team: 2

Grid ID: 13X34

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Inact, Partial Item, Unidentified)		
1													
2	0	SCRAP	-	-	-	-	(1) WIRE	-	-	-	-	2MV	REMOVED
3	0	SCRAP	-	-	-	-	(1) WIRE	-	-	-	-	2MV	REMOVED
4		NOTHING FOUND	-	-	-	-	-	-	-	-	-	3MV	-
5	12"N	SMALL ARMS	-	-	-	-	QTY 1	-	2	.25	-	2MV	REMOVED
6	0	SCRAP	-	-	-	-	QTY 3 NAILS	-	4	.25	-	2MV	REMOVED
7		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
8		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
9		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
10		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
11		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
12	0	SCRAP	-	-	-	-	(6) STAPLES FENCE	-	6	.25	-	2MV	REMOVED
13		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
14		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
15		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
16		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
17		NOTHING FOUND	-	-	-	-	-	-	-	-	-	2MV	-
18	0	SCRAP	-	-	-	-	(1) WIRE	-	6	.25	-	2MV	REMOVED

BACKGROUND NOISE, POWER LINES

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 16 JUL Dig Team: 2

Grid ID: 13X34

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (Inches)	Approx. Weight	MD Type (frag, inert, inert, Partiel Item, Undetermined)		
A		NOTHING		FOUND				—	—	—	—		—
B	0	SCRAP		—	—	—	(1) FENCE STAPLE	2	.25	—	—		REMOVED
C	0	SCRAP	—	—	—	—	(1) FENCE STAPLE	4	.25	—	—		REMOVED
D		NOTHING		FOUND									
E		NOTHING		FOUND	—	—	—	—	—	—	—		—
F		NOTHING		FOUND									
G	0	SCRAP		—	—	—	QTY 3	4	.25	—	NAILS	— WIRE	REMOVED
							SMALL ARMS						QTY 3

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Sand, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left In Place, Left In Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)



























































































































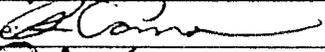


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 24 X 31

Date: 24 X 31

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING			FOUND					
B	NOTHING			FOUND					
C	NOTHING			FOUND					
D	NOTHING			FOUND					
E	NOTHING			FOUND					
F	NOTHING			FOUND					
G	NOTHING			FOUND					
Team Leader Signature: 									
UXOQCS Signature: 									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 24 X 30

Date: 29 JUL 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	NOTHING		FOUND						
G	NOTHING		FOUND						
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 24x28

Date: 29 JUL 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	1	-	-	WIPE	2	-	-	REMOVED
		1	-	-	NAIL	4	-	-	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
G	NOTHING FOUND								
H	SCRAP	1	-	-	FOIL	1	-	-	REMOVED
Team Leader Signature: Ricardo Corona									
UXOQCS Signature: [Signature]									





Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 25X31

Date: 29 JUL 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag. Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SMALL ARMS	1	—	—	CARTRIDGE	4	—	—	REMOVED
	SCRAP	1	—	—	NAIL	2	—	—	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	SCRAP	1	—	—	METAL	2	—	—	REMOVED
	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
F	NOTHING FOUND								
G	NOTHING FOUND								
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									











































Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 24 X 29

Date: 01 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING	FOUND							
B	NOTHING	FOUND							
C	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
D	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
E	NOTHING	FOUND							
F	NOTHING	FOUND							
Team Leader Signature: <i>Richard Carano</i>									
UXOQCS Signature: <i>[Signature]</i>									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 24X33

Date: 04 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING FOUND								
B	SMALL ARM	1	-	-	CARTRIDGE	2	-	-	REMOVED
C	SMALL ARM	1	-	-	CARTRIDGE	2	-	-	REMOVED
	SCRAP	1	-	-	CAP	4	-	-	REMOVED
D	NOTHING FOUND								
E	SCRAP	1	-	-	WIRE	2	-	-	REMOVED
	SCRAP	1	-	-	CAN	2	-	-	REMOVED
	SCRAP	1	-	-	BOLT	4	-	-	REMOVED
	SMALL ARM	1	-	-	CARTRIDGE	2	-	-	REMOVED
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature:									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 24 X 32

Date: 04 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING	FOUND							
B	NOTHING	FOUND							
C	SMALL ARM 1	-	-	PROJECTILE 2					REMOVED
D	NOTHING	FOUND							
E	NOTHING	FOUND							
F	NOTHING	FOUND							
G	NOTHING	FOUND							
H	NOTHING	FOUND							
Team Leader Signature: <i>Ricardo Corona</i>									
UXOQCS Signature:									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 25X32

Date: 04 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Project e. rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag. Inert Inact. Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
B	SMALL ARMS	1	—	—	CARTRIDGE	4	—	—	REMOVED
C	SCRAP	13	—	—	NAILS	2-6	—	—	REMOVED
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
Team Leader Signature: <i>Ricardo Corona</i>									
UXOQCS Signature:									



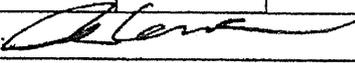


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 22 X 33

Date: 04 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	NOTHING		FOUND						
Team Leader Signature: 									
UXOQCS Signature:									

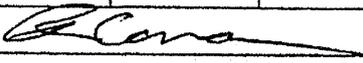


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 23X33

Date: 04 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
B	NOTHING FOUND								
C	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
D	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
E	NOTHING FOUND								
F	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
G	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
Team Leader Signature: 									
UXOQCS Signature:									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 22 X 31

Date: 05 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	NOTHING		FOUND						
G	NOTHING		FOUND						
H	NOTHING		FOUND						
Team Leader Signature: <i>Ricardo Carr</i>									
UXOQCS Signature: <i>[Signature]</i>									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal  
 Grid Number: 23X31  
 Date: 05 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
E	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
	SMALL ARMS	1	—	—	PROJECTILE	4	—	—	REMOVED
F	NOTHING		FOUND						
Team Leader Signature: <i>Ricardo Lopez</i>									
UXOQCS Signature: <i>[Signature]</i>									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 23X31

Date: 05 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
9	SCRAP	1	—	—	FOIL	2	—	—	REMOVED
	SMALL ARM	1	—	—	PROJECTILE	4	—	—	REMOVED
	SCRAP	2	—	—	2" STAPLE	4	—	—	REMOVED
H	NOTHING FOUND								
I	NOTHING FOUND								
Team Leader Signature: <i>Richard Corone</i>									
UXOQCS Signature: <i>Dley</i>									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 23X32

Date: 04 AUG 14 - 05 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag. Inert Inact. Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	2	-	-	NAILS	2	-	-	REMOVED
	SMALL ARM	2	-	-	CARTRIDGE	2	-	-	REMOVED
B	SMALL ARM	1	-	-	PROJECTIVE	2	-	-	REMOVED
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
Team Leader Signature: <i>Ricardo Corona</i>									
UXOQCS Signature: <i>[Signature]</i>									











Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 20X31

Date: 05 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
* A	SCRAP	1	—	—	NAIL	4	—	—	REMOVED
B	NOTHING	FOUND							
C	NOTHING	FOUND							
D	NOTHING	FOUND							
E	NOTHING	FOUND							
F	NOTHING	FOUND							
Team Leader Signature: <u>Ricardo Corona</u>									
UXOQCS Signature: <u>[Signature]</u>									

\* REPORTED ON DGM INTRUSIVE FORM FLAG 20X31-2













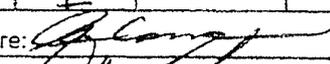
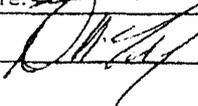


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 21X33

Date: 8-6-14

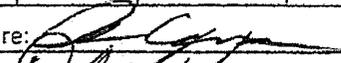
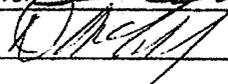
Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
A	SCRAP	1	—	—	WIRE	4	—	—	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	SCRAP	1	—	—	WIRE	2	—	—	REMOVED
Team Leader Signature: 									
UXOQCS Signature: 									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 20 X 33

Date: 05 AUG 14 - 06 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag. Inert inact. Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	SCRAP	1	—	—	WIRE	2	—	—	REMOVED
	SCRAP	1	—	—	FENCE STAPLE	2	—	—	REMOVED
Team Leader Signature: 									
UXOQCS Signature: 									



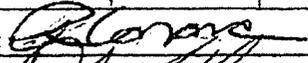
Vegetation Gaps Inside DGM Grids

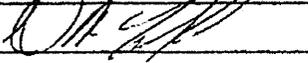
Project: 600-349 MEC Removal

Grid Number: 19X33

Date: 06 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	NOTHING		FOUND						

Team Leader Signature: 

UXOQCS Signature: 

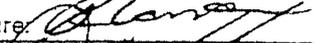
Vegetation Gaps Inside DGM Grids

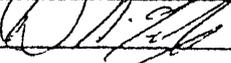
Project: 600-349 MEC Removal

Grid Number: 19X32

Date: 06 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category <small>(i.e. Projectile, rocket, Mortar, etc.)</small>	Description	Depth (inches)	MD Type <small>(Frag, Inert, Inact, Partial Item, Undetermined)</small>	Notes <small>(if seed, include seed ID here)</small>	Disposition*
A	SCRAP	1	—	—	NUT	2	—	—	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								

Team Leader Signature: 

UXOQCS Signature: 















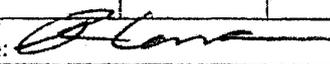


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 16X33

Date: 06 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SMALL ARM	1	—	—	PROJECTILE	2	—	—	REMOVED
B	NOTHING	FOUND							
C	NOTHING	FOUND							
D	NOTHING	FOUND							
E	NOTHING	FOUND							
Team Leader Signature: 									
UXOQCS Signature:									







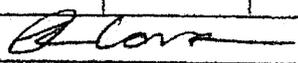
Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 16X39

Date: 07 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (Inches)	MD Type (Frag, Inert insect, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUNDED						
F	NOTHING		FOUND						

Team Leader Signature: 

UXOQCS Signature:

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 16X39

Date: 07 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
G	NOTHING		FOUND						
H	NOTHING		FOUND						
I	SCRAP	1	—	—	WIRE	0	—	—	REMOVED
J	NOTHING		FOUND						
K	NOTHING		FOUND						
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature:									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 16X38

Date: 07 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	1	—	—	FOIL PAPER	2	—	—	REMOVED
B	NOTHING FOUND								
C	SCRAP	1	—	—	CAP	2	—	—	REMOVED
D	NOTHING FOUND								
E	SCRAP	1	—	—	CAN	2	—	—	REMOVED
	SMALL ARM	1	—	—	PROJECTILE	2	—	—	REMOVED
	SMALL ARM	1	—	—	CARTRIDGE	4	—	—	REMOVED
F	SCRAP	3	—	—	WIRE	Ø 2	—	—	REMOVED
	SCRAP	2	—	—	CAN	Ø 2	—	—	REMOVED
	SCRAP	1	—	—	WIRE	4	—	—	REMOVED
Team Leader Signature: <i>Ricardo Corrales</i>									
UXOQCS Signature:									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 16X34

Date: 07AUG14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, inert, inact, Partial item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING FOUND								
* B	NOTHING FOUND								
C	SCRAP	5	—	—	FENCE STAPLES	2-6	—	—	REMOVED
	SMALL ARMS	1	—	—	PROJECTIVE	2	—	—	REMOVED
	SCRAP	7	—	—	WIRE	2-4	—	—	REMOVED
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature:									

\* FLAG 16X34 — 2/3/4/5 INSIDE GAP B REPORTED IN DGM INTRUSIVE FORM





Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 10 X 32

Date: 07 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (Inches)	MD Type (Frag. Inert Inact. Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
A	NOTHING	FOUND							
B	NOTHING	FOUND							
C	NOTHING	FOUND							
D	NOTHING	FOUND							
E	NOTHING	FOUND							
F	NOTHING	FOUND							
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature:									







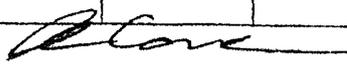


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 13X33

Date: 07 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	1	—	—	WIRE	4	—	—	REMOVED
	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
	SCRAP	1	—	—	FENCE STAPLE	2	—	—	REMOVED
B NOTHING FOUND									
Team Leader Signature: 									
UXOQCS Signature:									



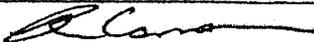


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 12X33

Date: 07 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (Inches)	MD Type (Frag. Inert Inact. Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	1	—	—	CAN	2	—	—	REMOVED
	SCRAP	1	—	—	WIRE	2	—	—	REMOVED
B NOTHING FOUND									
C NOTHING FOUND									
Team Leader Signature: 									
UXOQCS Signature:									













Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 10 X 34

Date: 08 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag. Inert Inact. Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	21	—	—	NAIL	0-6	—	—	REMOVED
	SCRAP	18	—	—	WIRE		—	—	REMOVED
B	NOTHING	FOUND							
C	NOTHING	FOUND							
D	NOTHING	FOUND							
E	SCRAP	9	—	—	FENCE STAPLE	0-6	—	—	REMOVED
	SCRAP	2	—	—	WIRE	2	—	—	REMOVED
	SCRAP	1	—	—	CAN	4	—	—	REMOVED
F	NOTHING	FOUND							
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									

























Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 8X33

Date: 8 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, inert, inact, Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
A	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: **08 X 32**

Date: **8 AUG 14**

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category <small>(i.e. Projectile, rocket, Mortar, etc.)</small>	Description	Depth (inches)	MD Type <small>(Frag, Inert Inact, Partial Item, Undetermined)</small>	Notes <small>(If seed, include seed ID here)</small>	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	NOTHING		FOUND						
G	NOTHING		FOUND						
H	NOTHING		FOUND						
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									



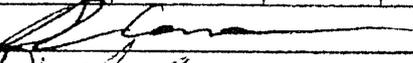
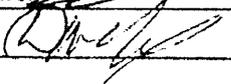


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 7X33

Date: 08 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING FOUND								
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
G	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
	SCRAP	1	—	—	CAN	4	—	—	REMOVED
	SCRAP	1	—	—	CAP	2	—	—	REMOVED
Team Leader Signature: 									
UXOQCS Signature: 									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 07 X 32

Date: 08 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
G	NOTHING FOUND								
H	NOTHING FOUND								
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									











Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 08X30

Date: 11 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (Inches)	MD Type (Frag. Inert Inact. Partial Item, Undetermined)	Notes (If seed, Include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	NOTHING		FOUND						
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	NOTHING		FOUND						
Team Leader Signature: <i>Plava</i>									
UXOQCS Signature:									



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 7X31

Date: 11 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
G	NOTHING	FOUND							
H	SMALL ARM	1	-	-	PROJECTILE	4	-	-	REMOVED
I	NOTHING	FOUND							
J	SCRAP	1	-	-	CAN	4	-	-	REMOVED
K	NOTHING	FOUND							
Team Leader Signature:									
UXOQCS Signature:									













Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 7X 31

Date: 11 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING FOUND								
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	SCRAP 1 SMALL ARM 1	1	-	-	WIRE CARTRIDGE	2 2	- -	- -	REMOVED REMOVED

Team Leader Signature: *Ricardo Coma*

UXOQCS Signature: *[Signature]*







Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 11X30

Date: 12 AUG 14

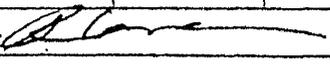
Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	1	—	—	WIRE	2	—	—	REMOVED
	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
B	NOTHING FOUND								
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
G	NOTHING FOUND								
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature:									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 11 X 29

Date: 12 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING FOUND								
B	SMALL ARMS	1	—	—	CARTRIDGE	2	—	—	REMOVED
	SCRAP	7	—	—	NAILS	2	—	—	REMOVED
	SCRAP	2	—	—	WIRE	2	—	—	REMOVED
C	NOTHING FOUND								
Team Leader Signature: 									
UXOQCS Signature:									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 10X29

Date: 12 AUG 14

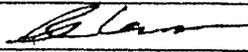
Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING		FOUND						
B	SMALL ARMS	1	-	-	CARTRIDGE	2	-	-	REMOVED
	SMALL ARMS	2	-	-	CARTRIDGE	2	-	-	REMOVED
C	NOTHING		FOUND						
D	NOTHING		FOUND						
E	NOTHING		FOUND						
F	SMALL ARMS	1	-	-	PROJECTILE	2	-	-	REMOVED
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature:									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 10 X 29

Date: 12 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
G	SCRAP	1	=	=	WIRE	2	=	=	REMOVED
J	SCRAP	1	=	=	CAN	2	=	=	REMOVED
H	NOTHING FOUND								
I	NOTHING FOUND								
J	SCRAP	3	=	=	WIRE	2	=	=	REMOVED
K	NOTHING FOUND								
L	NOTHING FOUND								
Team Leader Signature: 									
UXOQCS Signature:									

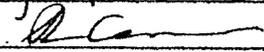


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 10 X 28

Date: 12 AUG 14

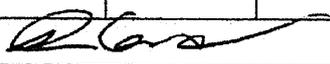
Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
A	NOTHING	FOUND							
B	NOTHING	FOUND							
C	NOTHING	FOUND							
D	NOTHING	FOUND							
E	NOTHING	FOUND							
F	NOTHING	FOUND							
G	NOTHING	FOUND							
Team Leader Signature: 									
UXOQCS Signature:									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 09 X 30

Date: 12 Aug 14

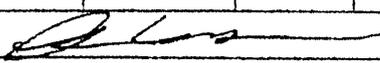
Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	NOTHING	FOUND							
B	NOTHING	FOUND							
C	NOTHING	FOUND							
D	NOTHING	FOUND							
E	NOTHING	FOUND							
F	NOTHING	FOUND							
Team Leader Signature: 									
UXOQCS Signature:									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: 9 X 29

Date: 12 AUG 14

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	1	—	—	WIRE	2	—	—	REMOVED
	SMALL ARM	1	—	—	PROJECTILE	2	—	—	REMOVED
B	SCRAP	1	—	—	WIRE	2	—	—	REMOVED
C	NOTHING FOUND								
D	NOTHING FOUND								
E	NOTHING FOUND								
F	NOTHING FOUND								
G	NOTHING FOUND								
H	NOTHING FOUND								
Team Leader Signature: 									
UXOQCS Signature:									





DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 12 AUG Dig Team: 2

Grid ID: 11X29

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*	
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	QTY	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (Inches)	Approx. Weight			MD Type (Frag, Inert Inact, Partial Item, Undetermined)
1	0	SCRAP	-	-	-	-	8	NAILS	-	2	.25	-	2 MV	REMOVED
2	0	SCRAP	-	-	-	-	5	NAILS	-	2	.25	-	2 MV	REMOVED
3	0	MD	-	-	-	-	1	SMOKE GRENADE PIECES	-	4	.5	P	2 MV	REMOVED
4	0	SCRAP	-	-	-	-	1	WIRE	-	0	.25	-	2 MV	REMOVED
6	0	SCRAP	-	-	-	-	1	VALVE ON ASBESTOS PIPE	-	0	-	-	LEFT IN PLACE	
7	0	SCRAP	-	-	-	-	2	NAILS	-	2	.25	-	2 MV	REMOVED
		SCRAP	-	-	-	-	1	FOIL PAPER	-	4	.25	-		REMOVED
8	0	SCRAP	-	-	-	-	3	NAILS	-	4	.25	-	2 MV	REMOVED
9	0	SCRAP	-	-	-	-	1	METAL	-	6	.25	-	2 MV	REMOVED
10	0	SCRAP	-	-	-	-	1	METAL	-	4	.25	-	2 MV	REMOVED
11	0	MD	-	-	-	-	1	grenade pieces	-	10	.25	-	3 MV	REMOVED

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349  
 Dig Date: 12 AUG Dig Team: 2

Grid ID: 11X29  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only								MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rock, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert Insect, Partial Item, Undetermined)			
13	0	SCRAP	-	-	-	-	12' 1/4" WIRE	H	8	1	-	2 MV	REMOVED	
14	0	SCRAP	-	-	-	-	SHARED HIT 14/15	H	0	.75	-		REMOVED	
15	0	SCRAP	-	-	-	-	BARBED WIRE							
16	0	SCRAP	-	-	-	-	BARBED WIRE IN CONCRETE	H	12	-	-	LEFT IN PLACE		
17	0	SCRAP	-	-	-	-	BARBED WIRE IN CONCRETE	-	0	-	-	LEFT IN PLACE		
18	0	SCRAP	-	-	-	-	BARBED WIRE IN CONCRETE	H	0	-	-	LEFT IN PLACE		
19	0	SCRAP	-	-	-	-	BARBED WIRE IN CONCRETE	H	0	-	-	LEFT IN PLACE		
20	0	SCRAP	-	-	-	-	BARBED WIRE IN CONCRETE	H	6	-	-	LEFT IN PLACE		
21	0	SCRAP	-	-	-	-	BARBED WIRE IN CONCRETE	H	0	-	-	LEFT IN PLACE		

Notes:  
 Anomaly Type - (MEC/MPPEH, MD, Scrap, OB, Steel, Hot Rock/Soil, Nothing Found, Other)  
 Disposition - 0 - Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQC









DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 12 AUG Dig Team: 2

Grid ID: 10X30

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only								MD Only		Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, Inert, Inert, Partial, Undetermined)	Notes (If seed, include seed ID here)	
2	0	MD		PROJECTILE	-	-	CARTRIDGE	H	12	.25	-	Long RANGE SMOKE 2MV	REMOVED
3	0	MD	-	PROJECTILE	-	-	CARTRIDGE	H	8	.25	-	Long RANGE SMOKE 2MV	REMOVED
4	0	SCRAP	-	-	-	-	WIRE	H	12	.25	-	2MV	REMOVED
5	0	SCRAP	-	-	-	-	WIRE	H	2	.25	-	2MV	REMOVED
6	0	SEED	-	-	-	-	SEED	H	7	.25	-	2MV	REMOVED

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 12 AUG Dig Team: 2

Grid ID: 10X29  
 QC Status: \_\_\_\_\_  
 Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only								MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	QTY	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (Inches)	Approx. Weight	MD Type (Frag, Inert Insect, Partial Item, Undetermined)		
2	0	SCRAP	-	-	-	-	1	WIRE	H	0	.25	-	1 MV	REMOVED
3	0	SCRAP	-	-	-	-	7	NAILS	-	8	.25	-	4 MV	REMOVED
4	-	SCRAP	-	-	-	-	2	NAILS	-	2	.25	-	3 MV	REMOVED
5	0	SCRAP	-	-	-	-	1	SCREW	-	2	.25	-	2 MV	REMOVED
							1	NAIL	-	2	.25	-		REMOVED
6	0	SCRAP	-	-	-	-	2	NAIL	-	4	.25	-	4 MV	REMOVED
7	0	SCRAP	-	-	-	-	1	WIRE	-	2	.25	-	2 MV	REMOVED
8	0	SCRAP	-	-	-	-	1	WIRE	-	2	.25	-	2 MV	REMOVED
9	0	SMALL ARMS	-	-	-	-	2	PROJECTILE	-	0-6	.25	-	2 MV	REMOVED
		SCRAP	-	-	-	-	19	NAILS	-		.25	-		
10	0	SCRAP	-	-	-	-	11	NAILS	-	0-6	.25	-	2 MV	REMOVED
11	0	SCRAP	-	-	-	-	3	NAIL	-	4	.25	-	2 MV	REMOVED
		SMALL ARMS	-	-	-	-	1	CARTRIDGE	-	2	.25	-		2 MV

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (LIP, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSTIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 12 AUG Dig Team: 2

Grid ID: 10X29

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*	
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	QTY	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (Inches)	Approx. Weight			MD Type (Frag, Inert, Partial Item, Undetermined)
12	0	SCRAP	-	-	-	-	1	WIRE	-	2	.25	-	2 MV	REMOVED
13	0	SCRAP	-	-	-	-	1	NAIL	-	2	.25	-	1 MV	REMOVED
14	0	SCRAP	-	-	-	-	1	WIRE	-	2	.25	-	2 MV	REMOVED
15	0	SCRAP	-	-	-	-	1	RR SPIKE	H	4	1	-	2 MV	REMOVED
16	0	SCRAP	-	-	-	-	4	NAILS	-	4	.25	-	2 MV	REMOVED
17	0	SCRAP	-	-	-	-	1	RR SPIKE	V	3	1	-	2 MV	REMOVED
19	0	SCRAP	-	-	-	-	1	NAIL	-	2	.25	-	2 MV	REMOVED
		MD	-	-	-	-	1	CAP	-	4	.25	-	LONG RANGE SMOKE	
20	0	MD	-	-	-	-	1	GRENADE SPOON	-	4	.25	-	2 MV	REMOVED
		SCRAP	-	-	-	-	3	NAILS	-	2	.25	-		REMOVED
21	0	SCRAP	-	-	-	-	4	NAILS	-	4	.25	-	2 MV	REMOVED
22	0	SCRAP	-	-	-	-	1	BARBED WIRE	H	4	.50	-	2 MV	REMOVED

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Left in Place, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQCS)

DGM INTRUSIVE INVESTIGATIONS

Project: 600-349 MEC Removal Site: Site 600-349

Dig Date: 12 AUG Dig Team: 2

Grid ID: 10X29

QC Status: \_\_\_\_\_

Target ID's QC'd: \_\_\_\_\_

Target ID	Dig Offset Distance & Direction	Anomaly Type*	MEC/MPPEH Only							MD Only		Notes (If seed, include seed ID here)	Disposition*
			MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Nomenclature	Mark & Model	Description	Orientation (Horizontal, Vertical, Angled Up, Angled Down)	Depth (inches)	Approx. Weight	MD Type (Frag, inert, brock, Partial Item, Undetermined)		
23	0	SCRAP	-	-	-	-	3 NAILS	-	4	.25	-	3MV	REMOVED
24	0	SCRAP	-	-	-	-	3 NAILS	-	2	.25	-	3MV	REMOVED
26	0	SCRAP	-	-	-	-	3 NAILS	-	4	.25	-	3MV	REMOVED
27	0	SCRAP	-	-	-	-	2 NAILS	-	6	.25	-	3MV	REMOVED
28	0	MD	-	-	-	-	SHARED HIT AREA (32)	-	10	4	-	3MV	REMOVED
30	0	MD	-	-	-	-	SMOKE GRENADE PIECES	-	8	2	-	4MV	REMOVED
31	0	SCRAP	-	-	-	-	1 NAIL	-	4	.25	-	2MV	REMOVED
		SCRAP	-	-	-	-	1 CAN TOP	-	2	.25	-		
33	0	SCRAP	-	-	-	-	(9) NAILS	-	04	.25	-	3MV	REMOVED
34	0	SCRAP	-	-	-	-	(6) NAILS	-	04	.25	-	3MV	REMOVED

Notes:

Anomaly Type - (MEC/MPPEH, MD, Scrap, OD, Seed, Hot Rock/Soil, Nothing Found, Other)

Disposition - (Placed, Left in Place Pending Destruction, Removed to Scrap Storage, Removed to MDAS Storage, Turned over to UXOQC)



Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number:

Date:

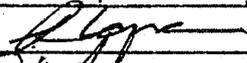
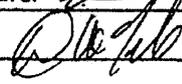
Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category <small>(i.e. Projectile, rocket, Mortar, etc.)</small>	Description	Depth (inches)	MD Type <small>(Frag. Inert Inact. Partial Item, Undetermined)</small>	Notes <small>(If seed, include seed ID here)</small>	Disposition*
A	SCRAP	1	—	—	CAN LID	2	—	—	REMOVED
	SCRAP	7	—	—	WIRE	0-6	—	—	REMOVED
B	NOTHING FOUND								
C	SCRAP	3	—	—	WIRE	4	—	—	REMOVED
D	NOTHING FOUND								
F	NOTHING FOUND								
F	SCRAP	1	—	—	CAN	0	—	—	REMOVED
Team Leader Signature: <i>[Signature]</i>									
UXOQCS Signature: <i>[Signature]</i>									

Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number:

Date:

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc.)	Description	Depth (inches)	MD Type (Frag, Inert Inact, Partial Item, Undetermined)	Notes (if seed, include seed ID here)	Disposition*
G	SCRAP	2	—	—	WIRE	2	—	—	REMOVED
H	NOTHING FOUND								
I	SCRAP	2	—	—	WIRE	4	—	—	REMOVED
	SMALL ARMS	2	—	—	PROJECTILE	2	—	—	REMOVED
J	SCRAP	4	—	—	WIRE	2-6	—	—	REMOVE
	SMALL ARMS	1	—	—	PROJECTILE	2	—	—	REMOVED
K	NOTHING FOUND								
L	NOTHING FOUND								
Team Leader Signature: 									
UXOQCS Signature: 									







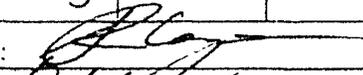
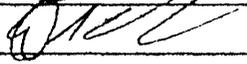


Vegetation Gaps Inside DGM Grids

Project: 600-349 MEC Removal

Grid Number: **8X28**

Date: **13 AUG 14**

Gap ID Number	Anomaly Type*	Quantity	MEC Type	Category (i.e. Projectile, rocket, Mortar, etc)	Description	Depth (inches)	MD Type (Frag, Inert, Inact, Partial Item, Undetermined)	Notes (If seed, include seed ID here)	Disposition*
A	SCRAP	2	—	—	FENCE STAPLE	2	—	—	REMOVED
		5	—	—	WIRE	2	—	—	REMOVED
		1	—	—	NAIL	2	—	—	REMOVED
		SMALL ARMS 3	—	—	PROJECTILE	4	—	—	REMOVED
B	SCRAP	3	—	—	WIRE	2	—	—	REMOVED
C	SCRAP	24	—	—	WIRE	0-8	—	—	REMOVED
		1	—	—	CAN	4	—	—	REMOVED
		12	—	—	FENCE STAPLE	0-6	—	—	REMOVED
		SMALL ARMS 10	—	—	PROJECTILE	2-6	—	—	REMOVED
		SEED 1	—	—	55 8X28 BHNS	8	—	—	REMOVED
D	SCRAP	1	—	—	SHEET METAL	4	—	—	REMOVED
F	NOTHING FOUND								
F	NOTHING FOUND								
Team Leader Signature: 									
UXOQCS Signature: 									

















































































































































































***DGM Reacquisition Sheets***













































## DGM REACQUISITION

Project: 600-349 MEC Removal

Site: Site 600-349

Grid ID: 10X29

Reacquire Date: 6/30/14

Reacquire Team: Geo B (Munoz)

Reacquisition Channel: CH2

Target ID	Easting	Northing	Grid Value	Offset Distance & Direction	Peak Response (mV)	Notes
1	1907127.5	461652.25	5.56	-	-	No Find
2	1907102.17	461658.873	20.93	AT FLAG	35	Wire on Surface
3	1907099	461680.75	7.79	6" SW	11	NA
4	1907065.75	461685.5	11.04	At Flag	15	NA
5	1907107.25	461686	27.43	At Flag	40	NA
6	1907097.25	461687	6.74	8" N	7	NA
7	1907109	461687.25	22.67	AT FLAG	35	NA
8	1907107.5	461688.75	19.24	AT FLAG	25	NA
9	1907077	461689.25	9.63	8" N	13	NA
10	1907074	461690.25	9.21	4" N	11	NA
11	1907098.75	461699.5	5.03	6" N	5	NA
12	1907080.05	461703.4694	13.32	-	-	Wire on Surface
13	1907085.75	461702.75	7.85	8" NE	9	NA
14	1907077.75	461703.75	23.76	-	-	Wire on Surface
15	1907069.5	461705	82.24	6" N	104	NA
16	1907073.5	461705.5	5.01	AT FLAG	5	NA
17	1907078.91	461708.326	21.6	14" NE	101	NA
18	1907091.25	461715.5	5.04	16" NE	3.5	No Find?
19	1907049.25	461721.75	5.7	At Flag	6	NA
20	1907091.25	461726	5.03	8" N	5	NA
21	1907055.5	461727.5	5.78	24" NE	6	NA
22	1907048.15	461727.7806	17.19	12" N	23	NA
23	1907105.5	461728	9.26	AT FLAG	9.2	NA
24	1907109.75	461731.5	5.24	AT FLAG	5.6	NA
25	1907137.5	461732.75	7.97	NA	NA	NO FIND
26	1907111.5	461733.5	6.45	12" N	6	NA
27	1907075.25	461734	89.83	6" NE	118	NA
28	1907119.75	461734	42.88	4" E	52	NA
29	1907137.5	461736	10.21	AT FLAG	2	NO FIND?

### DGM REACQUISITION

Project: 600-349 MEC Removal

Site: Site 600-349

Grid ID: 10X29

Reacquire Date: 6/30/14

Reacquire Team: Geo B (Munoz)

Reacquisition Channel: CH2

Target ID	Easting	Northing	Grid Value	Offset Distance & Direction	Peak Response (mV)	Notes
30	1907125.5	461736.5	55.07	6" W	90	NA
31	1907041.5	461742.25	5.63	AT FLAG	7	NA
32	1907137.5	461742.5	7.46	-	-	NO FIND
33	1907093.5	461746.5	8.83	16" NE	9	NA
34	1907096.38	461747.8957	9.71	AT FLAG	13	NA



















## DGM REACQUISITION

Project: 600-349 MEC Removal

Site: Site 600-349

Grid ID: 12X30

Reacquire Date: 6/30/14

Reacquire Team: Geo B (Munoz)

Reacquisition Channel: CH2

Target ID	Easting	Northing	Grid Value	Offset Distance & Direction	Peak Response (mV)	Notes
1	1907227	461874	27.24	-	-	CAN @ SURFACE
2	1907231	461878	5.04	14" E	5	NA
3	1907223.25	461878.5	5.77	-	-	CAN @ SURFACE
4	1907217.25	461882	7.15	6" N	8	NA
5	1907226.75	461882	27.81	11" NE	42	NA
6	1907237.75	461882	16.68	14" N	19	NA
7	1907229	461884.75	12.27	16" NE	14	NA
8	1907223.16	461883.5946	12.12	6" E	16	NA
9	1907203.5	461886	5.23	4" E	8.5	NA
10	1907216.1	461885.8002	5.97	AT FLAG	9	NA
11	1907219	461887	9.83	AT FLAG	12.3	NA
12	1907201	461887.25	6.76	16" E	14	NA
13	1907239.25	461888	10.56	6" NE	13	NA
14	1907197.13	461889.7388	8.14	4" SW	11	NA
15	1907206.2	461888.0059	6.89	AT FLAG	9	NA
16	1907186.64	461889.8019	6.6	15" S	8	NA
17	1907217.25	461889	12.08	6" E	18	NA
18	1907168.75	461889.5	5.11	6" E	5.1	NA
19	1907223	461889.5	5.52	AT FLAG	8	NA
20	1907227.5	461889.5	5.74	6" E	7	NA
21	1907200.5	461890.75	5.22	12" N	12	NA
22	1907177.94	461891.0307	13.08	12" S	20	ON MOUND
23	1907231.5	461891	12.93	12" N	11	NA
24	1907211.5	461891.5	5.44	4" E	7.7	NA
25	1907234.75	461891.5	12.07	AT FLAG	17	NA
26	1907220	461894	5.92	7" SW	6.5	NA
27	1907196.12	461894.8433	6.93	AT FLAG	9	NA
28	1907203	461894.75	8.2	AT FLAG	12	NA
29	1907181.75	461895	8.23	6" NE	18	ON MOUND

## DGM REACQUISITION

Project: 600-349 MEC Removal

Site: Site 600-349

Grid ID: 12X30

Reacquire Date: 6/30/14

Reacquire Team: Geo B (Munoz)

Reacquisition Channel: CH2

Target ID	Easting	Northing	Grid Value	Offset Distance & Direction	Peak Response (mV)	Notes
30	1907186	461896.25	6.98	4" S	11	ON MOUND
31	1907217.5	461896.5	5.72	AT FLAG	8	NA
32	1907227.06	461897.5846	8.69	6" S	14	NA
33	1907200.75	461896.75	25.67	AT FLAG	38	NA
34	1907186.75	461899.25	5.53	13" E	10	NA
35	1907199	461899.25	32.74	4" E	42	NA
36	1907217	461899.25	12.26	6" N	15	NA
37	1907169	461899.75	5.19	19" N	9	PEAK INSIDE VEGETATION GAP
38	1907210.75	461900	133	AT FLAG	153	NA
39	1907199.25	461904	15.52	AT FLAG	22	NA
40	1907193.25	461904.25	6.55	18.5" N	10	ON MOUND
41	1907223.44	461906.3126	13.67	11" E	18	NA
42	1907230.5	461908.5497	10.33	AT FLAG	13	NA
43	1907221.5	461910.5	7.11	9" NW	10	NA
44	1907209	461911	6.04	AT FLAG	6	NA
45	1907219	461911.75	5.28	-	-	NO FIND
46	1907213.07	461915.3242	8.18	8" NE	7	NA
47	1907237	461917.5	28.65	14" NE	-	CAN @ SURFACE
48	1907174.89	461890.3375	7.75	12" E	7.7	ON MOUND

















## DGM REACQUISITION

Project: 600-349 MEC Removal

Site: Site 600-349

Grid ID: 13X34

Reacquire Date: 7/01/14

Reacquire Team: Geo B (Munoz)

Reacquisition Channel: CH2

Target ID	Easting	Northing	Grid Value	Offset Distance & Direction	Peak Response (mV)	Notes
1	1907593.23	461950.2403	6.09	-	-	NOISY - POWER LINES
2	1907551.91	461964.185	109.77	6" E	157	NA
3	1907562.05	461970.9845	5.55	6" SE	8	NA
4	1907589.25	461972.25	5.29	-	-	NOISY - POWER LINES
5	1907555.25	461981.75	5.9	-	-	NOISY - POWER LINES
6	1907571.25	461996	8.2	16" NE	12	NA
7	1907590.29	461997.3756	5.32	-	-	NOISY - POWER LINES
8	1907578.75	462004.75	5.48	-	-	NOISY - POWER LINES
9	1907587	462010.25	6.14	-	-	NOISY - POWER LINES
10	1907570	462015.25	5.01	-	-	NOISY - POWER LINES
11	1907581.25	462015.25	5.24	-	-	NOISY - POWER LINES
12	1907567.25	462022	5.03	-	-	NOISY - POWER LINES
13	1907583.75	462022.75	5.11	-	-	NOISY - POWER LINES
14	1907571.5	462030	5.01	-	-	NOISY - POWER LINES
15	1907576.5	462044	5.26	-	-	NOISY - POWER LINES
16	1907579.5	462045.75	5.42	-	-	NOISY - POWER LINES
17	1907574.75	462048.25	5.09	-	-	NOISY - POWER LINES
18	1907551.16	462048.8903	17.56	15" E	18	NA
<b>** DIG TEAMS: FOR TARGETS THAT SAY "NOISY - POWER LINES," CHECK WITH WHITE. IF IT'S A NO FIND DO NOT DIG.</b>						

















































# MAF Grid 6 x 31

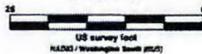
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°0'0"  
Mag North: 15°20'00"

Scale 1:325

Map Scale:



600-349 MEC Removal Action: 600-349 MEC  
G-46 A31



-  DGM Investigation Boundary
-  Vegetation Gap
-  Target

Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

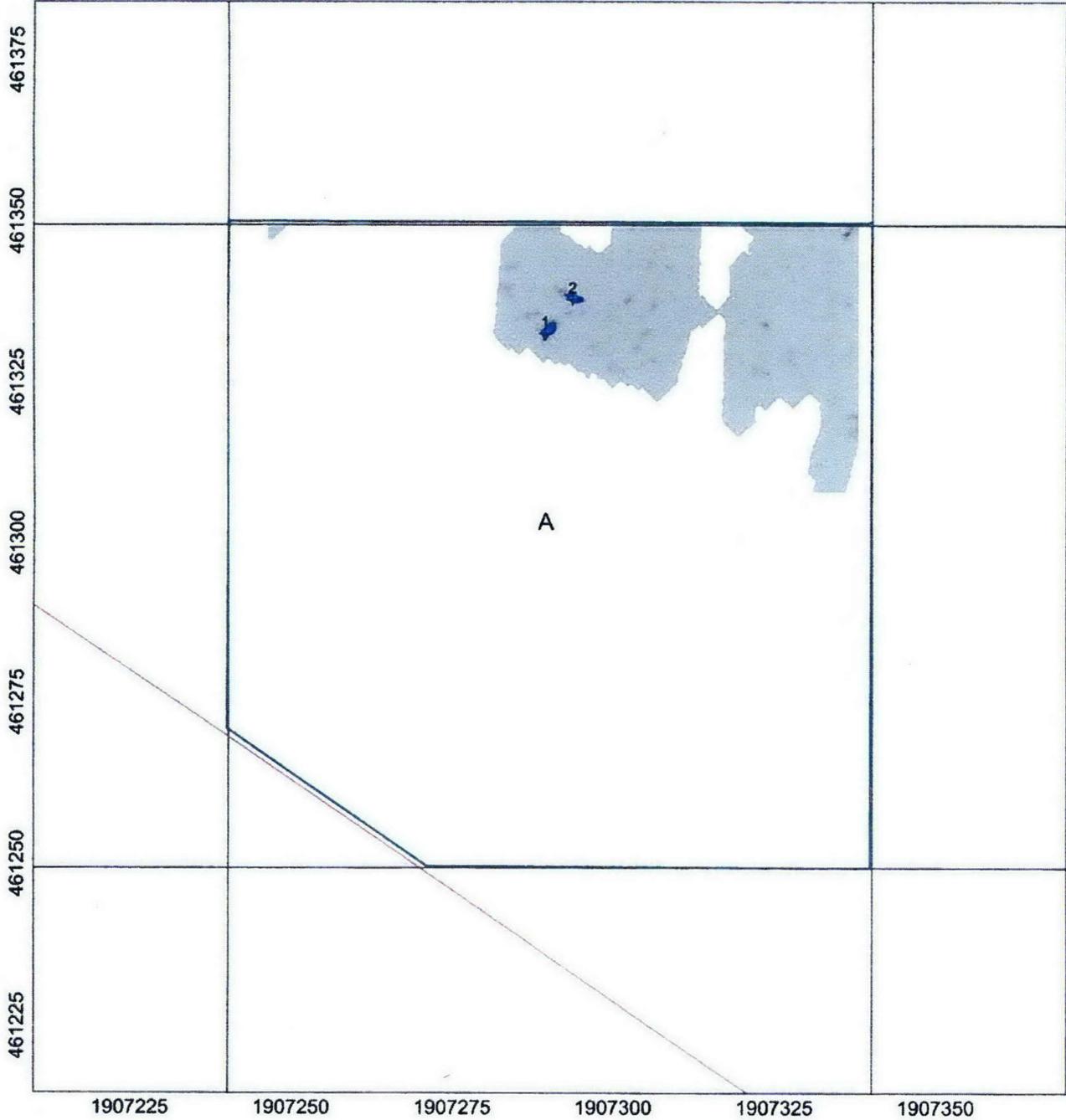
Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G6x31

Page number: 1      Approved: JLL

TerranearPMC





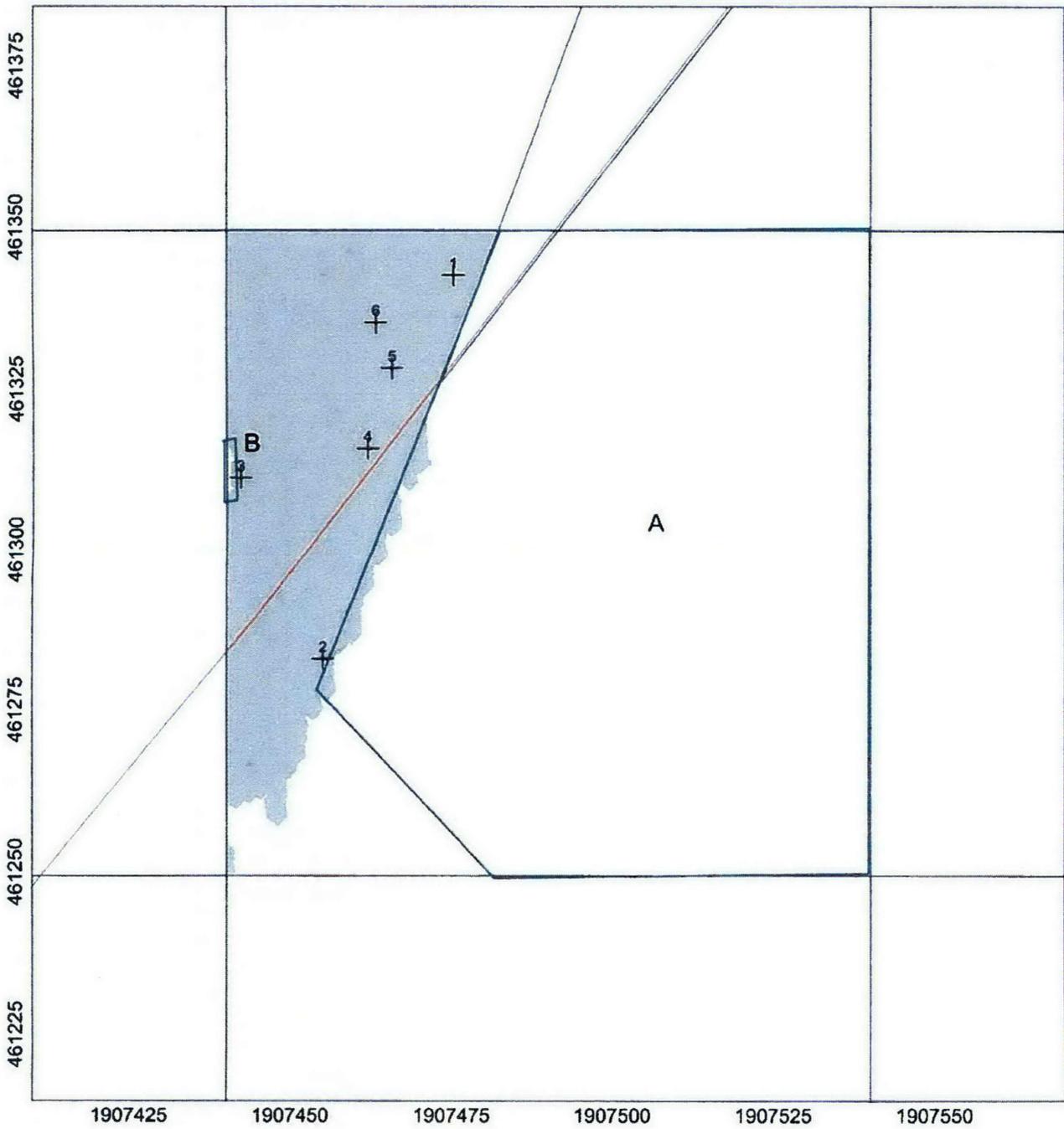
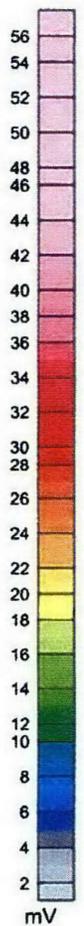
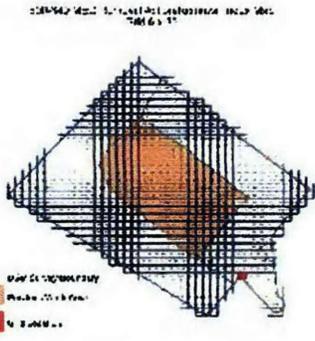
# MAP Grid 6 x 33

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 11°00"  
Mag North: 10°20'00"

Scale 1:325

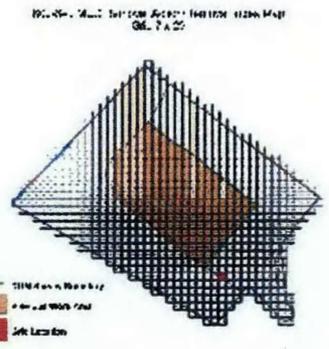
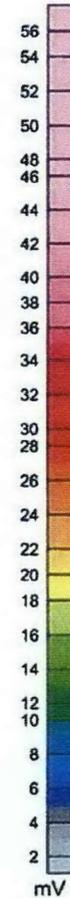


Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G6x33
Page number: 1	Approved: JLL

# MAR Grid 7 x 29

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

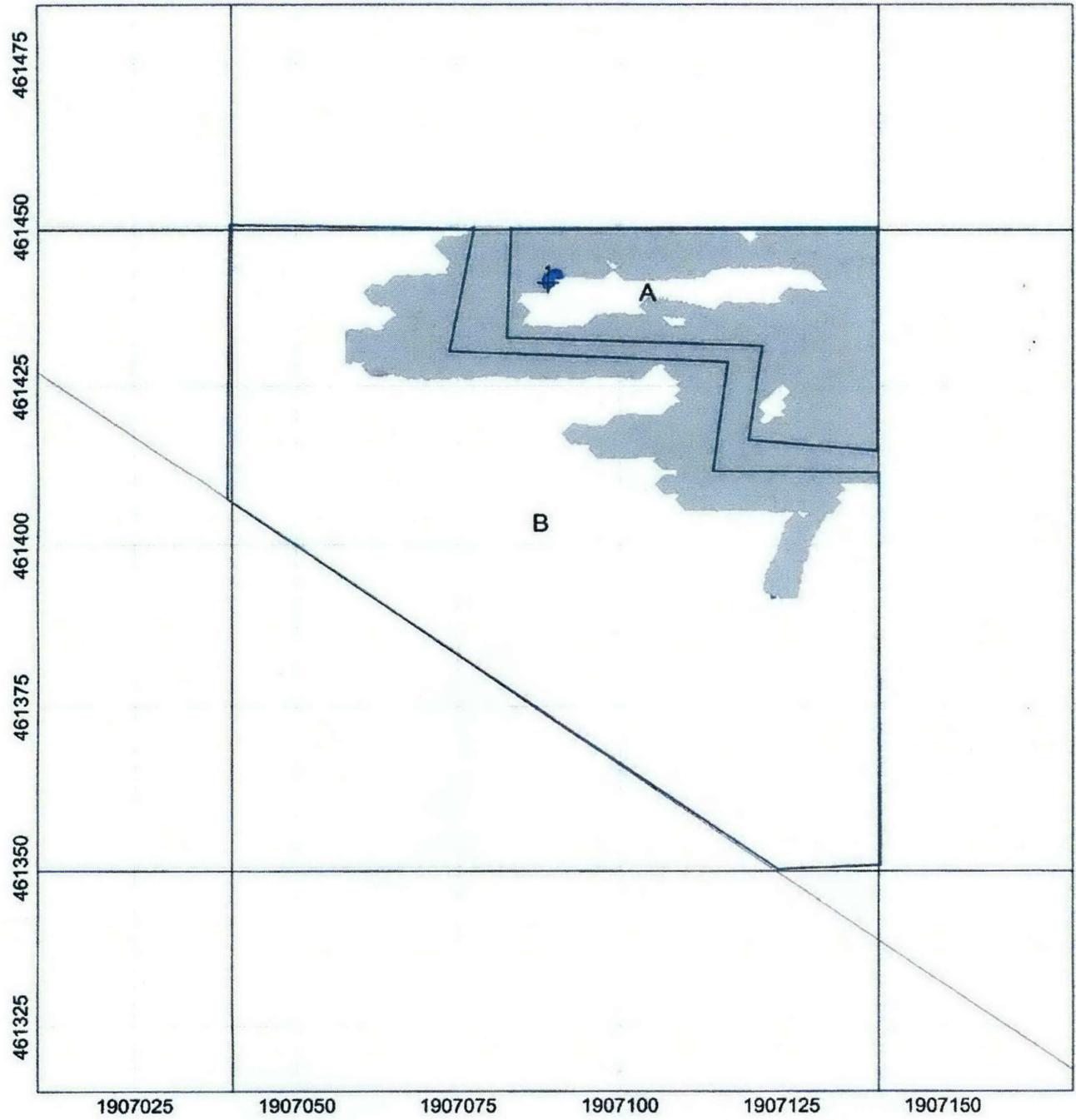
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G7x29

Page number: 1      Approved: JLL



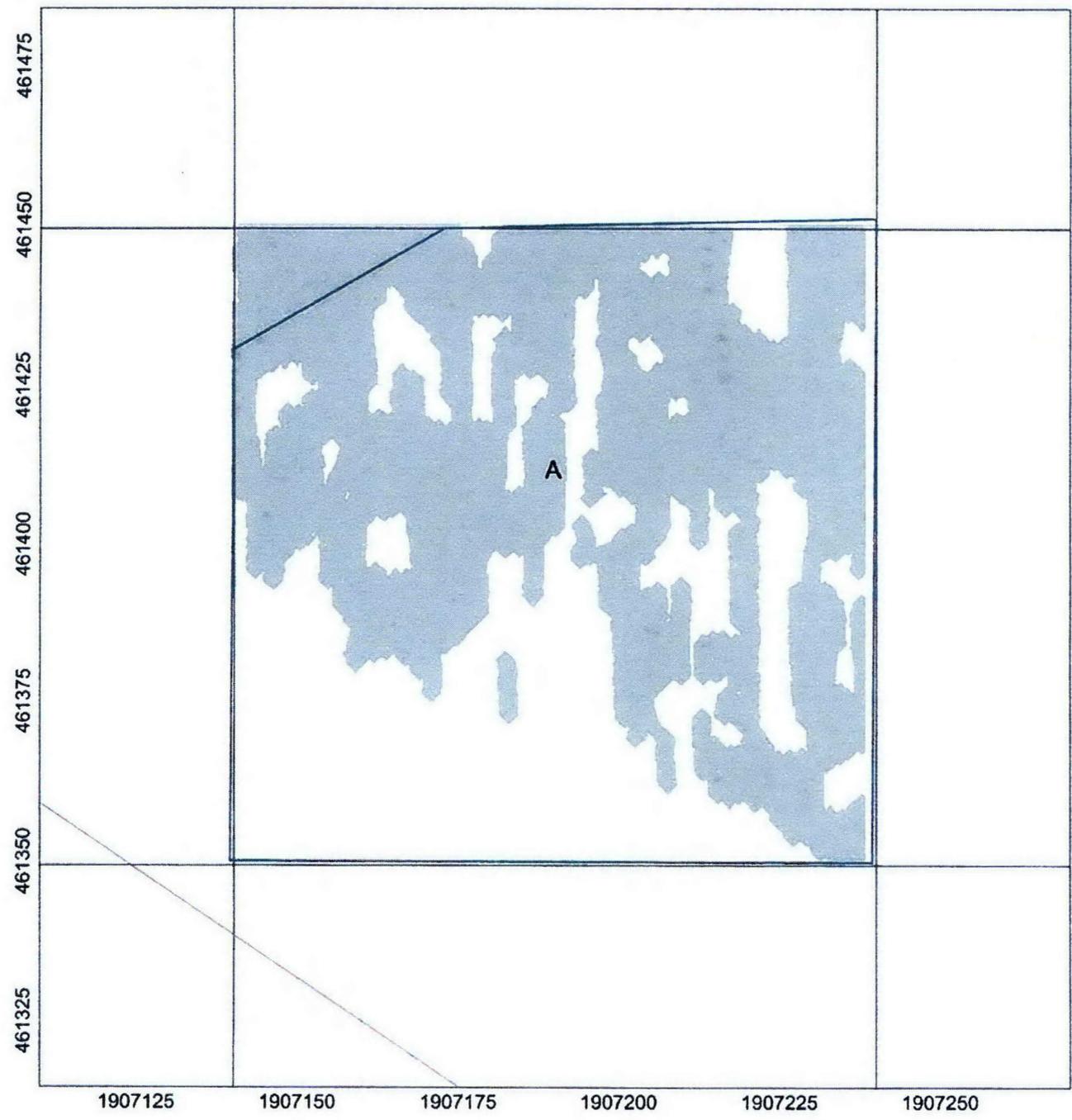
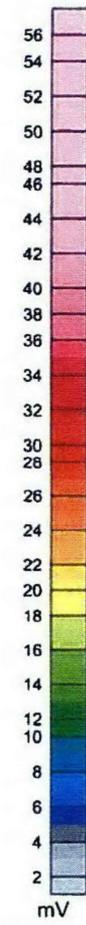
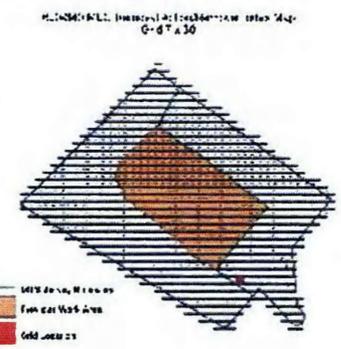
# MAP Grid 7 x 30

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°00"  
Mag North: 15°20'00"

Scale 1:325



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G7x30

Page number: 1      Approved: JLL

# MAF Grid 7 x 31

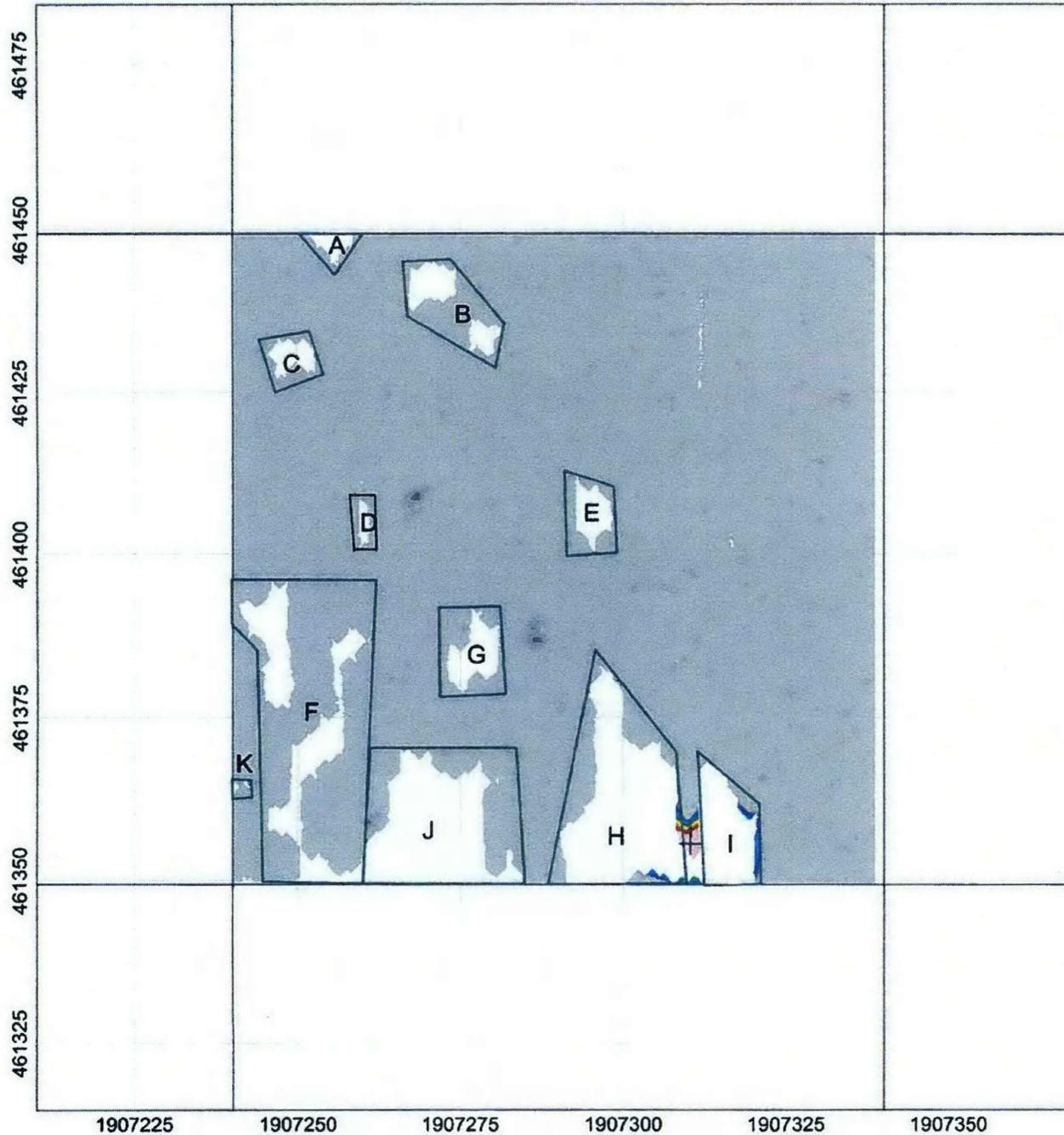
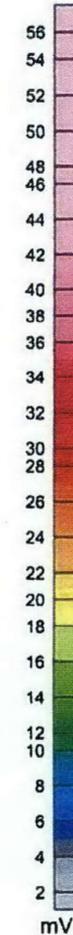
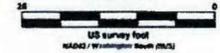
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-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

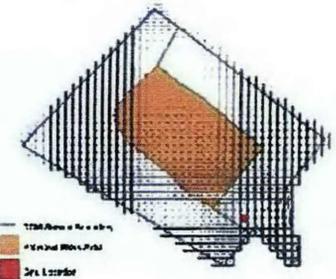
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Mag North: 16°28'00"

Scale 1:325

Map Scale:



PROJECT: 600-349 MEC Removal Action  
Grid 7 x 31



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G7x31

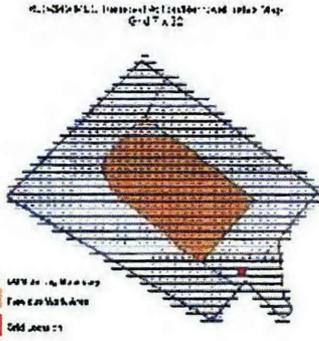
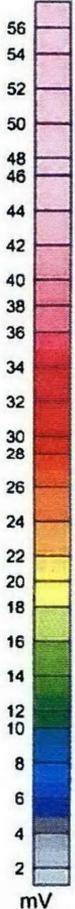
Page number: 1

Approved: JLL

# MAP Grid 7 x 32

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

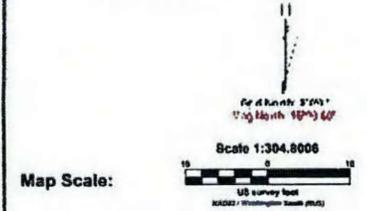
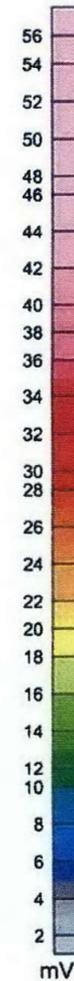


Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G7x32
Page number: 1	Approved: JLL

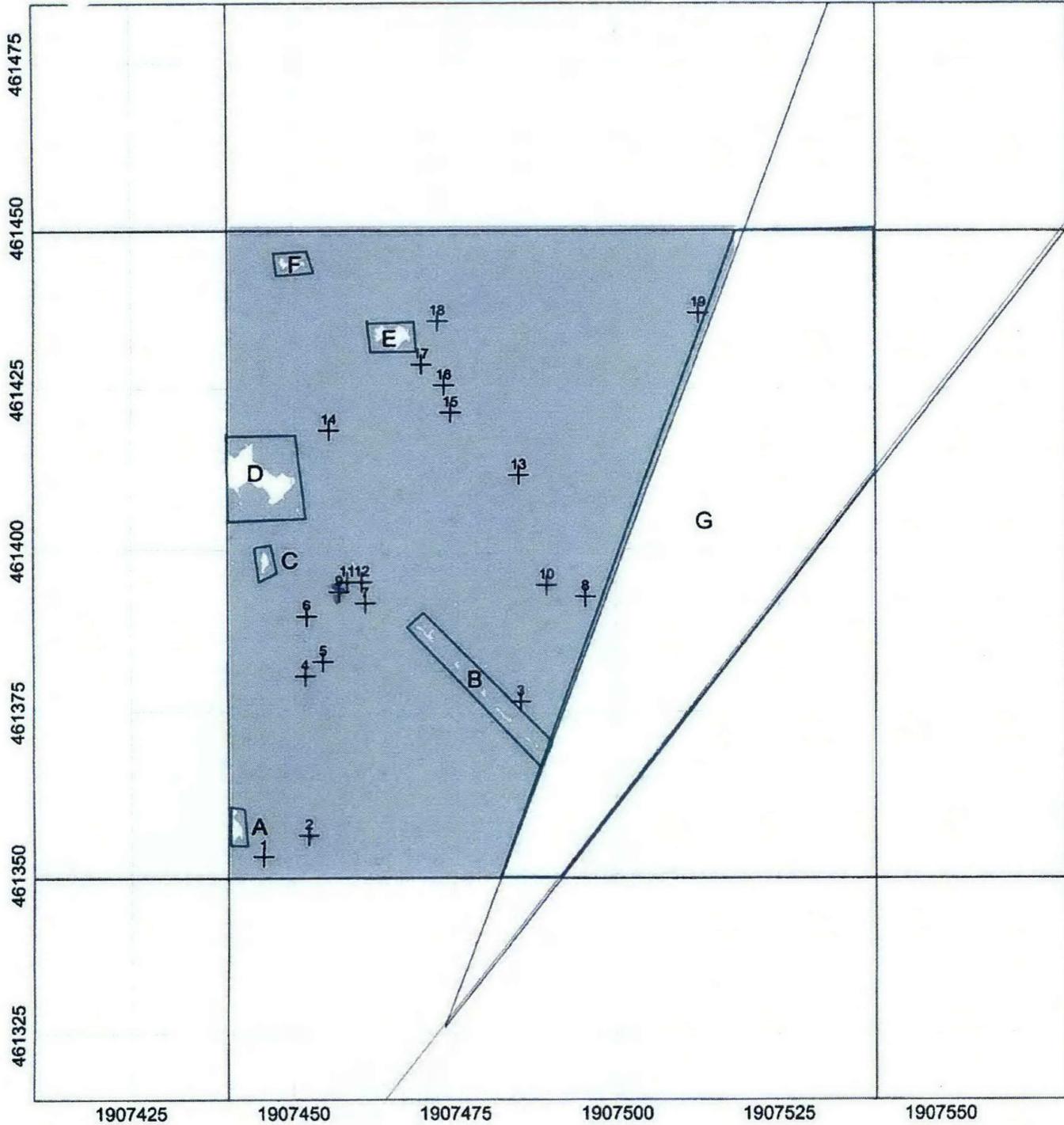
# MAP Grid 07 x 33

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G7x33  
 Page number: 1      Approved: JLL

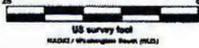


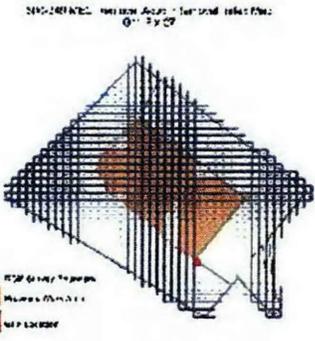
# MAP Grid 8 x 27

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Map Scale: 



Client: Washington Closure Hanford

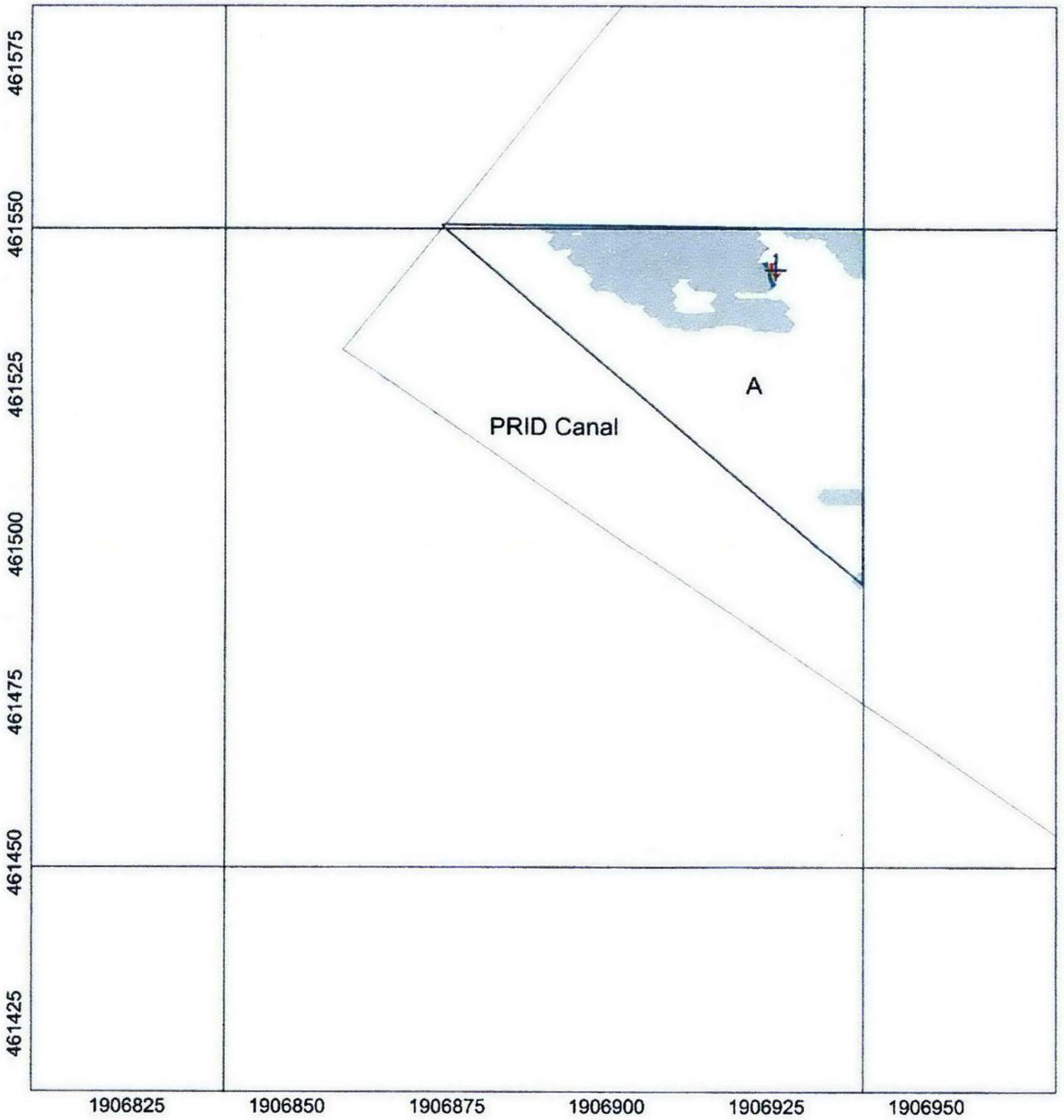
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

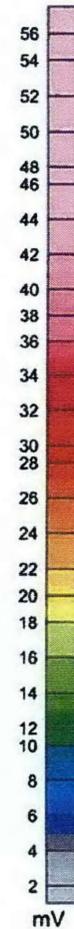
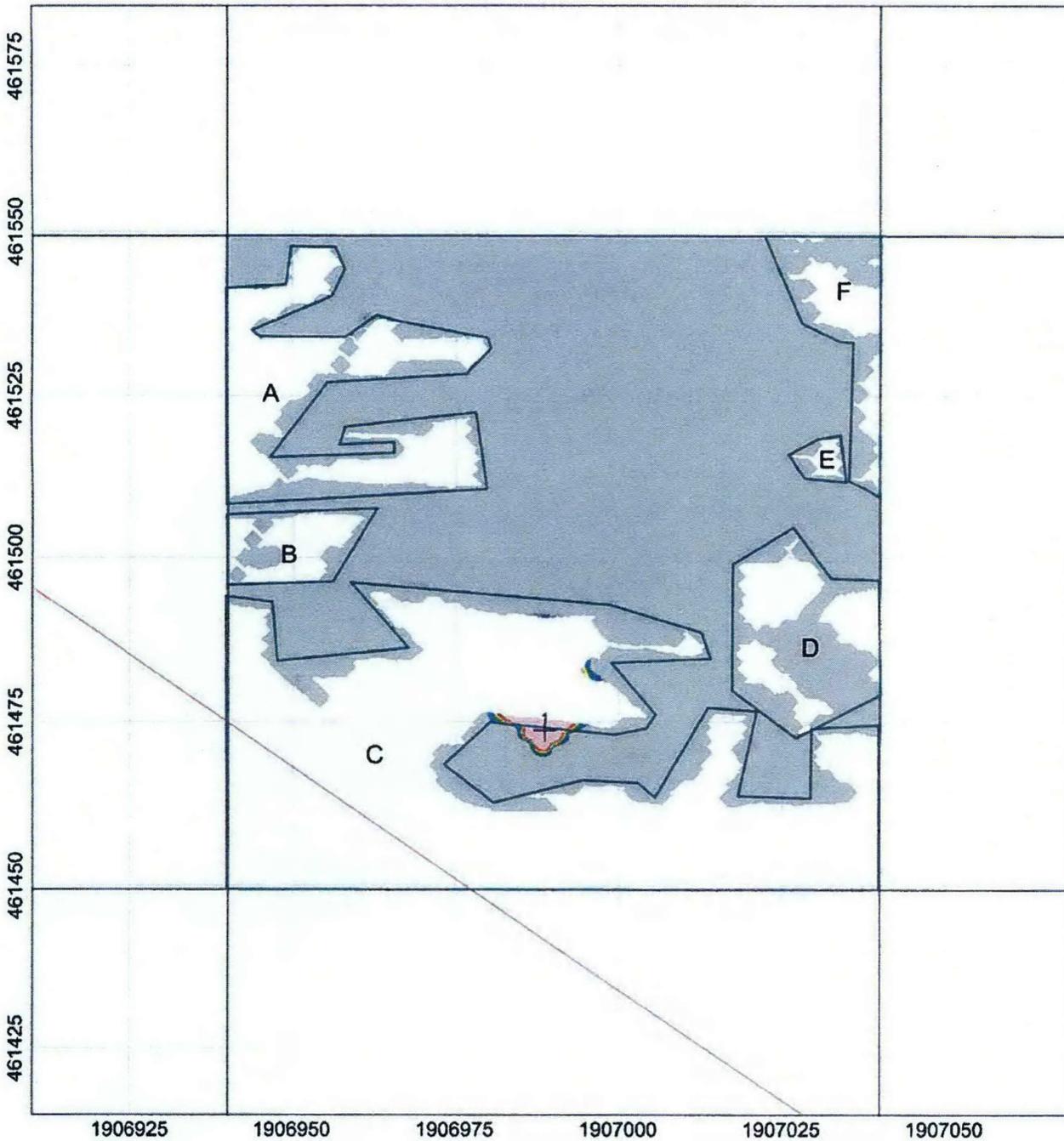
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Date: 2014/05/05      File: G8x27

Page number: 1      Approved: JLL



# MAP Grid 8 x 28



### LEGEND

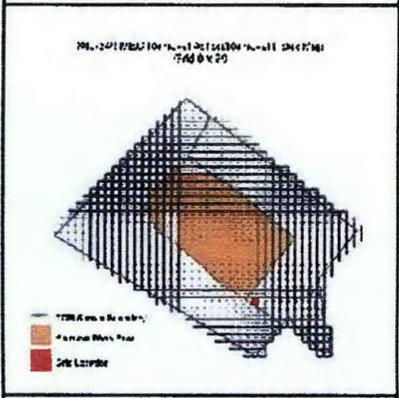
- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

Grid North: 8° 0' 0"  
Magnetic North: 16° 20' 00"

Scale 1:325

Map Scale:

US Survey Feet  
NAD83 / Washington State (NAD83)



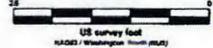
Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G8x28
Page number: 1	Approved: JLL

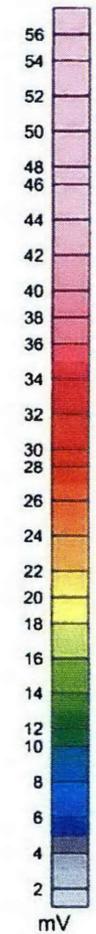
# MAP Grid 8 x 29

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 8'x8'  
Mag North: 16'20"00"  
Scale 1:325

Map Scale:   
US Survey Feet  
1:325 (Washington Inland North)



Client: Washington Closure Hanford

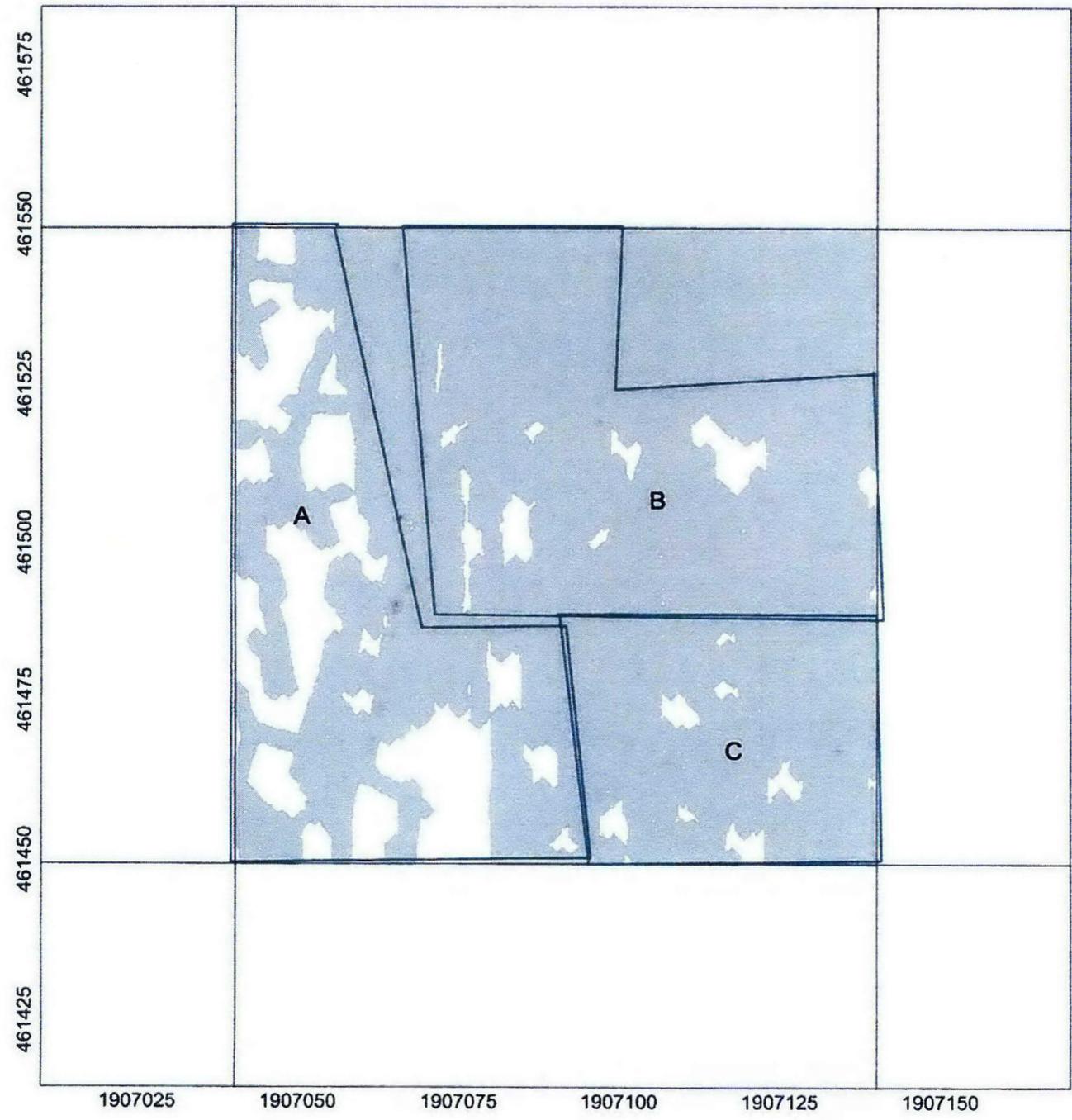
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G8x29

Page number: 1      Approved: JLL



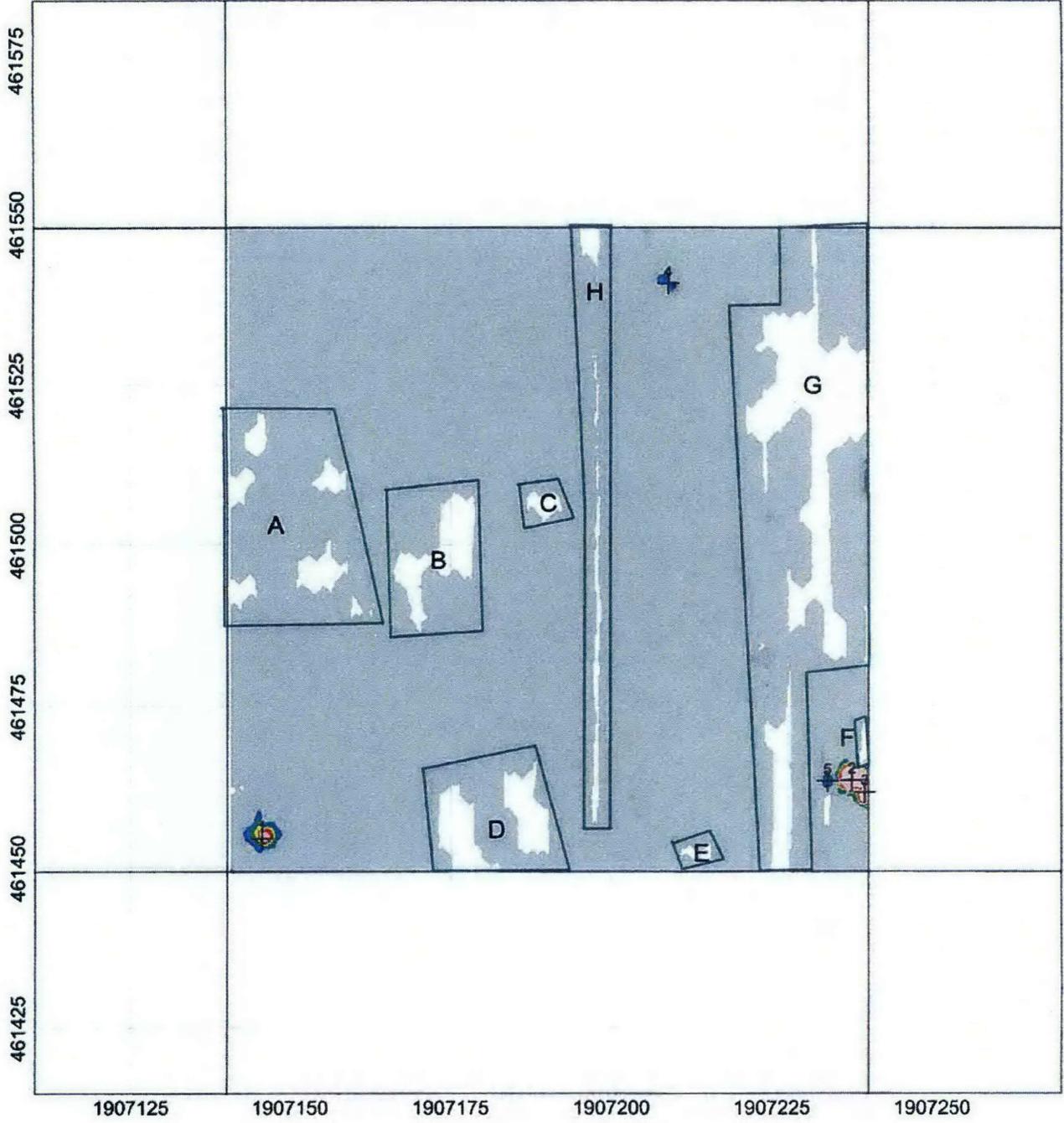
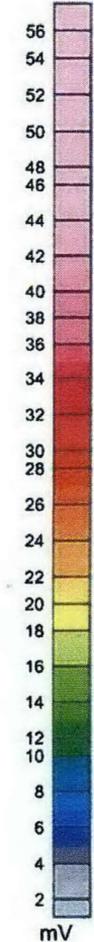
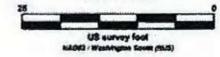
# MAP Grid 8 x 30

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Map Scale:



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G8x30
Page number: 1	Approved: JLL

# MAP Grid 8 x 31

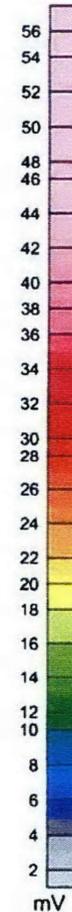
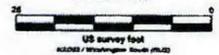
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

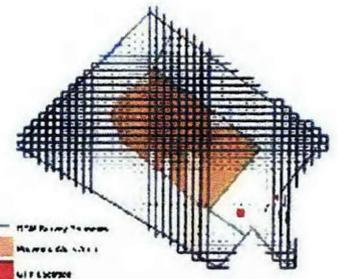
Grid North: 0'0"0"  
Mag North: 10°20'00"

Scale 1:328

Map Scale:



300-349 MEC Removal Action - 100' Powerline Buffer Zone  
0' - 10' 0"



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G8x31

Page number: 1

Approved: JLL

TerranearPMC

# MAP Grid 8 x 32

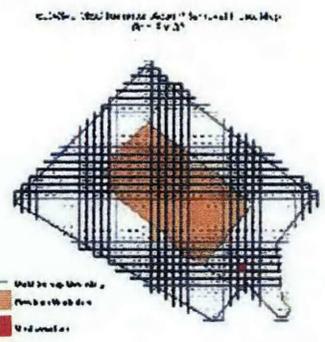
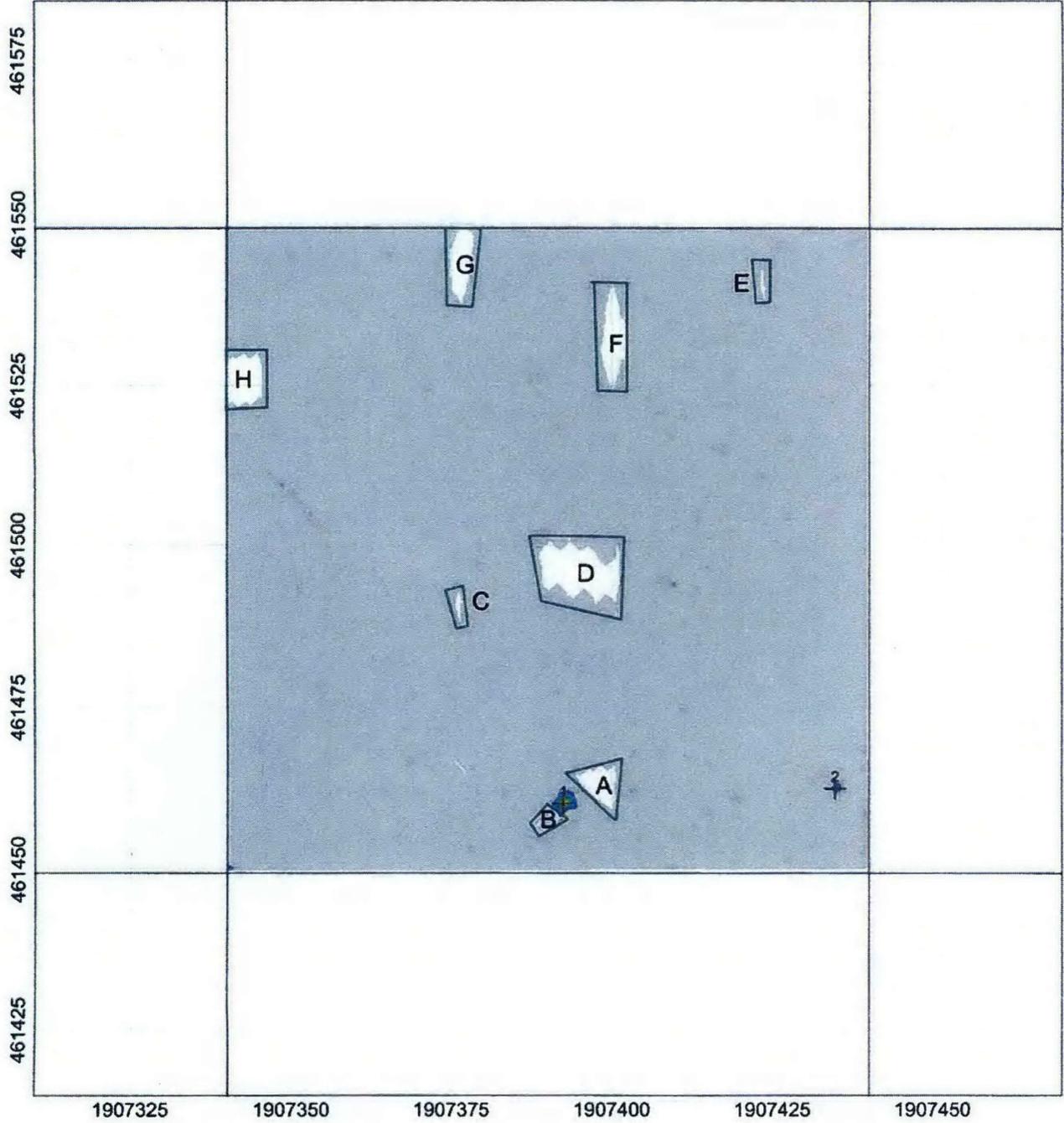
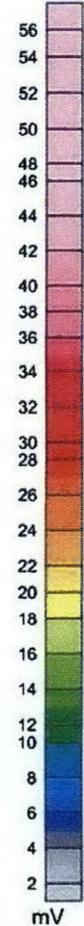
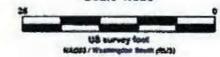
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Scale 1:328

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G8x32

Page number: 1

Approved: JLL



# MAP Grid 8 x 33

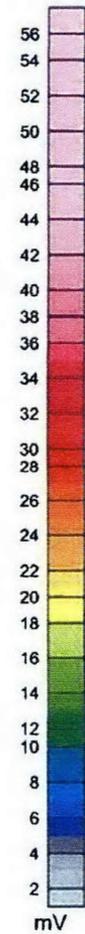
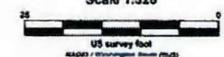
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

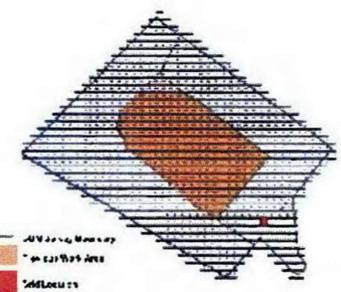
Grid North: 8°00'  
MAG North: 15°20'00"

Scale 1:325

Map Scale:



MEC Removal Action Investigation Area  
0-10-13



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

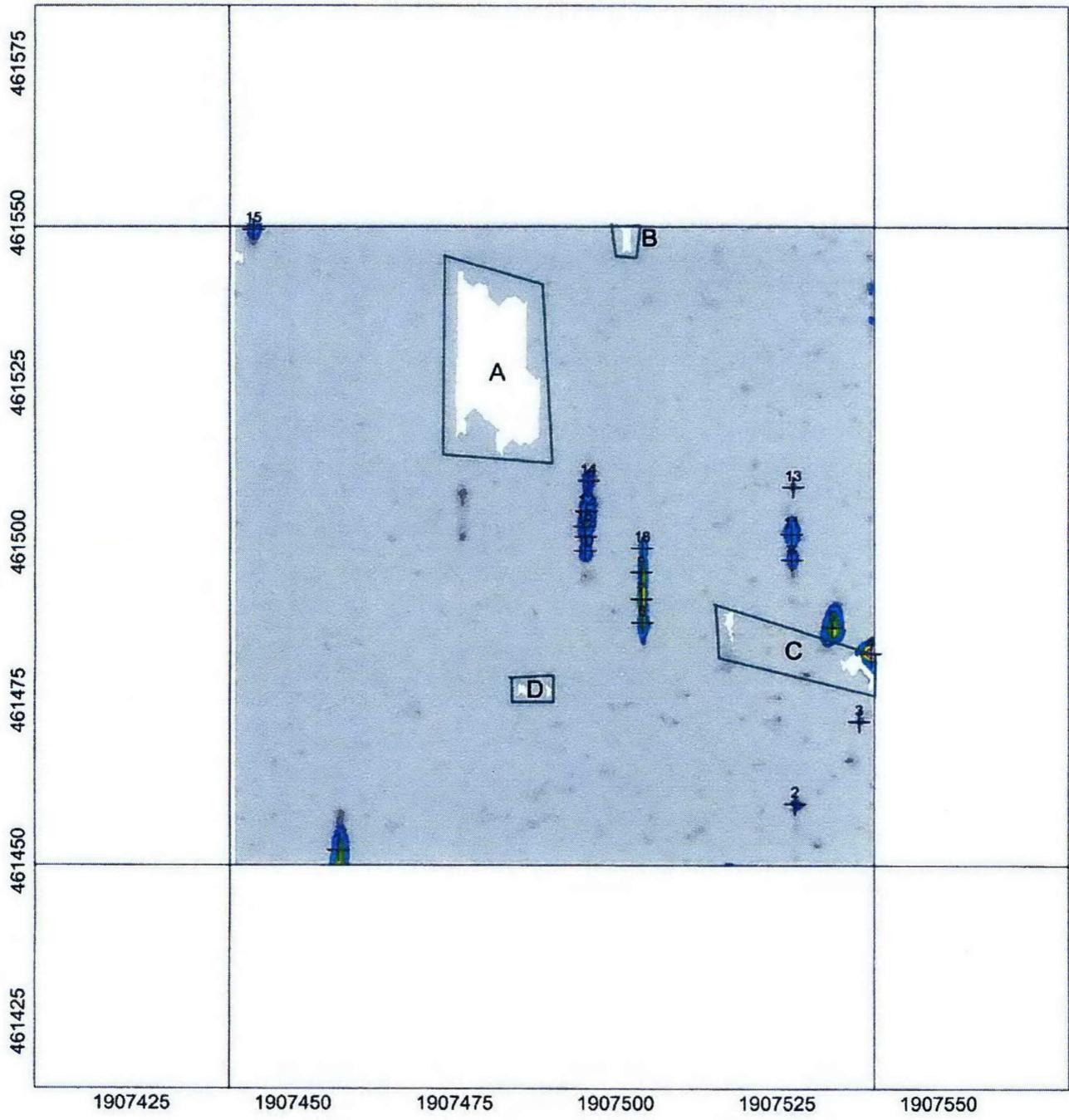
Verified by: JLL

Date: 2014/05/05

File: G8x33

Page number: 1

Approved: JLL



# MAI- Grid 8 x 34

## LEGEND

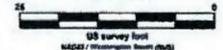
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

N

Grid North: 0°0'0"  
Map North: 10°20'00"

Scale 1:325

Map Scale:



Client: Washington Closure Hanford

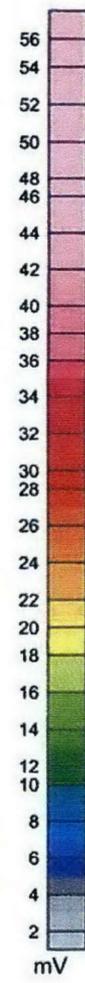
Project: 800-349 MEC Removal Action

Contractor: TerranearPMC LLC

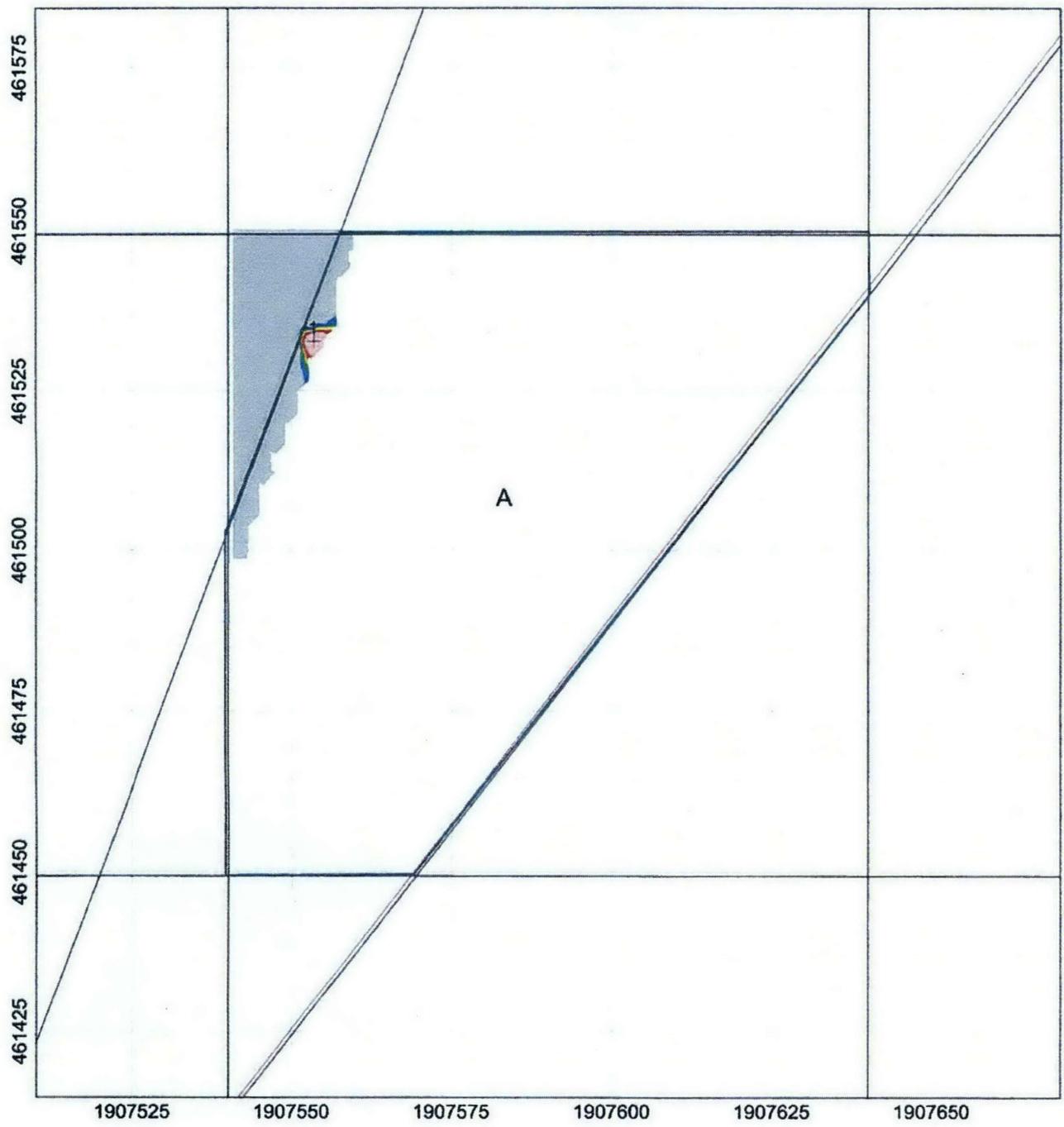
Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G8x34

Page number: 1      Approved: JLL



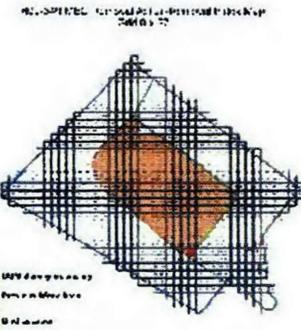
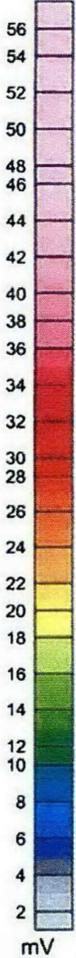
mV



# MAP Grid 9 x 27

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

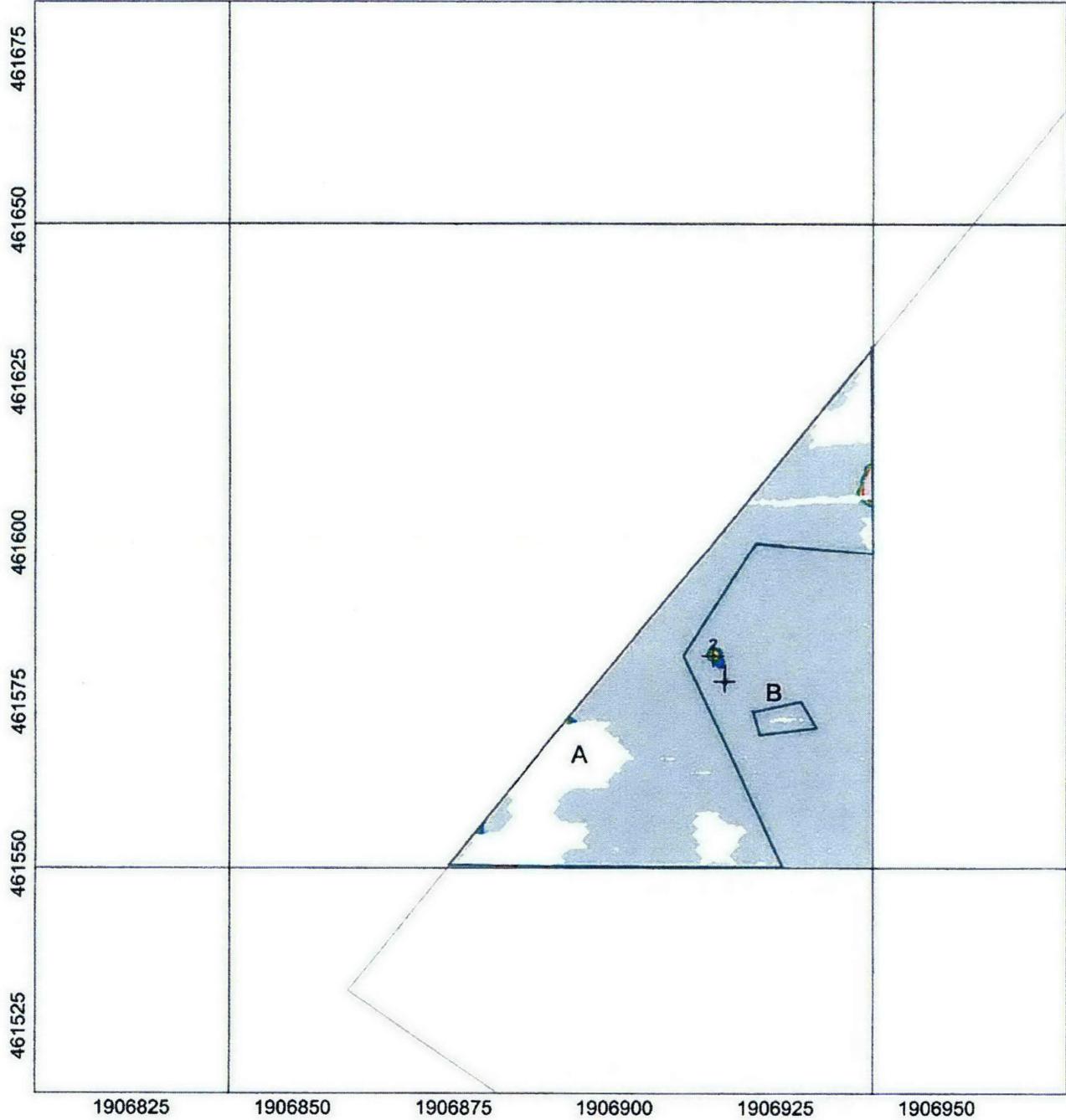
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G9x27

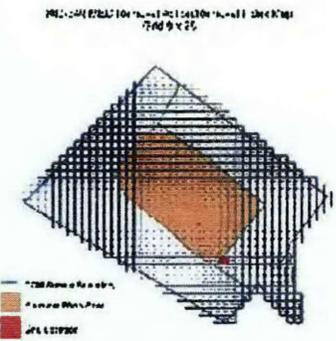
Page number: 1      Approved: JLL



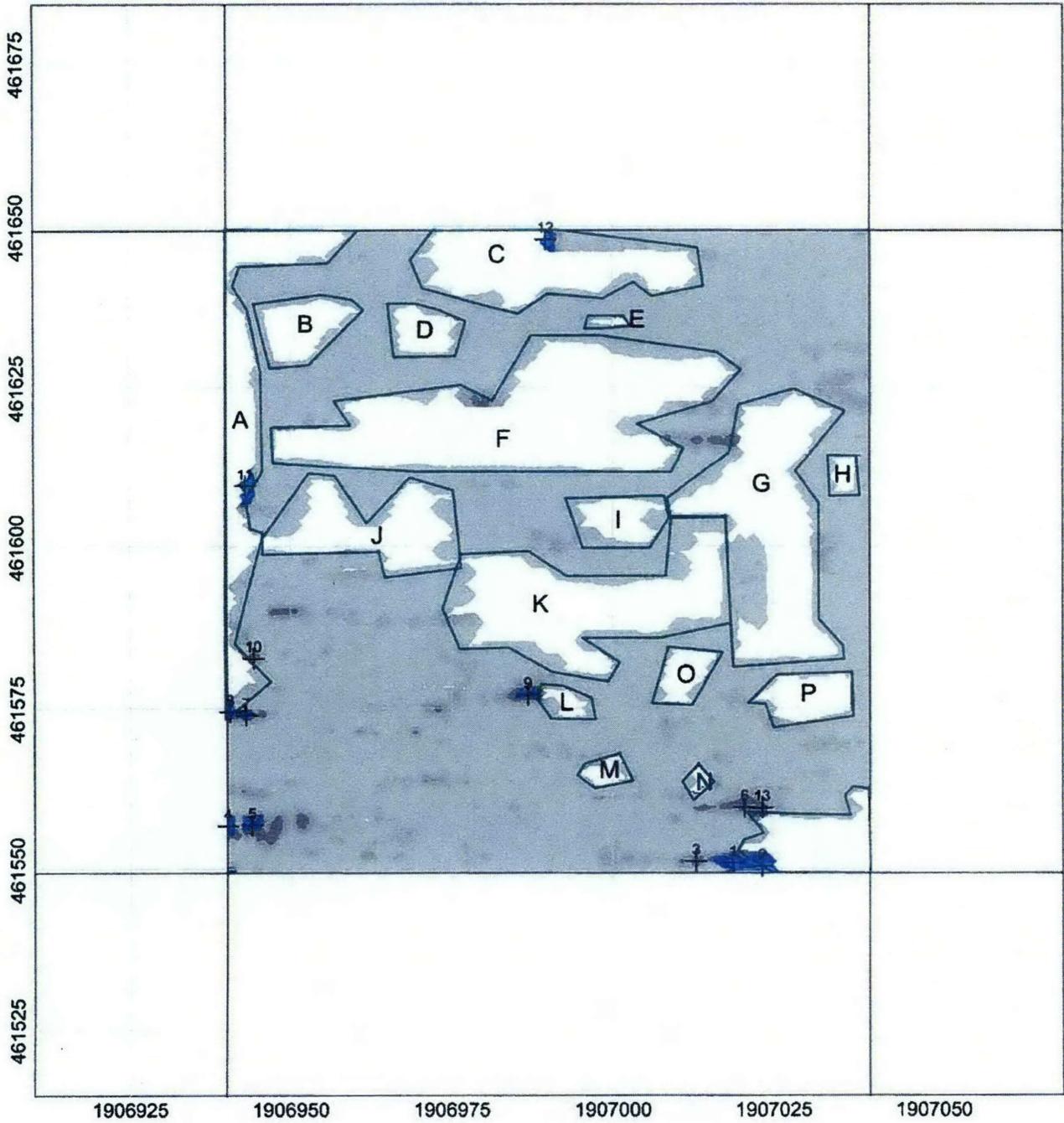
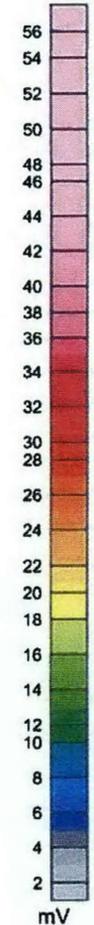
# MAP Grid 9 x 28

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G9x28  
 Page number: 1      Approved: JLL



# MAP Grid 9 x 29

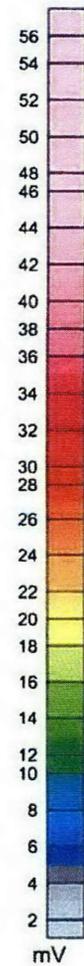
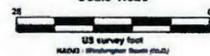
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

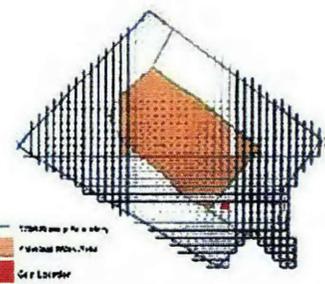
Grid North: 0°00'  
Mag North: 16°20'00"

Scale 1:325

Map Scale:



MEC-349 MEC Removal Action - 2014-05-05  
Grid 9 x 29



Client: Washington Closure Hanford

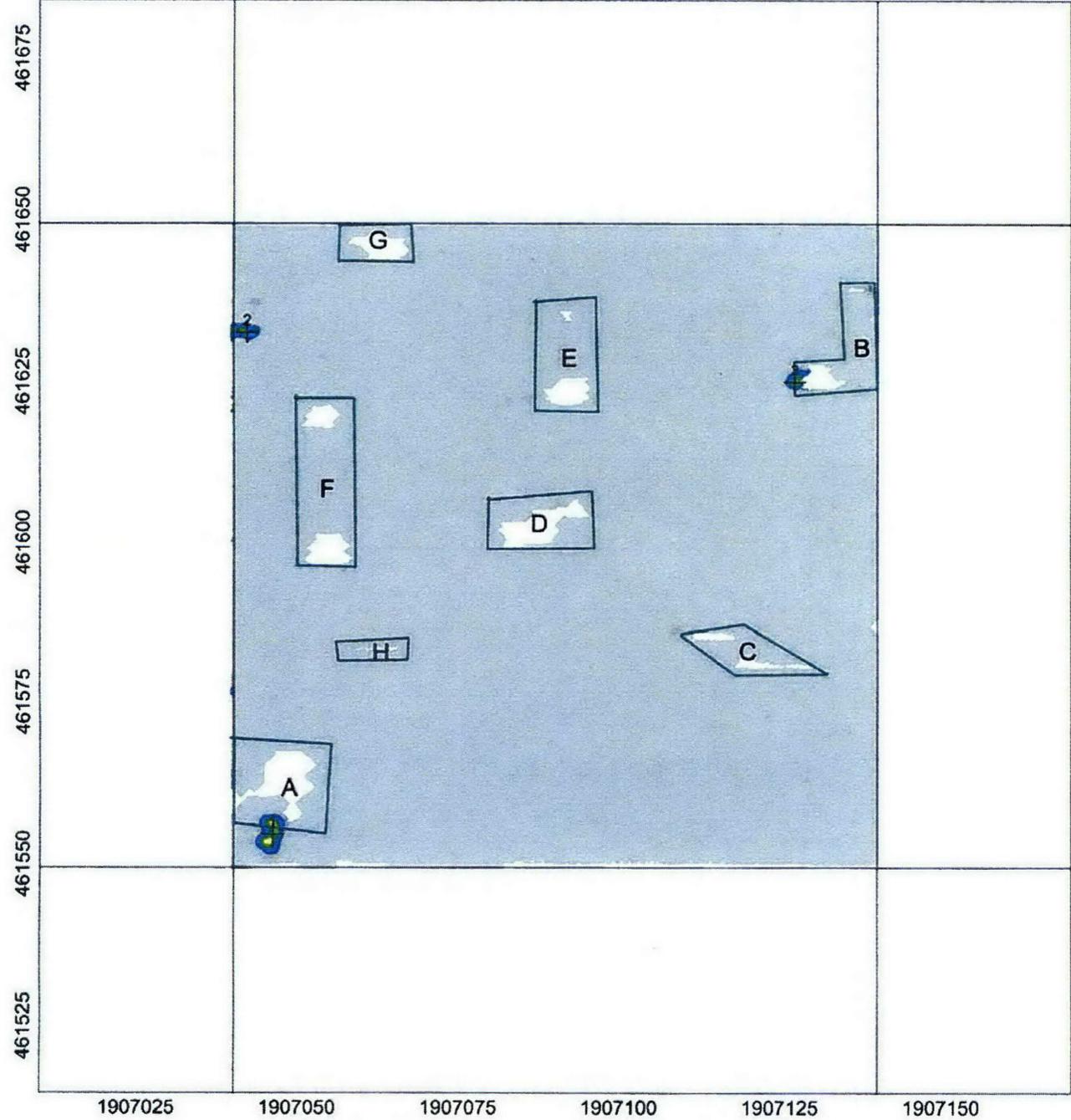
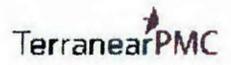
Project: 800-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G9x29

Page number: 1      Approved: JLL



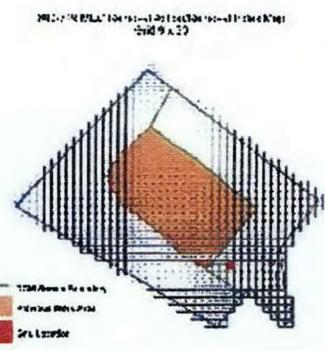
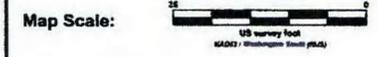
# MAP Grid 9 x 30

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°00'  
Mag North: 15°20'W

Scale 1:325



Client: Washington Closure Hanford

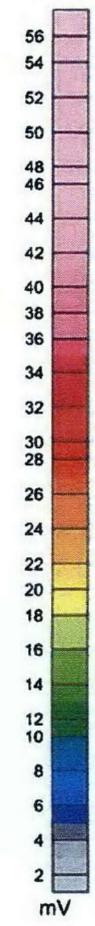
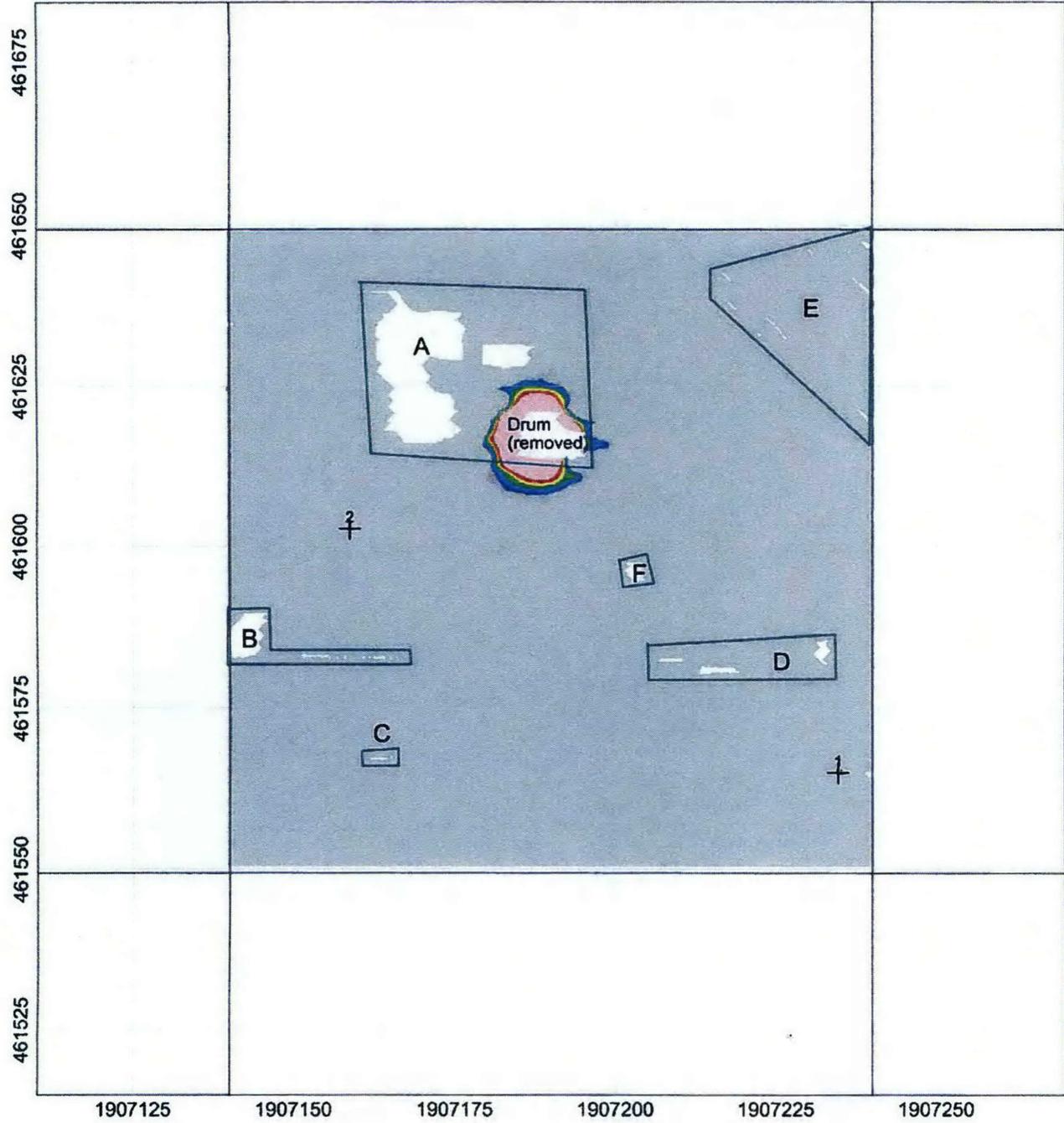
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G9x30

Page number: 1      Approved: JLL



# MAP Grid 9 x 31

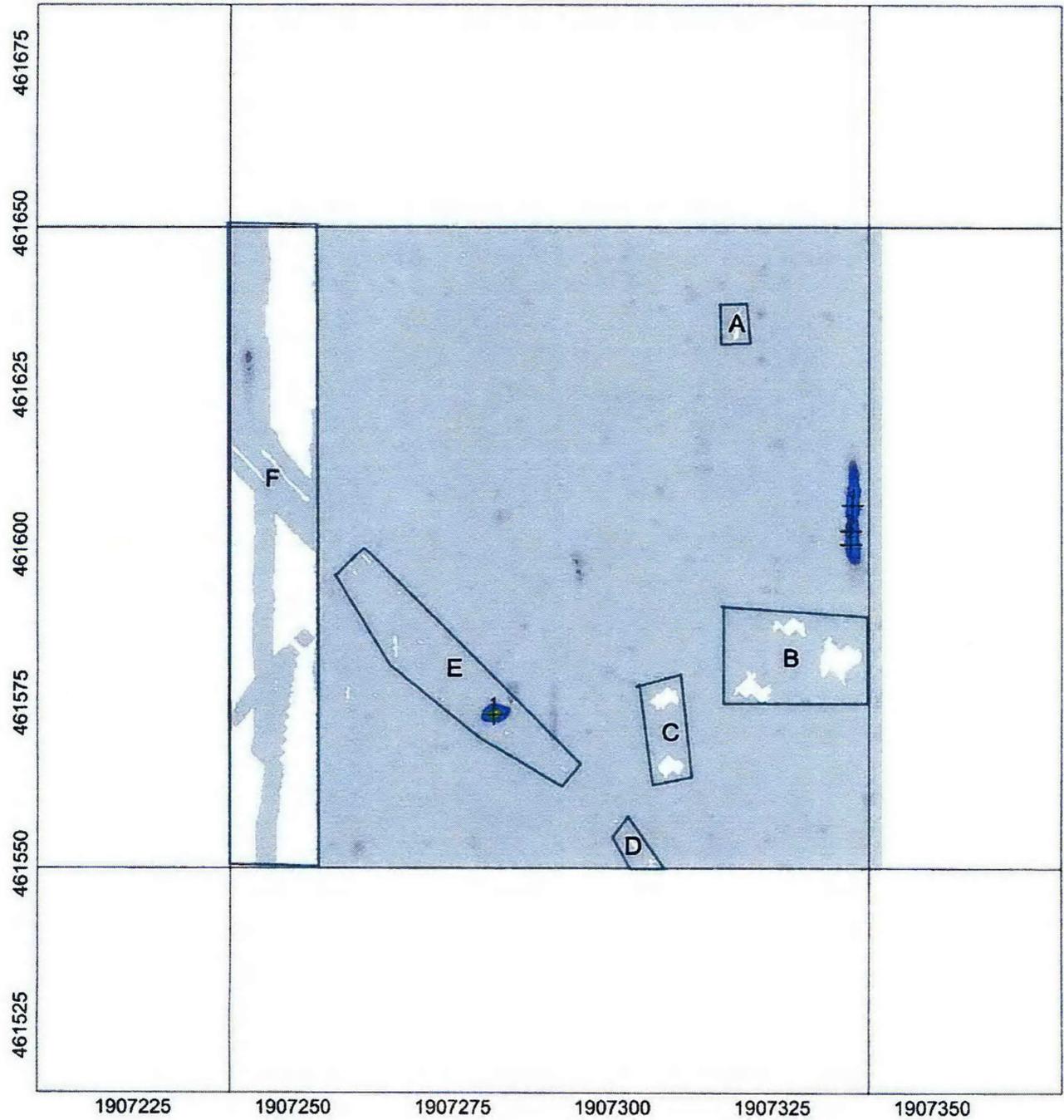
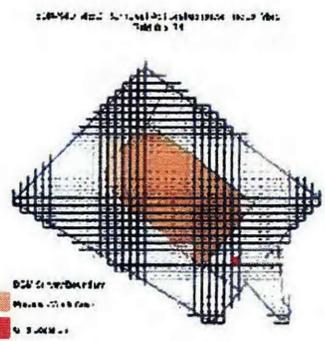
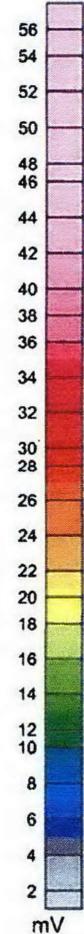
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°00'  
Mag North: 10°20'00"

Scale 1:325

Map Scale:



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G9x31
Page number: 1	Approved: JLL

# MAI- Grid 9 x 32

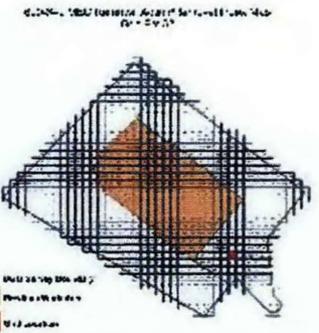
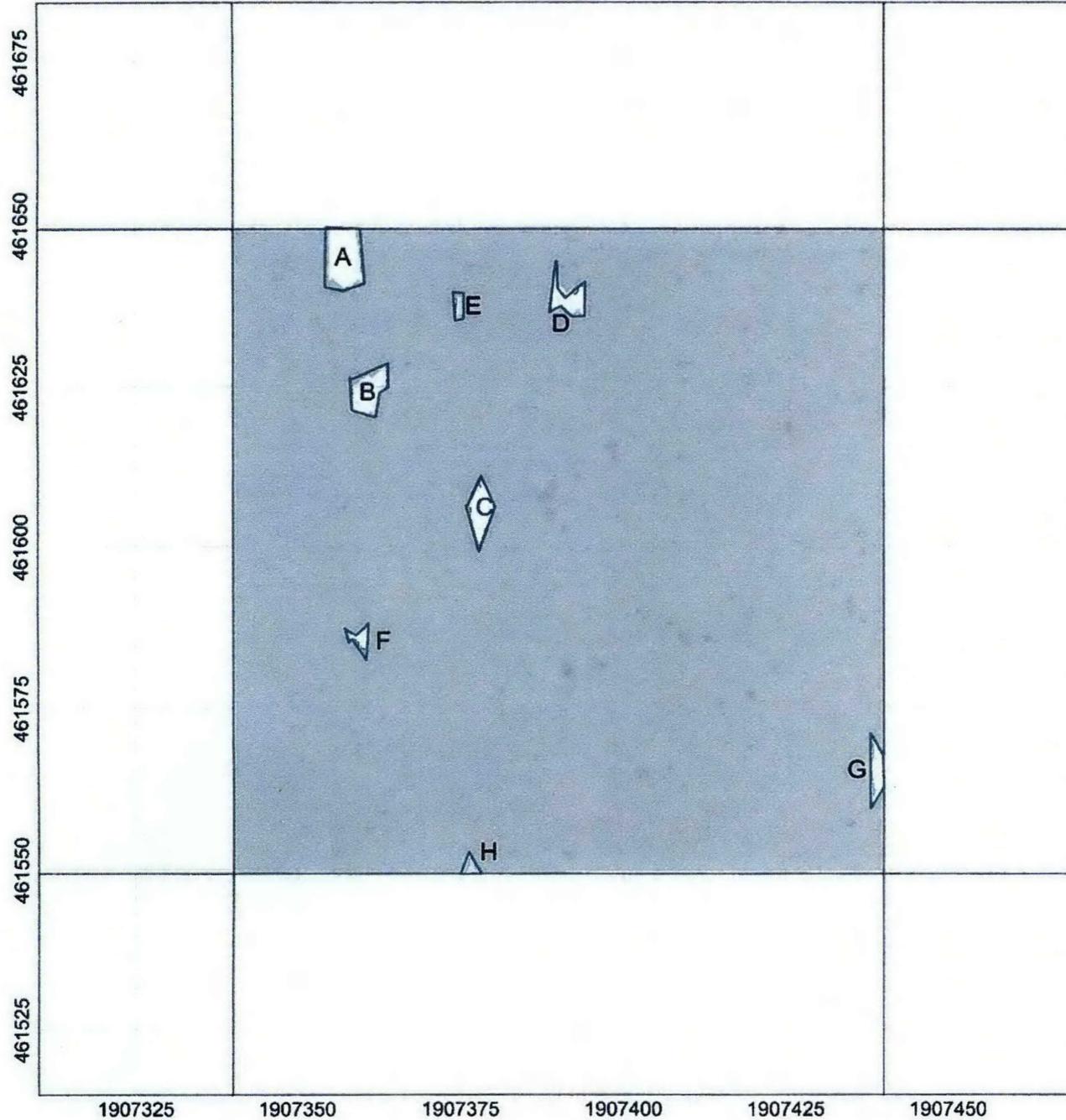
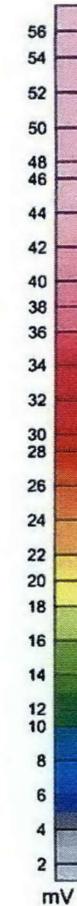
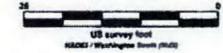
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°0'0"  
Magnetic North: 15°20'00"

Scale 1:325

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G9x32

Page number: 1

Approved: JLL

# MAI Grid 9 x 33

## LEGEND

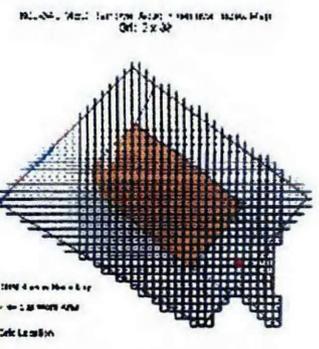
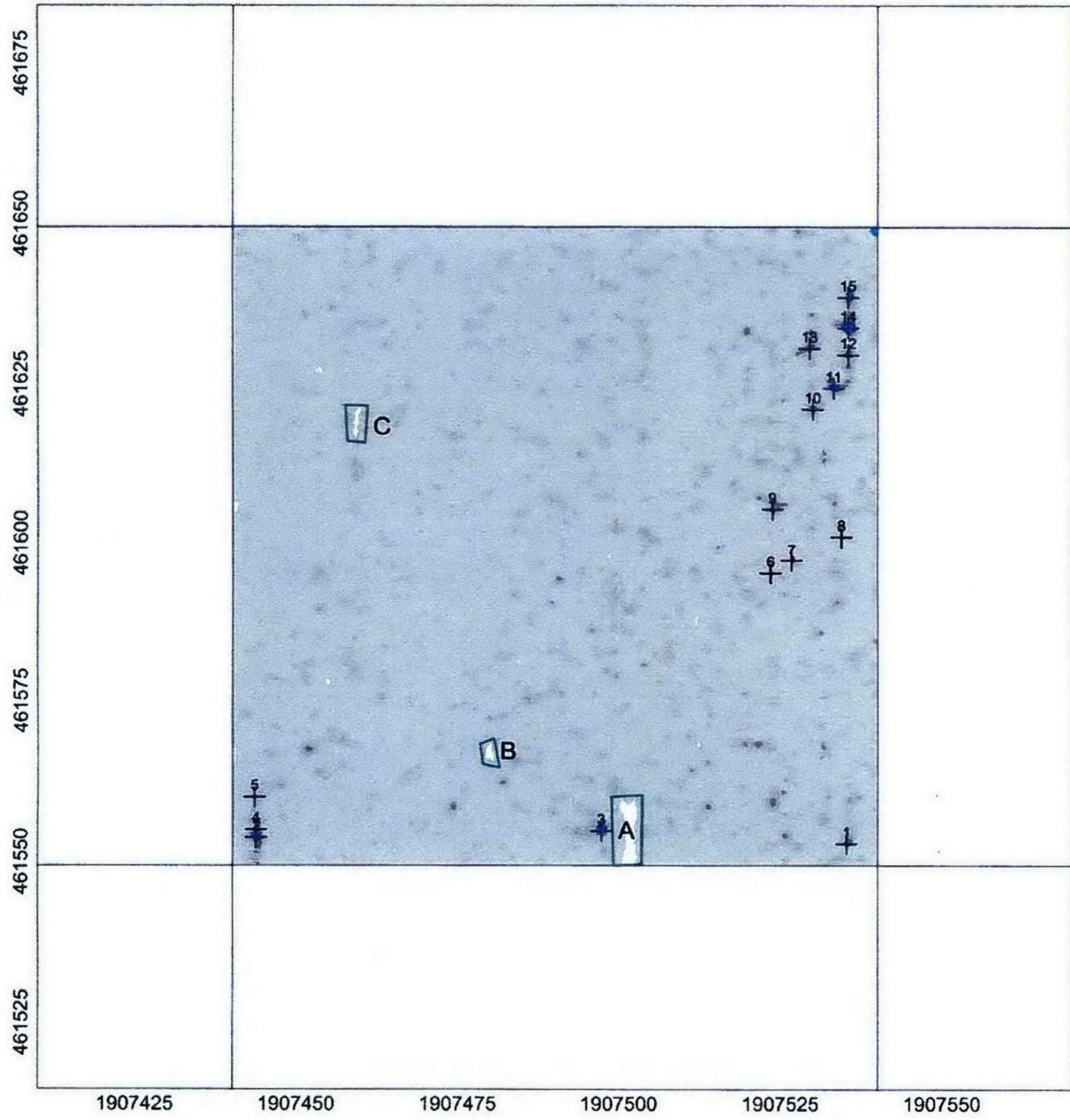
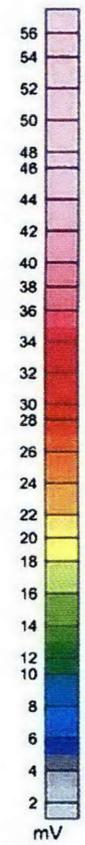
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Grid North: 11°00'  
MAG North: 15°20'00"

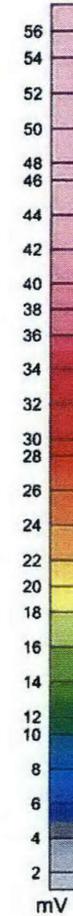
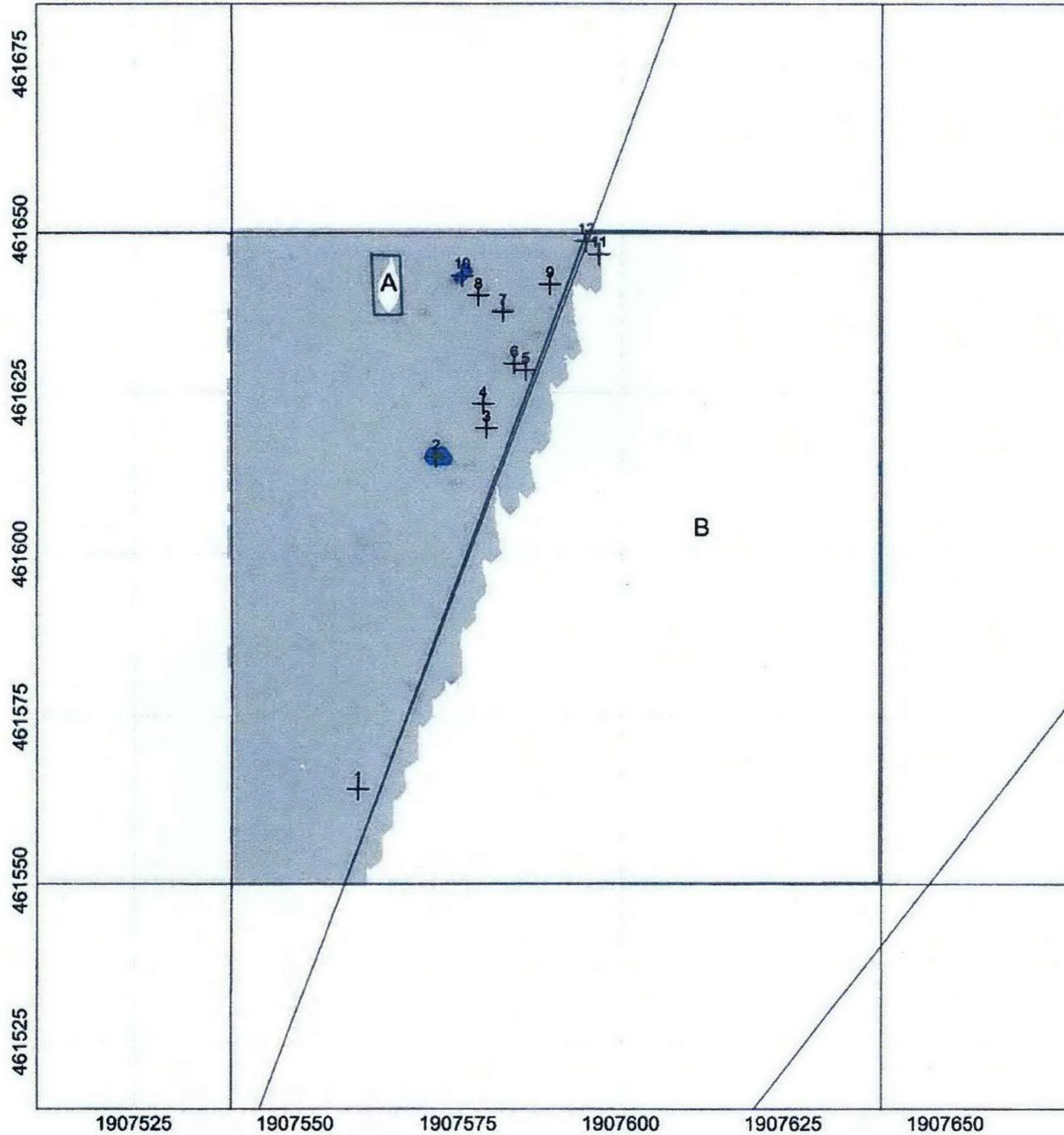
Scale 1:325

Map Scale:



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G9x33
Page number: 1	Approved: JLL

# MAP Grid 9 x 34



### LEGEND

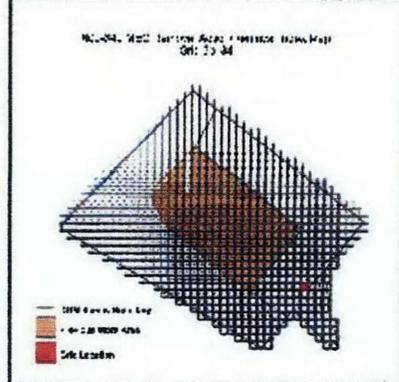
- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

Grid North: 17°00"  
 UTM North: 15°20'00"

Scale 1:325

Map Scale:

US Survey Feet  
 MGSN / Washington State (NAD83)



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G9x34
Page number: 1	Approved: JLL

# MAP Grid 10 x 28

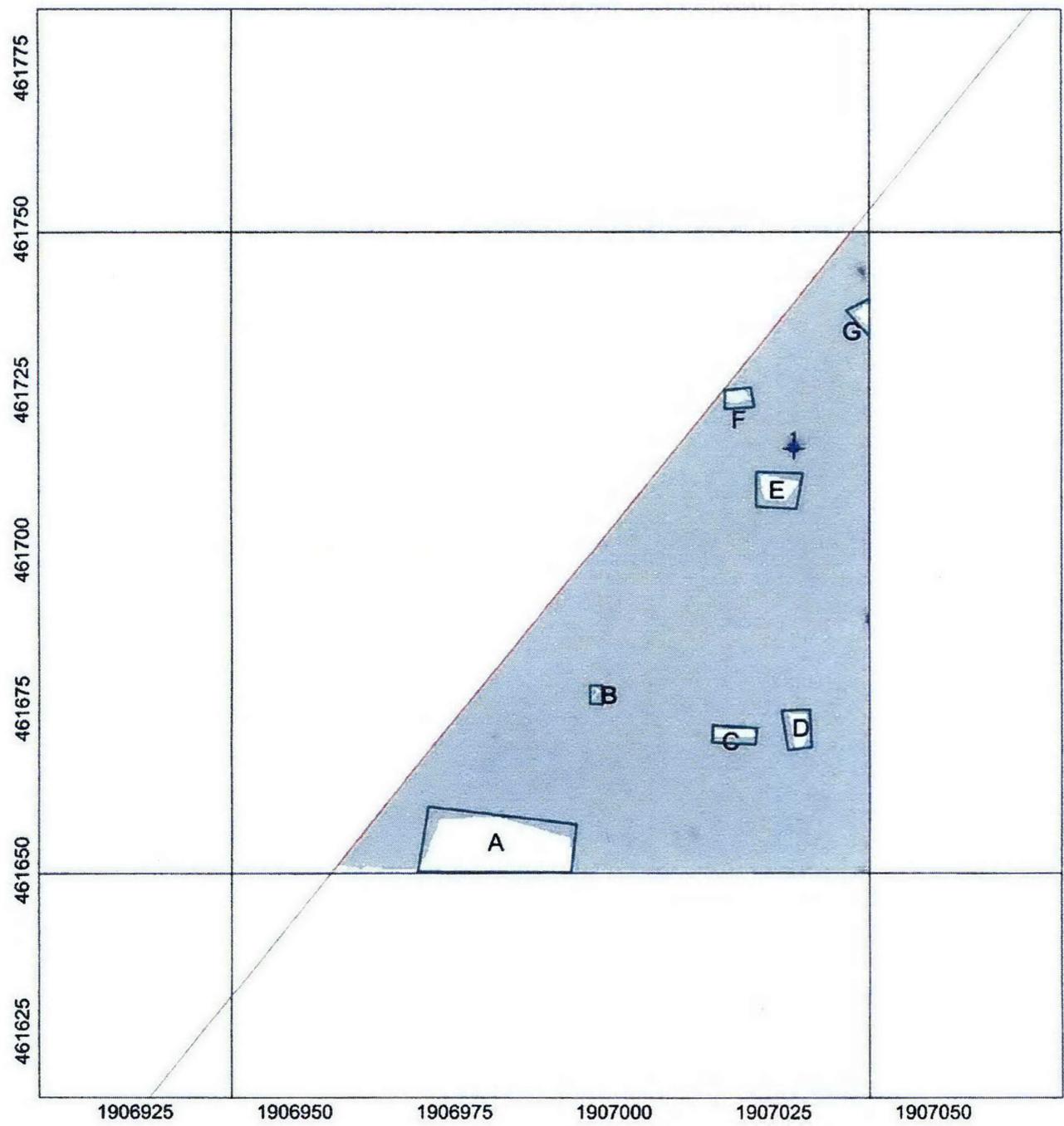
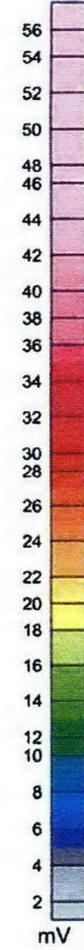
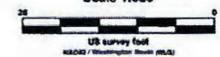
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

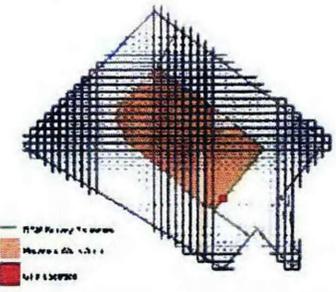
Grid North: 0°00'  
MAG North: 15°20'00"

Scale 1:325

Map Scale:



SRI-2416/LL Hanford Area - 600-349 MEC Removal Action  
G-10x28



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

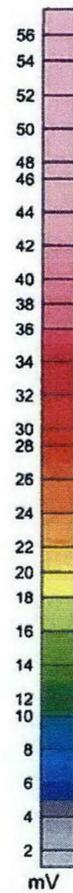
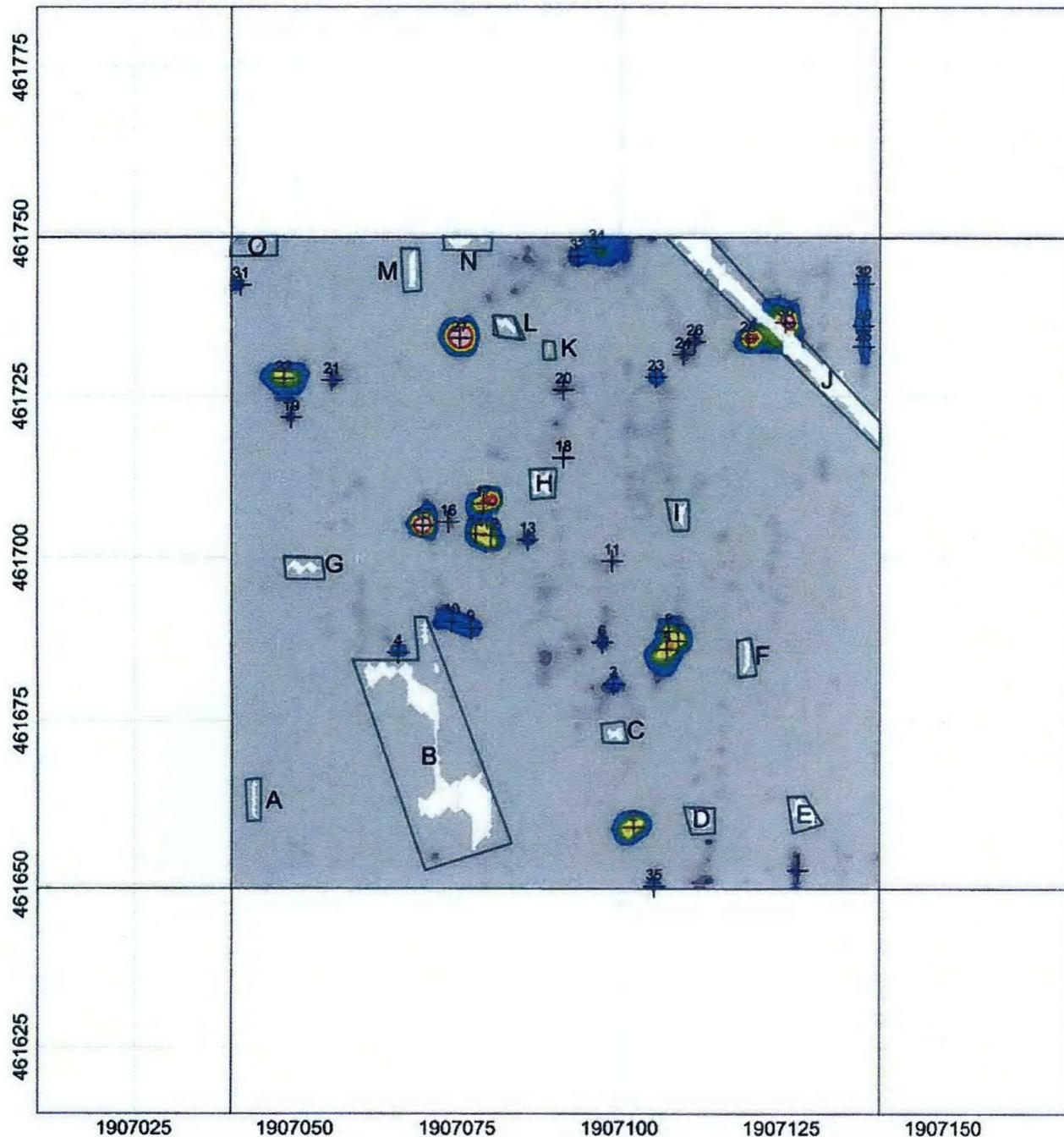
Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G10x28

Page number: 1      Approved: JLL



# MAP Grid 10 x 29



### LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

Grid North: 0°00'  
Mag North: 16°20'00"

Scale 1:325

Map Scale:

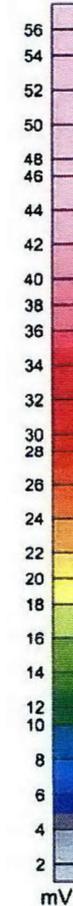


Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G10x29
Page number: 1	Approved: JLL

# MAI- Grid 10 x 30

## LEGEND

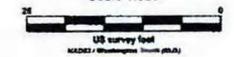
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



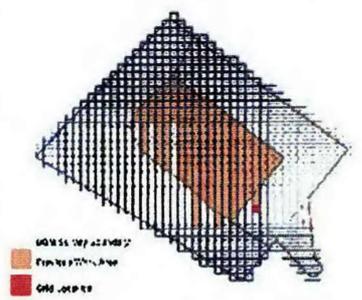
Grid North: 0°0'0"  
Tie to North: 16°20'00"

Scale 1:325

Map Scale:



600-349 MEC Removal Action Investigation Grid 10 x 30



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

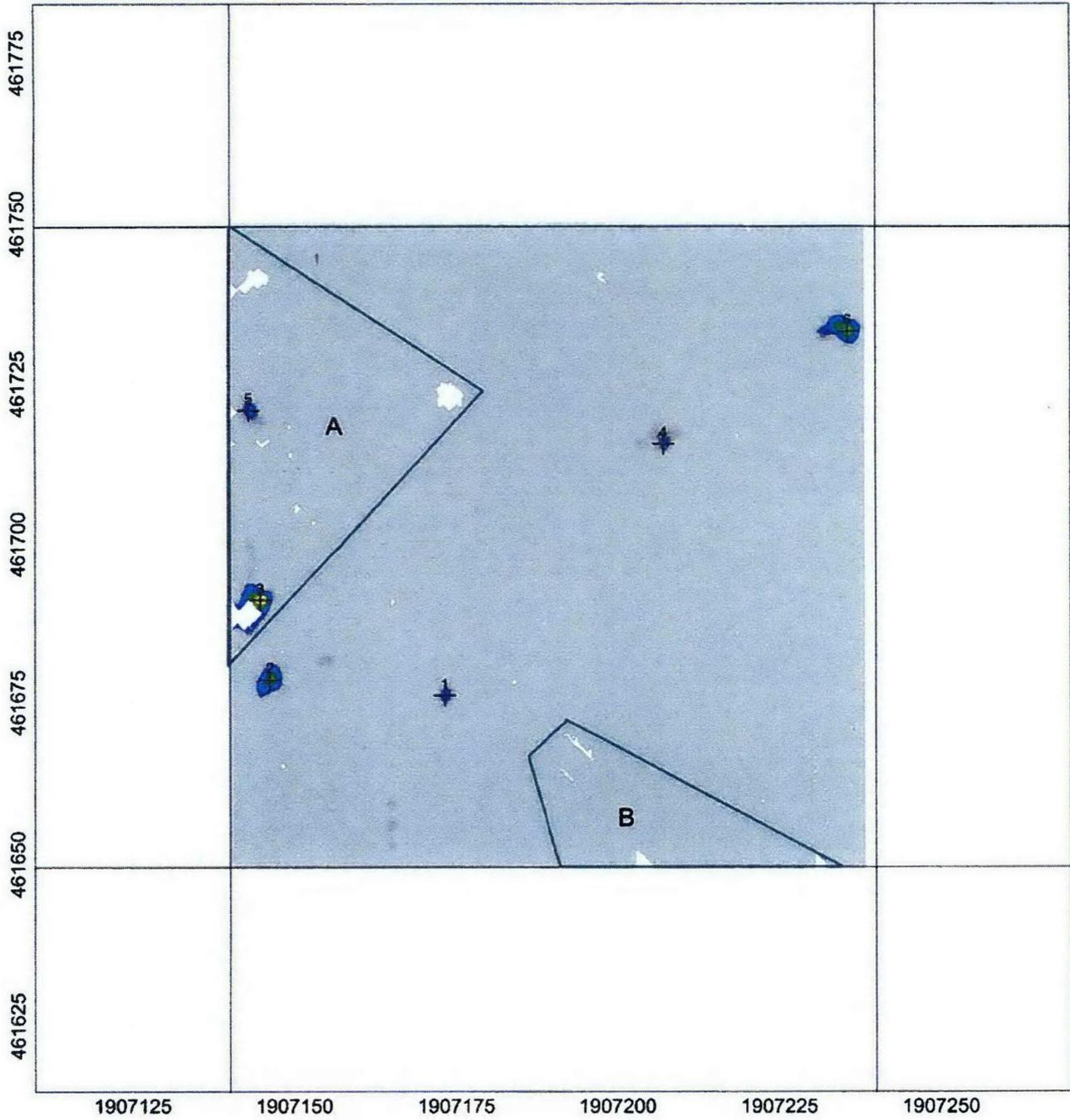
Verified by: JLL

Date: 2014/05/05

File: G10x30

Page number: 1

Approved: JLL



461775  
461750  
461725  
461700  
461675  
461650  
461625

1907125 1907150 1907175 1907200 1907225 1907250

# MAP Grid 10 x 31

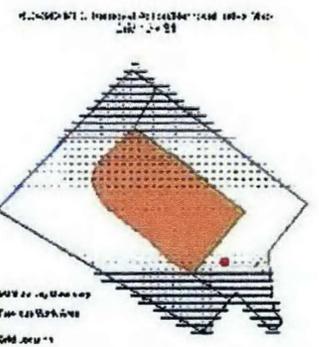
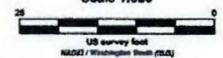
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°00"  
Mag North: 15°20'00"

Scale 1:325

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

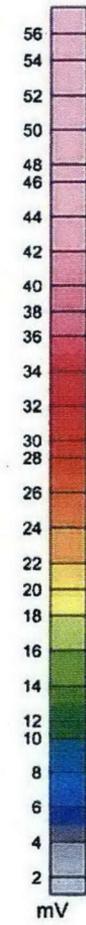
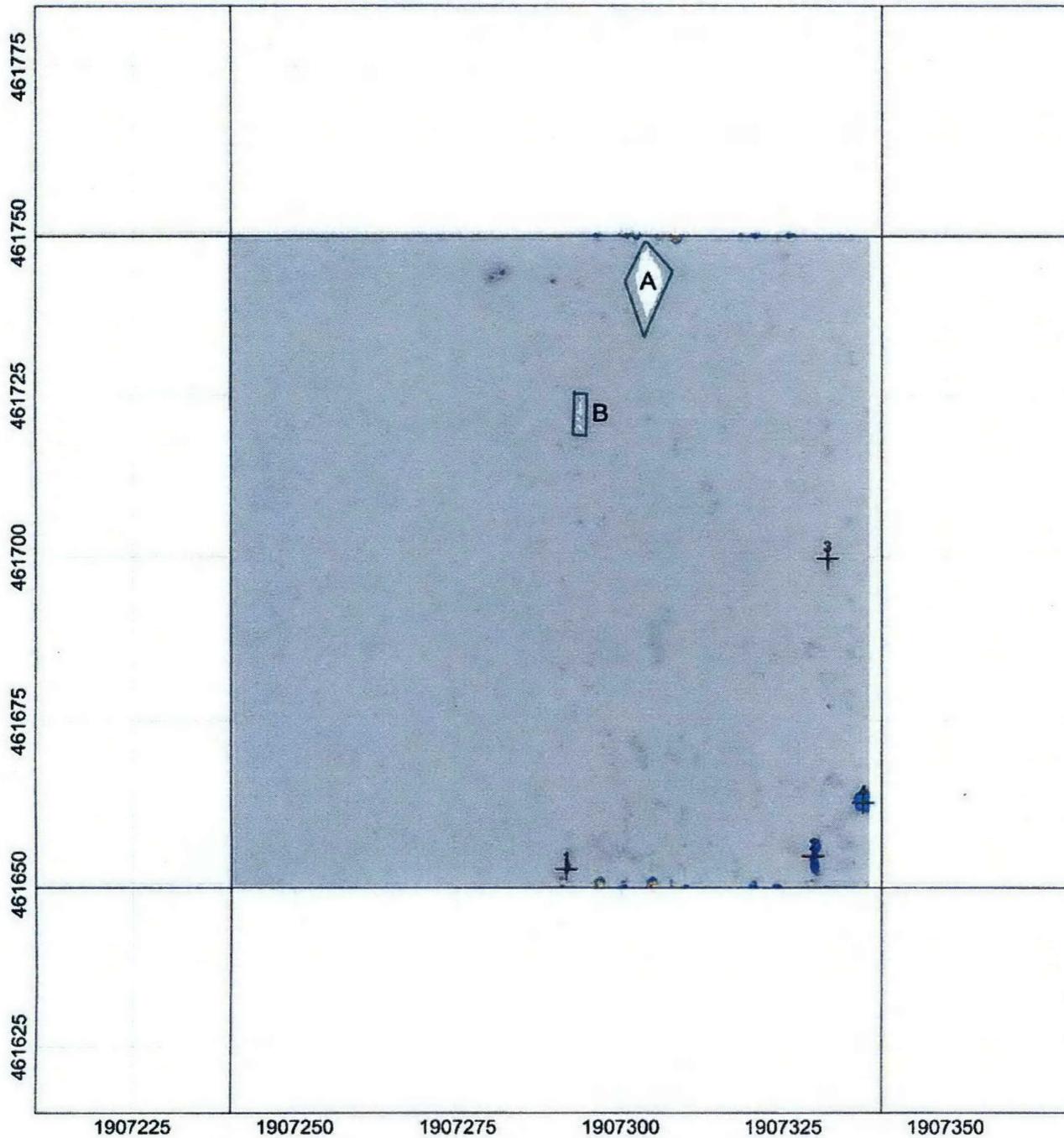
Created by: EA

Verified by: JLL

Date: 2014/05/05 File: G10x31

Page number: 1 Approved: JLL

TerranearPMC



# MA- Grid 10 x 32

## LEGEND

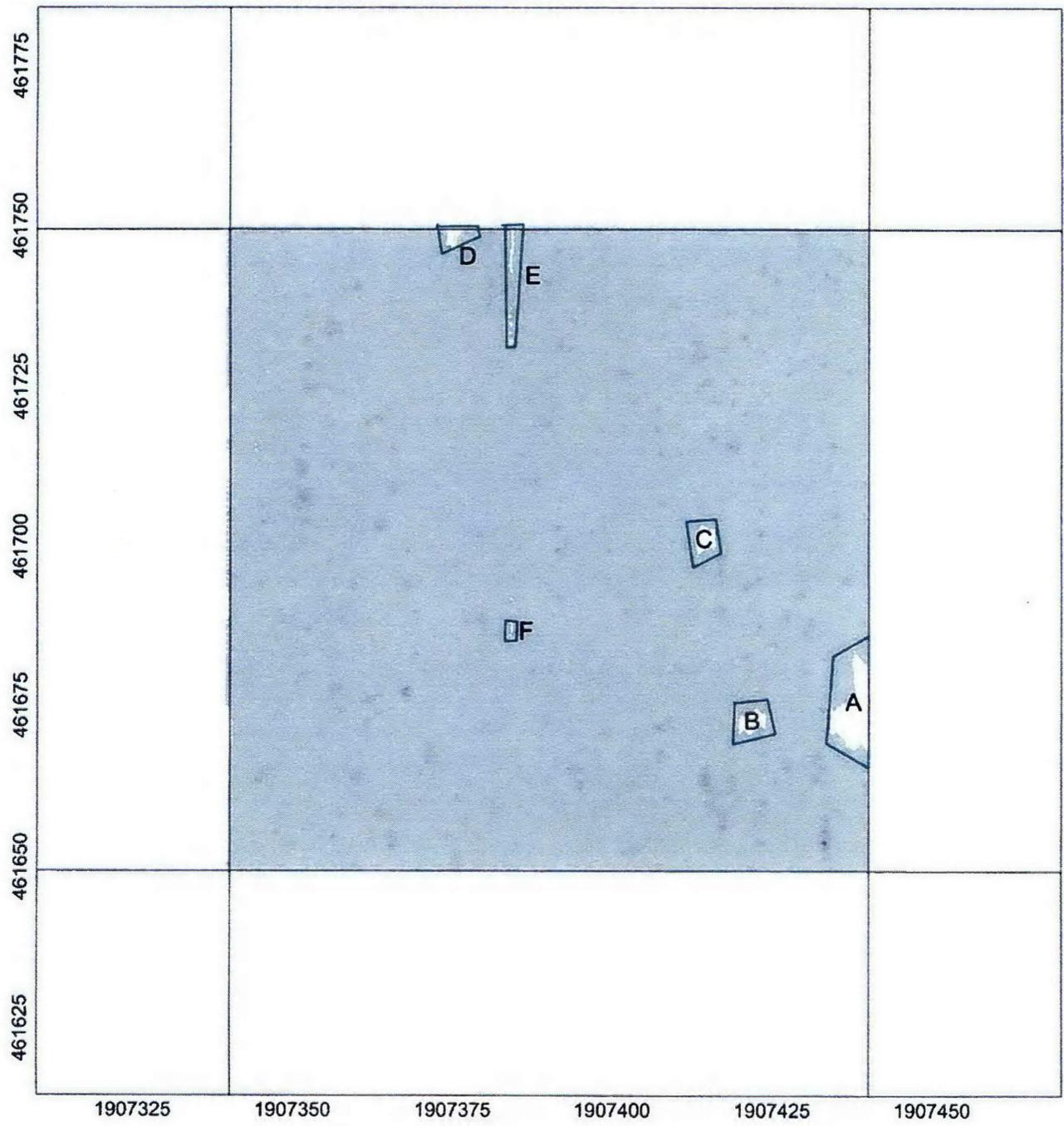
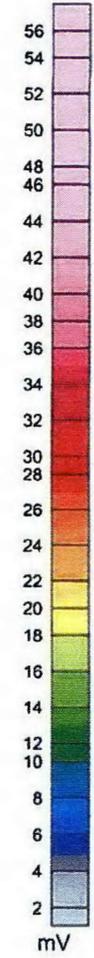
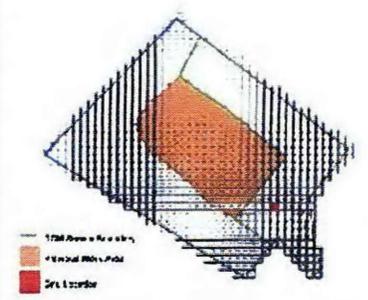
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°00'  
Magnetic North: 13°20'00"

Scale 1:325



PROJECT TITLE: 600-349 MEC Removal Action  
MA-10 x 32



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G10x32

Page number: 1      Approved: JLL

# MAF Grid 10 x 33

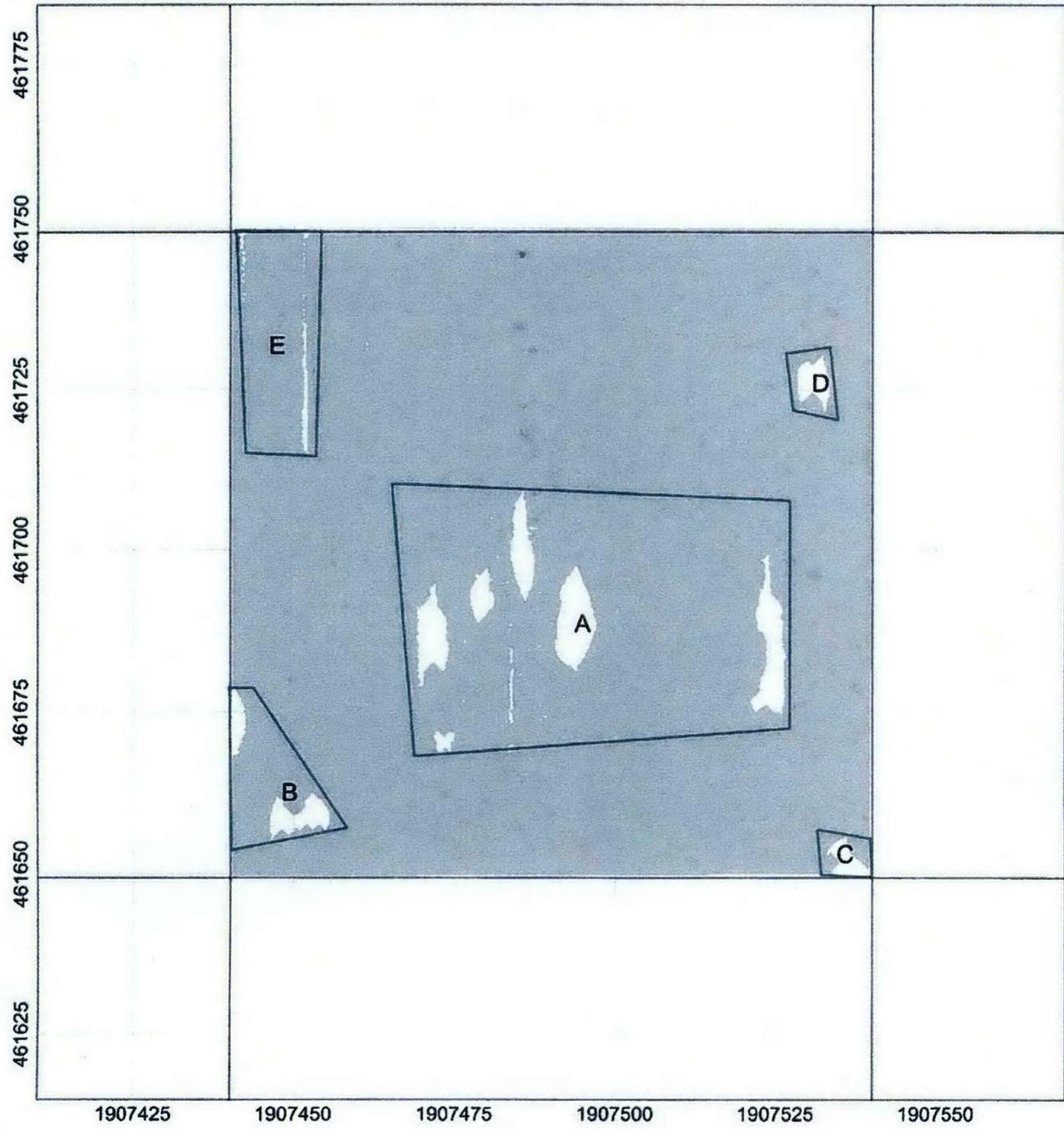
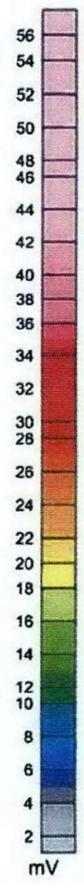
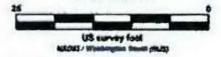
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Scale 1:325

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G10x33

Page number: 1      Approved: JLL

# MAF Grid 10 x 34

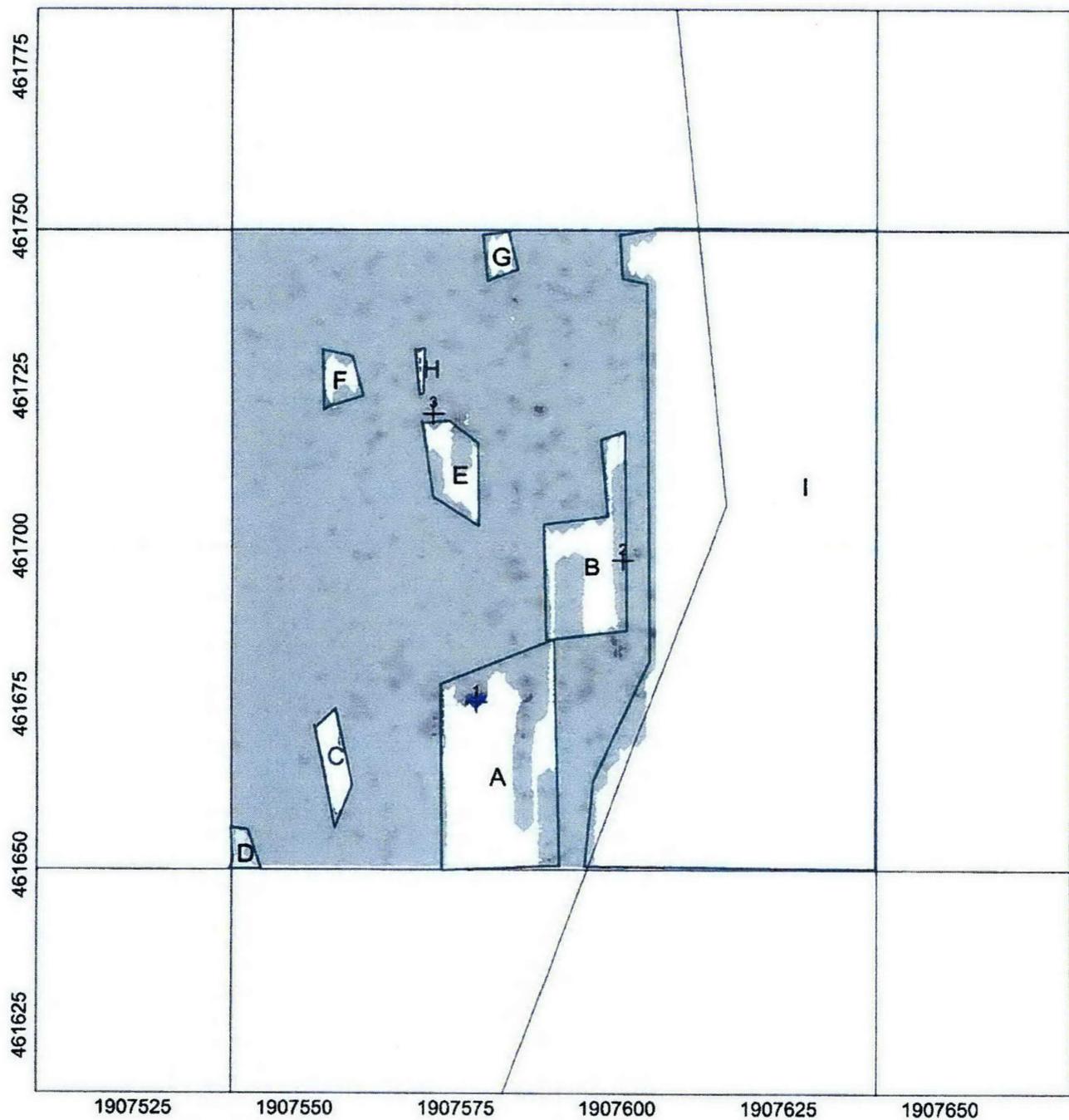
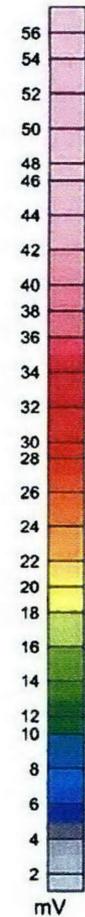
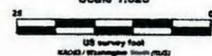
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

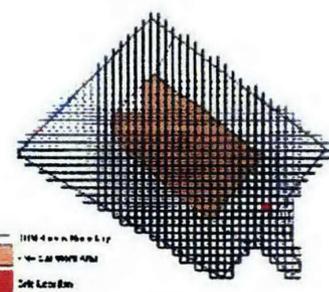
Grid North: 0°0'0"  
Mag North: 15°20'00"

Scale 1:325

Map Scale:



MEC Removal Action Investigation Area - 100' Buffer Zone Map  
0 10' 20' 30'



-  100' Buffer Zone
-  No-Cut Buffer Zone
-  Soft Location

Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G10x34

Page number: 1      Approved: JLL

# MAF Grid 11 x 29

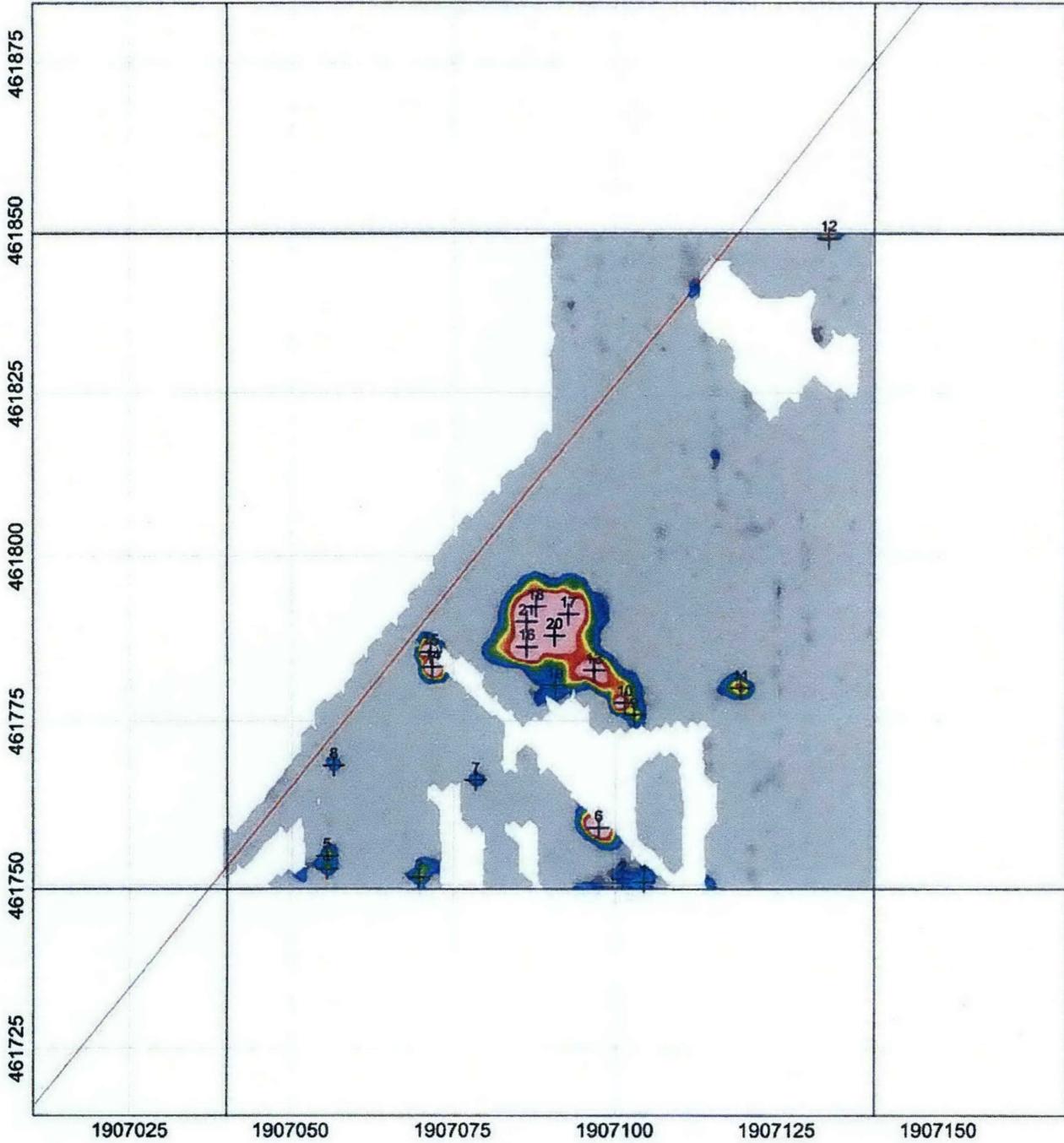
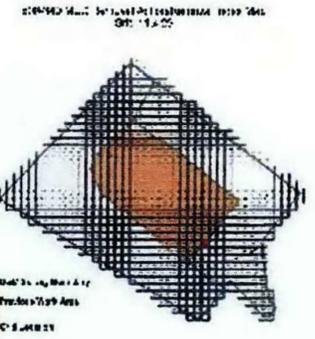
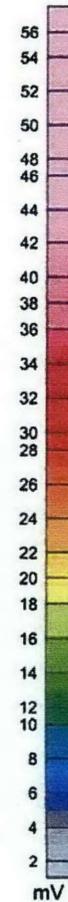
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Scale 1:325

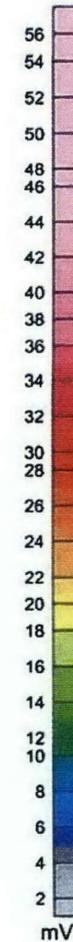
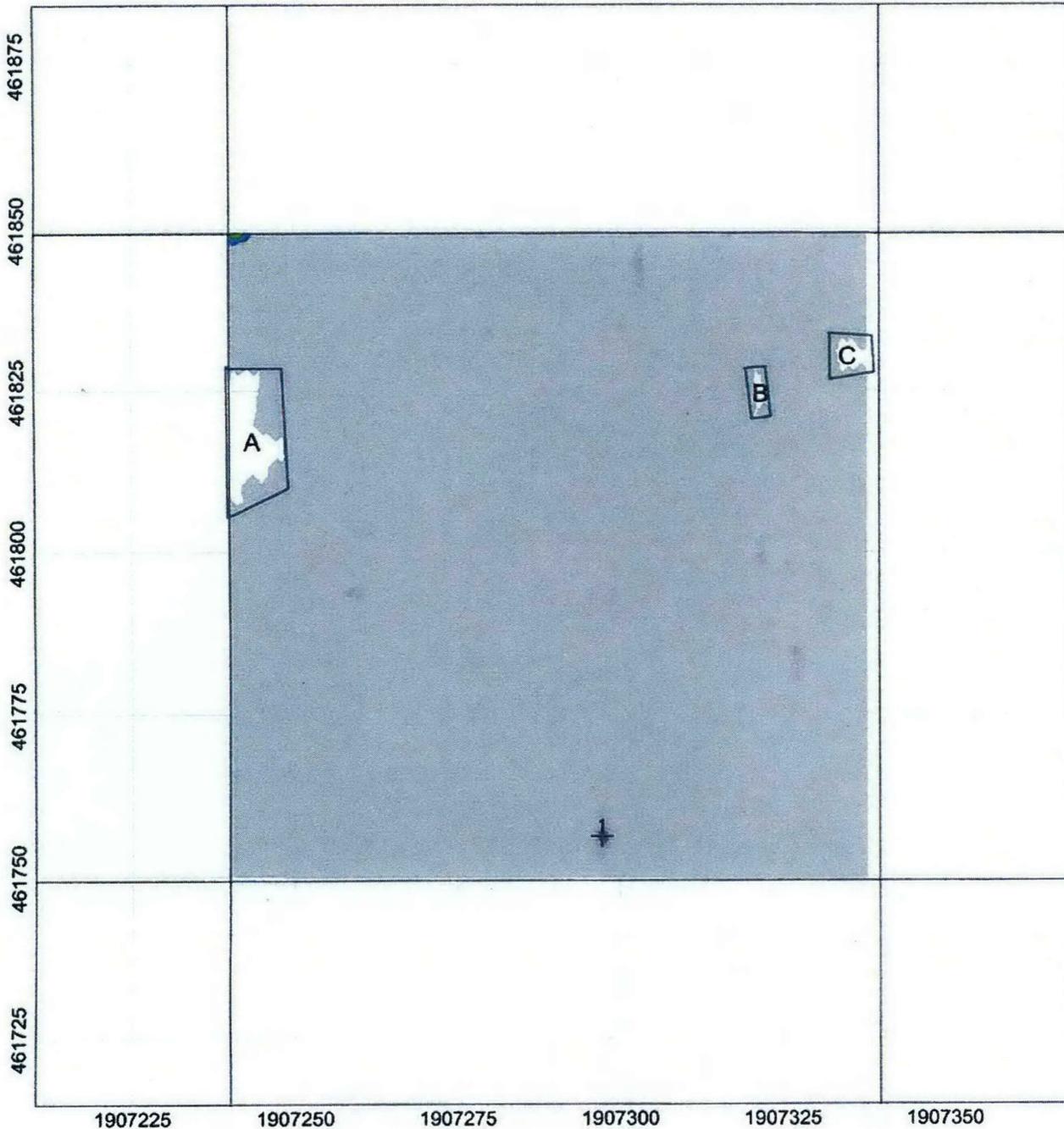
Map Scale:



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G11x29
Page number: 1	Approved: JLL

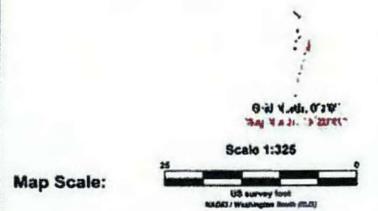


# MAF Grid 11 x 31



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

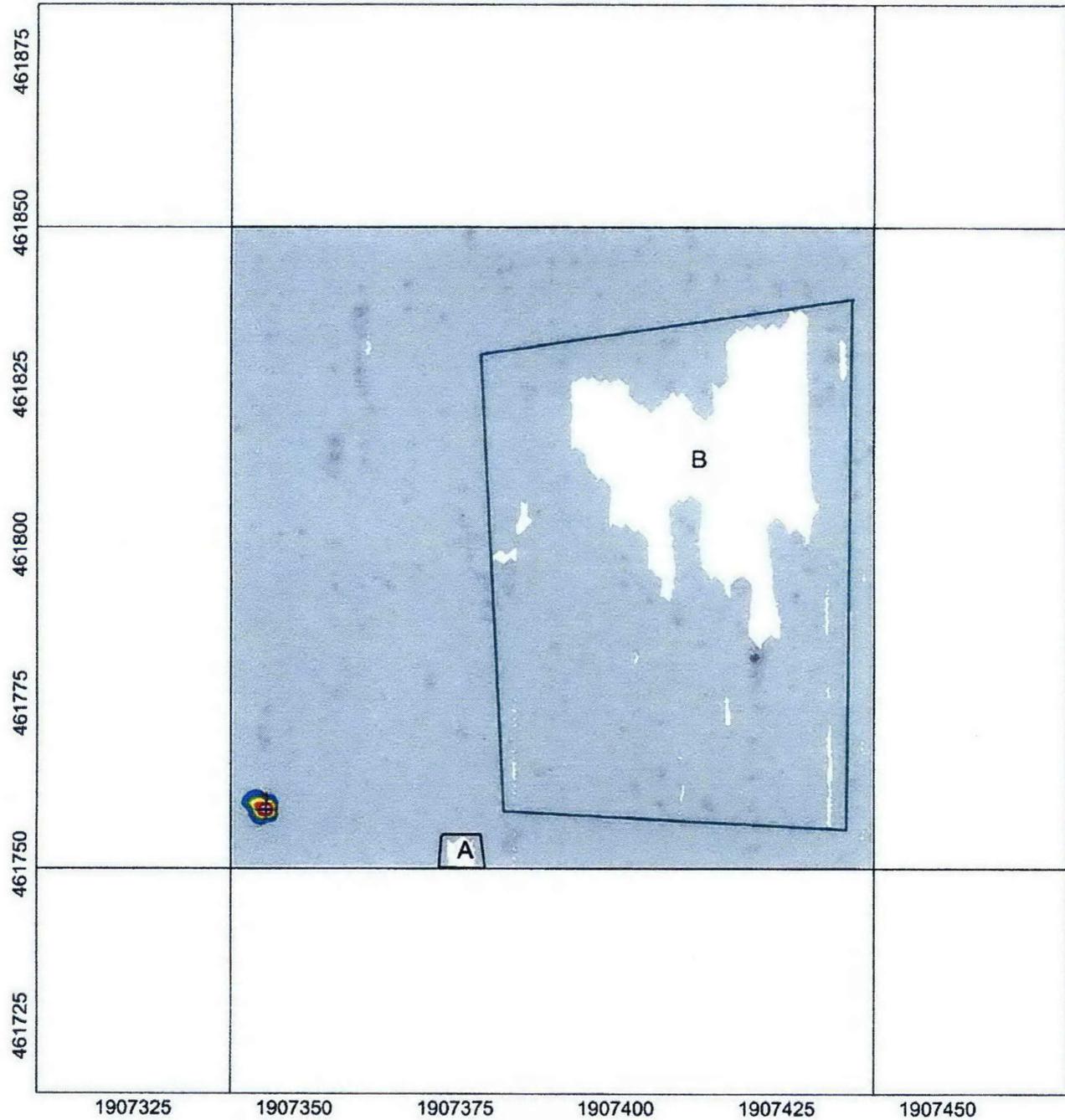
Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G11x31

Page number: 1      Approved: JLL

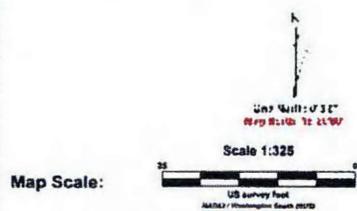
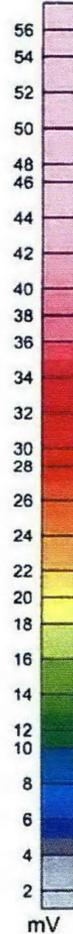




# MAP Grid 11 x 32

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G11x32

Page number: 1      Approved: JLL

# MAP Grid 11 x 33

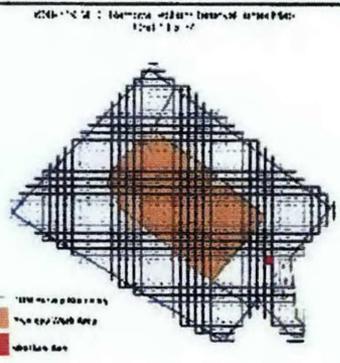
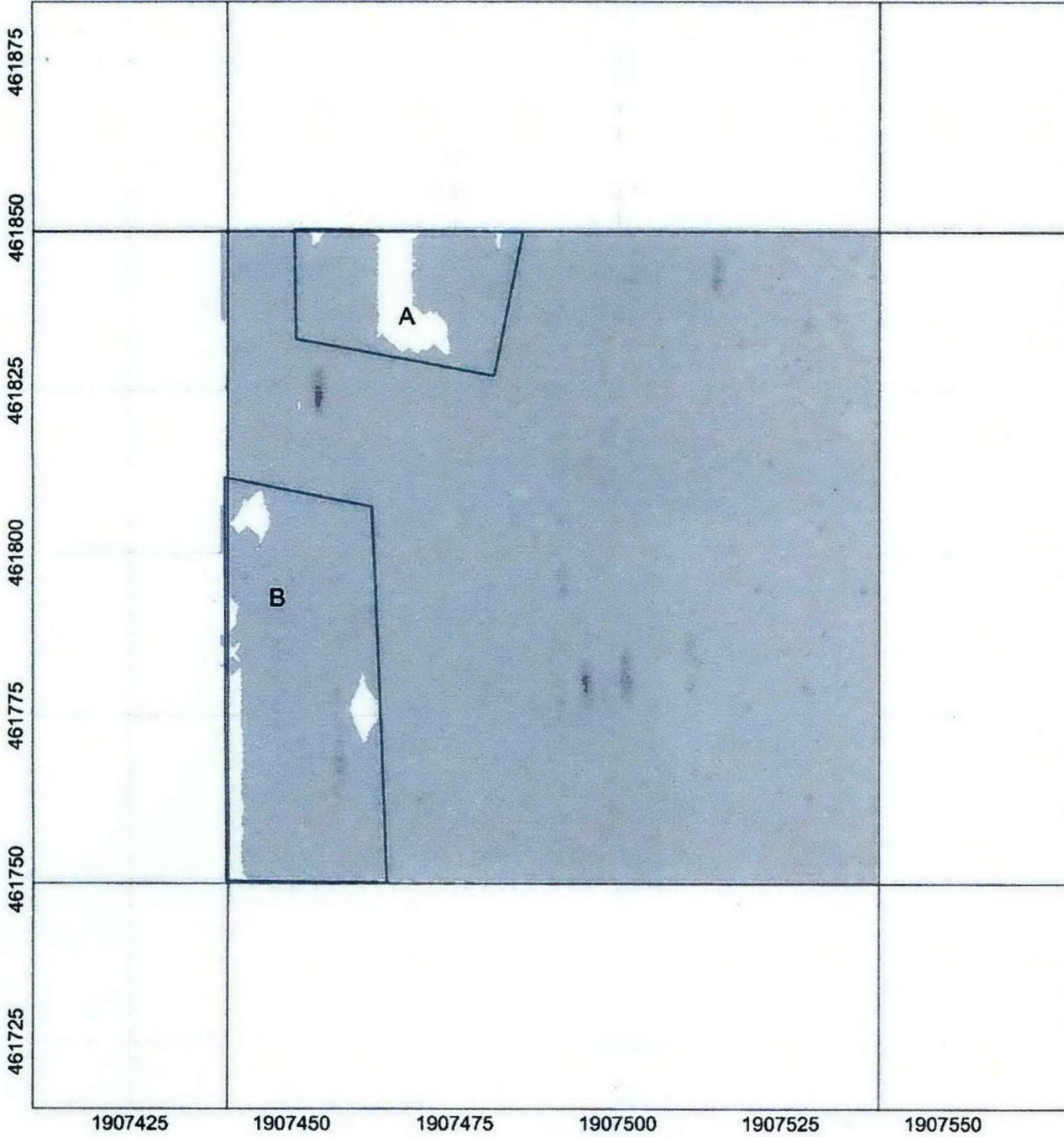
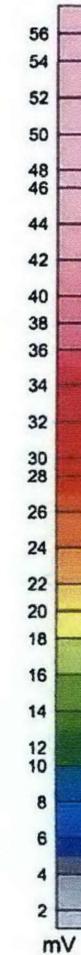
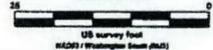
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

N

Grid North: 0°00'  
Mag North: 15°25'00"  
Scale 1:325

Map Scale:

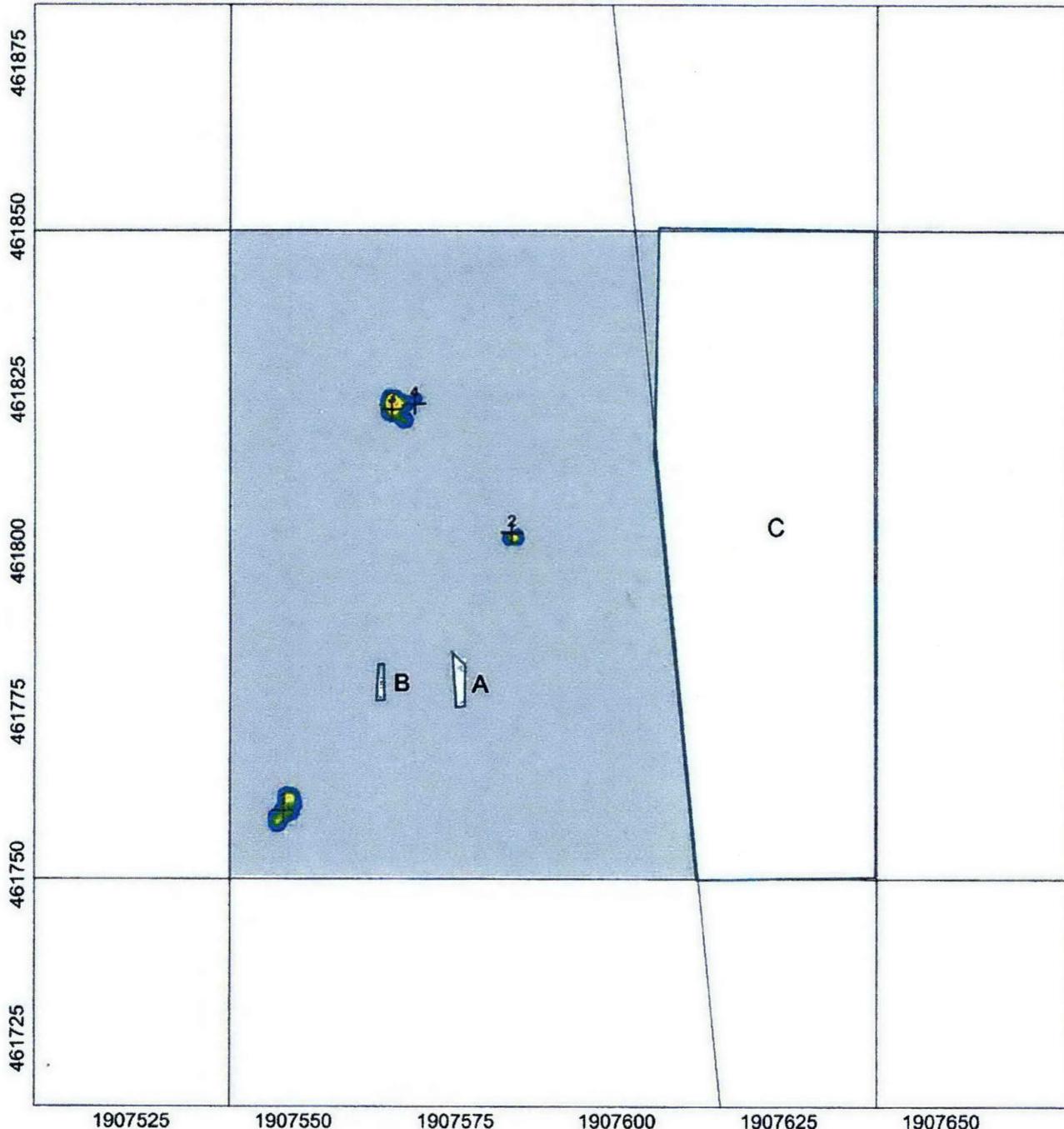
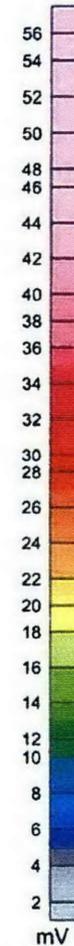


Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G11x33  
 Page number: 1      Approved: JLL

# MAP Grid 11 x 34

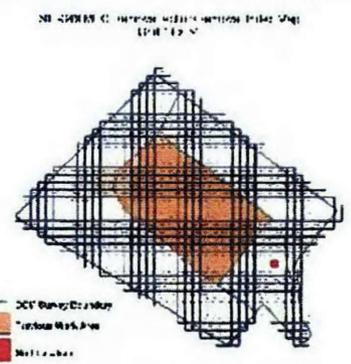
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



G 11 North 3120'  
Map North: 15°24'00"

Scale 1:325



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

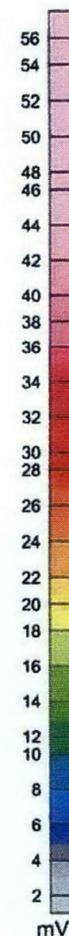
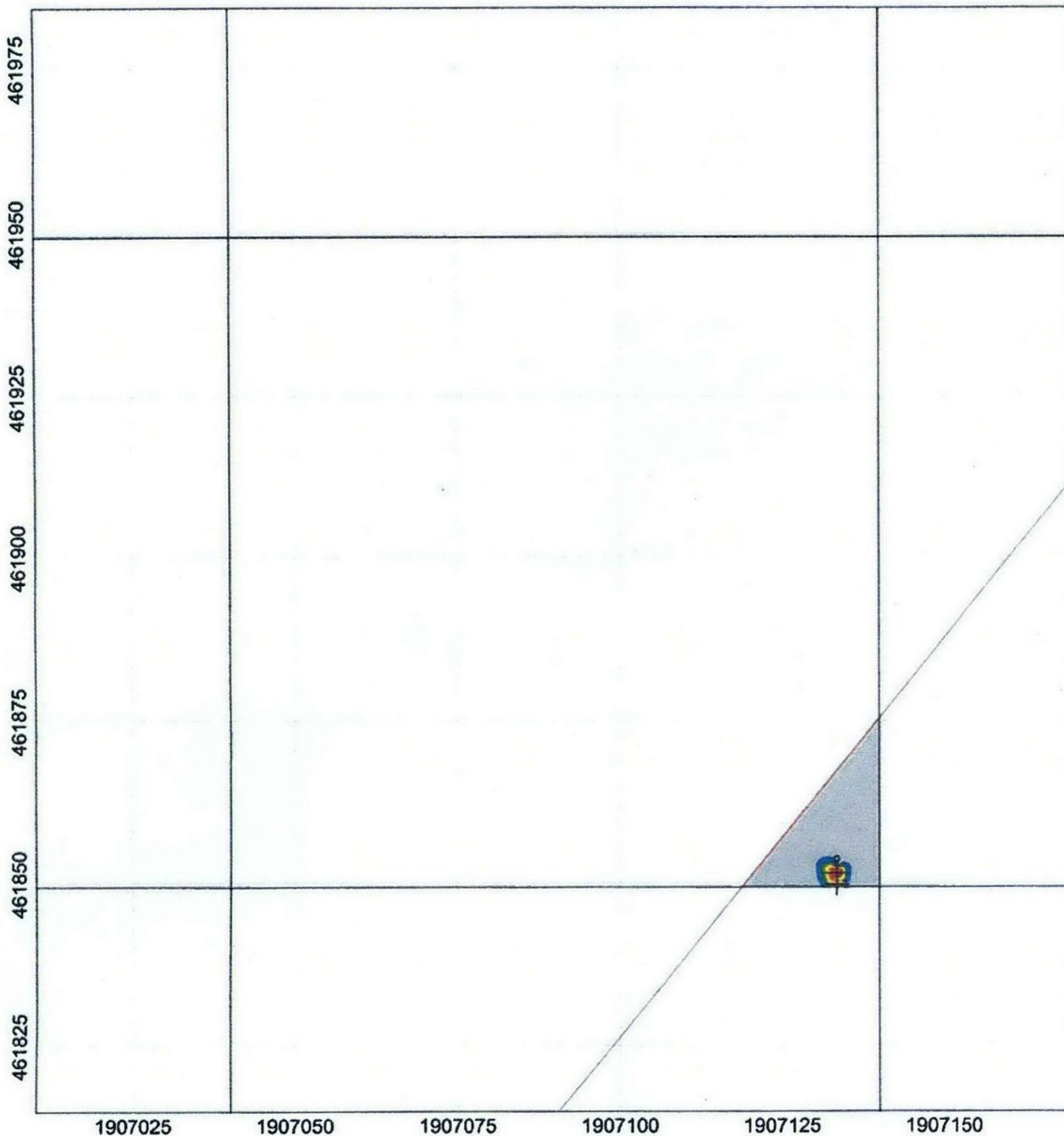
Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G11x34

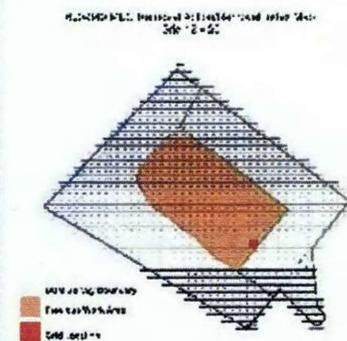
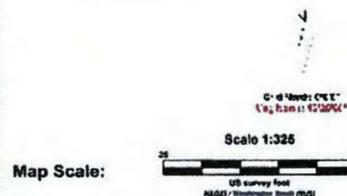
Page number: 1      Approved: JLL

# MAP Grid 12 x 29



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G12x29

Page number: 1

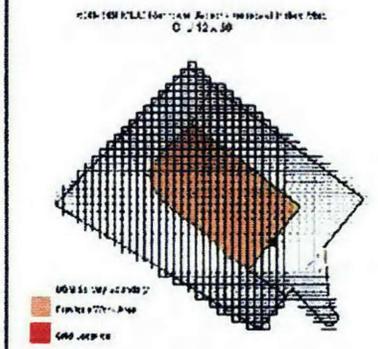
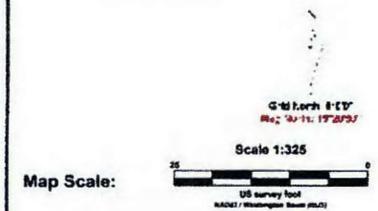
Approved: JLL

TerranearPMC

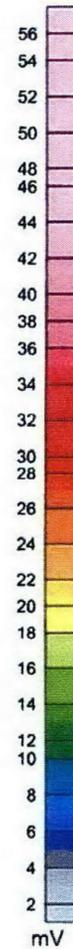
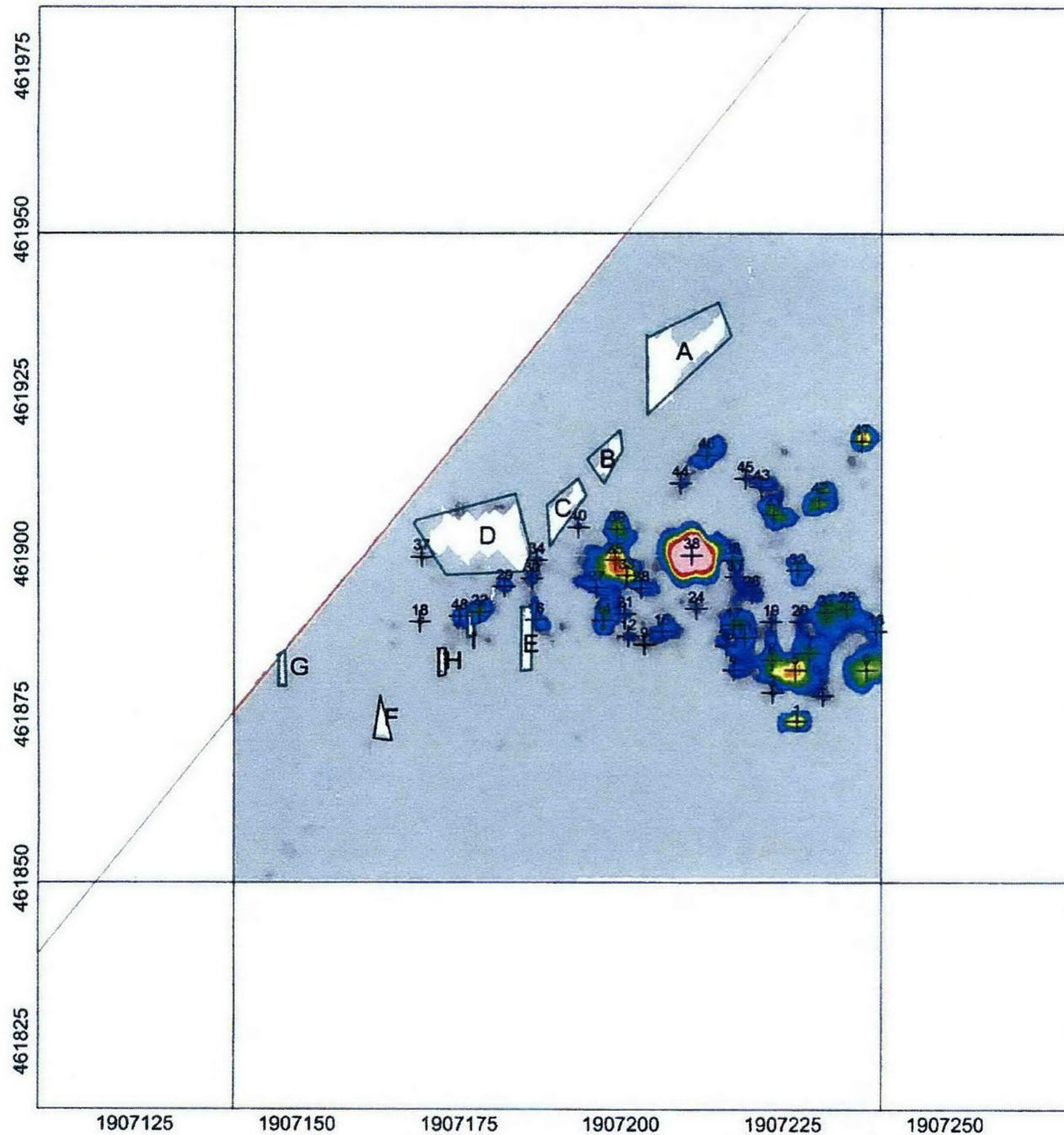
# MAP Grid 12 x 30

## LEGEND

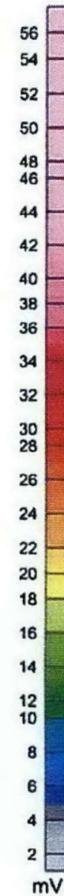
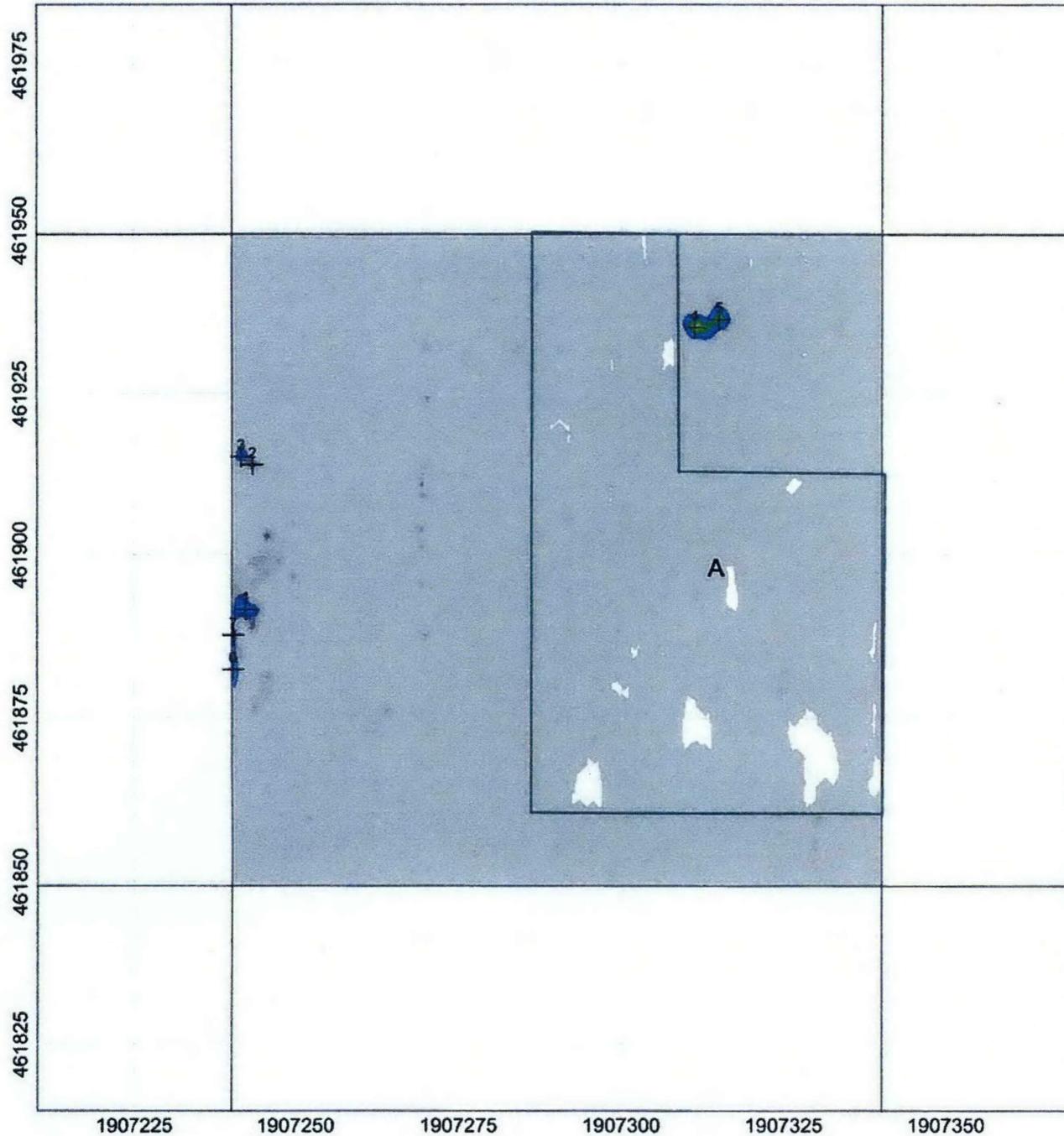
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G12x30  
 Page number: 1      Approved: JLL

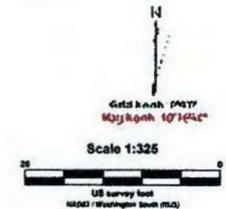


# MAF Grid 12 x 31

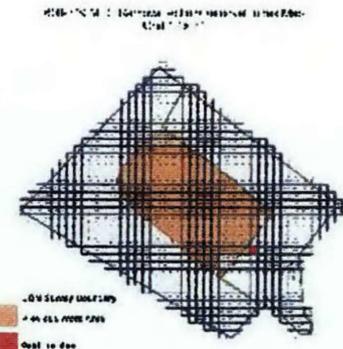


## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G12x31

Page number: 1

Approved: JLL

TerranearPMC

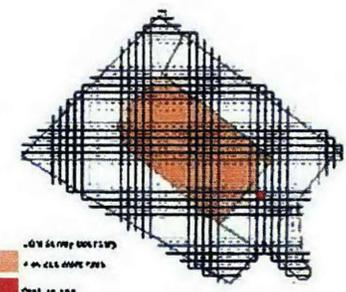
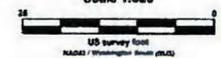
# MAP Grid 12 x 32

## LEGEND

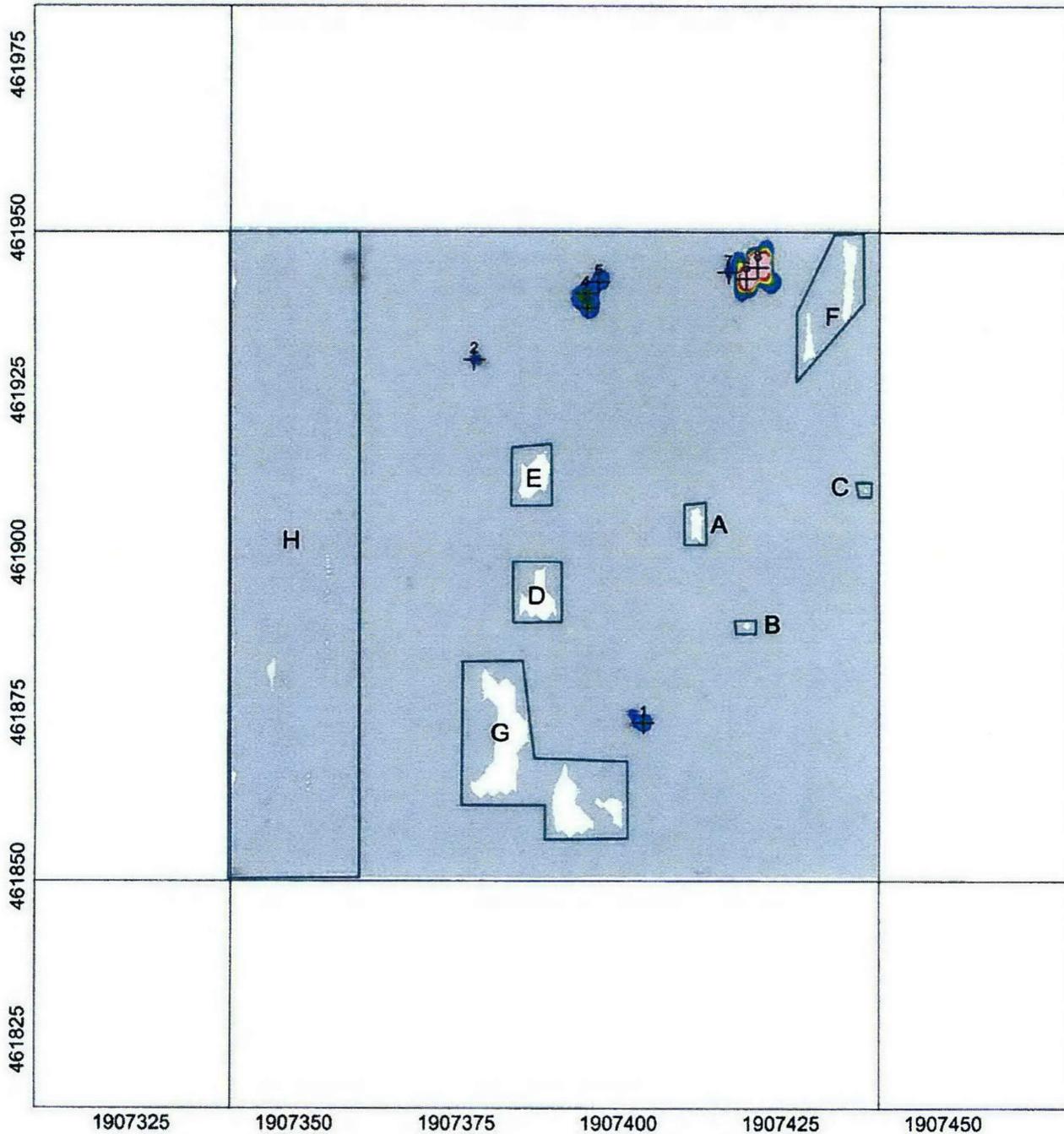
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Map Scale:



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G12x32  
 Page number: 1      Approved: JLL



# MAF Grid 12 x 33

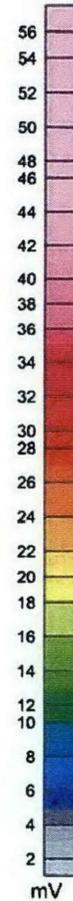
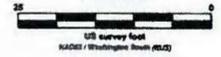
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

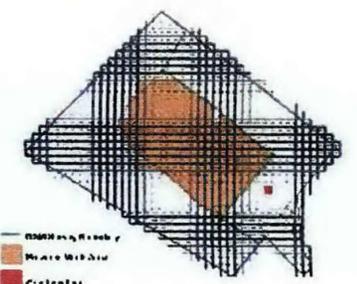
Grid North 8 ECV  
Mag. No. 15: 1728797

Scale 1:325

Map Scale:



DOCUMENT ID: 600-349 MEC Removal Action  
Grid 12 x 33



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

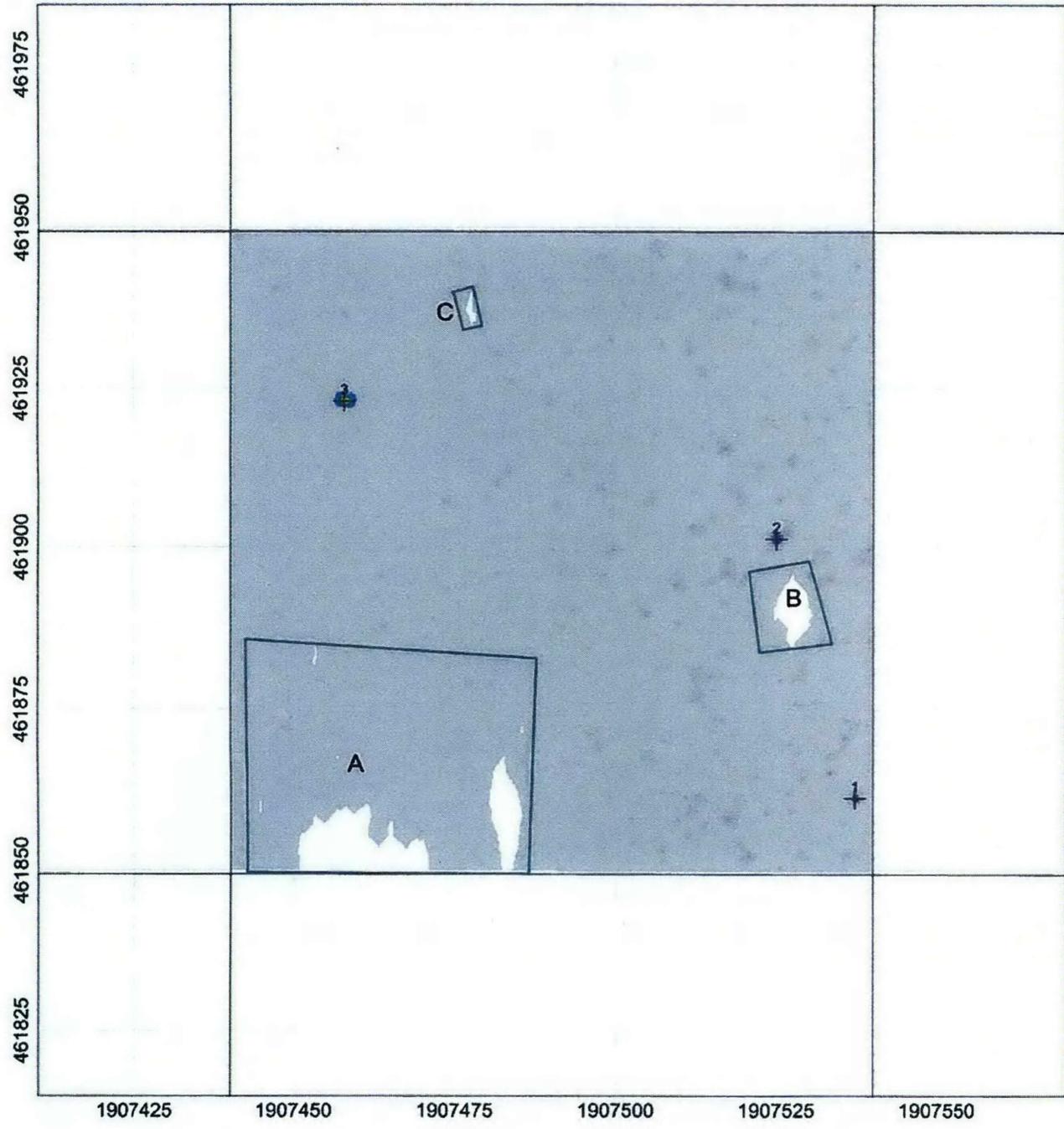
Verified by: JLL

Date: 2014/05/05

File: G12x33

Page number: 1

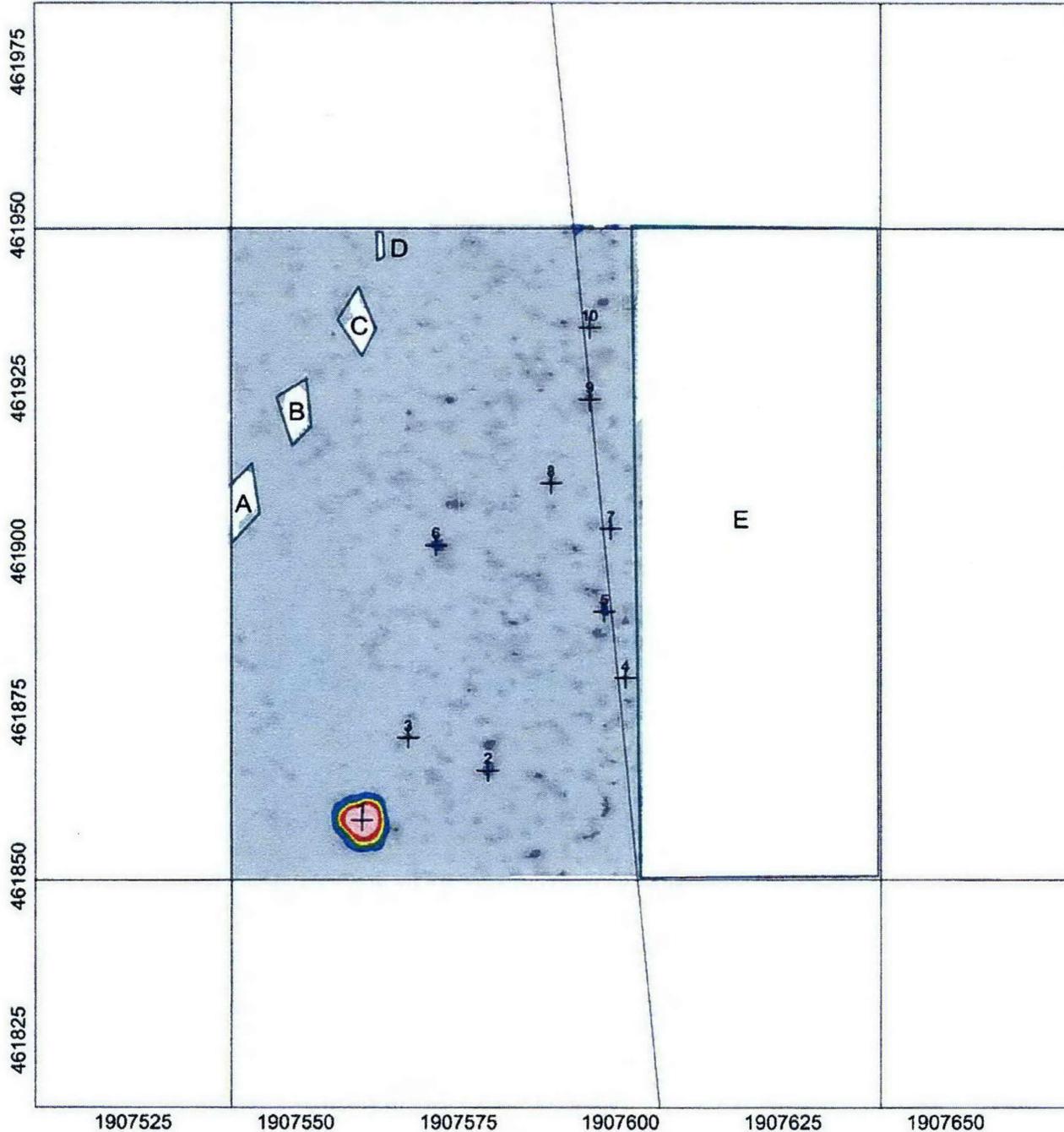
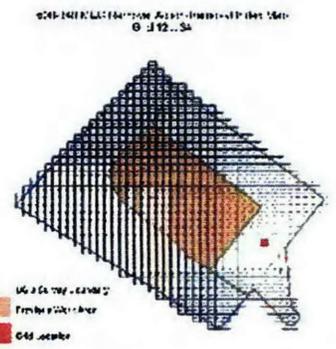
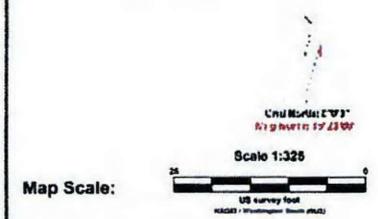
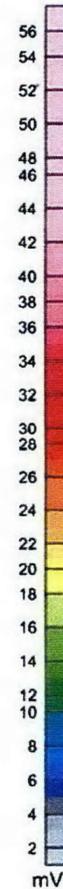
Approved: JLL



# MAP Grid 12 x 34

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

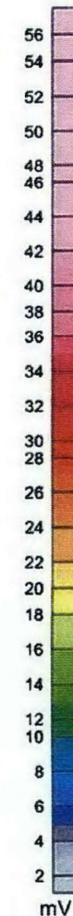
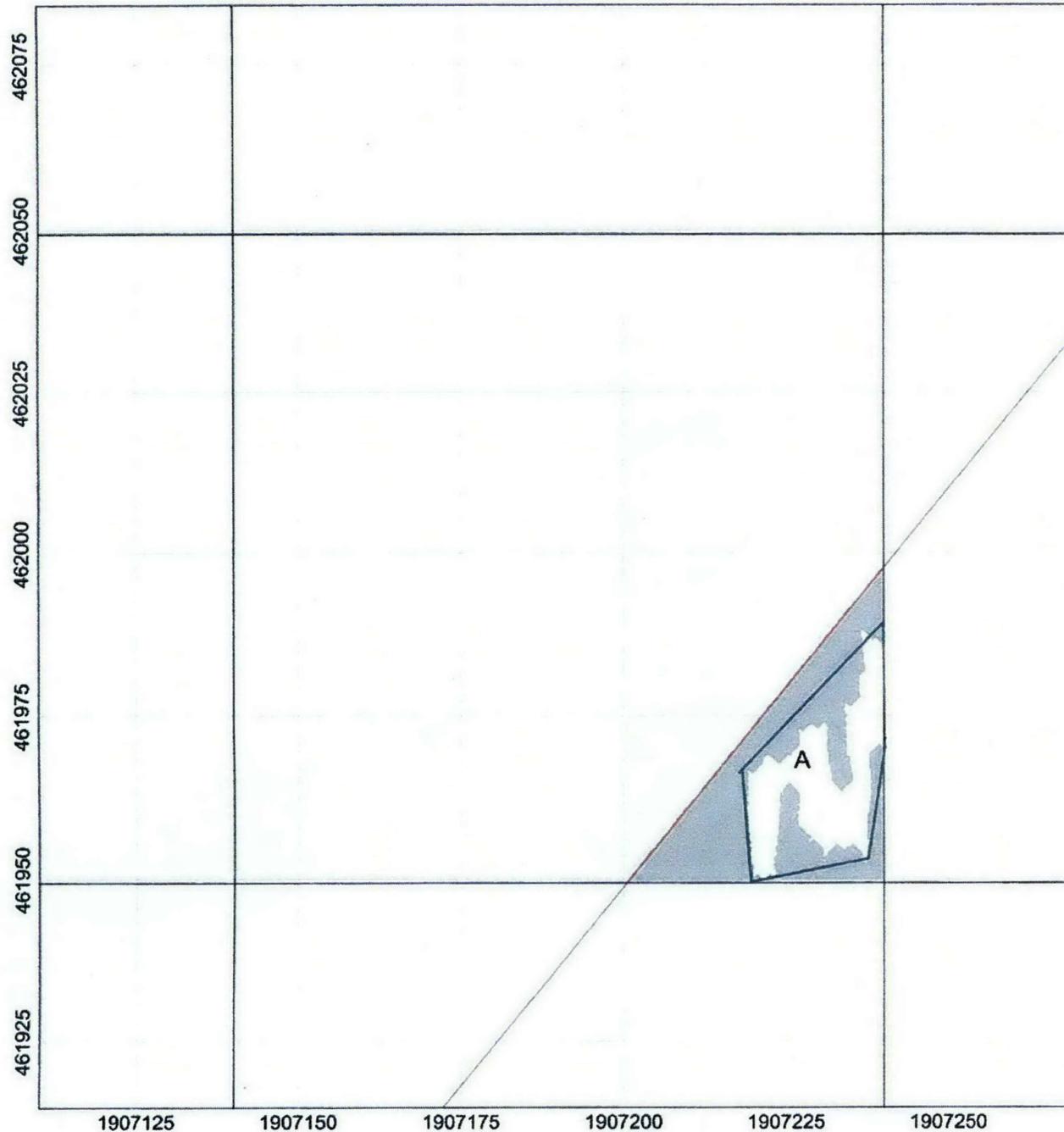
Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G12x34

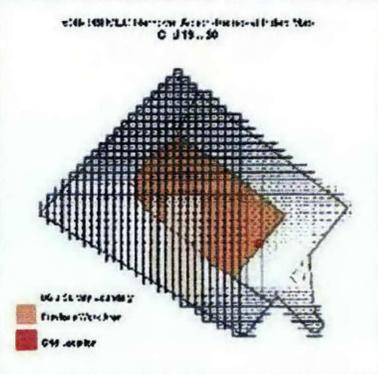
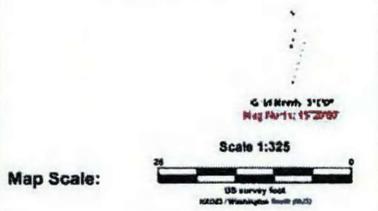
Page number: 1      Approved: JLL

# MAF Grid 13 x 30



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G13x30
Page number: 1	Approved: JLL



# MAF Grid 13 x 31

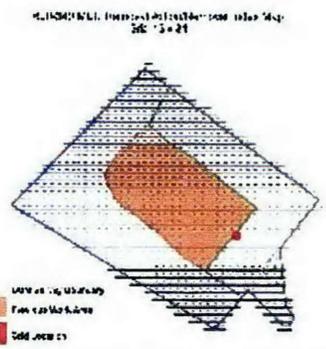
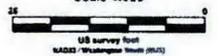
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0703  
Elevation: 19 2300'

Scale 1:325

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

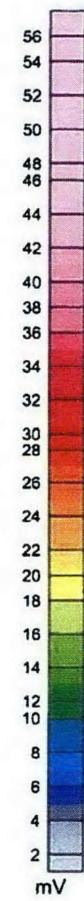
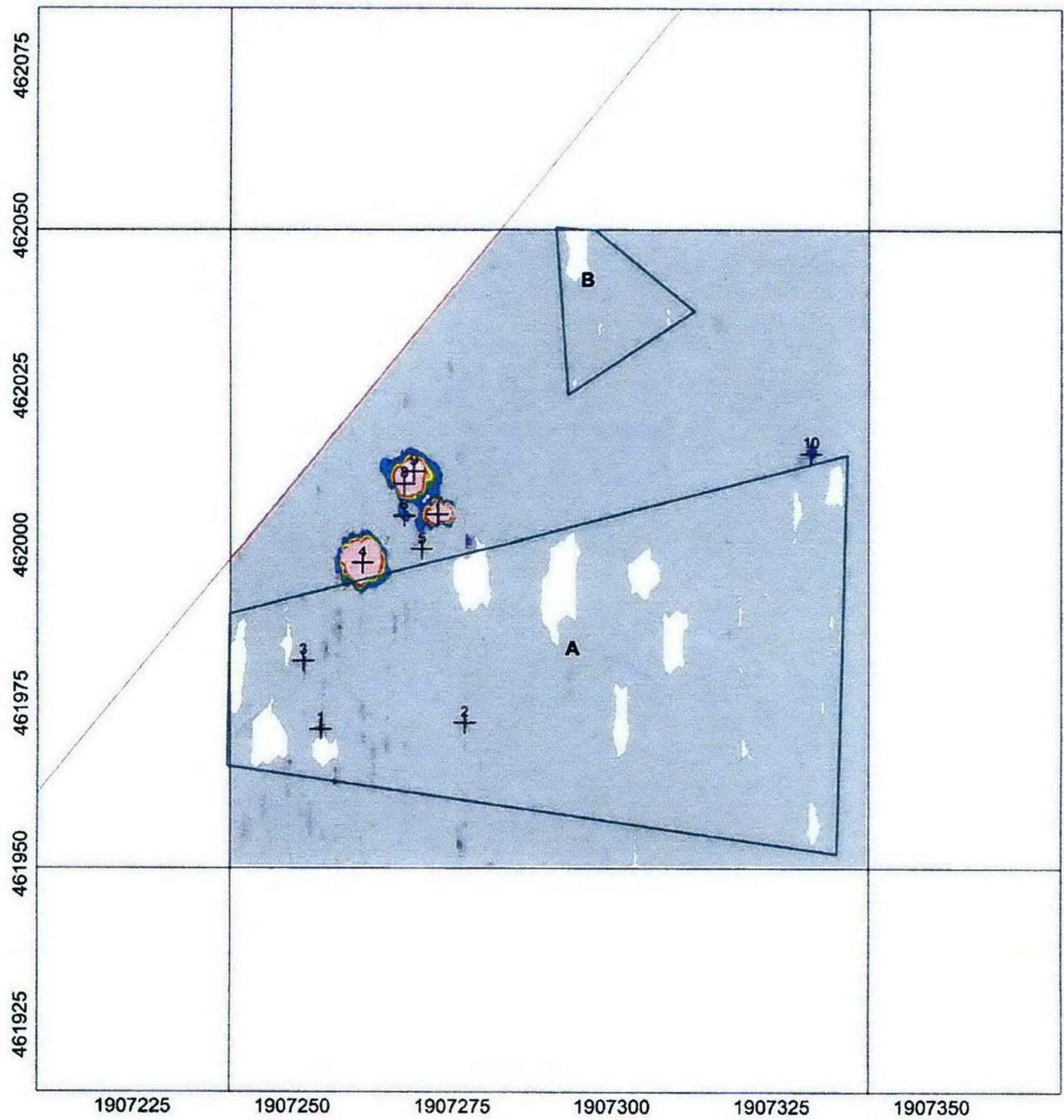
Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

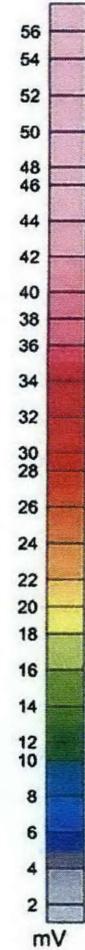
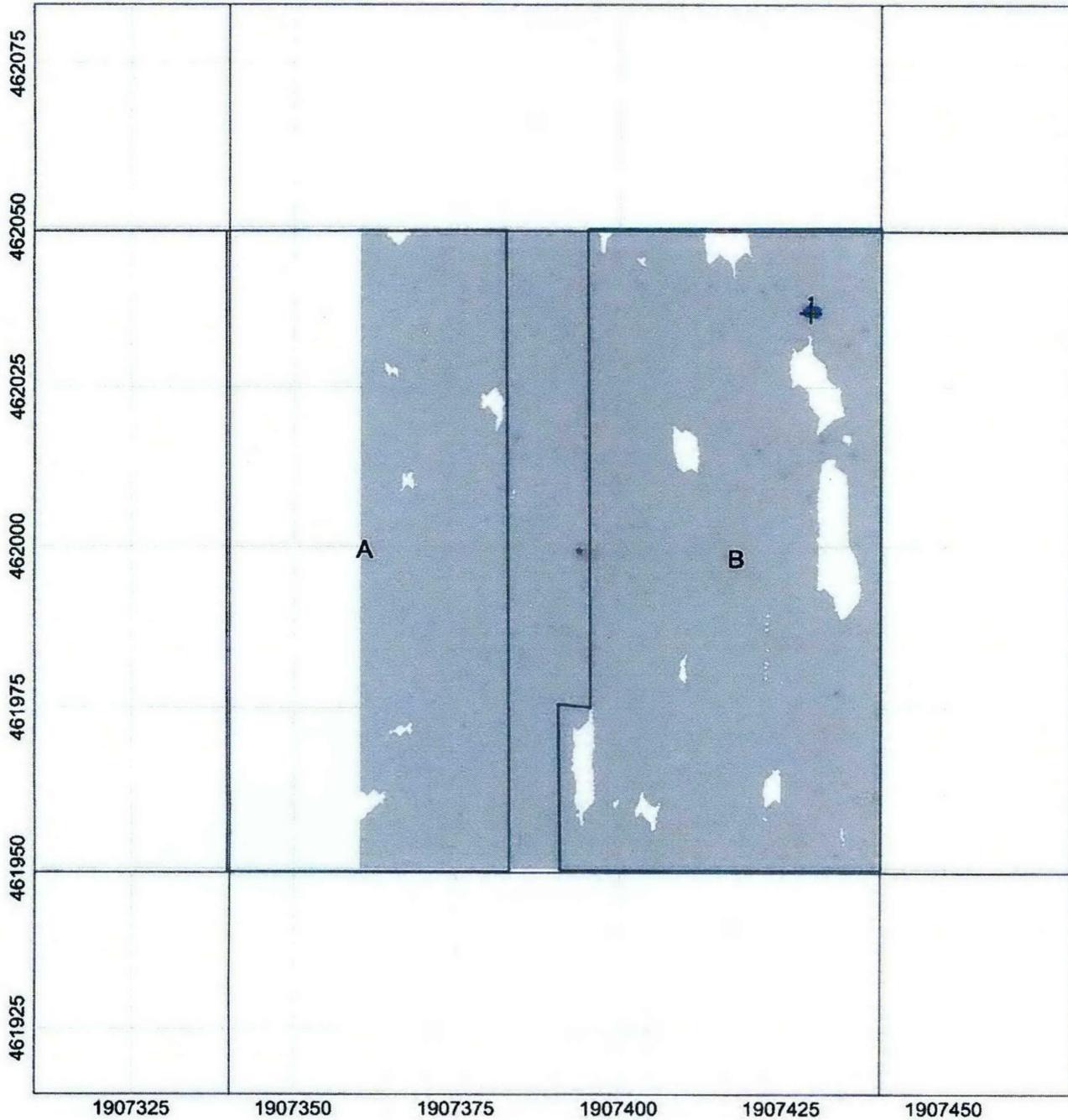
Date: 2014/05/05      File: G13x31

Page number: 1      Approved: JLL

**TerranearPMC**

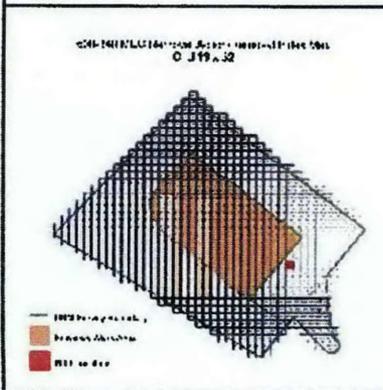
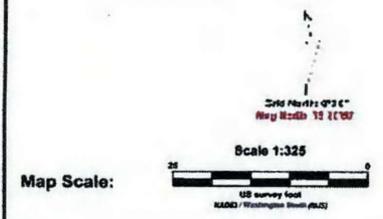


# MAF Grid 13 x 32



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

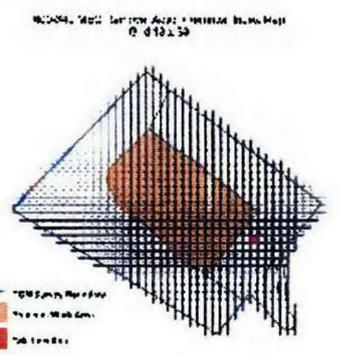


Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G13x32
Page number: 1	Approved: JLL

# MAP Grid 13 x 33

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

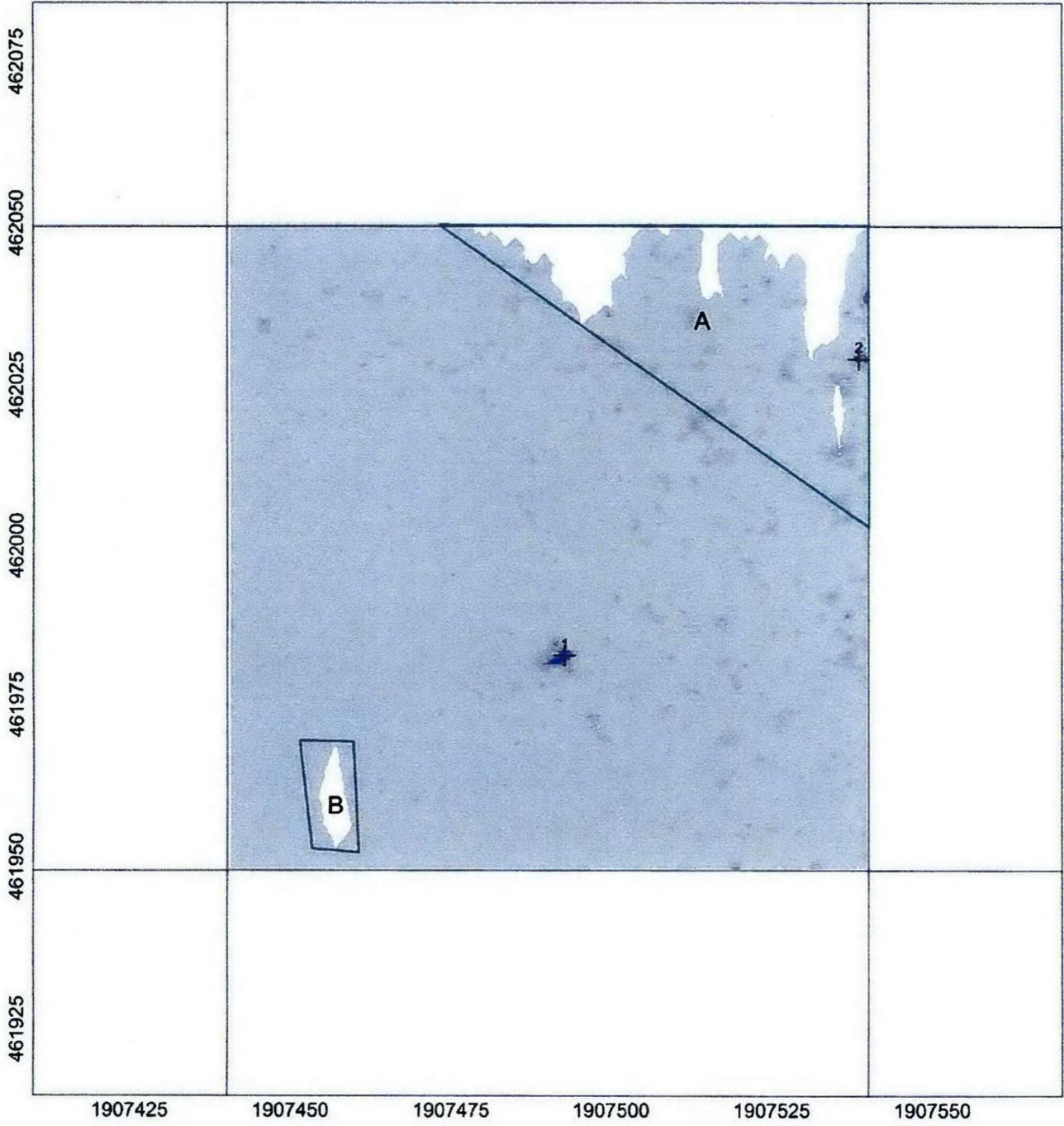
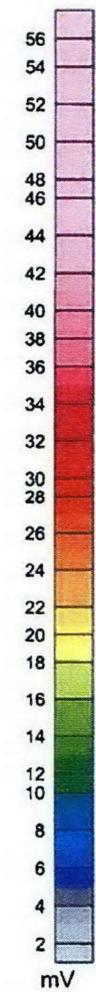
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

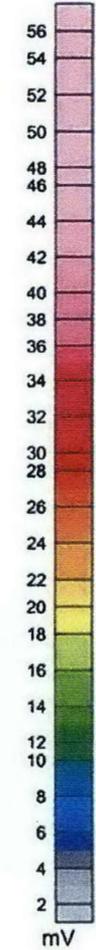
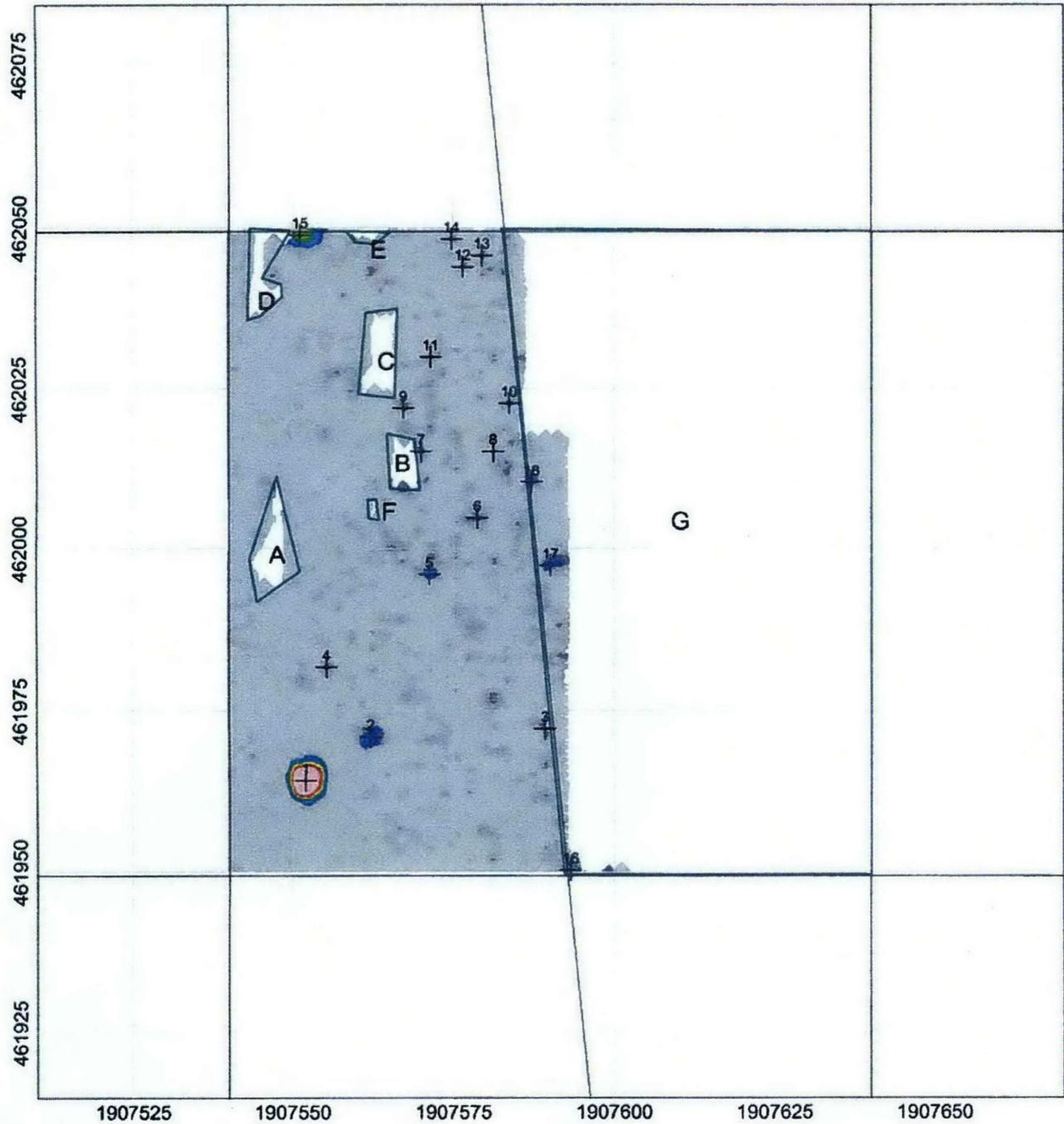
Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G13x33

Page number: 1      Approved: JLL



# MAR Grid 13 x 34



### LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

Map Scale:

Scale 1:325  
US Survey Feet  
NAD 83 (North American Datum 1983)



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G13x34

Page number: 1      Approved: JLL

# MAP Grid 13 x 38

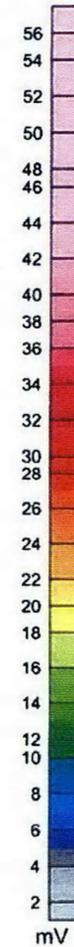
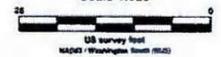
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

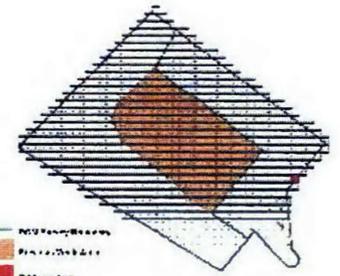


Scale 1:325

Map Scale:



CLIENT: Washington Closure Hanford  
Scale 1:325



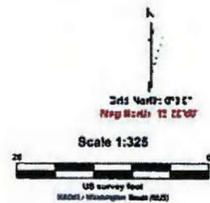
Client: Washington Closure Hanford  
Project: 600-349 MEC Removal Action  
Contractor: TerranearPMC LLC  
Created by: EA      Verified by: JLL  
Date: 2014/05/05      File: G13x38  
Page number: 1      Approved: JLL



# MAP Grid 14 x 31

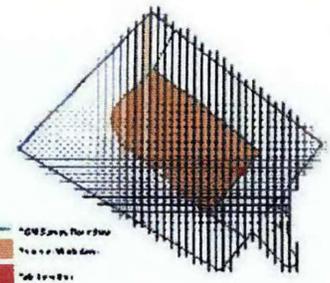
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Map Scale:

WACOM - MEC Removal Action - 3D Surface Map  
0 414.3



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

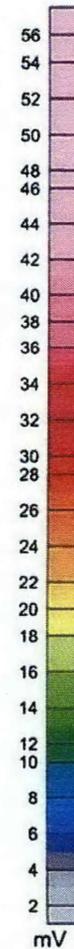
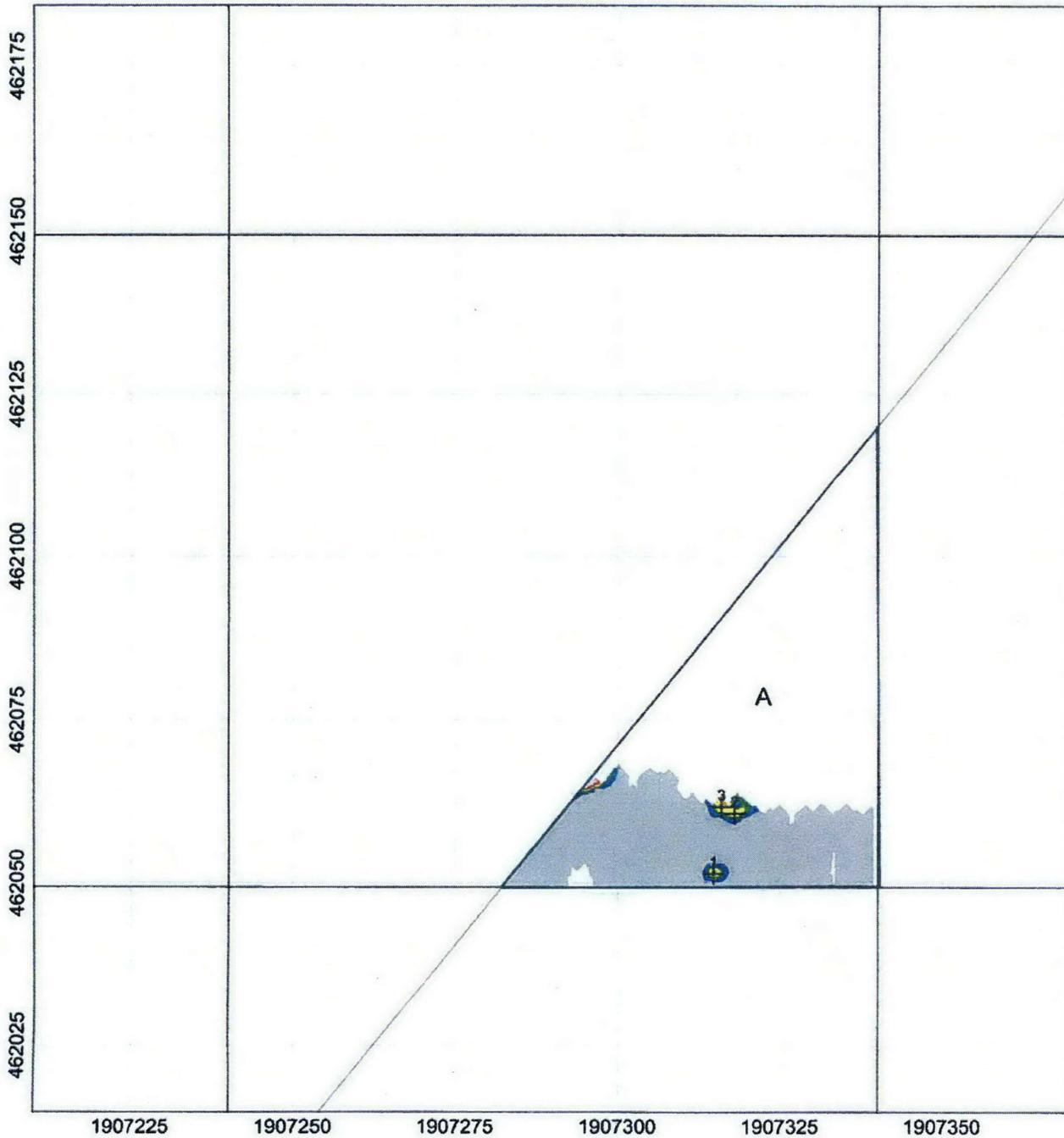
Date: 2014/05/05

File: G14X31

Page number: 1

Approved: JLL

TerranearPMC



# MAF Grid 16 x 33

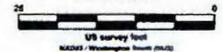
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

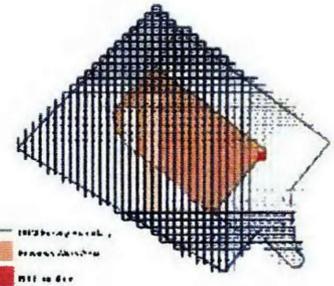
Grid North: 1701'  
Mg North: 1701.00'

Scale 1:325

Map Scale:

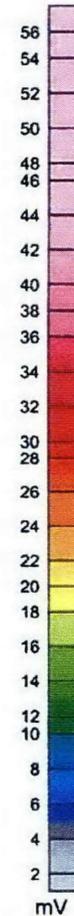
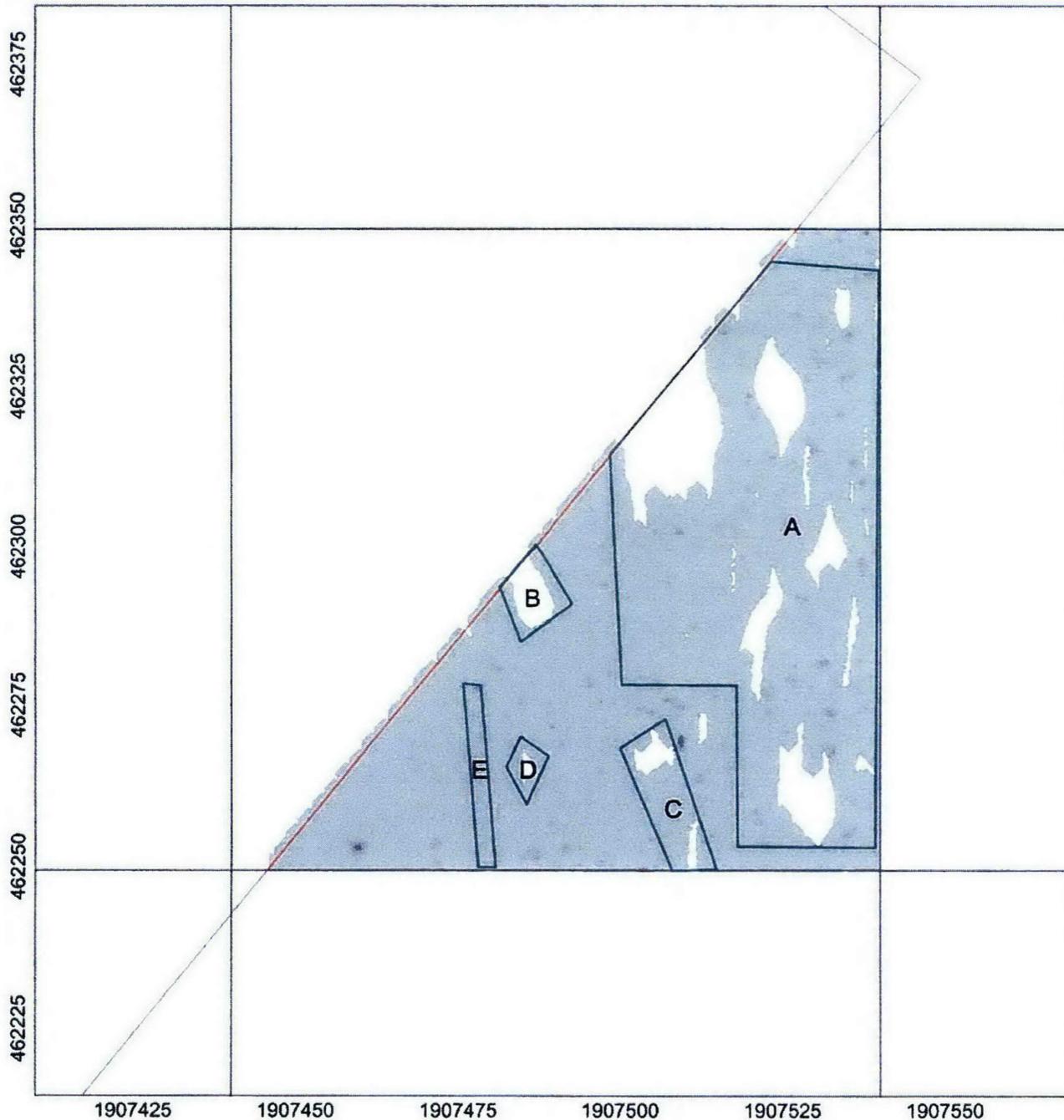


600-349 MEC Removal Action  
C J 16 x 33



Client: Washington Closure Hanford  
Project: 600-349 MEC Removal Action  
Contractor: TerranearPMC LLC  
Created by: EA      Verified by: JLL  
Date: 2014/05/05      File: G16X33  
Page number: 1      Approved: JLL

TerranearPMC

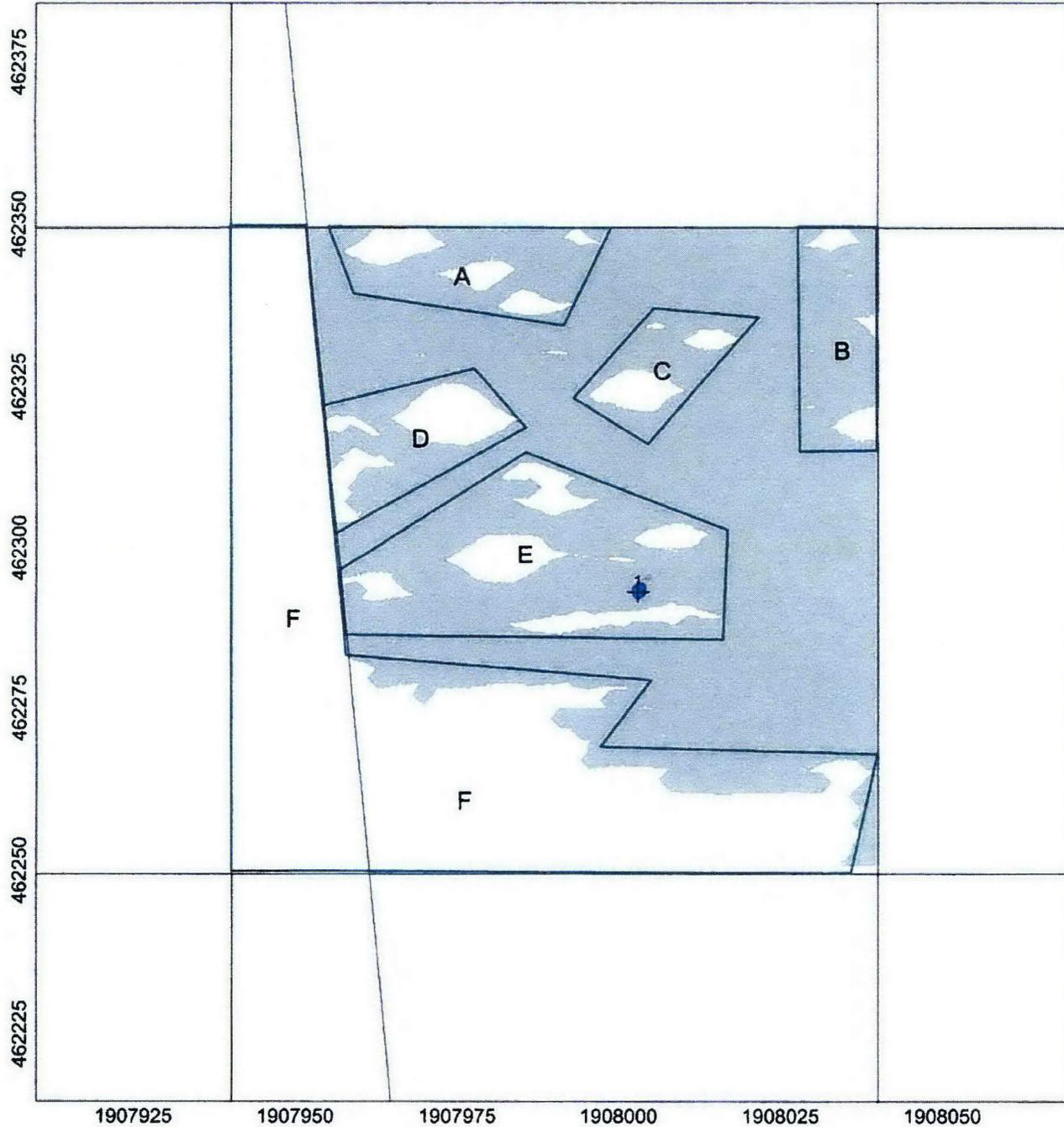
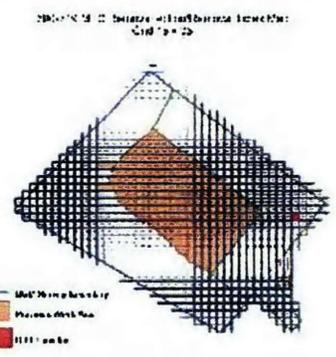
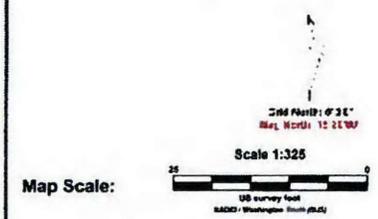
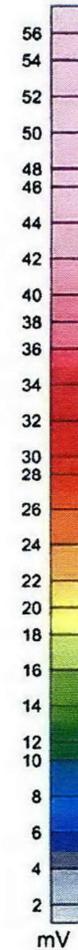




# MAP Grid 16 x 38

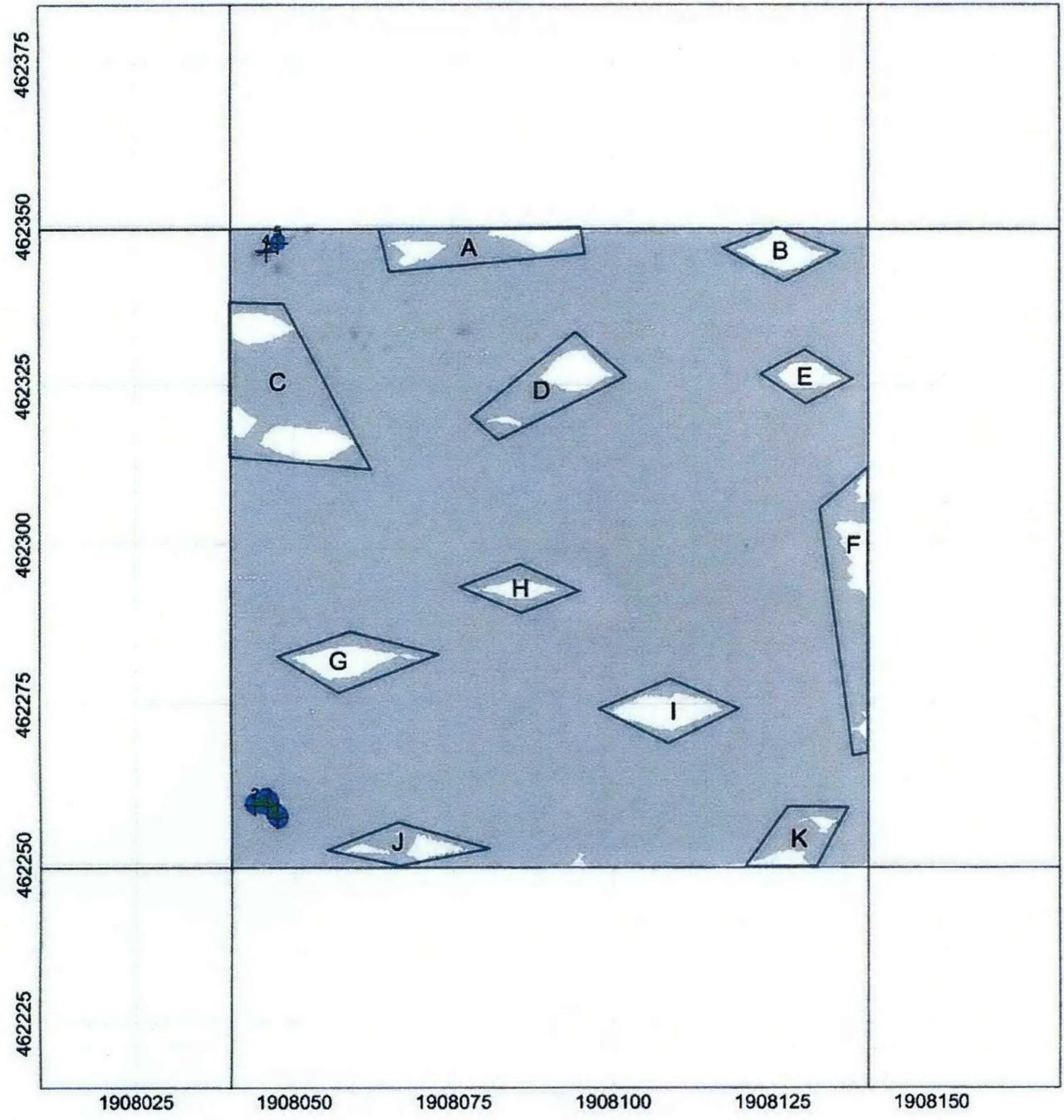
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/06	File: G16x38
Page number: 1	Approved: JLL

# MAP Grid 16 x 39

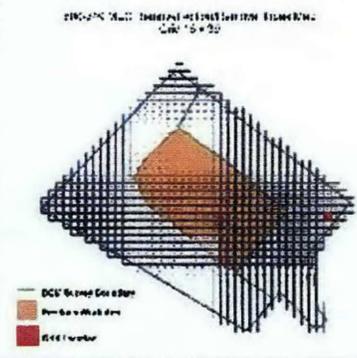


## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

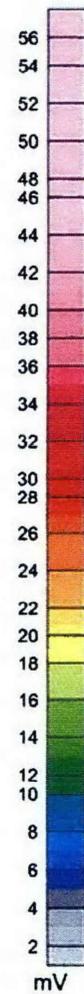
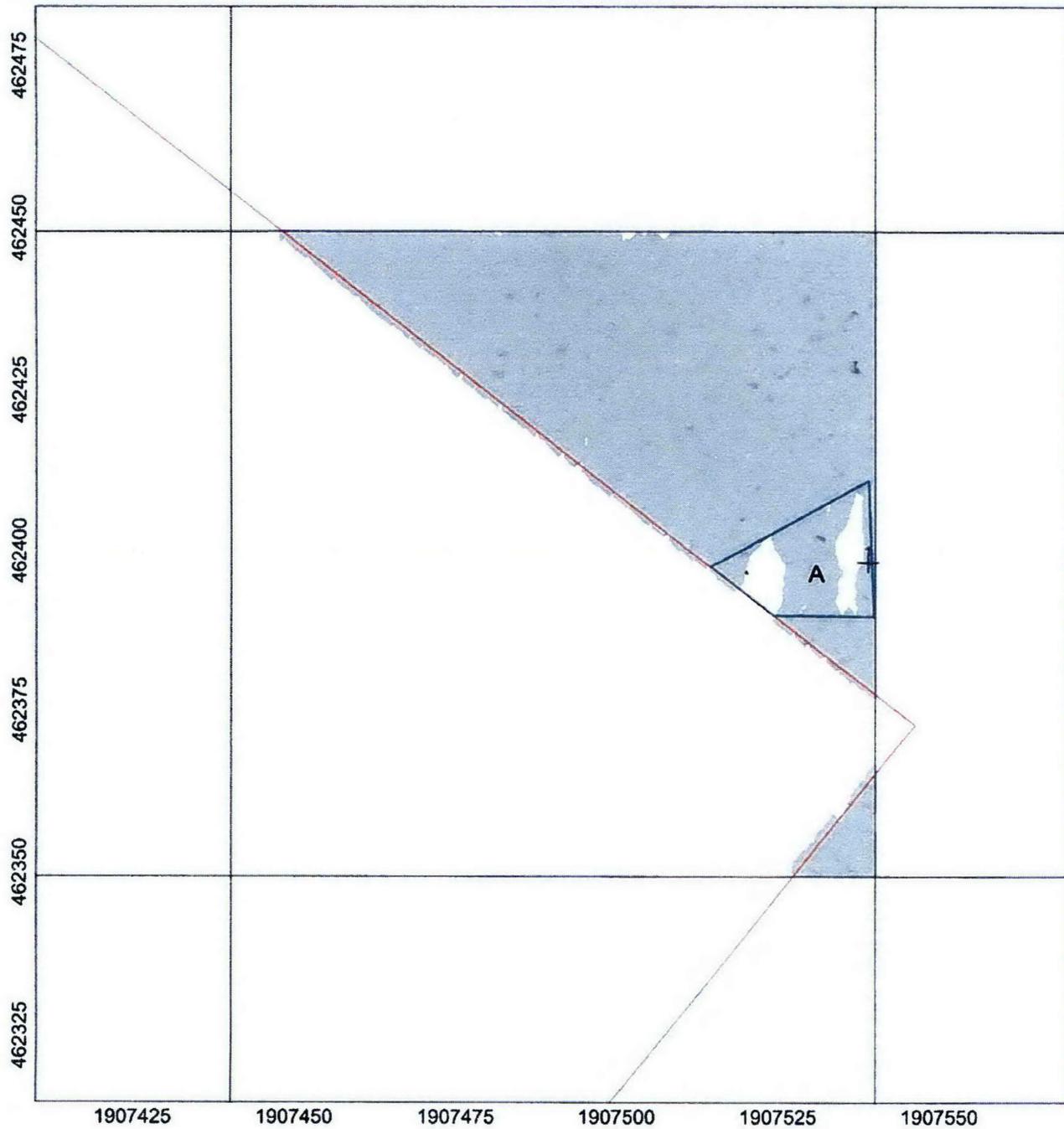
Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G16x39

Page number: 1      Approved: JLL

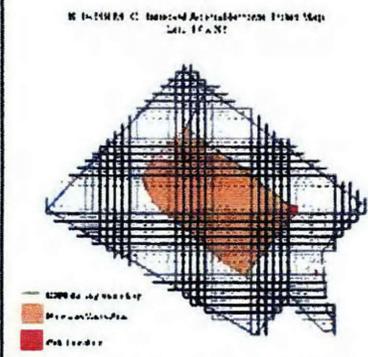


# MAP Grid 17 x 33



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G17x33

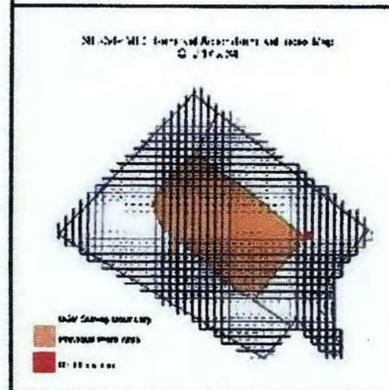
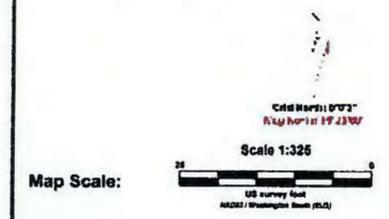
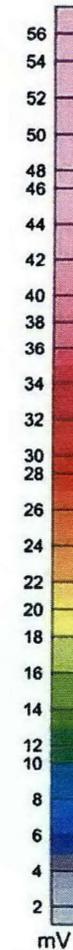
Page number: 1      Approved: JLL



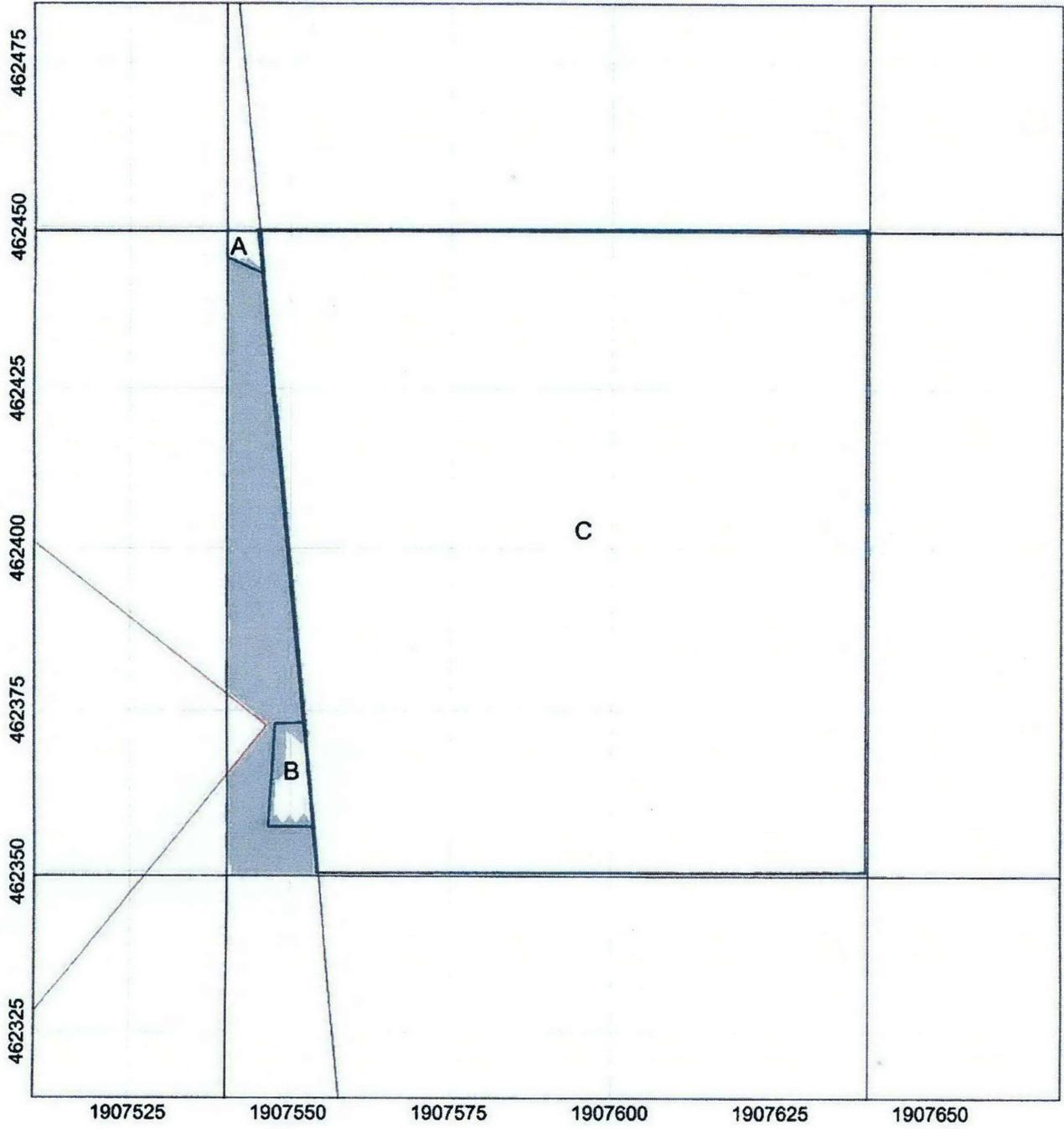
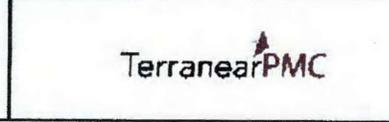
# MAF Grid 17 x 34

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G17x34  
 Page number: 1      Approved: JLL



# MAF Grid 18 x 31

## LEGEND

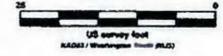
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



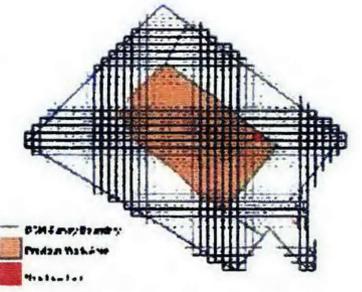
Grid North: 462500  
Map North: 15 21' W

Scale 1:325

Map Scale:



DCNMPM1: 10491004 - 411011 - 10000 - 11-1042 - 10-11  
Cell: 18 x 31



Client: Washington Closure Hanford

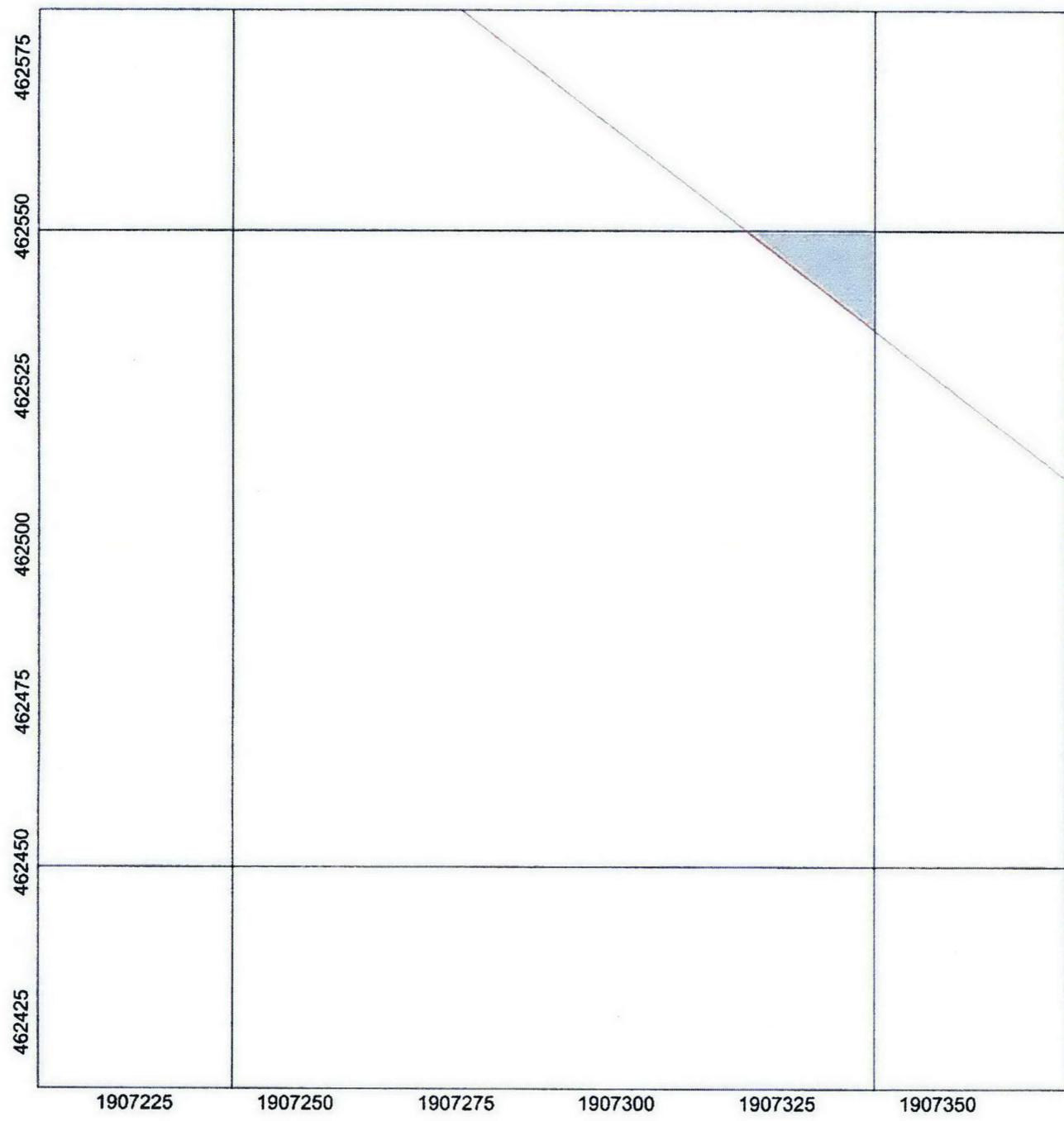
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

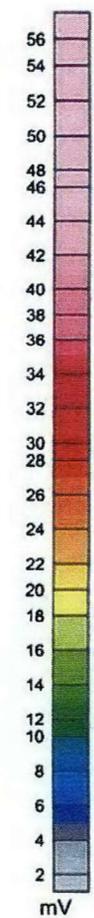
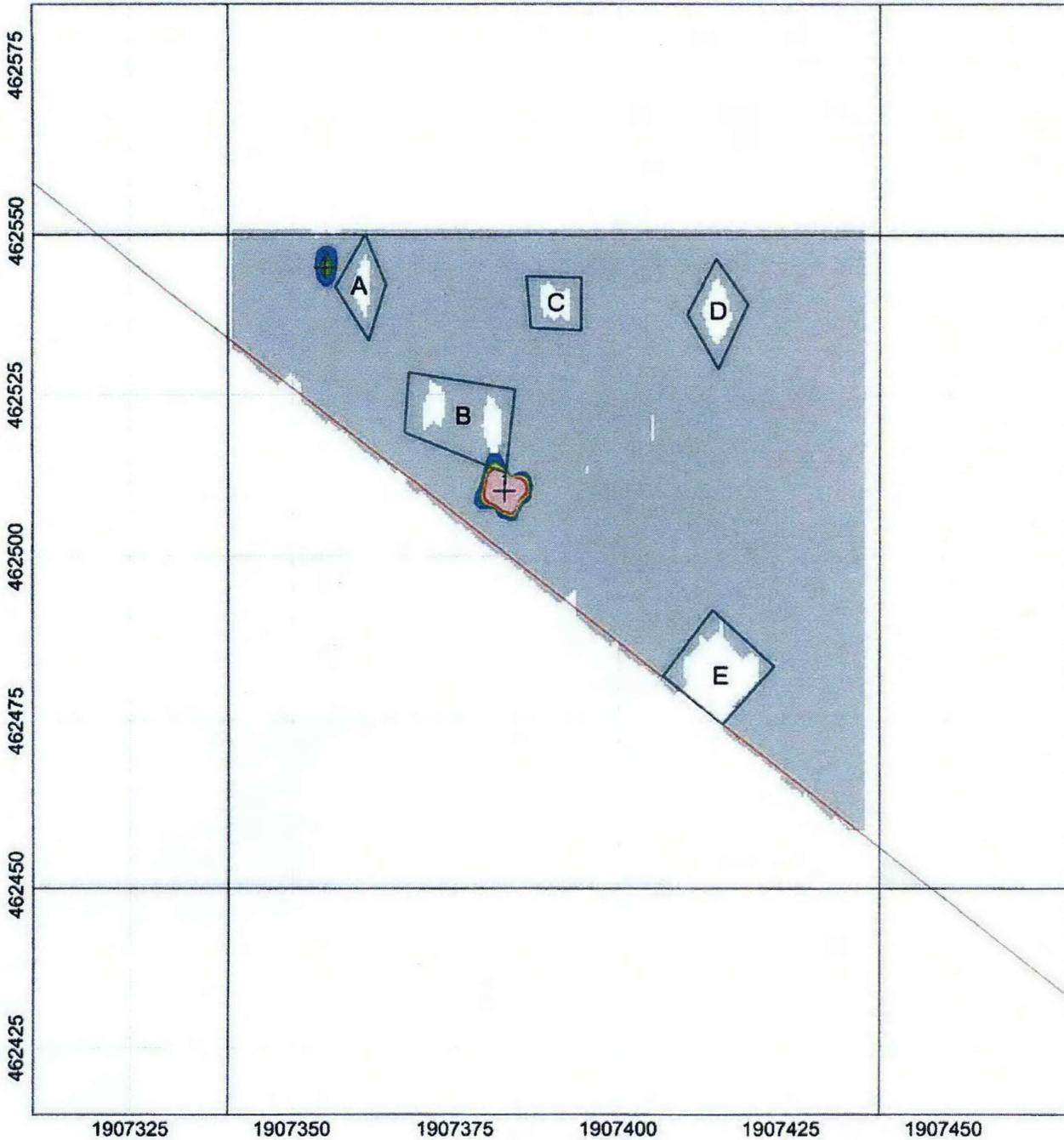
Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G18x31

Page number: 1      Approved: JLL

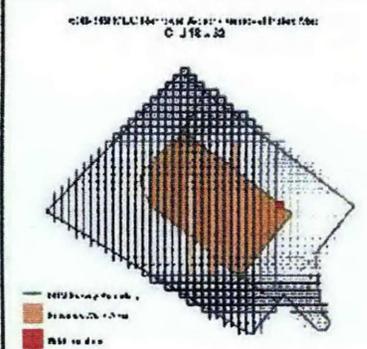
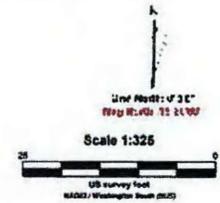


# MAP Grid 18 x 32



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford

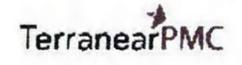
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G18x32

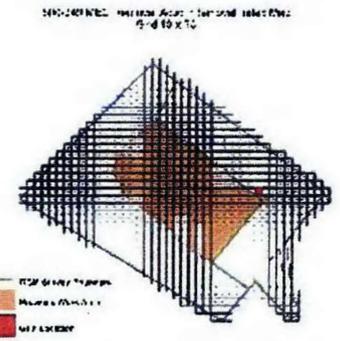
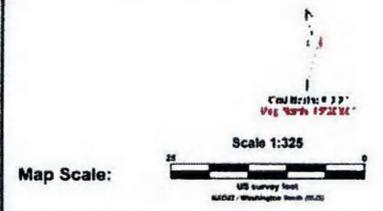
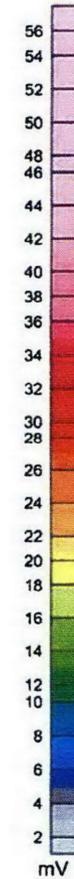
Page number: 1      Approved: JLL



# MAP Grid 18 x 33

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



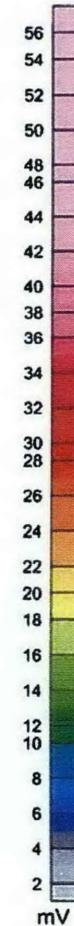
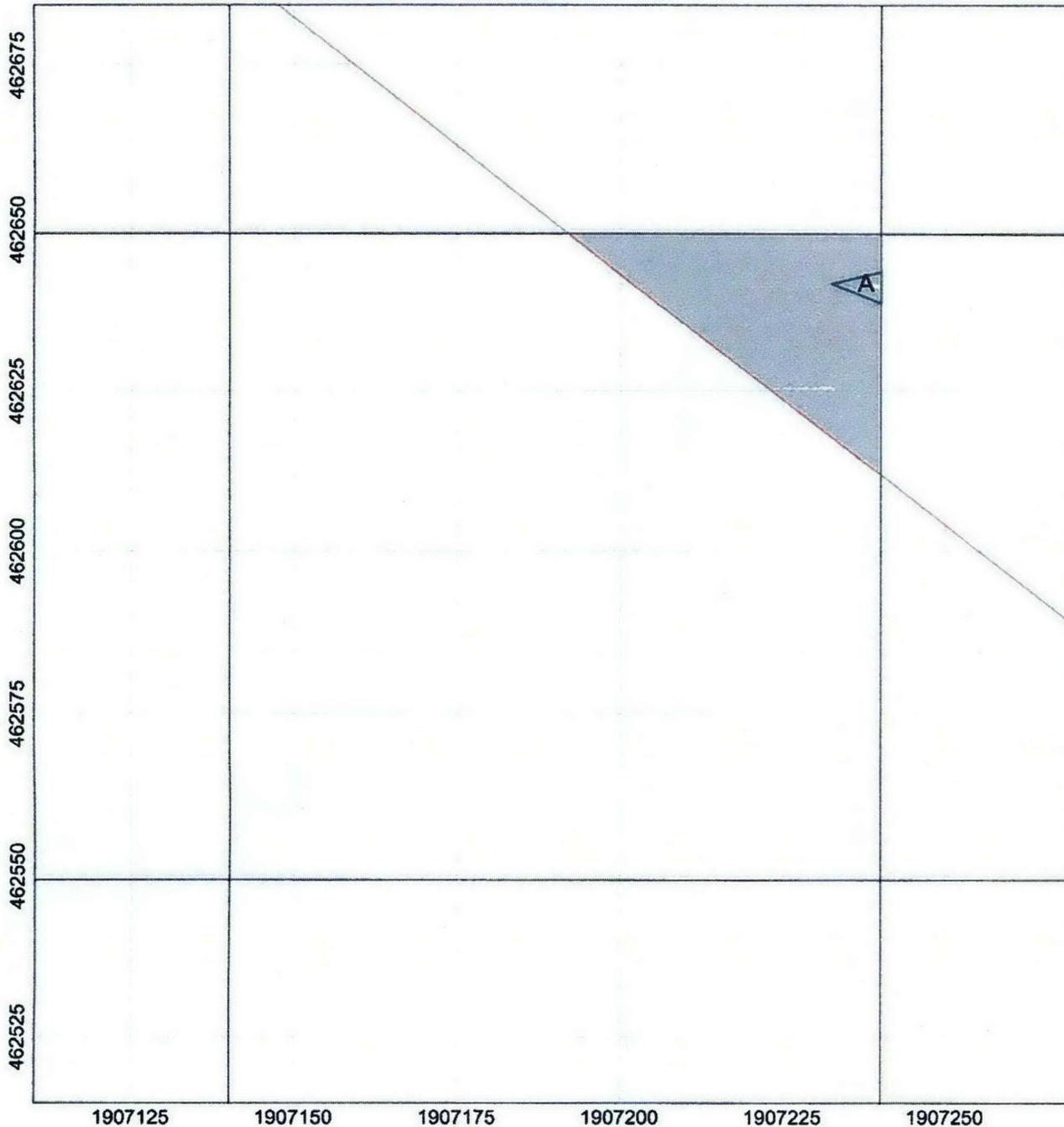
Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G18x33  
 Page number: 1      Approved: JLL



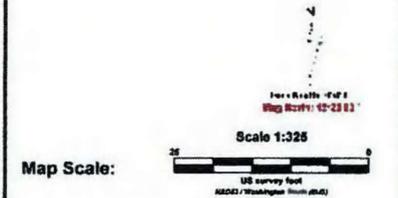
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462550  
462525  
462500  
462475  
462450  
462425

1907425    1907450    1907475    1907500    1907525    1907550

# MAP Grid 19 x 30



- ### LEGEND
- Target and Identifier
  - Vegetation Gap and Identifier
  - Powerline Buffer Zone
  - DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G19x30

Page number: 1      Approved: JLL



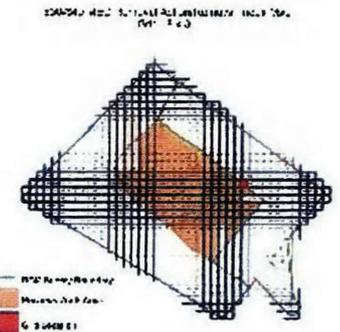
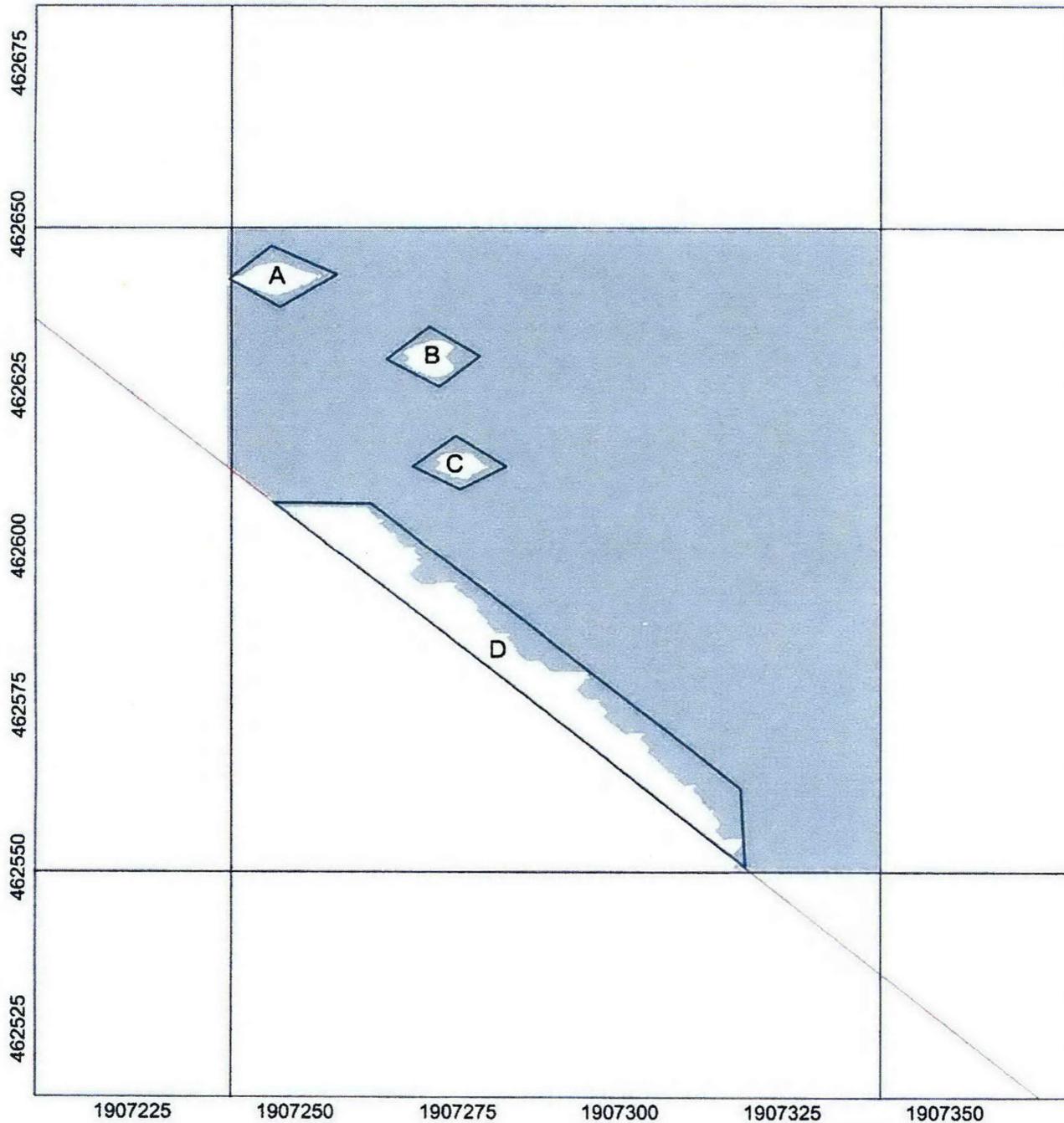
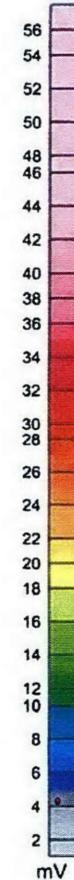
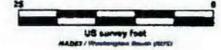
# MAP Grid 19 x 31

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Scale 1:325

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G19x31

Page number: 1

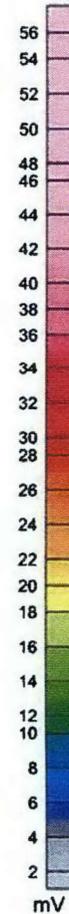
Approved: JLL

TerranearPMC

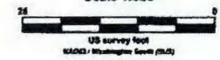
# MAP Grid 19 x 32

## LEGEND

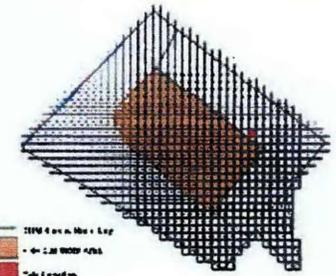
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Map Scale:



Map Scale: 1:325



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

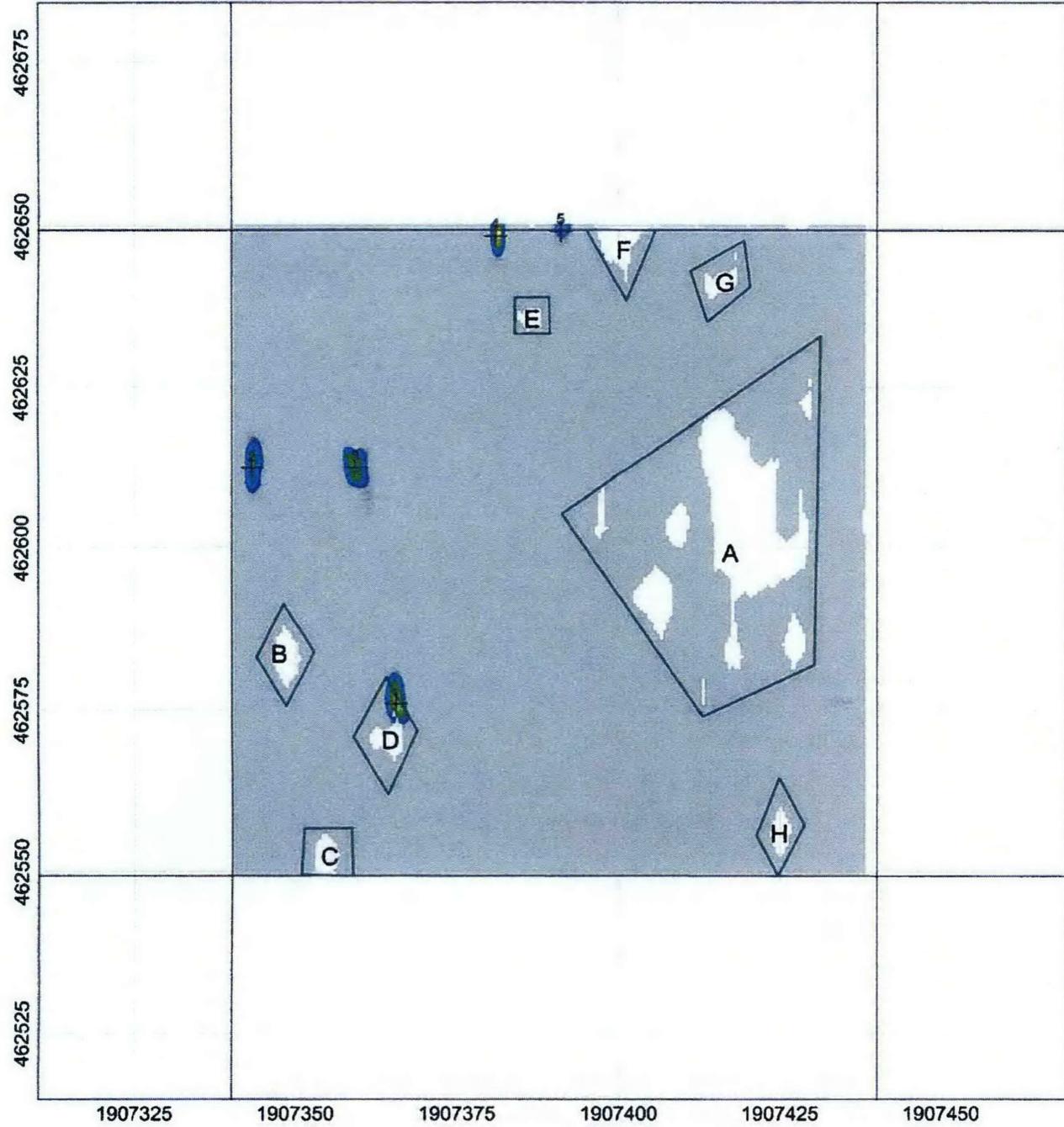
Verified by: JLL

Date: 2014/05/05

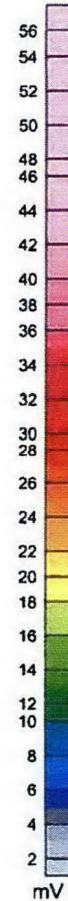
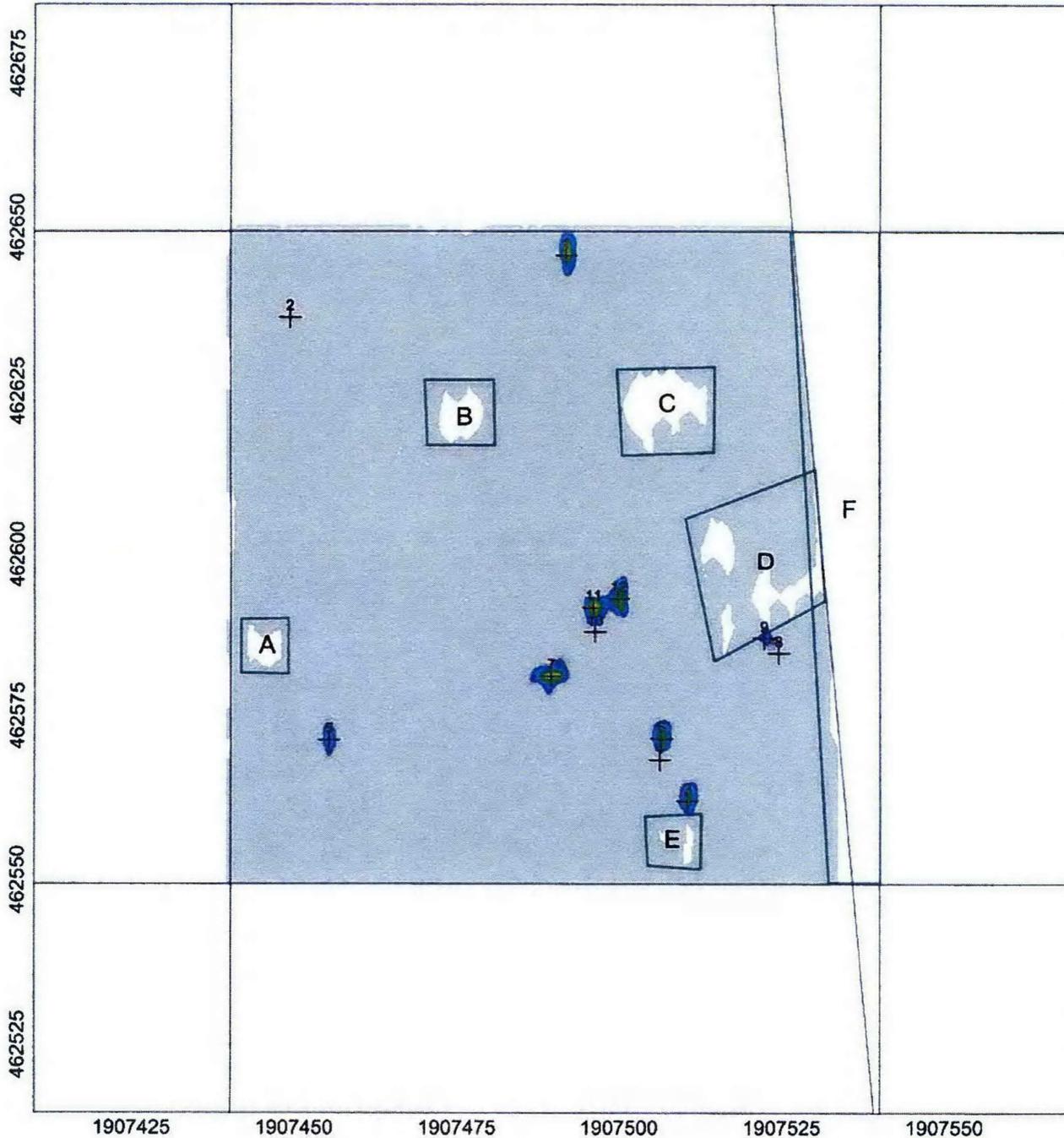
File: G19x32

Page number: 1

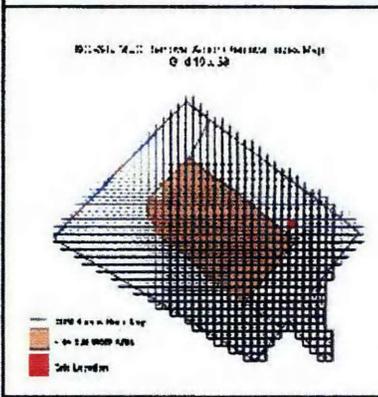
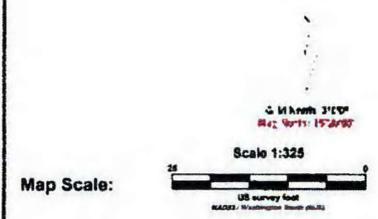
Approved: JLL



# MAP Grid 19 x 33

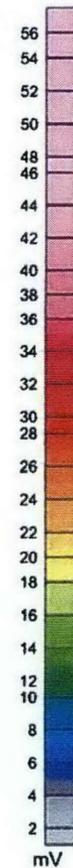
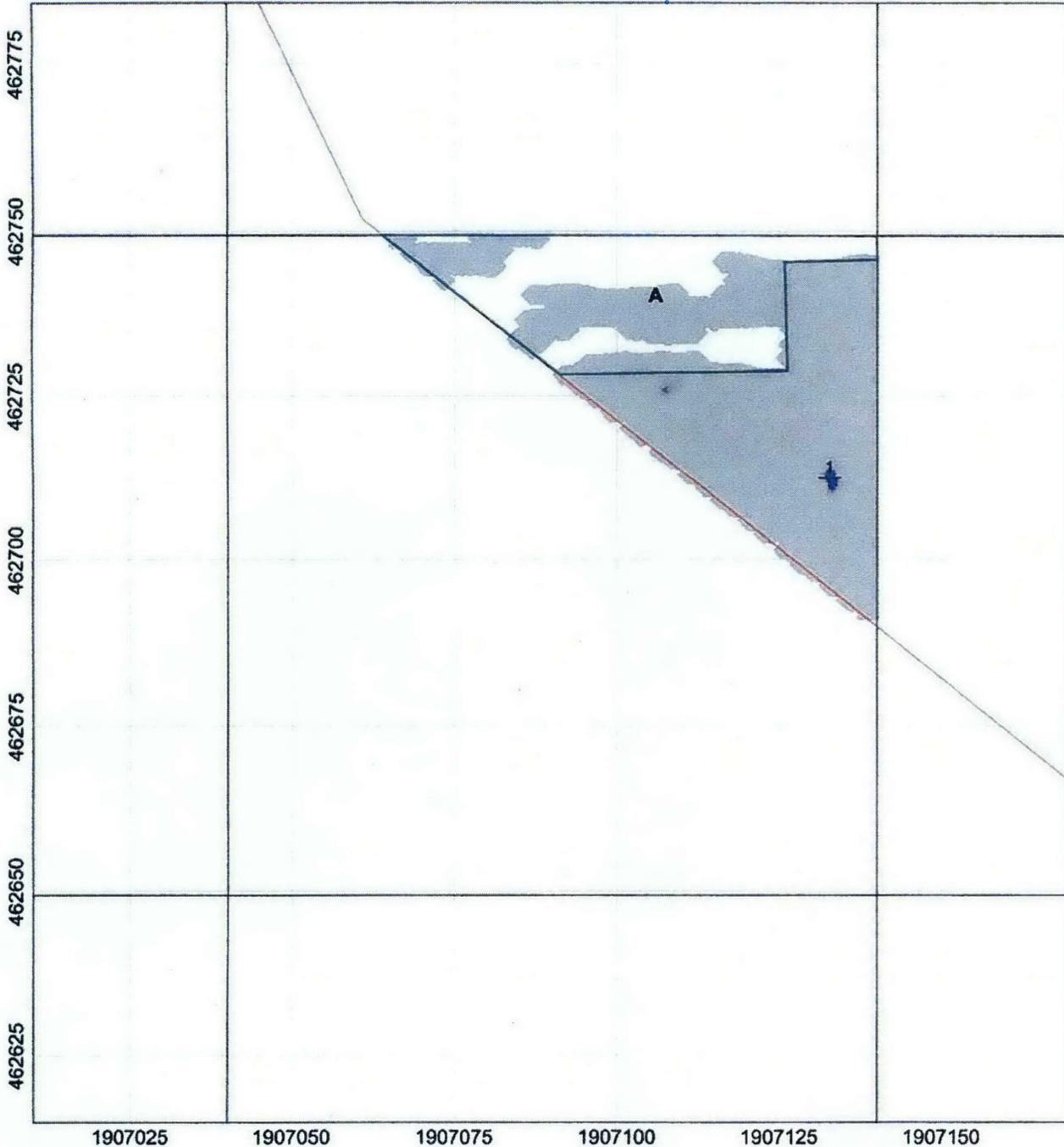


- ### LEGEND
- Target and Identifier
  - Vegetation Gap and Identifier
  - Powerline Buffer Zone
  - DGM Investigation Boundary



Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G19x33
Page number: 1	Approved: JLL

# MAP Grid 20 x 29



### LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

Grid North: 0°00"  
 Mag North: 15°20'50"  
 Scale 1:325

**Map Scale:**

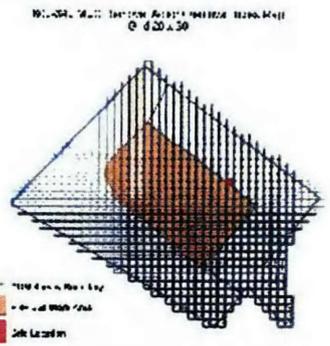


Client: Washington Closure Hanford	
Project: 600-349 MEC Removal Action	
Contractor: TerranearPMC LLC	
Created by: EA	Verified by: JLL
Date: 2014/05/05	File: G20x29
Page number: 1	Approved: JLL

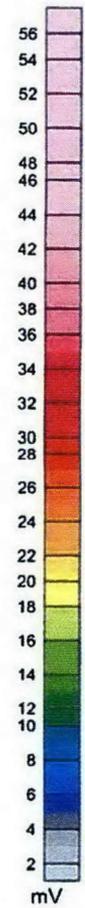
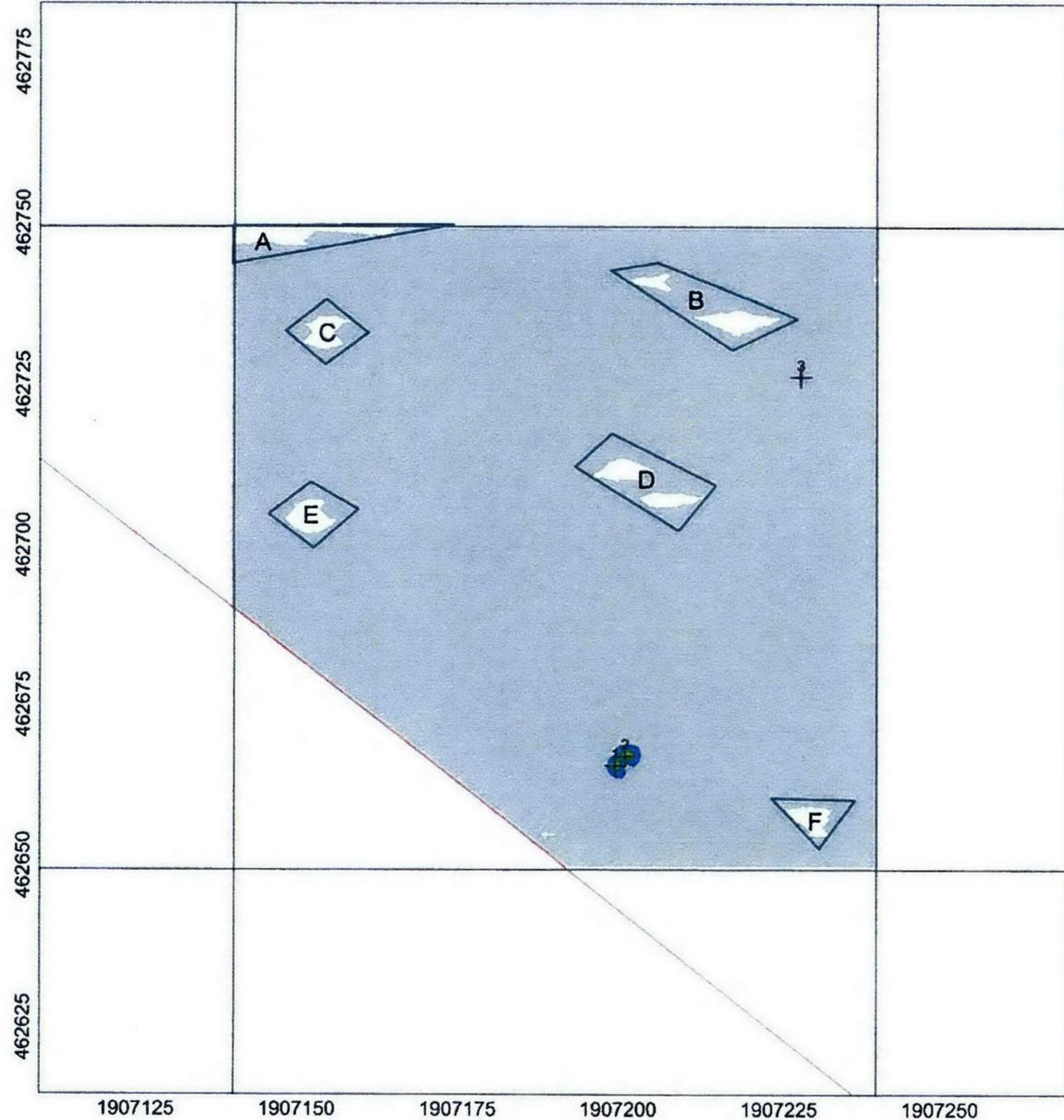
# MAP Grid 20 x 30

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



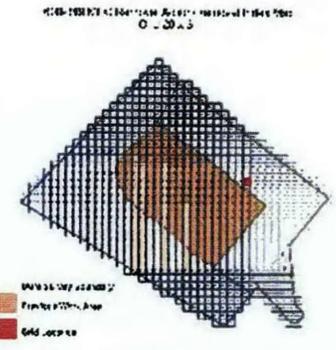
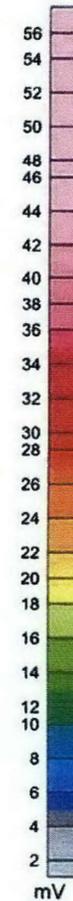
Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G20x30  
 Page number: 1      Approved: JLL



# MAP Grid 20 x 31

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

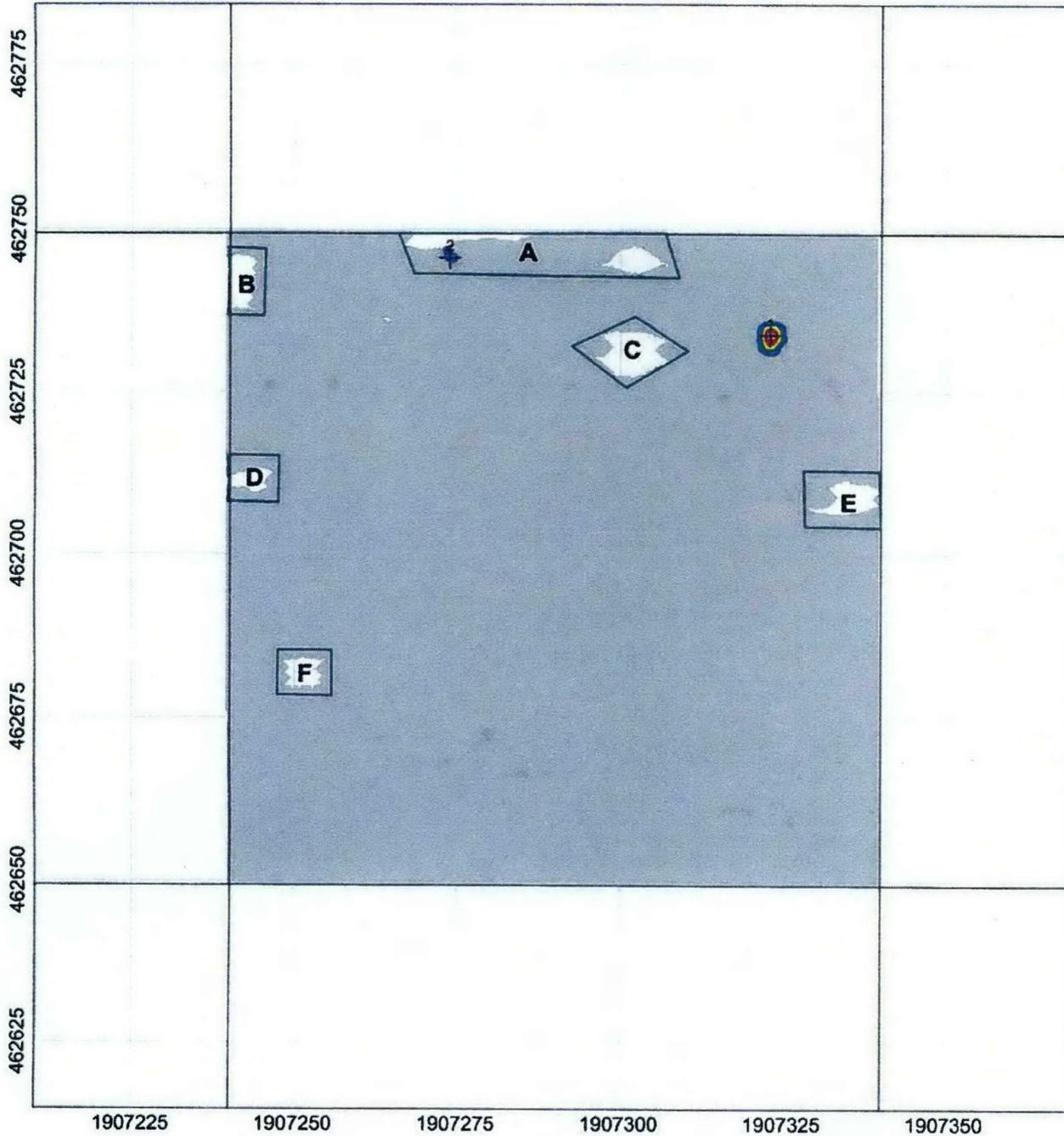
Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G20x31

Page number: 1      Approved: JLL

TerranearPMC



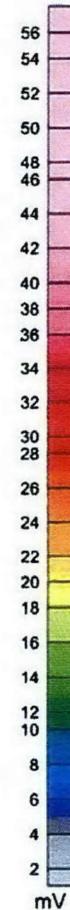
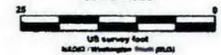
# MAF Grid 20 x 32

## LEGEND

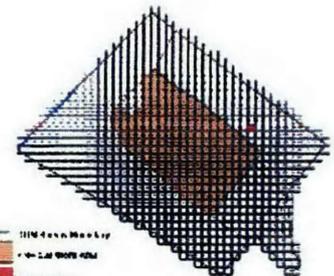
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Grid North: 0°00'  
Mag North: 15°20'00"  
Scale 1:328

Map Scale:

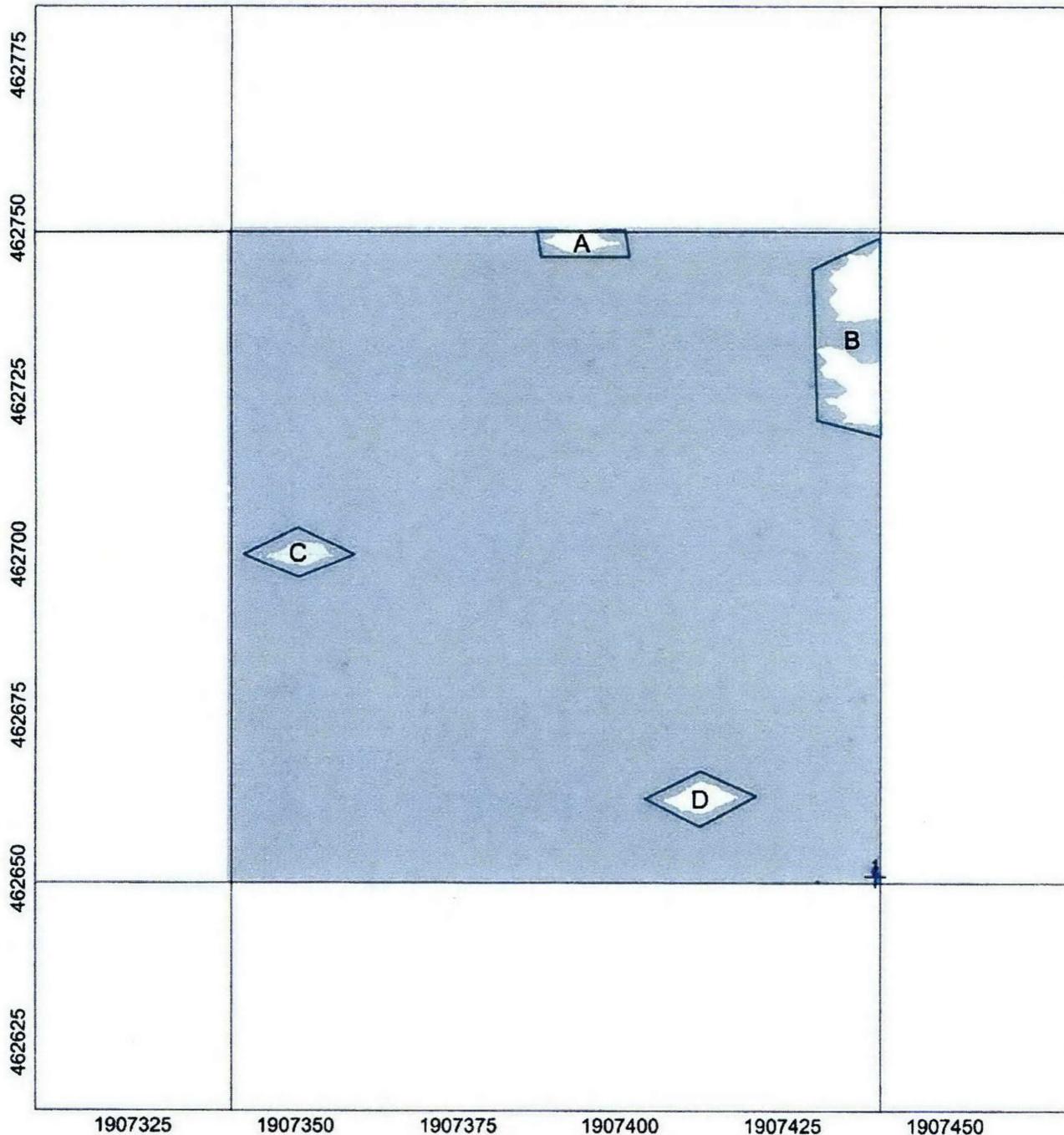


MEC Removal Action Investigation DGM Map  
0.638 x 0.32

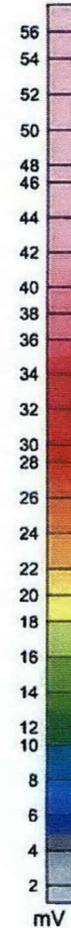
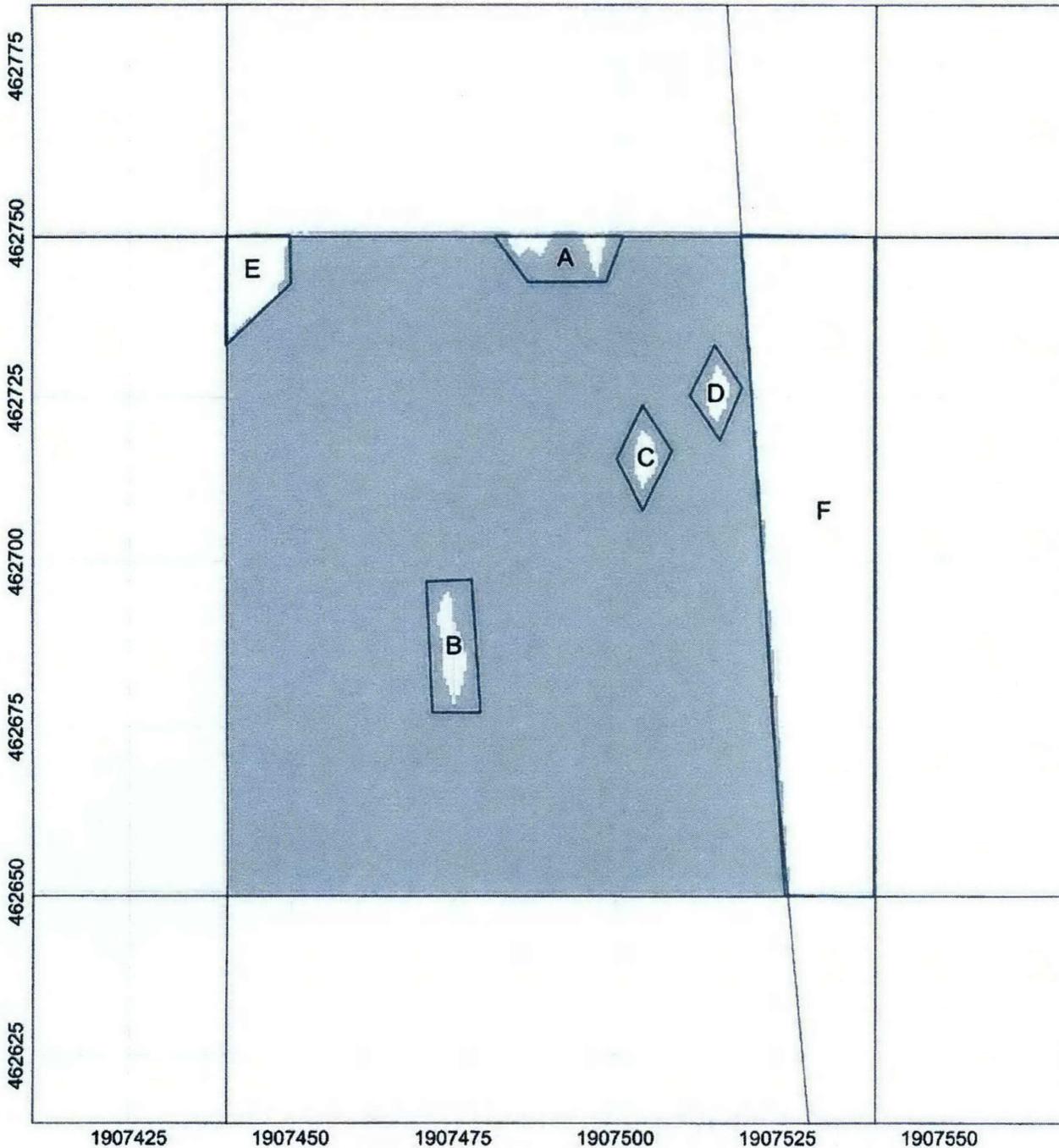


Client: Washington Closure Hanford  
Project: 600-349 MEC Removal Action  
Contractor: TerranearPMC LLC  
Created by: EA      Verified by: JLL  
Date: 2014/05/05      File: G20x32  
Page number: 1      Approved: JLL

TerranearPMC



# MAP Grid 20 x 33



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: G20x33

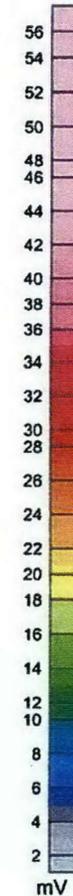
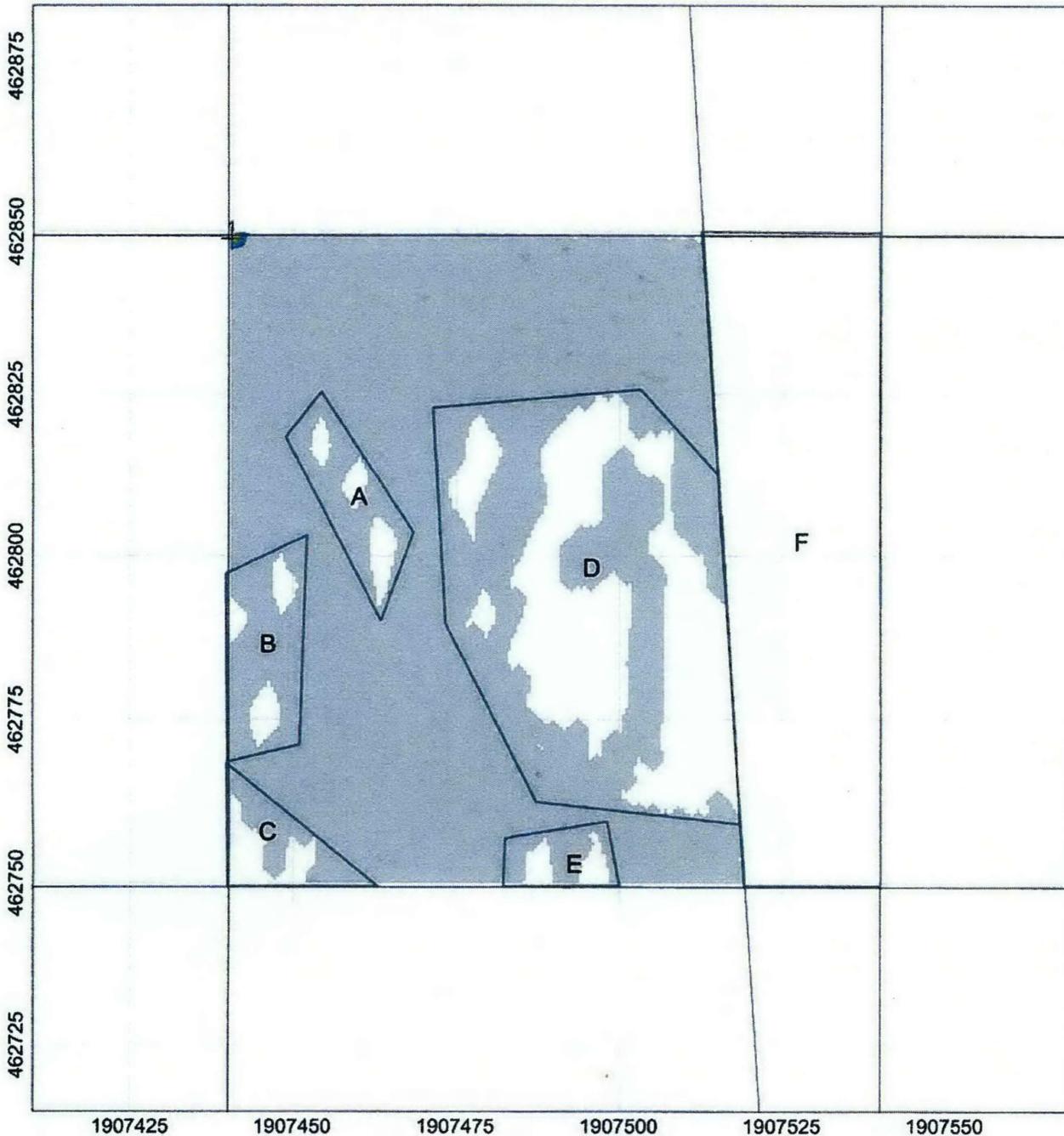
Page number: 1

Approved: JLL

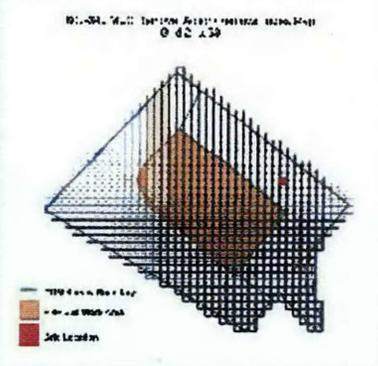
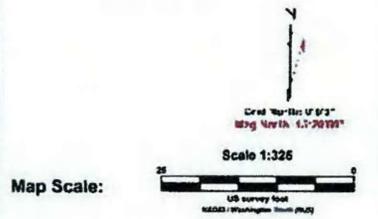
TerranearPMC



# MAP Grid 21 x 33



- ### LEGEND
- Target and Identifier
  - Vegetation Gap and Identifier
  - Powerline Buffer Zone
  - DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G21x33

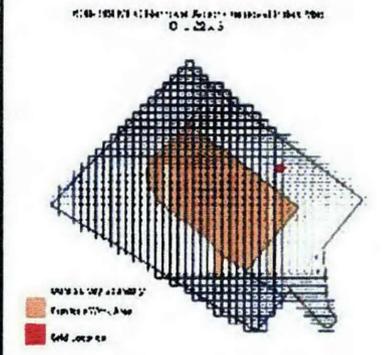
Page number: 1      Approved: JLL



# MAF Grid 22 x 31

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

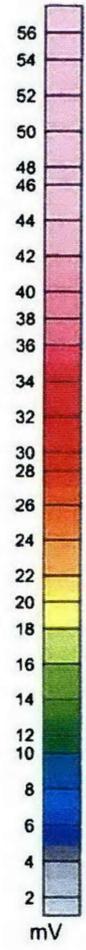
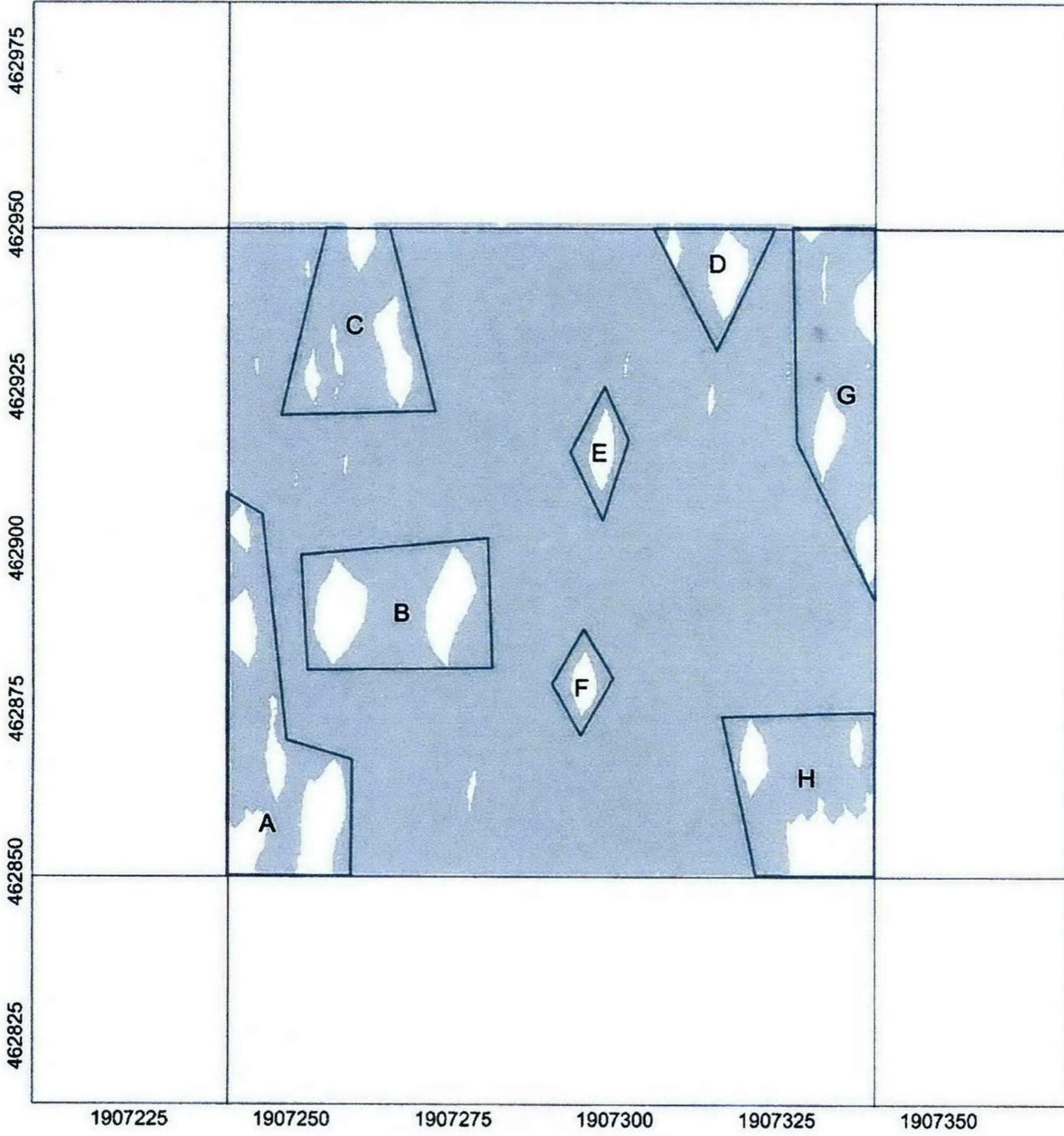
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G22x31

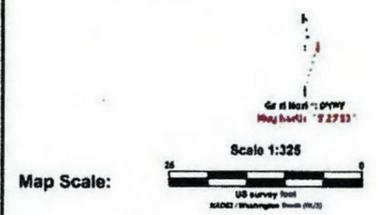
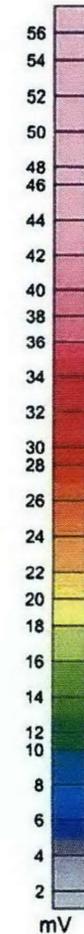
Page number: 1      Approved: JLL



# MAF Grid 22 x 32

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

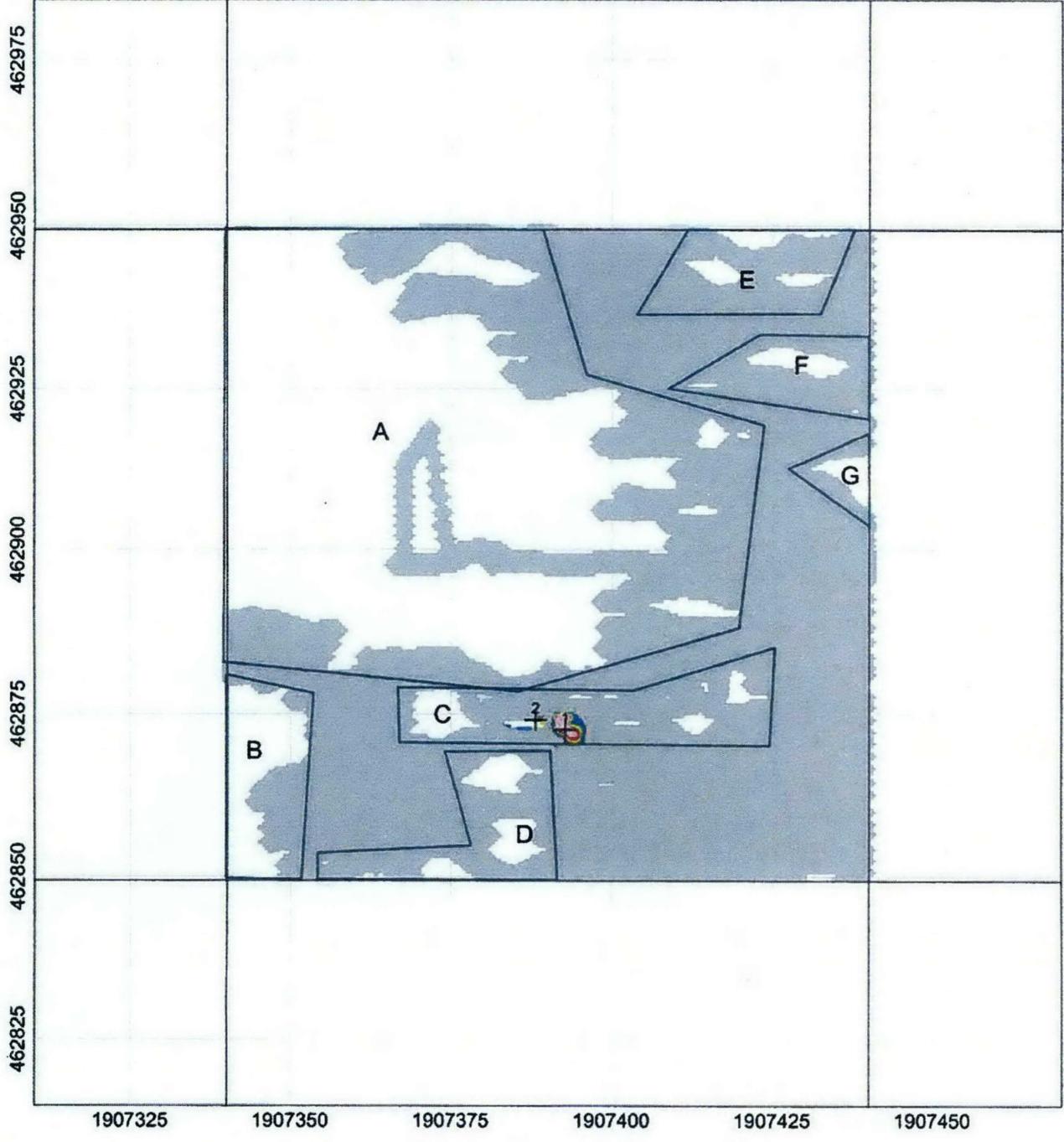
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G22x32

Page number: 1      Approved: JLL



# MAF Grid 22 x 33

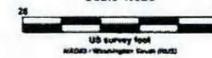
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

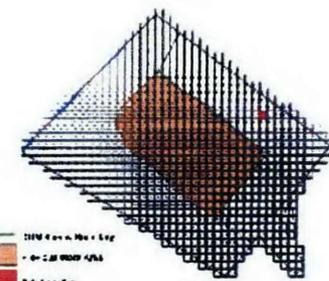


Scale 1:325

Map Scale:



600-349 MEC Removal Action - PRELIMINARY MAP  
0.422x33



-  High Value
-  Low Value
-  Site Location

Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

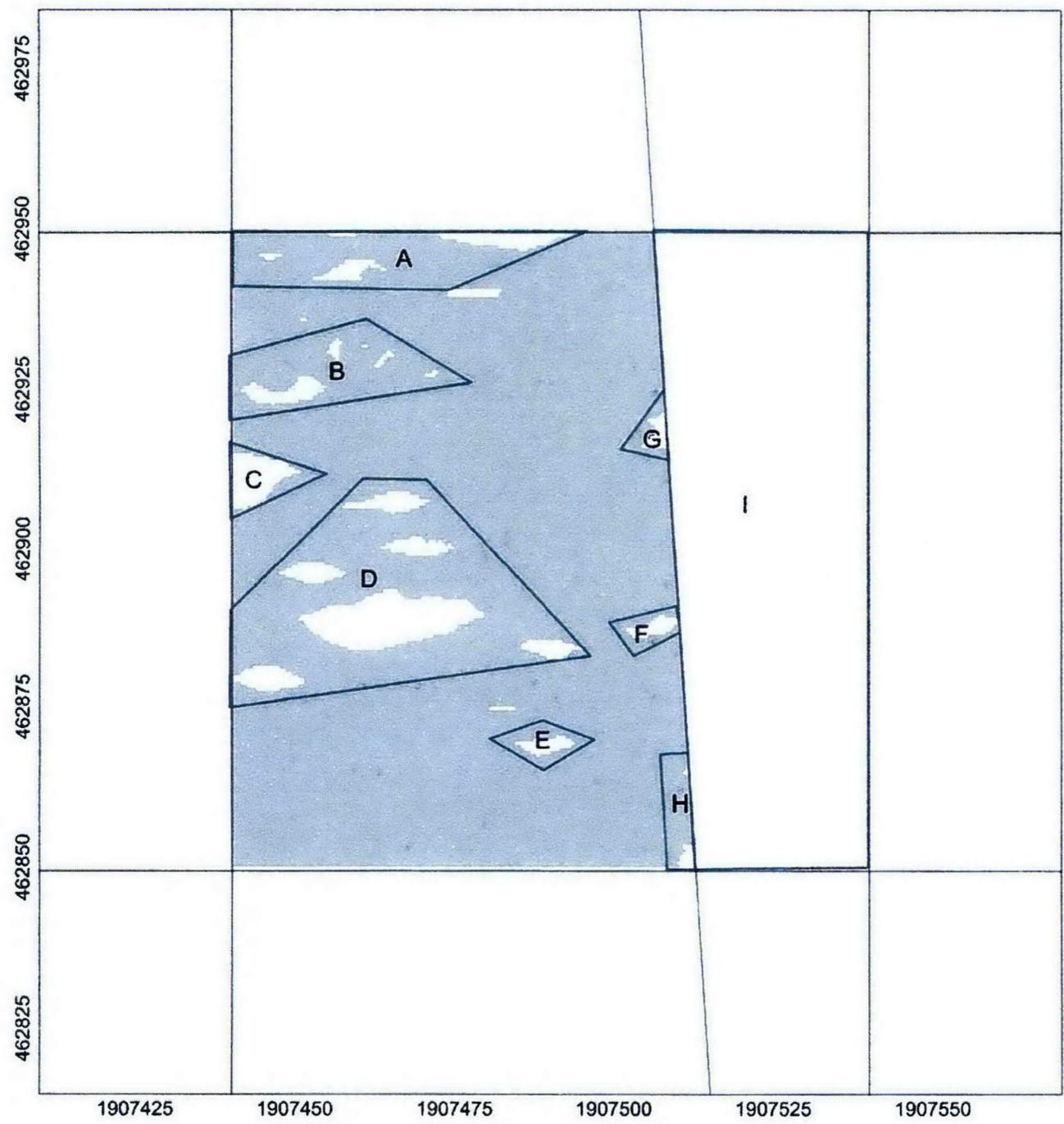
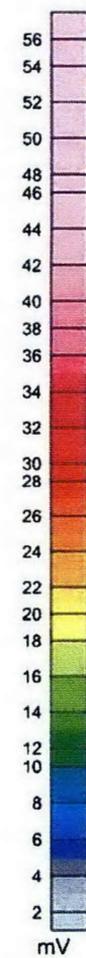
Date: 2014/05/05

File: G22x33

Page number: 1

Approved: JLL

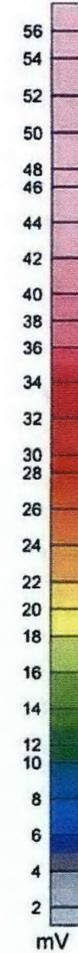
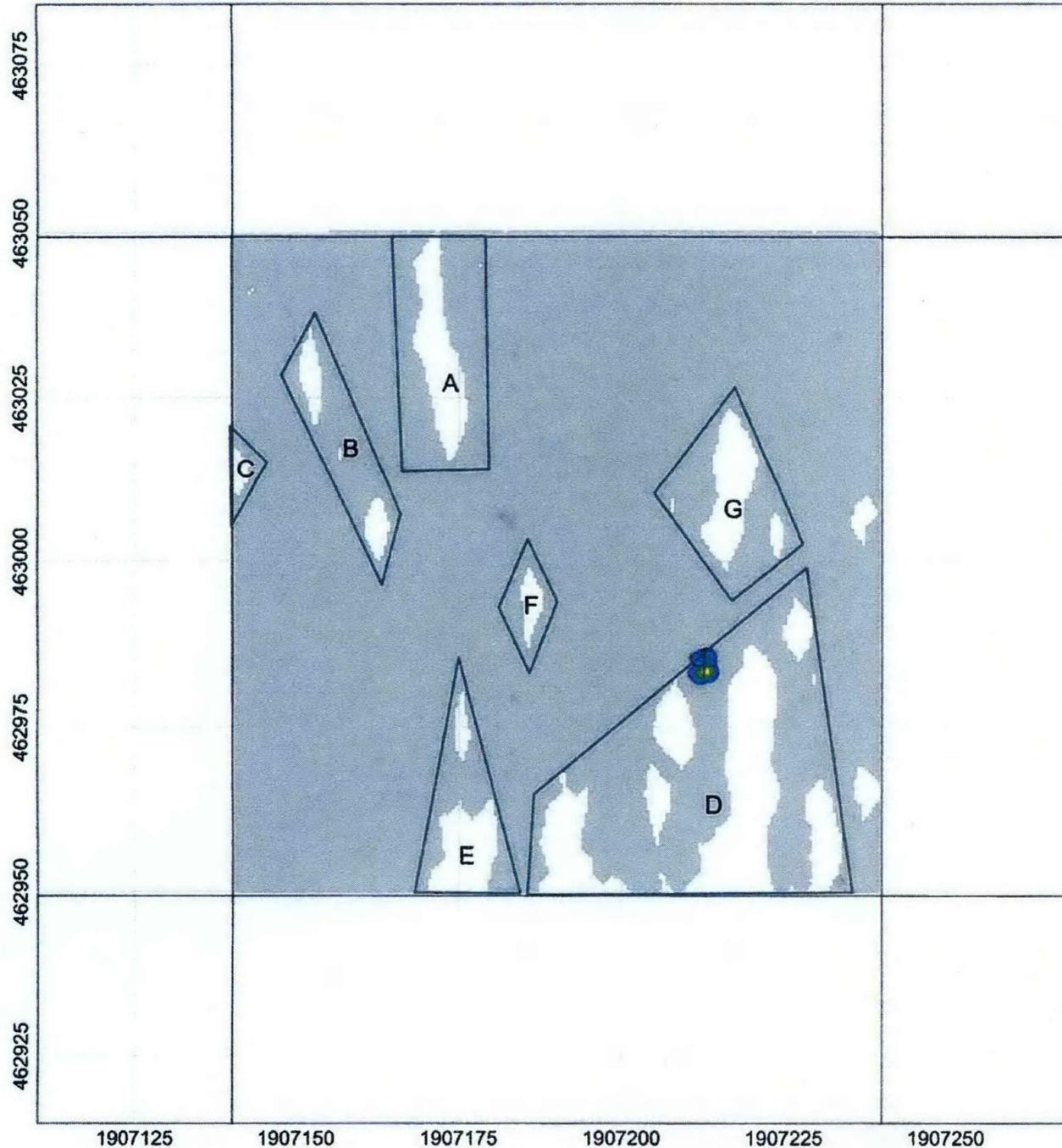
TerranearPMC



462975  
462950  
462925  
462900  
462875  
462850  
462825

1907425 1907450 1907475 1907500 1907525 1907550

# MAP Grid 23 x 30



## LEGEND

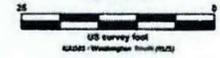
-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



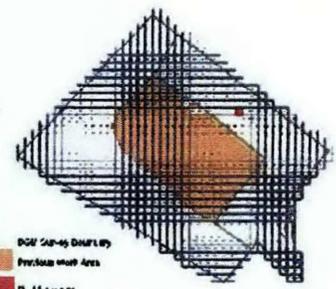
Grid North: UTM  
Mag North: S 20 W

Scale 1:325

Map Scale:



MEC Removal Action Area and Acceptance Area  
U.S.A. 30



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G23x30

Page number: 1      Approved: JLL



# MAP Grid 23 x 31

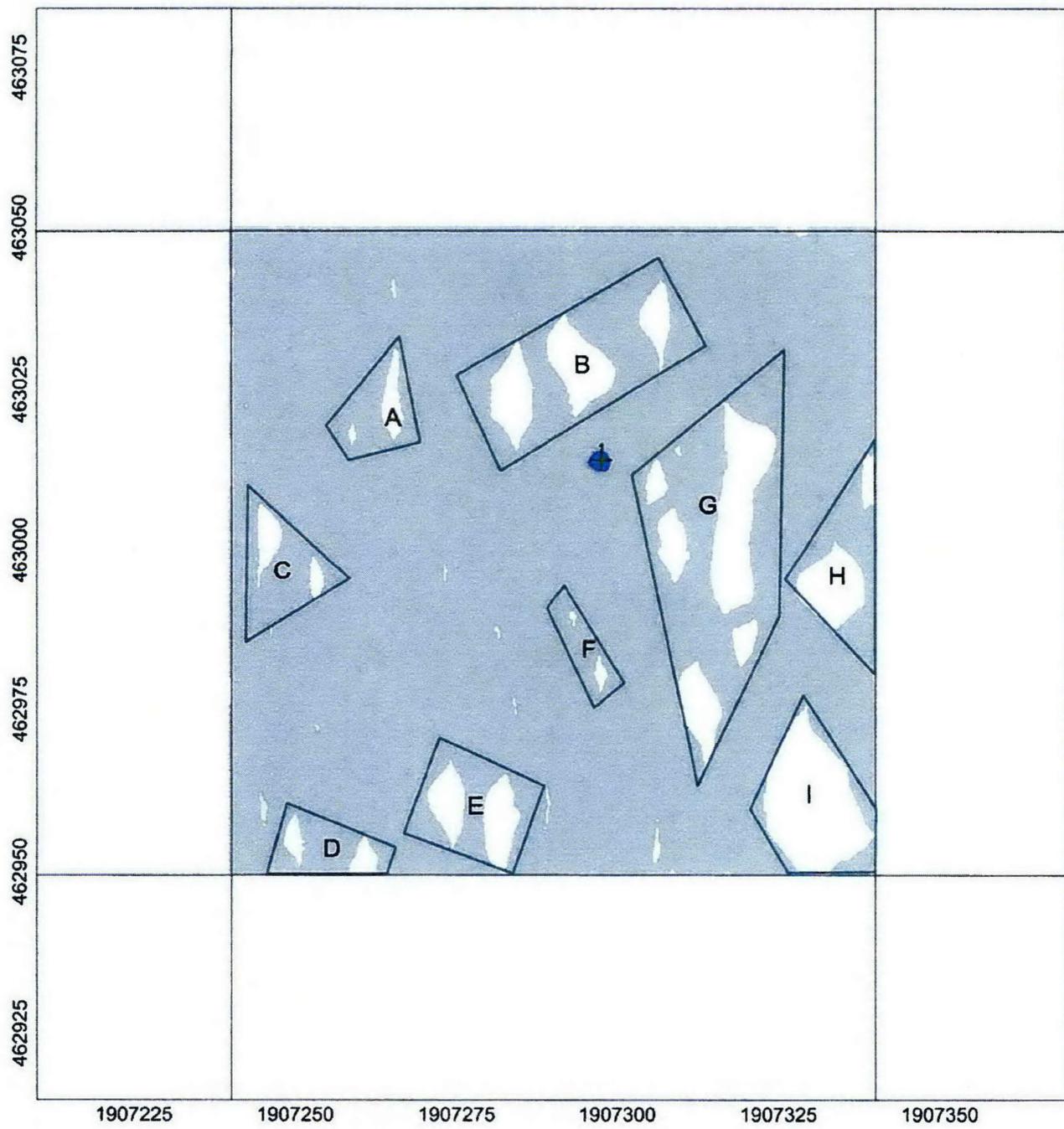
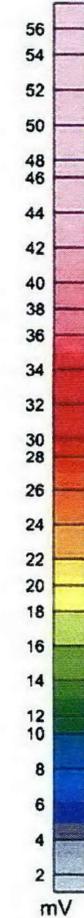
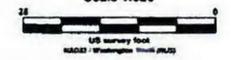
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

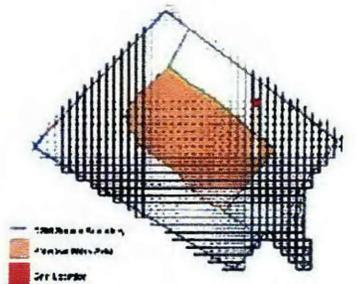


Scale 1:325

Map Scale:



PROJECT: 600-349 MEC Removal Action  
30: 23 x 31



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

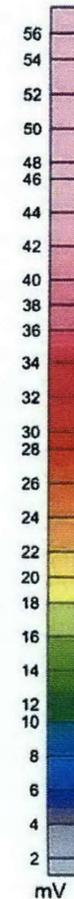
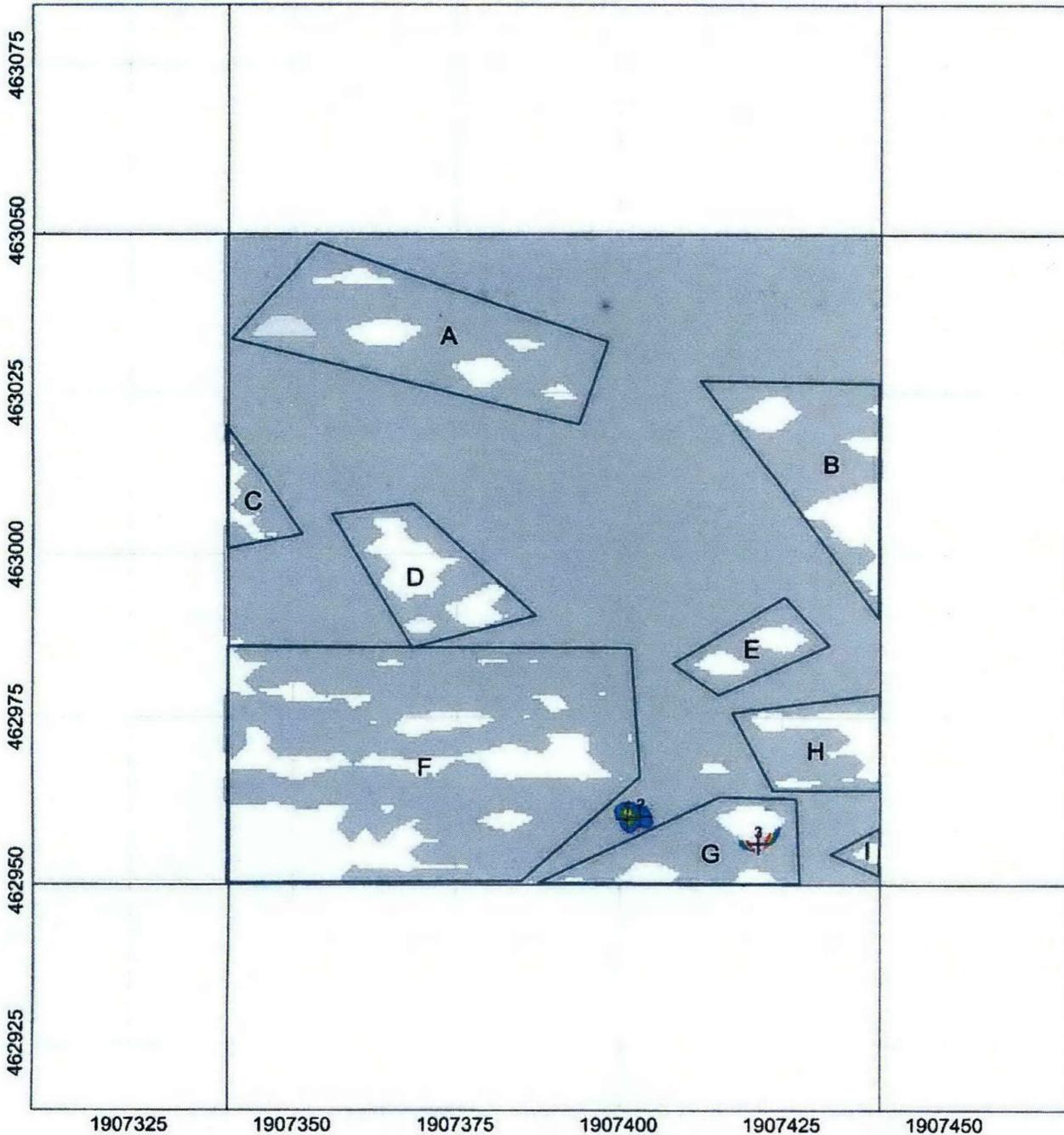
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Page number: 1

Approved: JLL

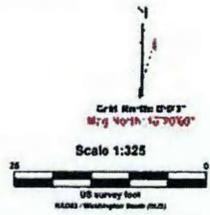


# MAP Grid 23 x 32



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G23x32  
 Page number: 1      Approved: JLL

# MAP Grid 23 x 33

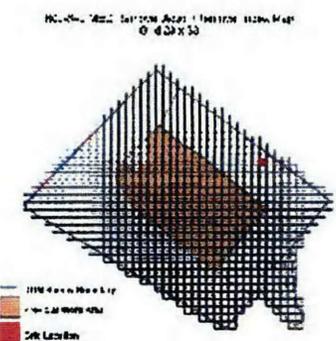
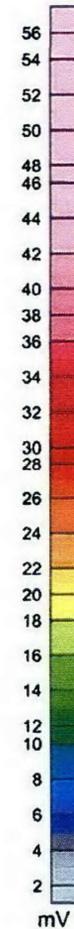
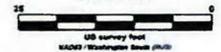
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

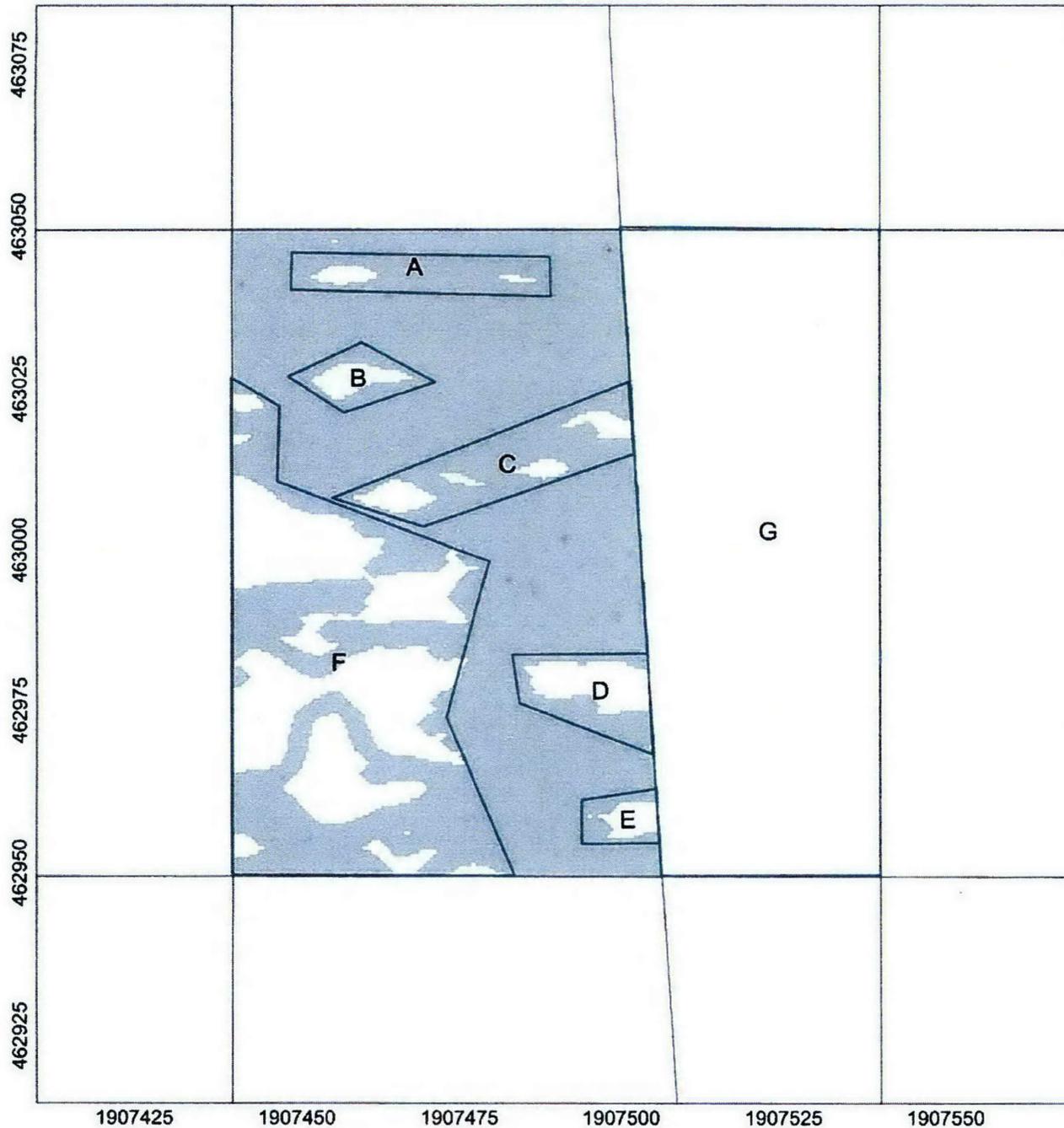


Scale 1:325

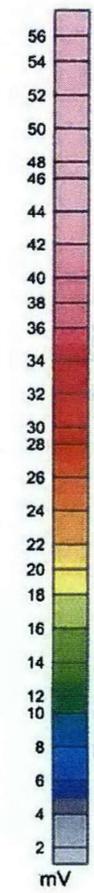
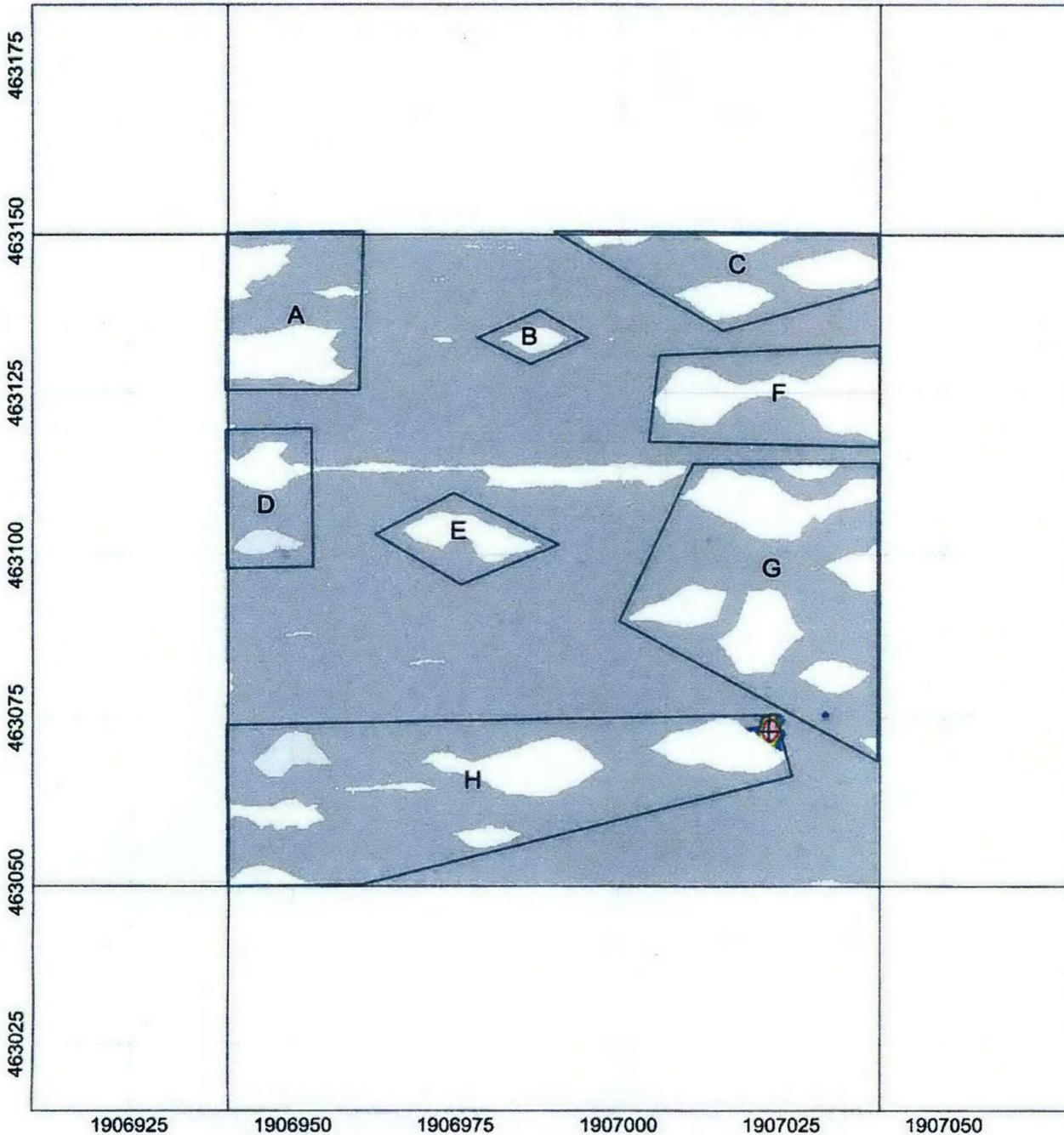
Map Scale:



Client: Washington Closure Hanford  
 Project: 600-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: EA      Verified by: JLL  
 Date: 2014/05/05      File: G23x33  
 Page number: 1      Approved: JLL

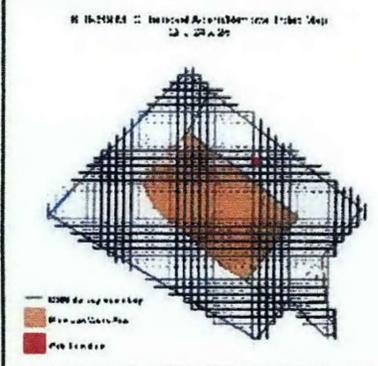
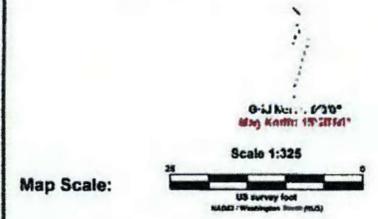


# MAF Grid 24 x 28



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G24x28

Page number: 1      Approved: JLL



# MAF Grid 24 x 29

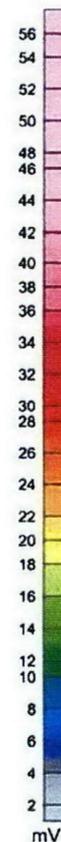
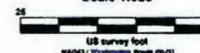
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

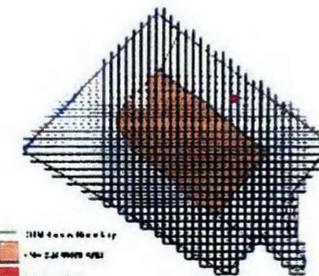


Scale 1:325

Map Scale:



MEC Removal Action Investigation Map  
G 24 x 29



DEM Data Overlay  
MEC Data Overlay  
DGM Investigation Boundary

Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

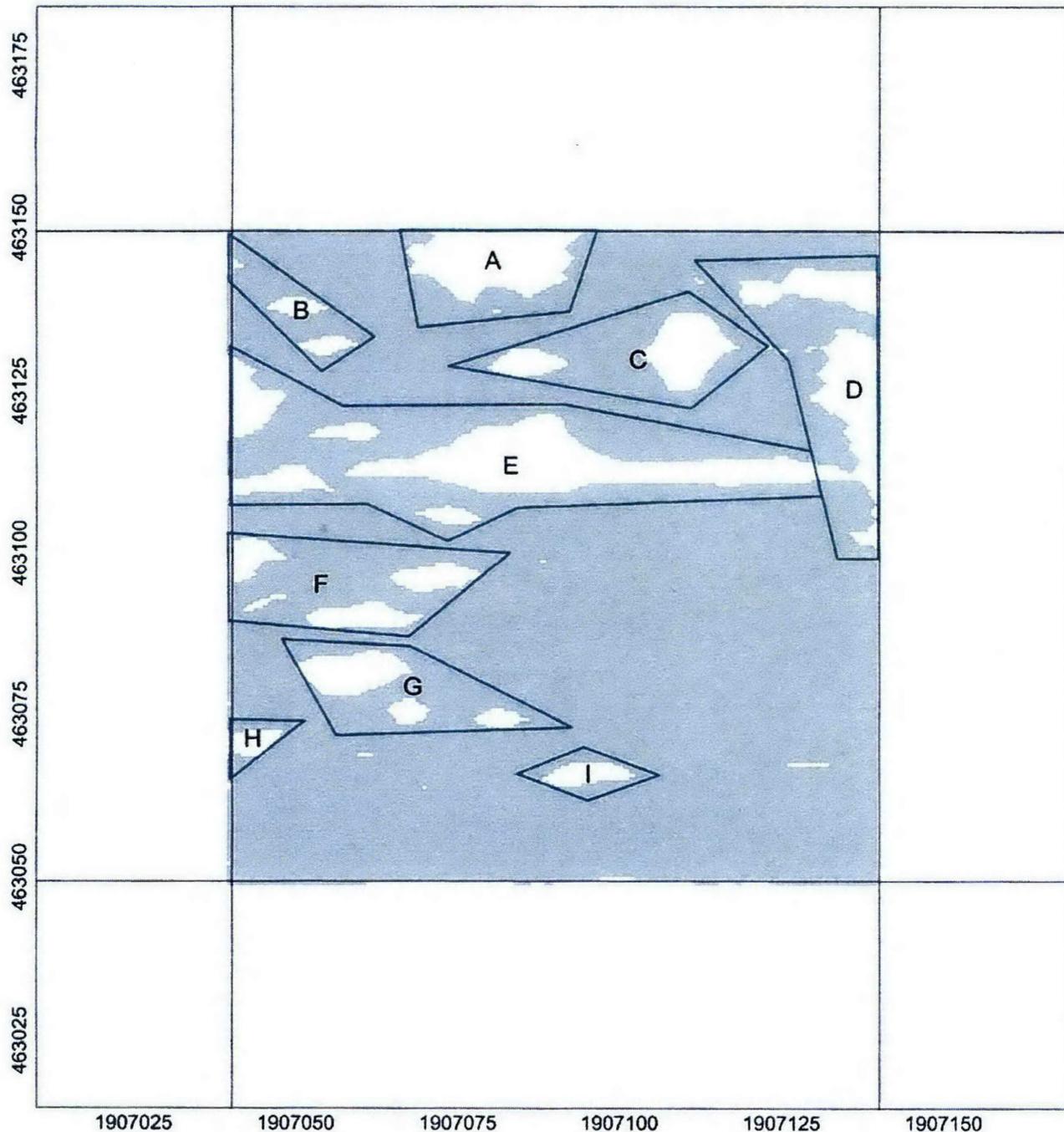
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File: G24x29

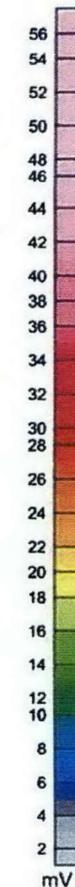
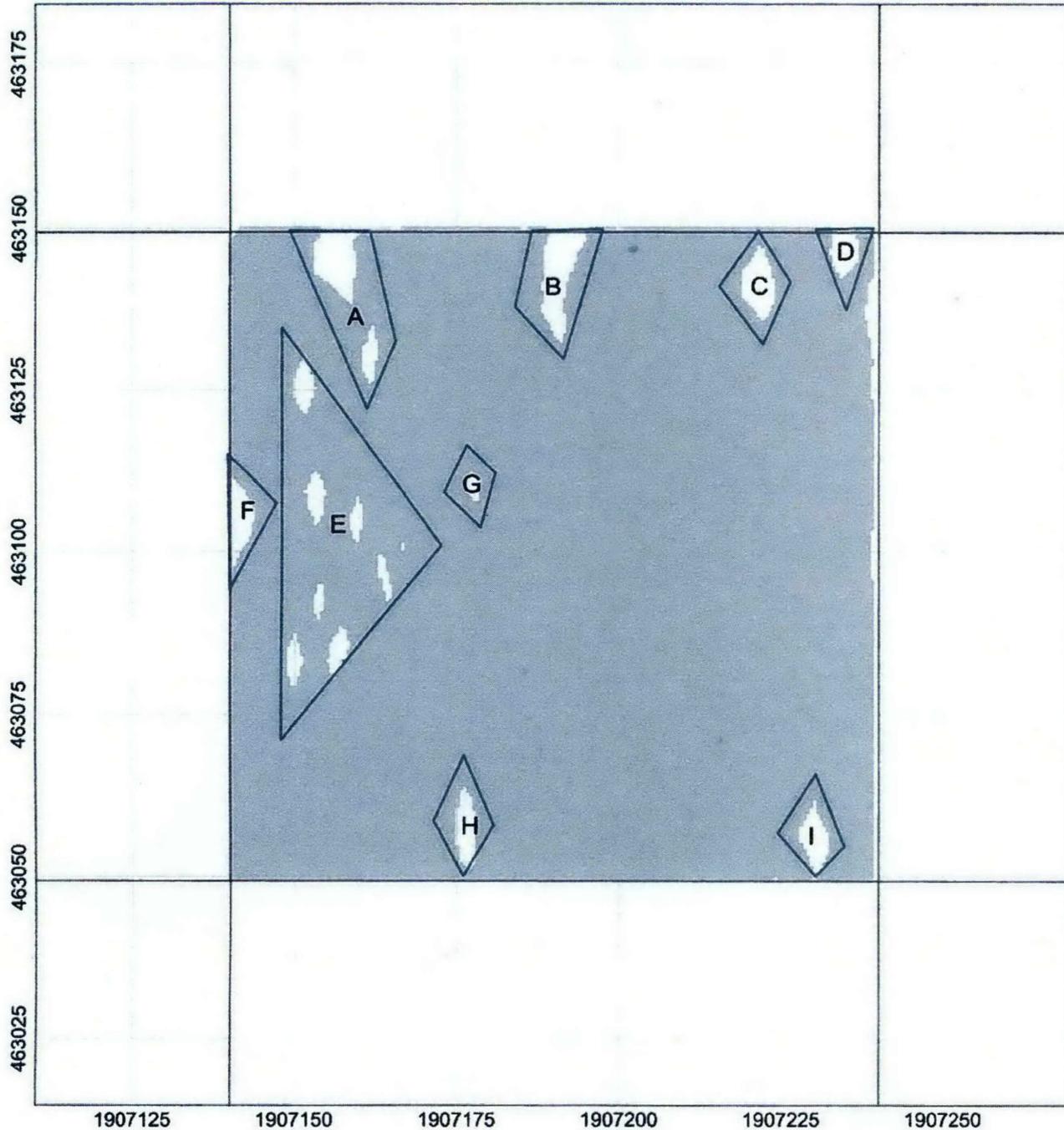
Page number: 1

Approved: JLL

TerranearPMC

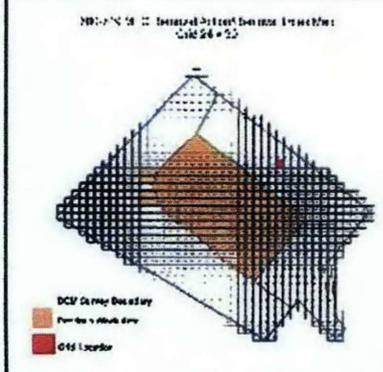
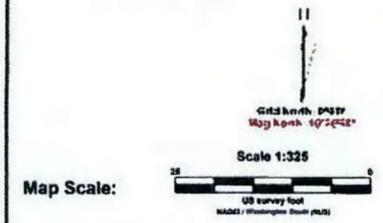


# MAF Grid 24 x 30



## LEGEND

- Target and Identifier
- Vegetation Gap and Identifier
- Powerline Buffer Zone
- DGM Investigation Boundary

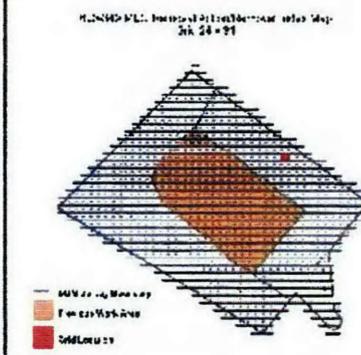
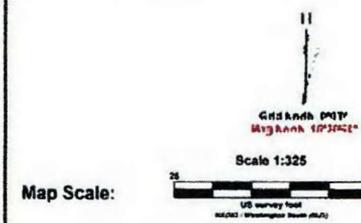


Client: Washington Closure Hanford  
Project: 600-349 MEC Removal Action  
Contractor: TerranearPMC LLC  
Created by: EA      Verified by: JLL  
Date: 2014/05/05      File: G24x30  
Page number: 1      Approved: JLL

# MAF Grid 24 x 31

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

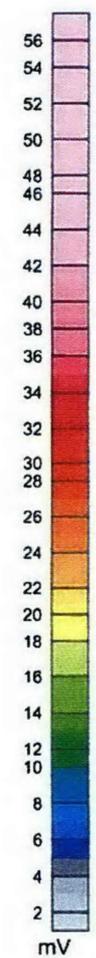
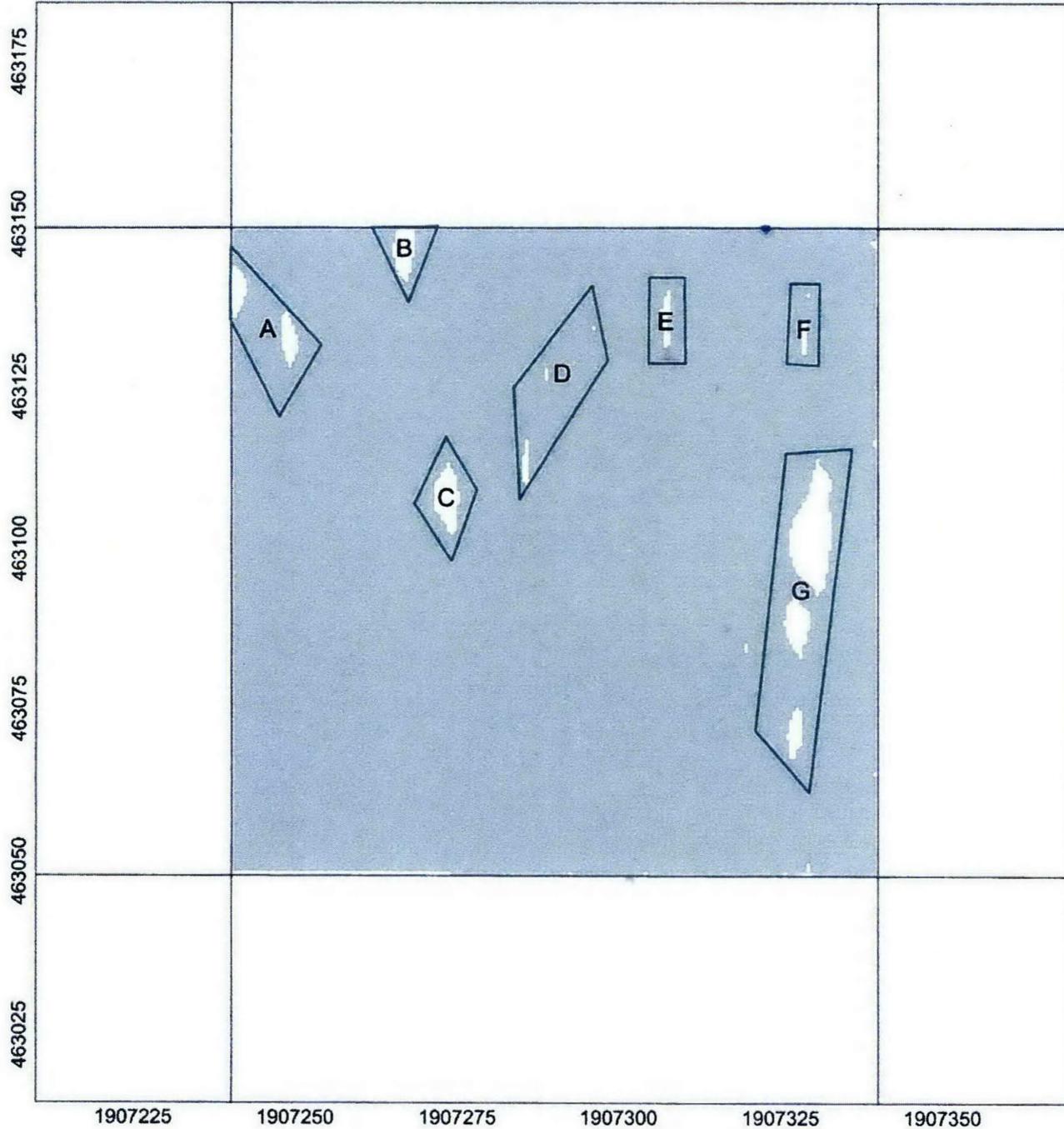
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G24x31

Page number: 1      Approved: JLL



# MAP Grid 24 x 32

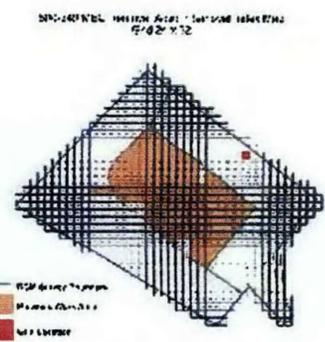
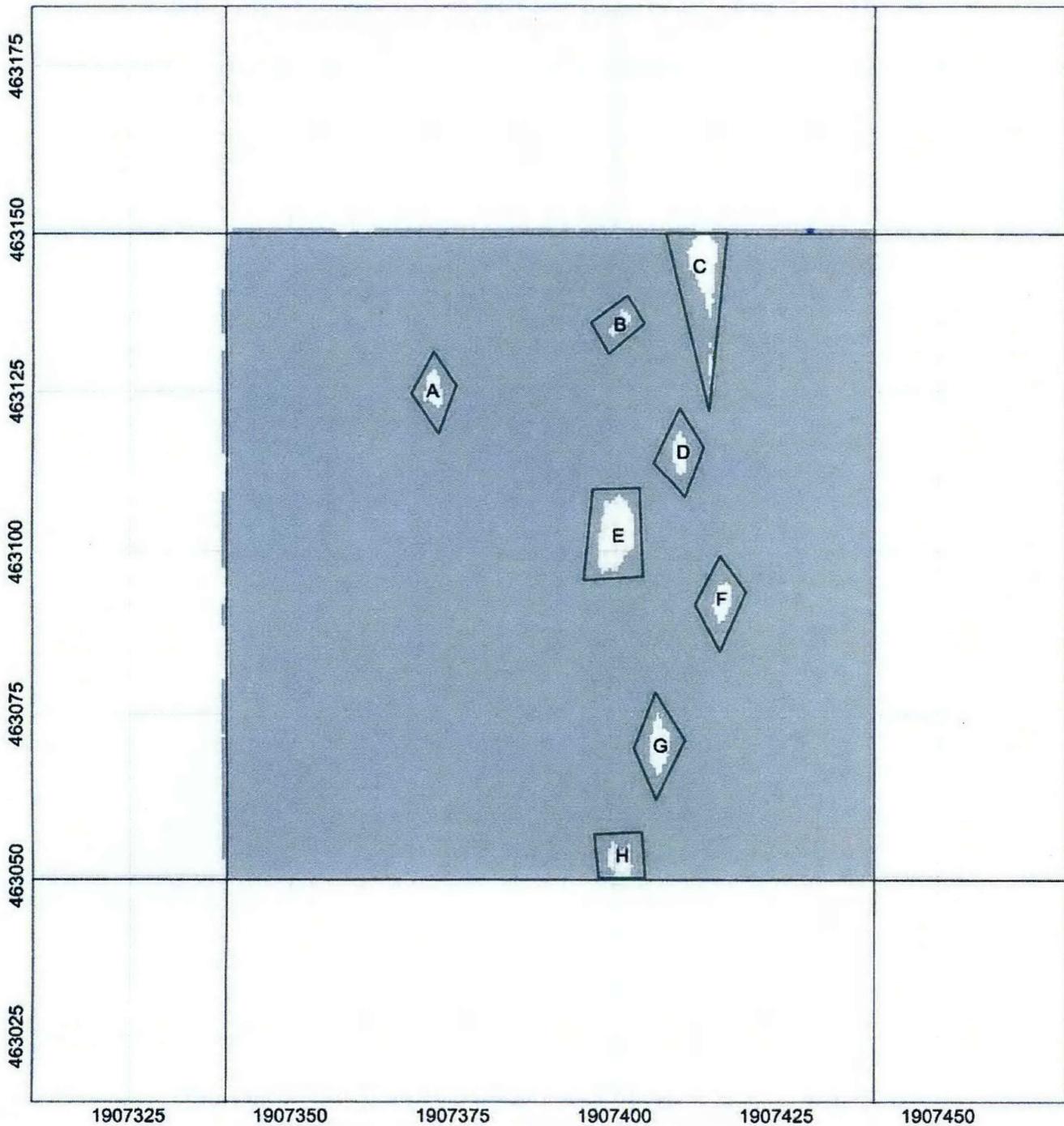
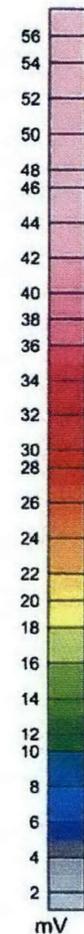
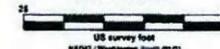
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Scale 1:312,420

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: G24x32

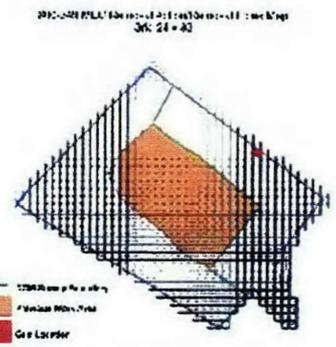
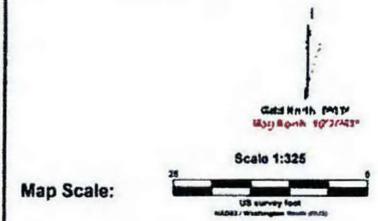
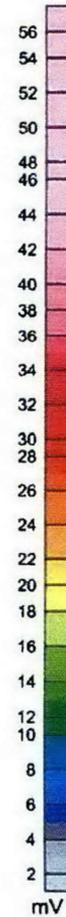
Page number: 1      Approved: JLL



# MAP Grid 24 x 33

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

Date: 2014/05/05

File: 24x32

Page number: 1

Approved: JLL

 TerranearPMC



# MAP Grid 25 x 30

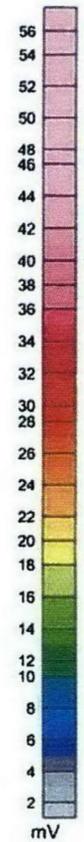
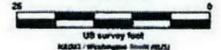
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

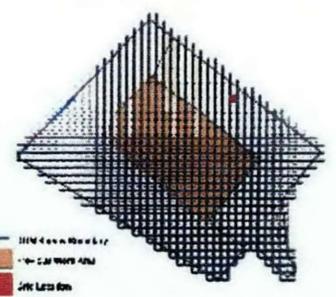


Scale 1:325

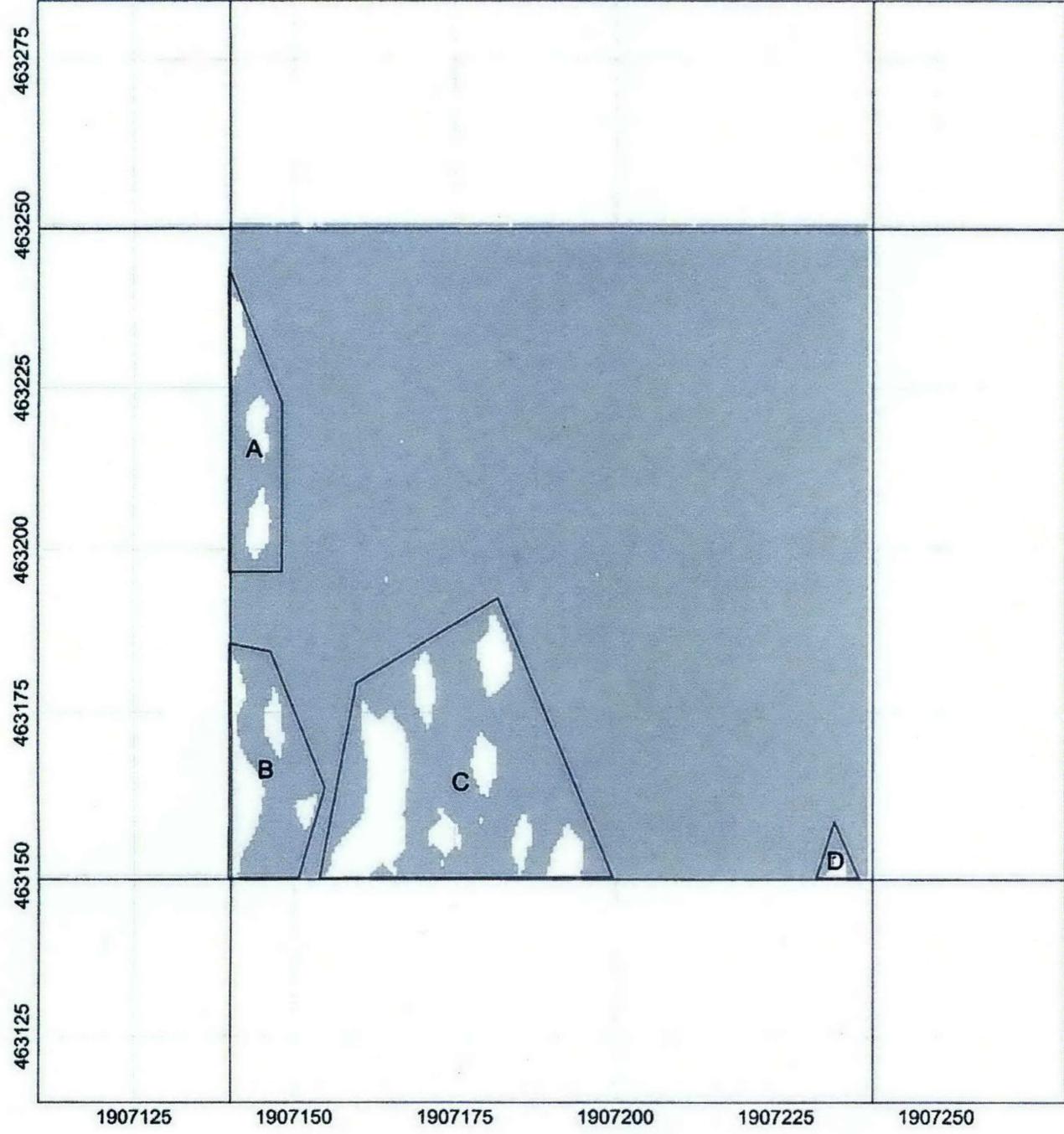
Map Scale:



MEC-349 MEC Removal Action - 2014/05/05 Map  
@ 425 x 30



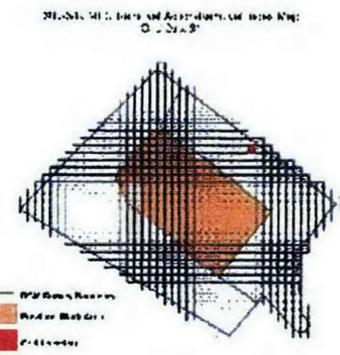
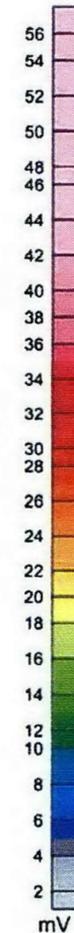
Client: Washington Closure Hanford  
Project: 800-349 MEC Removal Action  
Contractor: TerranearPMC LLC  
Created by: EA      Verified by: JLL  
Date: 2014/05/05      File: 25x30  
Page number: 1      Approved: JLL



# MAP Grid 25 x 31

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Client: Washington Closure Hanford

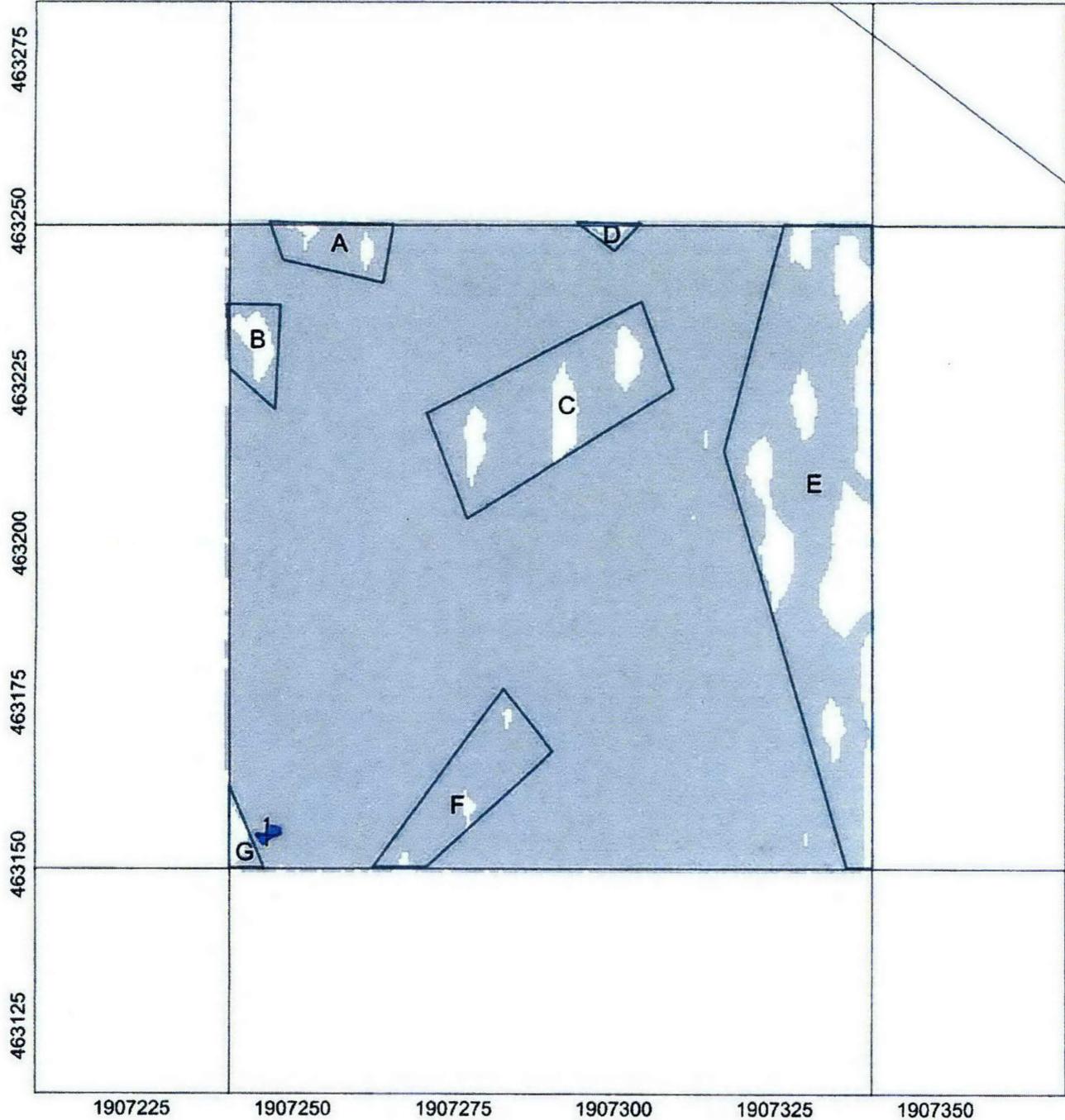
Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA      Verified by: JLL

Date: 2014/05/05      File: 25x31

Page number: 1      Approved: JLL



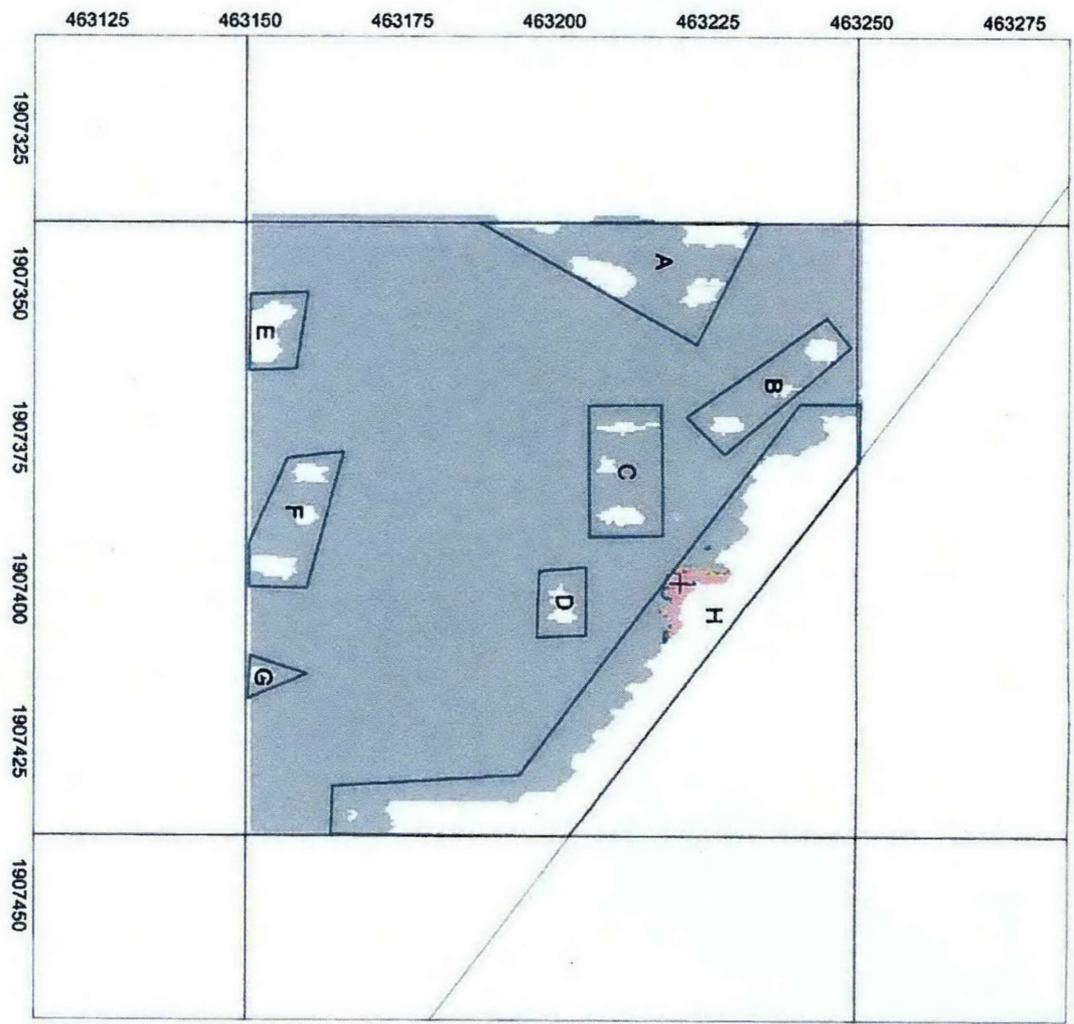
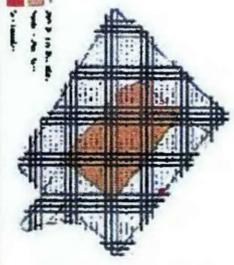
# MAP Grid 25 x 32

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary



Map Scale:  Scale 1:250



Client: Washington Closure Hanford  
 Project: 800-349 MEC Removal Action  
 Contractor: TerranearPMC LLC  
 Created by: SA      Verified by: JLL  
 Date: 20140805      File: 2632  
 Page number: 1      Approved: JLL

TerranearPMC

# MAF Grid 25 x 33

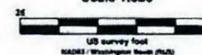
## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

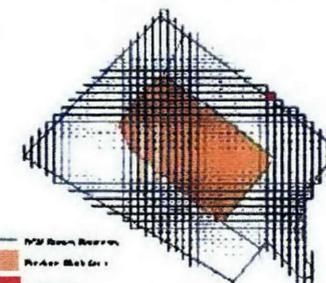
G MAPS, INC.  
Map No: 152200

Scale 1:325

Map Scale:



NE 1/4 - 34th St. and Acacia Street. State Map  
Q 22A 20



-  DGM Buffer Boundary
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

Contractor: TerranearPMC LLC

Created by: EA

Verified by: JLL

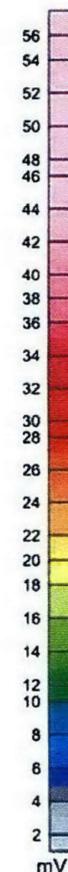
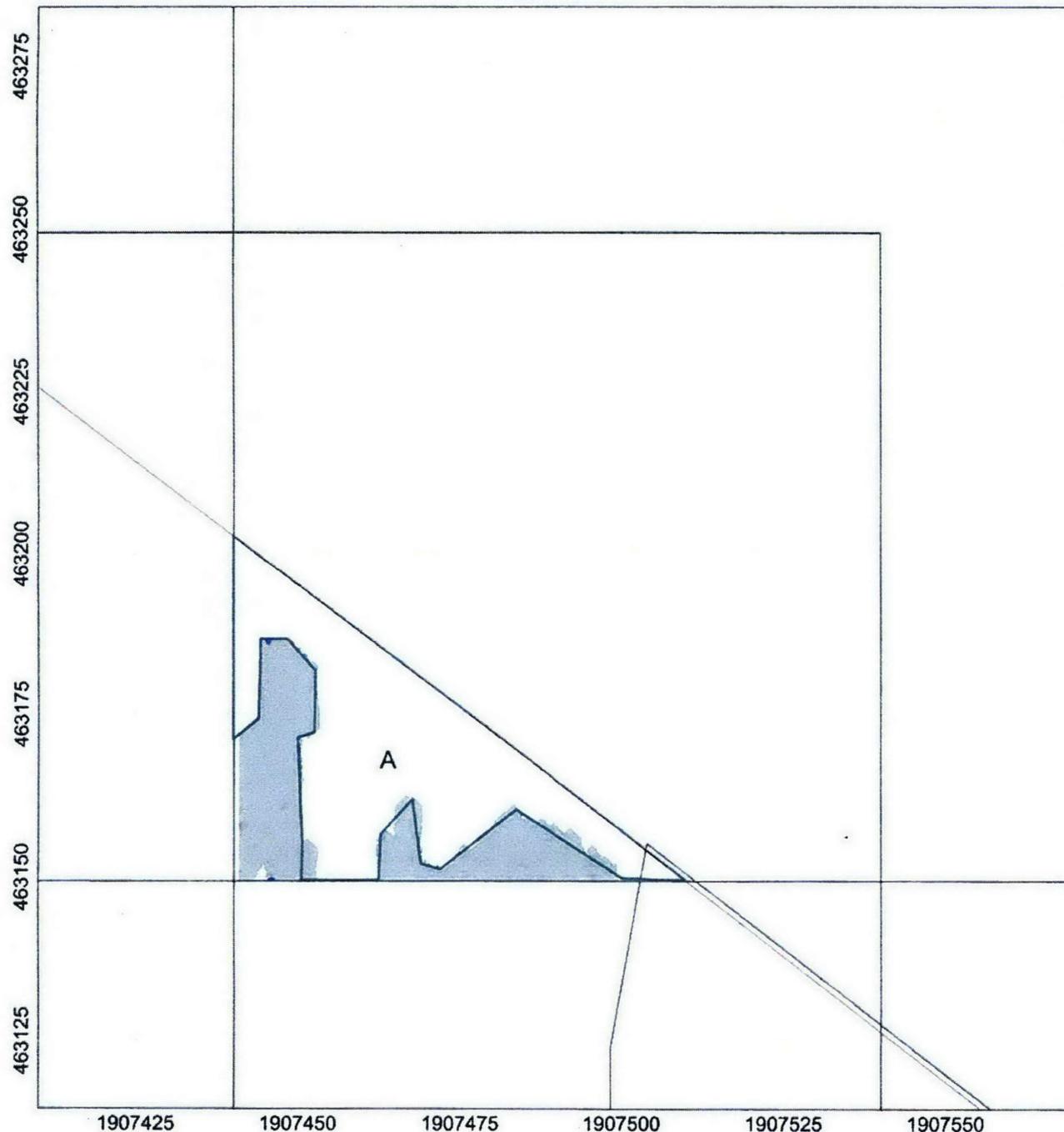
Date: 2014/05/05

File: 25x33

Page number: 1

Approved: JLL

TerranearPMC

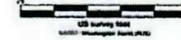


# MAP Grid 26 x 32

## LEGEND

-  Target and Identifier
-  Vegetation Gap and Identifier
-  Powerline Buffer Zone
-  DGM Investigation Boundary

Map Scale:



Client: Washington Closure Hanford

Project: 600-349 MEC Removal Action

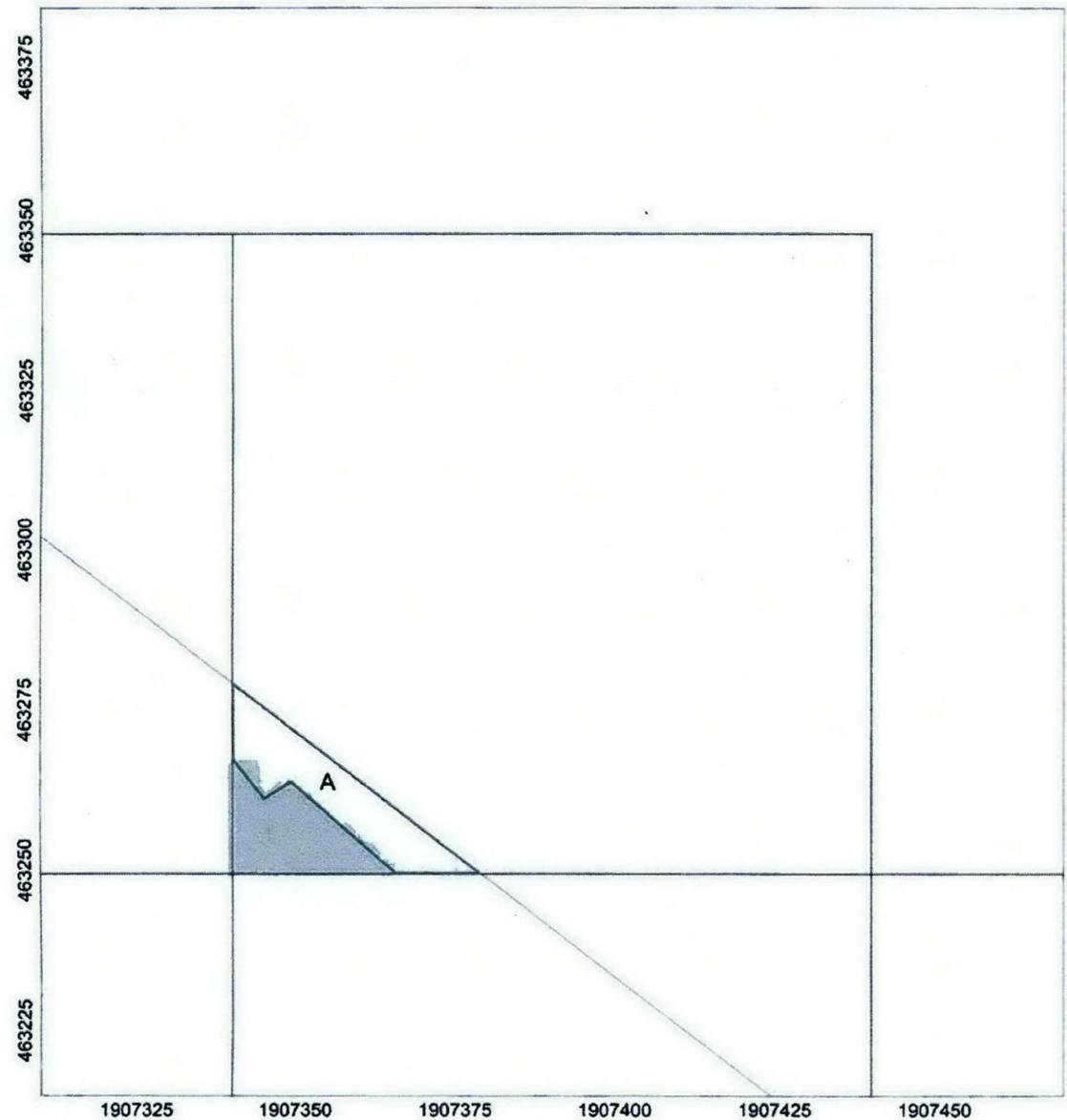
Contractor: TerranearPMC LLC

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**ATTACHMENT C**  
**CHARACTERIZATION SAMPLING SUMMARY**



**Figure C-1. Sampling Locations For Potential Lead Contamination at 600-349.**



**Table C-1. 600-349 Waste Site Soil Sampling Summary Table.**

Sample Number	Sample Date	Sample Location	Northing	Easting	Lead		
					mg/kg	Q	PQL
J1V8L1	3/23/16	Equipment Blank	NA	NA	0.34	B	0.24
J1V8L2	3/23/16	VSP-4 (-1ft)	140602	581278	4.9		0.26
J1V8M5	3/23/16	Duplicate of J1V8L2	140602	581278	4.7		0.22
J1V8L3	3/23/16	VSP-1 (-1ft)	140482	581209	5.1		0.26
J1V8L4	3/23/16	VSP-3 (-1ft)	140602	581139	4.7		0.26
J1V8L5	3/23/16	VSP-2 (-1ft)	140602	581001	5.5		0.27
J1V8L6	3/23/16	VSP-5 (-1ft)	140722	580932	4.4		0.28
J1V8L7	3/23/16	VSP-6 (-1ft)	140722	581070	5.6		0.26
J1V8M6	3/23/16	Duplicate of J1V8L7	140722	581070	6.1		0.26
J1V8L8	3/23/16	VSP-8 (-1ft)	140841	580863	4.5		0.3
J1V8M0	3/23/16	VSP-7 (-1ft)	140841	580725	4.7		0.25
J1V8M1	3/23/16	VSP-9 (-1ft)	140961	580518	5.4		0.24
J1V8M2	3/23/16	VSP-10 (-1ft)	140961	580656	5.3		0.27
J1V8M3	3/23/16	VSP-12 (-1ft)	141081	580587	5.6		0.29
J1V8M4	3/23/16	VSP-11 (-1ft)	140961	580794	4.6		0.25
J1V8M7	3/23/16	Duplicate of J1V8M4	140961	580794	5.0		0.24
J1V8L9	3/23/16	FS-1 (-1ft)	140845	580808	5.0		0.27

