APPENDIX A – Final Munitions and Explosives of Concern Probability Assessment (MEC-PA) Fillmore Canyon, Parcel D SDZ

FINAL

MUNITIONS AND EXPLOSIVES OF CONCERN PROBABILITY ASSESSMENT (MEC-PA)

FILLMORE CANYON, PARCEL D SDZ
FORT BLISS ARMY RESERVATION, EL PASO, TX

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LIST OF ACRONYMS

AAA	Anti-aircraft Artillery
AAA&GM	Anti-aircraft Artillery and Guided Missile
AHA	Activity Hazard Analysis
BLM	Bureau of Land Management
DOD	Department of Defense
DDESB	Department of Defense Explosive Safety Board
EM	Engineering Manual
EA	Environmental Assessment
FUDS	Formerly Used Defense Site
GPS	Global Positioning System
InDepth	InDepth Corporation
MEC	Munitions and Explosives of Concern
MEC-HA	MEC Hazard Assessment
MEC-PA	MEC Probability Assessment
MD	Munitions Debris
MPPEH	Material Potentially Presenting and Explosive Hazard
MPRC	Multi-Purpose Range Complex
MRS	Munition Response Site
OESS	Ordnance and Explosives Safety Specialist
TP	Technical Paper
SDZ	Surface Danger Zone
SOW	Scope of Work
SSHP	Site Safety Health Plan
SUXOS	Senior UXO Supervisor
SVS	Surface Visual Survey
USAADC	U.S. Army Air Defense Center
USACE	United States Army Corps of Engineers
USACE SWF	USACE Fort Worth District
UXO	Unexploded Ordnance
UXOSO	UXO Safety Officer

Executive Summary

Background

Fort Bliss Army Reservation is an active training facility located in the extreme western part of the State of Texas at El Paso and the south-central area of the State of New Mexico. The reservation occupies approximately 1.2 million acres within two states and three counties (Doña Ana, New Mexico, Otero, New Mexico and El Paso, Texas). The main cantonment area is situated adjacent to the city of El Paso, Texas. Fillmore Canyon, Parcel D Surface Danger Zone (SDZ) footprint (583 acres of the Fillmore Canyon Parcel D) is located within the historical boundary of the Doña Ana Range Complex and the Fort Bliss Anti-Aircraft Range. The Fillmore Canyon, Parcel D SDZ footprint is not currently used for munitions live fire training but remains within the restricted land area underlying the Anti-Aircraft Range area of Fort Bliss Army Reservation.

There are numerous hiking trails within the southern portion of the Fillmore Canyon, Parcel D SDZ footprint being used by the public, and access to the area is currently uncontrolled. All current use of this area by the public is technically trespassing; however, the northern portion of the Fillmore Canyon, Parcel D SDZ footprint is largely inaccessible due to the extreme terrain, and generally not accessed by the public.

This Munitions and Explosives of Concern Probability Assessment (MEC-PA) addresses the SDZ portion of Fillmore Canyon, Parcel D. This MEC-PA is part of an Environmental Assessment (EA) required to assess the potential for significant adverse environmental effects as well as any safety concerns and/or mission interference from allowing public access for recreational activities in Fillmore Canyon, Parcel D, per the 2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act (Public Law [P.L.] 116-9, 2019). Under this Act, approximately 2,035 acres of Fillmore Canyon, Parcel D would be opened up to the public for hiking and other recreational uses. The reason for conducting this MEC-PA is to assess MEC hazards associated with Fillmore Canyon Parcel, D SDZ, associated with current and past military use of the area, and areas within the SDZ portion of Fillmore Canyon, Parcel D that can support public recreation. Research and fieldwork were conducted to provide input and support the MEC hazard assessment for the MEC-PA.

Research

Research conducted during the MEC-PA included a review of both active and historical ranges affecting Fillmore Canyon, Parcel D SDZ. Conversations with, and information provided by Fort Bliss Range Control indicate that current range activities and active ranges/mitigated SDZs do not overlap the Fillmore Canyon SDZ.

Historical firing ranges affecting Fillmore Canyon, Parcel D SDZ were indicated from information obtained from the *USACE Ordnance and Explosives Usage Doña Ana Range Complex Fort Bliss, Texas Archive Search Report (ASR) dated April 1998.*

- Range 40 (1975-1998) – This range was designated for tank and fighting vehicle training, and also allowed for infantry, armor, and assault helicopters to conduct training on the same range.

- Range 46 (1940-1963) – This range was primarily used to support artillery training
- Range 47 (1940 – 1998) – From 1940 – 1974, this range was reported to have been used to support artillery training. From 1975 - 1989, it was primarily used for MK-19 40mm qualification training, forward area/automatic weapons and mortar firing. From 1990 – 1998, only target practice inert rounds were authorized for use.

All historical live-fire range activities affecting Fillmore Canyon SDZ were discontinued in 1998.

Fieldwork

MEC-PA fieldwork was conducted January 24 – February 4, 2022. To support EA objectives, a non-intrusive MEC-PA Surface Visual Survey (SVS) was conducted in the accessible areas of the SDZ portion of Fillmore Canyon, Parcel D to collect data to support the MEC-PA hazard assessment. During the SVS fieldwork, the UXO Team surveyed the accessible portions in the southern portion of the site and observed no evidence of MEC/UXO, munitions debris (MD), ground scarring or impact craters that would indicate that the area was ever used as a munitions impact area. Numerous attempts were made to access the northern portion of the site from various locations, but the effort was abandoned due to safety concerns associated with the lack of trails and the extreme slope of the terrain in this area.

Hazard Assessment

Although the 583-acre portion of Fillmore Canyon Parcel D is labeled and considered as a SDZ, research indicates that Fillmore Canyon, Parcel D SDZ is actually two distinct areas - Area A (346 acres) located within the historical firing range safety buffers, and Area B (237 acres) located within the historical range boundary but not located within the historical firing range safety buffers.

MEC hazard assessment tools used during the MEC-PA included USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables Z-1, Z-2, and Z-3 and the MEC-Hazard Assessment (HA) Automated Workbook v1.02a.

Fillmore Canyon, Parcel D SDZ – Area A

The 346-acre northern portion of Fillmore Canyon, Parcel D SDZ, designated as Area A was found not to fall within active Fort Bliss firing ranges, but found to be within the extreme extents of historical ranges 40, 46, 47 range safety buffers. As the Fillmore Canyon, Parcel D SDZ Area A is located within the extreme limits of the overlapping historical ranges 40, 46, 47 firing range safety buffers, with the closest impact area associated with these ranges reported to be 3.86 miles south of Fillmore Canyon Parcel D SDZ, there is a lower probability of MEC projected into this area during past range activities.

Given the limited hazard assessment in relation to severity, accessibility and sensitivity provided by the USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables Z-1, Z-2, and Z-3 associated with the site's location within a firing fan safety buffer and risk associated with access and exposure, the Project Team performed analysis of Area A using MEC-HA Automated Workbook v1.02a. Using the MEC-HA Automated Workbook, Scoring Summaries from the required inputs resulted in a MEC-HA

score of 435 with an associated hazard level determination of Hazard Level Category 4 for Area A, identifying the area as having a low potential explosive hazard condition.

Fillmore Canyon, Parcel D SDZ – Area B

The 237-acre southern portion of Fillmore Canyon, Parcel D SDZ, designated as Area B was found not to fall within active Fort Bliss firing ranges or historical ranges 40, 46, 47 range safety buffers, and evidence of MEC/UXO, MD, ground scarring or craters was not observed during SVS fieldwork. This indicates that the area was not used as an impact area, and hazard assessment was performed using MEC-PA Appendix Z Tables Z-1, Z-2, and Z-3.

Using this tool Area B received a score of “0” and considered as “No probability of Encountering MEC”. As such, it was determined that further analysis using the MEC-HA was not required and no further assessment was performed.

Conclusion

Using both USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables Z-1, Z-2, and Z-3 and the MEC-Hazard Assessment (HA) Automated Workbook v1.02a MEC hazard assessment tools as appropriate to each area, the following explosive hazard conditions/ probability of encountering MEC were determined:

- Area A is considered as “Hazard Level 4 - a low potential explosive hazard condition”
- Area B is considered as having as “No probability of encountering MEC”.

The resultant MEC-HA and MEC-PA Scoring Tables should not be interpreted as quantitative measures of explosive hazard. The possible presence of MEC in Area A means that an explosive hazard may exist. Therefore, MEC may still pose a hazard at a Hazard Level 4 site.

If MEC is subsequently discovered, personnel should mark the location, retreat from the area and contact the appropriate personnel. If MEC is discovered, a new probability assessment will be required to assess potential changes in the MEC-HA ratings.

1.0 **INTRODUCTION**

The 2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act is intended to provide for public outdoor recreation in Fillmore Canyon, Parcel D. This Munitions and Explosives of Concern Probability Assessment (MEC-PA) addresses the Surface Danger Zone (SDZ) portion of Fillmore Canyon, Parcel D. This MEC-PA is part of an Environmental Assessment (EA) required to assess the potential for significant adverse environmental effects as well as any safety concerns and/or mission interference from allowing public access for recreational activities in Fillmore Canyon, Parcel D. The format for this Munitions and Explosives of Concern Probability Assessment (MEC-PA) was derived from the MEC-PA Template found in U.S. Army Corps of Engineers (USACE) EM 385-1-97 to assess the probability of encountering MEC during United States Army Corps of Engineers (USACE) projects. This MEC-PA was determined using historical research and ground-based observations. Determination and recommendations are a result of a hybrid approach using both the MEC-PA scoring tables found in USACE EM 385-1-9, Appendix Z scoring tables located in Appendix B, and US Environmental Protection Agency (EPA) MEC-Hazard Assessment (MEC-HA) worksheet included in Appendix C.

The reason for conducting this MEC-PA is to identify if there are any areas within the SDZ portion of Fillmore Canyon, Parcel D that can support public recreation, the types of public recreational activities that the military mission can support and whether the Army or Bureau of Land Management (BLM) will exercise administrative control over the Canyon. Public recreational activities must ensure that members of the public are not exposed to MEC and danger from munitions to include unexploded ordnance (UXO) from past military use of the area.

2.0 CURRENT AND FUTURE SITE USE

2.1 CURRENT SITE USE

The Fillmore Canyon, Parcel D SDZ footprint is not currently used for munitions live fire training but remains within the restricted land area underlying the Anti-Aircraft Range area of Fort Bliss Army Reservation. There are numerous hiking trails within the southern portion of the Fillmore Canyon, Parcel D SDZ footprint currently being used by the public, and access to the area is currently uncontrolled. All current use of this area by the public is technically trespassing; however, the northern portion of the Fillmore Canyon, Parcel D SDZ footprint is largely inaccessible due to the extreme terrain, and generally not accessed by the public.

2.2 FUTURE SITE USE

Approximately 2,035 acres of Fillmore Canyon, Parcel D would be opened up to the public for hiking and other recreational uses per the 2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act (Public Law [P.L.] 116-9, 2019) Military. The parcel would be opened up for additional recreational activities, such as hunting, hiking, wildlife viewing, and camping, though trespassers regularly engage in these activities at the site presently.

3.0 **LOCATION**

This MEC-PA was conducted in the SDZ portion of Fillmore Canyon, Parcel D, located within the western boundary of the historical Doña Ana Range Complex and the Fort Bliss Anti-Aircraft Range, as shown in Figure 3.1. The Fort Bliss Army Reservation is an active training facility located in the extreme western part of the State of Texas at El Paso and the south-central area of the State of New Mexico. The reservation occupies approximately 1.2 million acres within two states and three counties (Doña Ana, New Mexico, Otero, New Mexico and El Paso, Texas). The main cantonment area is situated adjacent to the city of El Paso, Texas.

4.0 HISTORY

4.1 MILITARY USE OF THE AREA

A review of both active and historical ranges affecting the Fillmore Canyon SDZ was performed during the MEC-PA. Conversations with, and information provided by Fort Bliss Range Control indicate that current range activities and active ranges/mitigated SDZs do not overlap the Fillmore Canyon SDZ, with the active SDZs located approximately 1/3 mile east of the Fillmore Canyon SDZ as shown in Figures 4.1 and 4.2.

Considering that current range activities at Fort Bliss do not affect the Fillmore Canyon SDZ, the Chloeta/Scout Team focused on historical range activities affecting the Fillmore Canyon SDZ. A historical records review performed by the Chloeta/Scout Team confirmed that the Fillmore Canyon, Parcel D SDZ footprint (583 acres of the Fillmore Canyon, Parcel D) is located within the historical boundary of the Doña Ana Range Complex and the Fort Bliss Anti-Aircraft Range. The following sections provide historical information outlining military munitions activities requiring the performance of a MEC-PA to meet the objectives of the project's EA. The following historical information was obtained from the *USACE Ordnance and Explosives Usage Doña Ana Range Complex Fort Bliss, Texas Archive Search Report (ASR) dated April 1998.*

4.2 HISTORICAL FIRING RANGE SUMMARY

In 1920, a total of 46,010 acres were annexed to Fort Bliss Army Post through Executive Orders issued in 1911, 1915, 1918 and 1920. With the arrival of the 1st Calvary Division in 1921, this area was designated the Fort Bliss Target Range (also called the Doña Ana Target Range) and used as a small arms firing range and artillery firing range. In 1940, the Fort Bliss Anti-aircraft Artillery (AAA) Training Center was established and by the late 1940s all the small arms ranges were converted to AAA firing points.

On July 6, 1946, the Army established the Anti-aircraft Artillery and Guided Missile (AAA&GM) Center, shifting the emphasis to guided missile training, resulting in the deactivation of the AAA Training Center. With the start of the Korean War in 1950, nine additional firing ranges were added. In 1957, the AAA&GM was changed to the U.S. Army Air Defense Center (USAADC) and by the 1960s, almost all firing on these ranges was discontinued. In 1986, the Army opened the Multi-Purpose Range Complex (MPRC) in Boulder Canyon. The MPRC is located adjacent to but does not extend into the Fillmore Canyon, Parcel D SDZ footprint. It should be noted that all historical live-fire range activities affecting Fillmore Canyon SDZ were discontinued in 1998.

4.2.1 HISTORICAL FIRING RANGES POTENTIALLY IMPACTING FILLMORE CANYON, PARCEL D SDZ

The following historical firing range boundaries overlap the Fillmore Canyon, Parcel D SDZ footprint as illustrated in Figures 4.3 and 4.4.

- Range 40 (1975-1998) – This range was designated for tank and fighting vehicle training, and also allowed for infantry, armor, and assault helicopters to conduct training on the same range. Reported munitions usage consisted of the following:
    - Small Arms: .30 caliber, .45 caliber, .50 caliber, 5.56mm, 7.62mm, 9mm
    - Projectiles: 20mm, 25mm, 30mm, 35mm
    - Mortars: 60mm, 81mm, 4.2-inch
    - Rockets: 66mm Light Anti-tank Weapon (LAW), 2.75-inch Rockets
    - Artillery: 105mm, 120mm, 152mm, 155mm, 165mm
    - Missiles: Shillelagh
- Range 46 (1940-1963) – This range was primarily used to support artillery training, and reported munitions usage consisted of the following:
    - Projectiles: 40mm, 75mm, 90mm, 120mm
- Range 47 (1940 – 1998) – From 1940 – 1974, this range was reported to have been used to support artillery training. From 1975 - 1989, it was primarily used for MK-19 40mm qualification training, forward area/automatic weapons and mortar firing. From 1990 – 1998, only target practice inert rounds were authorized for use. Reported munitions usage consisted of the following:
    - Small Arms: .30 caliber, .45 caliber, 5.56mm, 7.62mm
    - Projectiles: 20mm, 40mm
    - Mortars: 60mm, 81mm, 4.2-inch
    - Artillery: 75mm, 90mm, 105mm, 106mm, 155mm, 175mm, 8-in Howitzer, 210mm

Air photo interpretation of historical aerial photography was conducted as part of the ASR to identify features of relevance indicating impact areas and disposal sites associated with former range activities. According to the ASR, multiple range clearances were performed in the known impact areas associated with these historical ranges, as shown in Figure 4.5. It should be noted that none of these impact areas are located within the Fillmore Canyon, Parcel D SDZ footprint.

5.0 **FIELDWORK**

MEC-PA fieldwork was conducted January 24 – February 4, 2022. To support EA objectives, a non-intrusive MEC-PA Surface Visual Survey (SVS) was conducted in the accessible areas of the SDZ portion of Fillmore Canyon, Parcel D to collect sufficient visual data to support the MEC-PA determination and recommendations.

MEC-PA field activities were conducted by a 3-person UXO Team consisting of a UXO Technician III (Team Leader) and UXO Technician II from the Chloeta/Scout Team, and the Ordnance and Explosive Safety Specialist (OESS) from the USACE Fort Worth District (SWF) providing USACE UXO Safety Oversight. Chloeta/Scout Team UXO technicians selected for this team met the requirements specified in the *Department of Defense Explosive Safety Board (DDESB) Technical Paper (TP) 18 Minimum Qualifications for Personnel Conducting Munitions of Concern-Related Activities* for their specific role/position. The Chloeta/Scout SVS field team consisted of the following personnel:

- UXO Technician III (UXO III) - The UXO III was the designated UXO Team Leader for the MEC-PA field survey and was responsible for implementation of on-site SVS operations and safety.
- UXO Technician II (UXO II) – The UXO II assisted with the visual survey of the project area to identify evidence of historical munitions usage and hazards.

The SVS field team was supported by the Chloeta/Scout Team with the following office support:

- Senior UXO Supervisor (SUXOS) – The SUXOS was responsible for ensuring that field personnel conducted operations at the site in a safe, systematic manner using proven operating methods and techniques and in accordance with the project objectives. SUXOS activities were conducted under the direction of the PM and UXO Program QC Manager.
- UXO Safety Officer (UXOSO) – The UXOSO was responsible for implementing and enforcing the safety and health requirements listed in the Site Safety and Health Plan (SSHP) and Activity Hazard Analyses (AHA).
- Geographical Information Systems (GIS) Analyst – The GIS Analyst was responsible for processing daily field GPS data, producing daily production and progress reports, maintaining investigation records, producing maps, and creating data deliverables.

During the planning process, SVS transect spacing was set at 20-meters (66-feet), calculated using Visual Sample Plan (VSP) software to provide the appropriate transect spacing based on the expected fragmentation arc of the smallest known munition (20mm projectile) discussed in the USACE Archive Search Report (ASR) for Doña Ana Range Complex (April 1998) and additional range historical information provided by Fort Bliss Range Control.

To ensure the safety of the SVS Team, SVS transects were planned for areas with ≤30% slope, resulting in a planned survey coverage of 60.4 acres. Due to the heavy vegetation covering some

portions of the project footprint, SVS team members used the Schonstedt GA-52Cx hand-held metal detectors to aid in the surface survey in areas where vegetation obscured the site surface.

During SVS fieldwork the team used a differential mapping-grade Global Positioning System (GPS) for both navigation and recording of their survey tracks during the SVS. To ensure the SVS Team knew where they were and where they were going, the GPS controller was loaded with a data layer displaying the Fillmore Canyon, Parcel D SDZ footprint and planned SVS transects to guide the team and ensure adequate transect spacing.

During the SVS of the SDZ portion of Fillmore Canyon, Parcel D, the SVS field team visually surveyed a total of 15.3 line-miles in the southern portion of the site. Numerous attempts were made to access the northern portion of the site from various access points, but due to the lack of trails and the extreme slope of the terrain, this effort was abandoned due to safety concerns. Figure 5.1 shows the SVS coverage performed during the MEC-PA.

6.0 MEC PROBABILITY ASSESSMENT

Although the project scope required that the MECA-PA be performed using MEC Probability Assessment Appendix Z Tables Z-1, Z-2, and Z-3 (Munitions Type, Hazard Source and MEC Assessment), after analysis, the Chloeta/Scout Team met with the Fort Bliss Team and discussed applying a hybrid approach to the assessment of the 583-acre portion of Fillmore Canyon, Parcel D.

When considering the site's location within a firing fan and hazards associated with access and exposure, the Project Team divided the area and performed a MEC hazard assessment using both USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables and US EPA MEC-HA Automated Workbook to perform the assessment and provide a more accurate representation of the probable MEC hazard associated with the Fillmore Canyon, Parcel D SDZ. The results of this MEC hazard assessment are summarized in Table 6.1 and the details are provided in the following sections.

Table 6.1, MEC Hazard Assessment Summary Table

Area	Acreage	Assessment Tool Used	Score	MEC Hazard Probability
Fillmore Canyon, Parcel D SDZ – Area A	346	MEC-HA Automated Workbook	435	Hazard Level Category 4 (low potential explosive hazard condition)
Fillmore Canyon, Parcel D SDZ – Area B	237	MEC Probability Assessment Appendix Z Tables Z-1, Z-2, and Z-3	0	No probability of encountering MEC

6.1 LOGICAL DIVISION OF THE SITE

Although the 583-acre portion of Fillmore Canyon, Parcel D is labeled and considered as a SDZ, after review of historical information, it was found that Fillmore Canyon, Parcel D SDZ is actually two distinct areas as shown in Figure 6.1. Area A (346 acres) is located within the historical range safety buffers, and Area B (237 acres) is located within the historical range boundary but not located within the historical firing ranges.

6.1.1 AREA A – NORTHERN PORTION OF FILLMORE CANYON, PARCEL D SDZ

Fillmore Canyon, Parcel D SDZ Area A (northern area totaling 346 acres) is located within the extreme extents of historical range 40, 46, 47 safety buffers. The USACE ASR did not indicate any impact areas within the Fillmore Canyon, Parcel D SDZ footprint associated with the three firing ranges (Ranges 40, 46, 47) overlapping this portion of the SDZ footprint.

During the SVS fieldwork, the SVS Team made multiple attempts to access Area A but was unsuccessful due to the extreme terrain. During their efforts to access this area, the UXO team discussed access with BLM personnel they encountered during their survey of Area B and also at

the Dripping Springs BLM Visitors Center. During these discussions, BLM personnel indicated that they were not aware of any safe trails that would enable access to this portion of the site and stated that due to the unsafe terrain and conditions it was unlikely that most of the public hikers would attempt to access this area.

6.1.2 AREA B – SOUTHERN PORTION OF FILLMORE CANYON, PARCEL D SDZ

Fillmore Canyon, Parcel D SDZ Area B (southern portion totaling 237 acres) is located within the historical Fort Bliss anti-aircraft range boundary but is not located within the historical ranges 40, 46, 47 firing fans. During the SVS fieldwork, the UXO Team surveyed the accessible portions of this area and observed no evidence of MEC/UXO, munitions debris (MD), ground scarring or impact craters that would indicate that the area was ever used as a munitions impact area. Prior to the SVS fieldwork, the SUXOS spoke with the lead Fort Bliss Archeologist who indicated that they had not encountered MEC or any metal debris during their November 2021 survey of this area.

6.2 MEC PROBABILITY ASSESSMENT USING MEC-PA APPENDIX Z TABLES

MEC Probability Assessment Appendix Z Tables Z-1, Z-2, and Z-3 were used to assess the 583-acre Fillmore Canyon, Parcel D SDZ, the 346-acre portion of Fillmore Canyon, Parcel D SDZ, designated as Fillmore Canyon, Parcel D SDZ Area A and the 237- acre portion of Fillmore Canyon, Parcel D SDZ, designated as Area B, as discussed below. The MEC Probability Assessment Appendix Z tables for each of these areas are included in Appendix A.

6.2.1 FILLMORE CANYON, PARCEL D SDZ – ENTIRE AREA

It was found that if the entire 583-acre Fillmore Canyon, Parcel D SDZ was assessed as one area using the MEC Probability Assessment Appendix Z Tables Z-1, Z-2, and Z-3 (Munitions Type, Hazard Source and MEC Assessment), the entire area would receive a score of “15” and be considered “Moderate to High probability of Encountering MEC”, due to the northern portion of the site being located within historical ranges 40, 46, 47 firing fans.

- **Munitions Type Table Scoring** - A score of “10” was selected for the Munitions Type Table Z-1, as historical evidence suggests High/low Explosives (i.e., pyrotechnics, Riot control filler, propellants, or Chemical Agent), regardless of configuration, may be located on site.
- **Hazard Source Table Scoring** - A score of “5” was selected for the Hazard Source Table Z-2, as historical evidence supports the site is a former or active range.
- **MEC Assessment Table Scoring** - “Moderate to High probability of Encountering MEC” was selected for the MEC Assessment Table Z-3, as the combined score from tables 1 and 2 = “15”.

6.2.2 FILLMORE CANYON, PARCEL D SDZ – AREA A

When using a hybrid approach and assessing Fillmore Canyon, Parcel D SDZ Areas A and B individually, using the MEC Probability Assessment Appendix Z tables, Area A received a score of "15" and considered "Moderate to High probability of Encountering MEC". This is due to its location within historical ranges 40, 46, 47 firing fans combined with the inability to survey the area during the MEC-PA fieldwork.

- **Munitions Type Table Scoring** - A score of "10" was selected for the Munitions Type Table Z-1, as historical evidence suggests High/low Explosives (i.e., pyrotechnics, riot control filler, propellants, or chemical agent) regardless of configuration may be located on site.
- **Hazard Source Table Scoring** - A score of "5" was selected for the Hazard Source Table Z-2, as historical evidence supports the site is a former or active range.
- **MEC Assessment Table Scoring** - "Moderate to High Probability of Encountering MEC" was selected for the MEC Assessment Table Z-3, as the combined score from tables 1 and 2 = "15".

6.2.3 FILLMORE CANYON, PARCEL D SDZ – AREA B

Using the MEC Probability Assessment Appendix Z Tables Z-1, Z-2, and Z-3, Fillmore Canyon, Parcel D SDZ Area B receives a score of "0" as it is not within historical ranges 40, 46, 47 firing fans, and evidence of MEC/UXO, MD, ground scarring or craters during the MEC-PA SVS was not observed, indicating that the area was used as an impact area. Using this methodology, Area B is considered as "No Probability of Encountering MEC", and as such, no further assessment of this area was required.

- **Munitions Type Table Scoring** - A score of "0" was selected for the Munitions Type Table Z-1, as physical or historical evidence supports that no military munitions or small arms ammunition were used on site.
- **Hazard Source Table Scoring** - A score of "0" was selected for the Hazard Source Table Z-2, as physical or historical evidence supports that no military munitions or small arms ammunition were used on site.
- **MEC Assessment Table Scoring** - "No probability of Encountering MEC" was selected for the MEC Assessment Table Z-3, as the combined score from tables 1 and 2 = "0".

6.3 MEC PROBABILITY ASSESSMENT USING MEC-HA AUTOMATED WORKBOOK

Given the limited hazard assessment in relation to severity, accessibility and sensitivity provided by the USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables Z-1, Z-2, and Z-3 associated with the site's location within a firing fan safety buffer and risk associated with access and exposure, the Project Team divided the area and performed further analysis of the 346-acre northern portion of Fillmore Canyon, Parcel D SDZ, designated as Area A using MEC-HA Automated Workbook v1.02a.

As stated previously, Using the MEC-PA Appendix Z Tables Z-1, Z-2, and Z-3, the 237- acre portion of Fillmore Canyon, Parcel D SDZ Area B received a score of "0" as it is not within historical ranges

40, 46, 47 firing fans, and evidence of MEC/UXO, MD, ground scarring or craters during the MEC-PA SVS was not observed during SVS fieldwork indicating that the area was used as an impact area. Using this methodology Area B is considered as “No probability of Encountering MEC,” and as such, it was determined that further analysis using the MEC-HA was not required and no further assessment was performed.

The MEC HA is structured around three components of potential explosive hazard incidents:

- Severity, which is the potential consequences of the effect (e.g., death, injury) on a human receptor should an MEC item detonate.
- Accessibility, which is the likelihood that a human receptor will be able to come in contact with a MEC item.
- Sensitivity, which is the likelihood that a human receptor will be able to interact with a MEC item such that it will detonate.

Each of these components is assessed in the MEC HA by input factors. Each input factor has two or more categories. Each input factor category is associated with a numeric score that reflects the relative contributions of the different input factors to the MEC hazard assessment. The sum of the input factor scores fall within one of four defined ranges, called Hazard Levels. Each of the four Hazard Levels reflects attributes that describe groups of munition response sites (MRS) and site conditions ranging from the highest to lowest hazards. MEC HA scores should not be interpreted as quantitative measures of explosive hazard. An MRS is any area on a formerly used defense site (FUDS) that is known or suspected to contain UXO, DMM, or MC. Examples include former ranges and munitions burial areas

In addition to data extracted from the ASR, the following factors determined during research and SVS fieldwork were considered during MEC-HA Automated Workbook data input:

As the Fillmore Canyon, Parcel D SDZ Area A is located within the extreme limits of the overlapping historical ranges 40, 46, 47 firing fans, there is a lower probability of MEC projected into this area during past range activities.

According to the USACE ASR, multiple range clearances were performed in the known impact areas associated with these ranges and these impact areas were not located within Area A of the Fillmore Canyon Parcel, D SDZ footprint. The closest impact area identified is 3.86 miles south of the SDZ boundary within these firing fans, representing a lower probability of MEC projected into this area during past range activities.

During SVS fieldwork, it was found that Fillmore Canyon, Parcel D SDZ Area A could not safely be accessed by the SVS Team due to the extreme terrain. Given this fact, it is reasonable to assume that the public would also have difficulty accessing the area. During their efforts to access this area, the SVS Team discussed access with BLM representatives from the Dripping Springs Visitors Center who stated that they were not aware of any safe trails that would enable access to this portion of the site, and due to unsafe terrain and conditions, it was unlikely that the majority of visitors would attempt to access this area for hiking. Requested exposure data was provided by the BLM and used

as an input to the MEC-HA Automated Workbook. Analysis of these data suggest that if MEC does exist within this area, there is a low probability that the public would encounter it due to the lack of accessibility to the area.

Data gleaned from the ASR and gathered during SVS fieldwork were entered in the appropriate Input Factor Categories in the MEC-HA Automated Workbook. Input Factor Categories used for scoring in the MEC-HA Automated Workbook include the following:

- Energetic Material Type
- Location of Additional Human Receptors
- Site Accessibility
- Current and Future Site Activities
- Potential Contact Hours
- Amount of MEC
- Minimum MEC Depth Relative to the Maximum Intrusive Depth
- Migration Potential
- MEC Classification
- MEC Size

Each of these Input Factor Categories incorporate two or more input factors that are each given a numeric score in multiples of five. The numeric scores reflect the relative contributions of the different input factors to MEC hazard. These scores are added to calculate a hazard level, with a maximum possible score of 1000 and a minimum possible score of 125. Hazard levels are ranked from 1 to 4 with higher numbers corresponding to lower potential explosive hazards, as shown in Table 6.2.

Table 6.2, MEC Hazard Assessment Scoring System

Hazard Level	Minimum MEC HA Score	Maximum MEC HA Score	Description
1	840	1000	Highest potential explosive hazard condition
2	725	835	High potential explosive hazard condition
3	530	720	Moderate potential explosive hazard condition
4	125	525	Low potential explosive hazard condition

6.3.1 FILLMORE CANYON, PARCEL D SDZ – AREA A MEC-HA SCORING RESULTS

Using the MEC-HA Automated Workbook, Scoring Summaries from the required inputs resulted in a MEC-HA score of 435 and a hazard level determination of **Hazard Level Category 4** for Fillmore Canyon, Parcel D SDZ Area A as shown in Table 6.3. Hazard Level Category 4 identifies Area A as having a low potential explosive hazard condition. Worksheets from the MEC-HA Automated Workbook used to determine this Hazard Level for Fillmore Canyon, Parcel D SDZ Area A are included in Appendix B.

Table 6.3, Area A MEC Hazard Assessment Score

MEC HA Hazard Level Determination			
Site ID:	**Fillmore Canyon Parcel D SDZ Area A**	**Hazard Level Category**	**Score**
Date:	**3/23/2022**		
a. Current Use Activities		**4**	**435**
b. Future Use Activities			
c. Response Alternative 1:			
d. Response Alternative 2:			
e. Response Alternative 3:			
f. Response Alternative 4:			
g. Response Alternative 5:			
h. Response Alternative 6:			
Characteristics of the MRS			
Is critical infrastructure located within the MRS or within the ESQD arc?		No	
Are cultural resources located within the MRS or within the ESQD arc?		Yes	
Are significant ecological resources located within the MRS or within the ESQD arc?		No	

This MEC-HA score should not be interpreted as quantitative measures of explosive hazard. The possible presence of MEC in Area A means that an explosive hazard may exist. Therefore, MEC may still pose a hazard at a Hazard Level 4 site.

7.0 **REFERENCES**

DDESB TP-18, Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel, September 1, 2016.

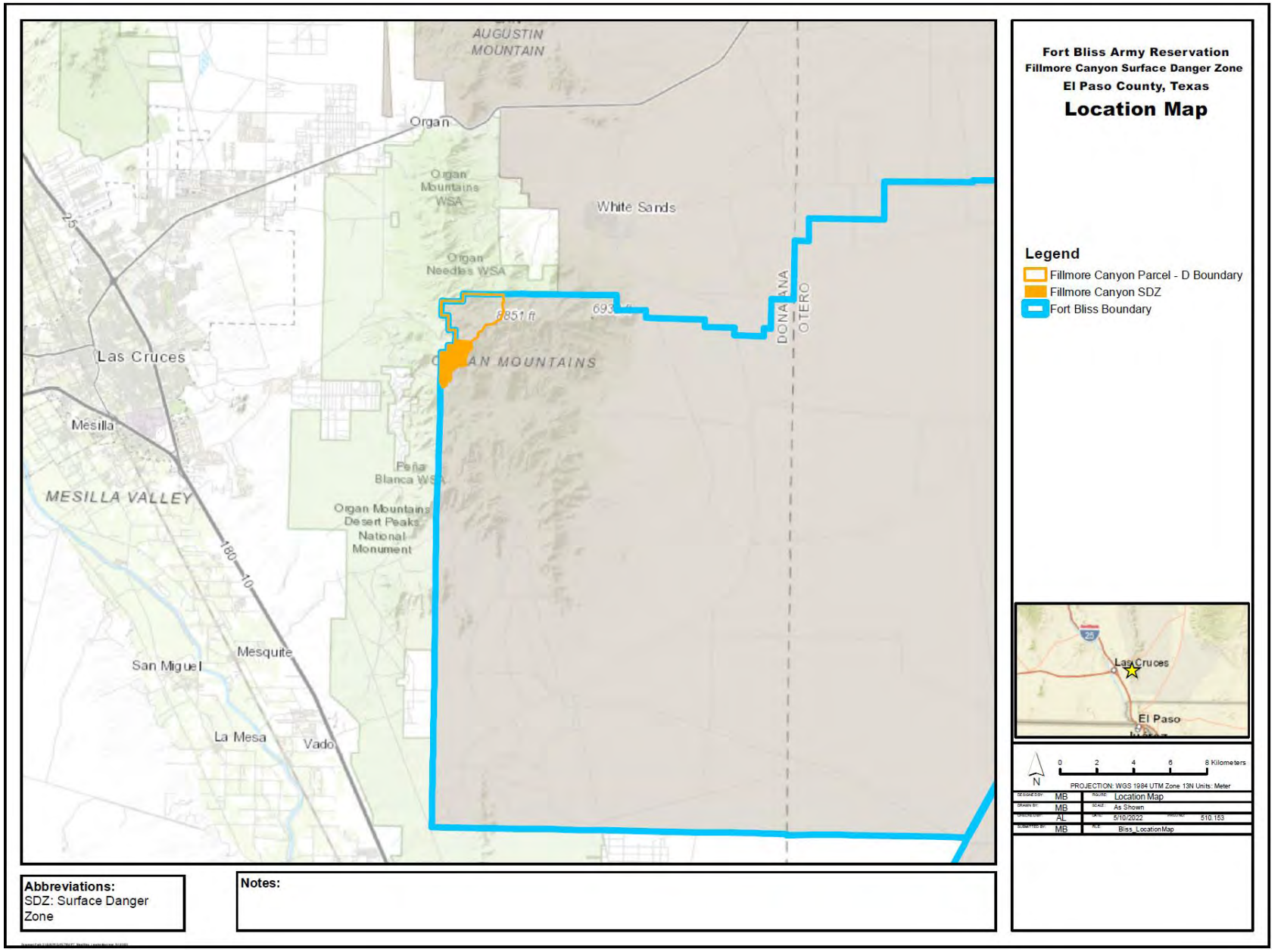
Defense Explosive Safety Regulation (DESR) 6055.09, Ammunition and Explosives Safety Standards.

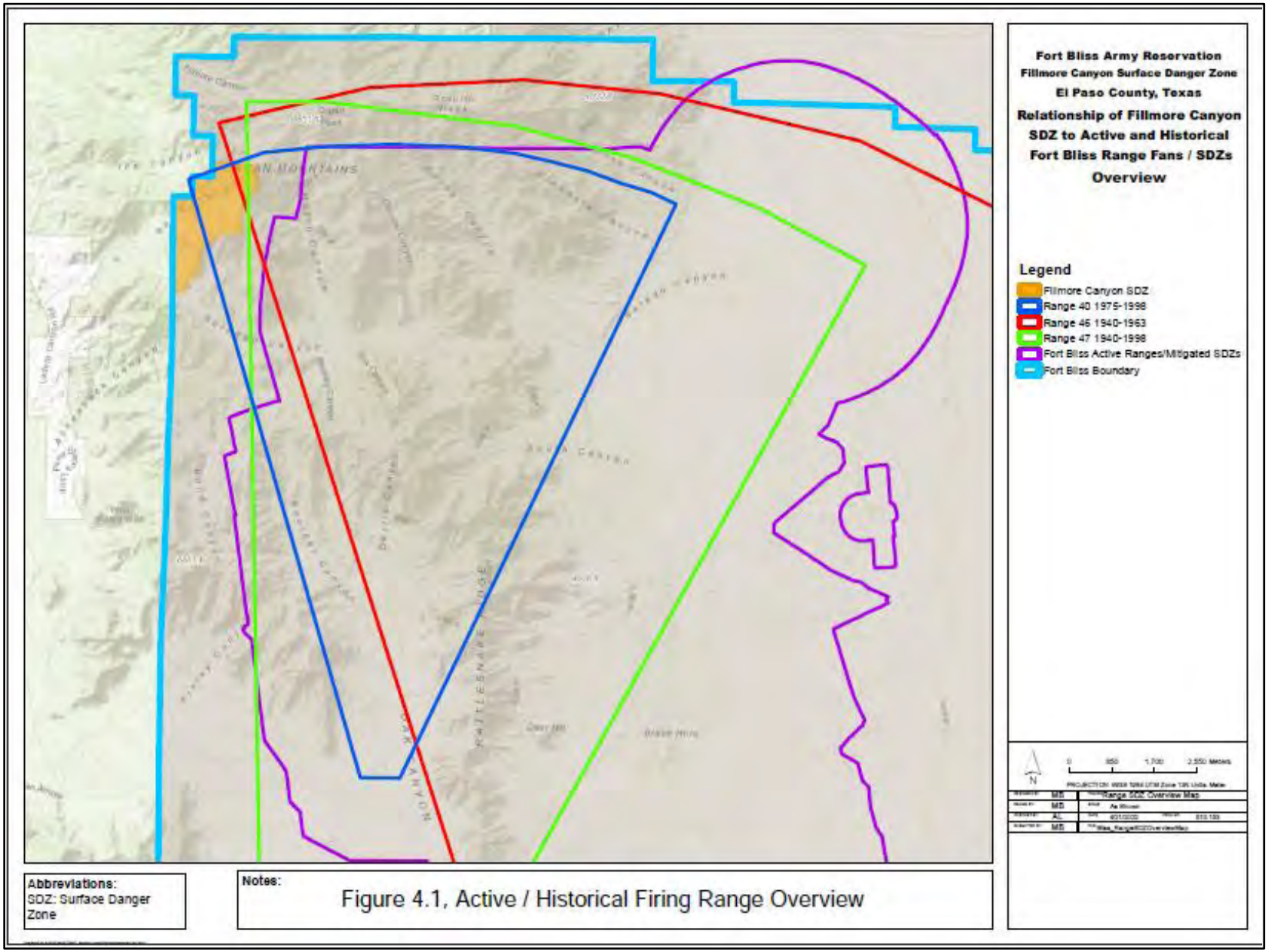
U.S. Army Corps of Engineers, Explosives - Safety and Health Requirements Manual with Change 1 (12 April 2013). Engineer Manual 385-1-97, 17 May 2013).

U.S. Army Corps of Engineers, Ordnance and Explosives Usage Doña Ana Range Complex Fort Bliss, Texas Archive Search Report (ASR), April 1998.

Appendix A

Figures


AUGUSTIN MOUNTAIN
Organ
Organ Mountains WSA
White Sands
Organ Needles WSA
9851 ft
693
DONA ANA
OTERO
Las Cruces
Mesilla
MESILLA VALLEY
Peña Blanca WSA
Organ Mountains Desert Peaks National Monument
Mesquite
San Miguel
La Mesa
Vado
Fort Bliss Army Reservation
Fillmore Canyon Surface Danger Zone
El Paso County, Texas
Location Map
Legend
Fillmore Canyon Parcel - D Boundary
Fillmore Canyon SDZ
Fort Bliss Boundary
Las Cruces
El Paso
0 2 4 6 8 Kilometers
N
PROJECTION: WGS 1984 UTM Zone 13N Units: Meter
MB Location Map
MB As Shown
AL 5/10/2022 510.153
MB Bliss_LocationMap
Abbreviations:
SDZ: Surface Danger Zone
Notes:


Fort Bliss Army Reservation
Fillmore Canyon Surface Danger Zone
El Paso County, Texas
Relationship of Fillmore Canyon SDZ to Active and Historical Fort Bliss Range Fans / SDZs Overview
Legend
Fillmore Canyon SDZ
Range 40 1975-1998
Range 46 1940-1963
Range 47 1940-1998
Fort Bliss Active Ranges/Mitigated SDZs
Fort Bliss Boundary
Abbreviations:
SDZ: Surface Danger Zone
Notes:
Figure 4.1, Active / Historical Firing Range Overview

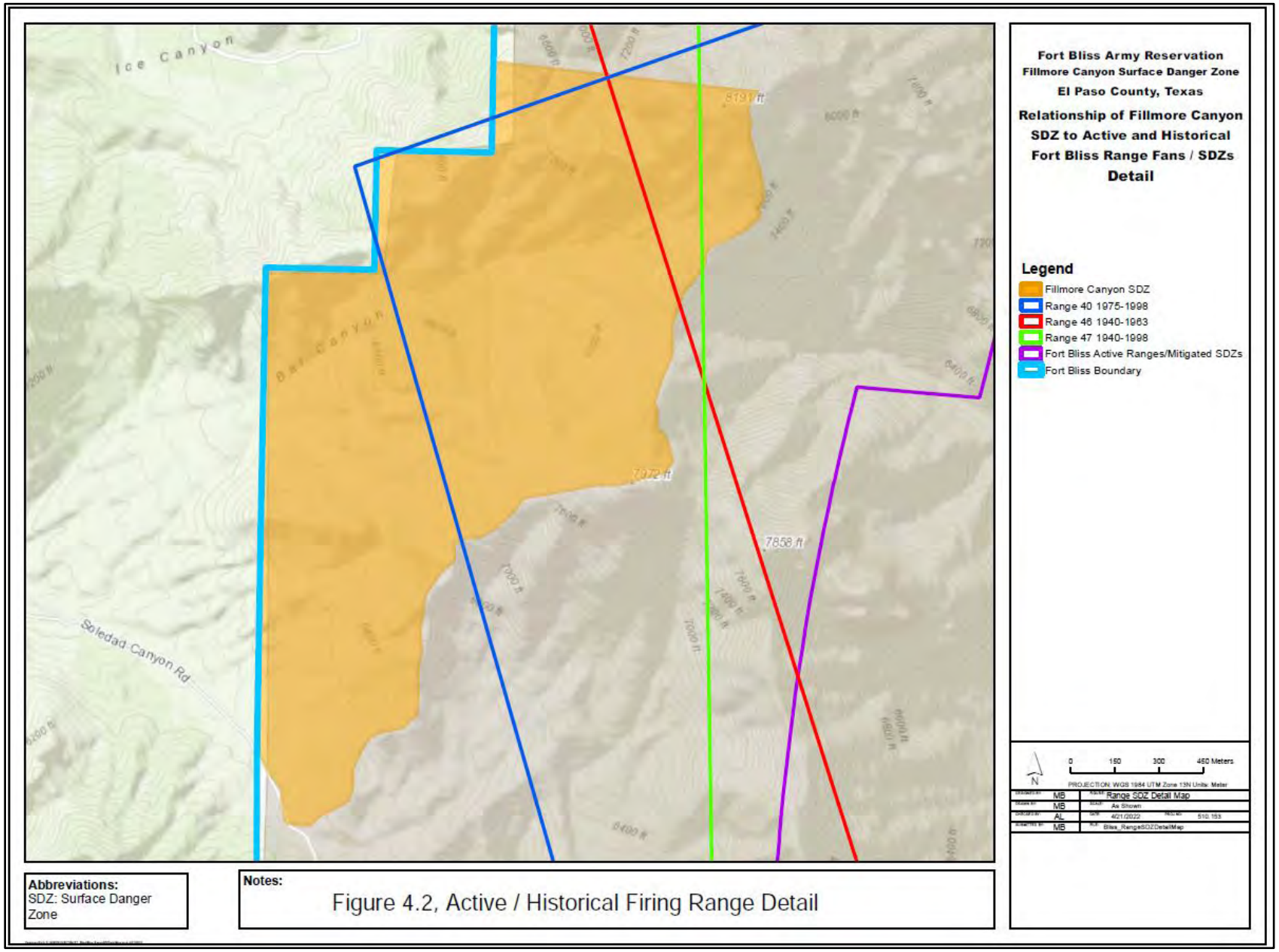
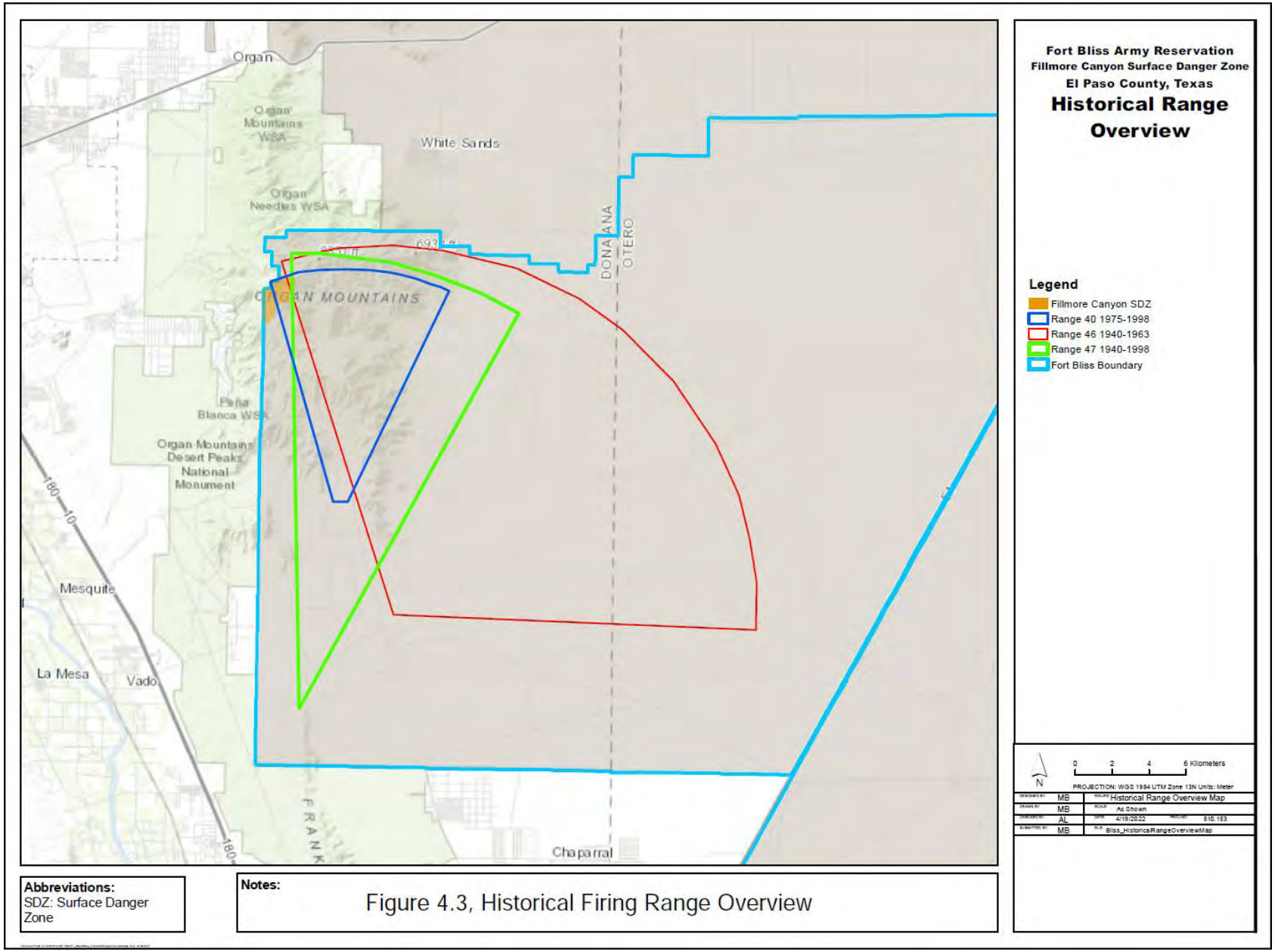


Figure 4.2, Active / Historical Firing Range Detail


Fort Bliss Army Reservation
Fillmore Canyon Surface Danger Zone
El Paso County, Texas
Historical Range Overview
Legend
Fillmore Canyon SDZ
Range 40 1975-1998
Range 46 1940-1963
Range 47 1940-1998
Fort Bliss Boundary
Organ
Organ Mountains WSA
Organ Needles WSA
White Sands
DONA ANA
OTERO
ORGAN MOUNTAINS
Peña Blanca WSA
Organ Mountains Desert Peaks National Monument
Mesquite
La Mesa
Vado
Chaparral
FRANK
0 2 4 6 Kilometers
N
PROJECTION: WGS 1984 UTM Zone 13N Units: Meter
MB Historical Range Overview Map
MB As Shown
AL 4/19/2022 510.153
MB Bliss_HistoricalRangeOverviewMap
Abbreviations:
SDZ: Surface Danger Zone
Notes:
Figure 4.3, Historical Firing Range Overview

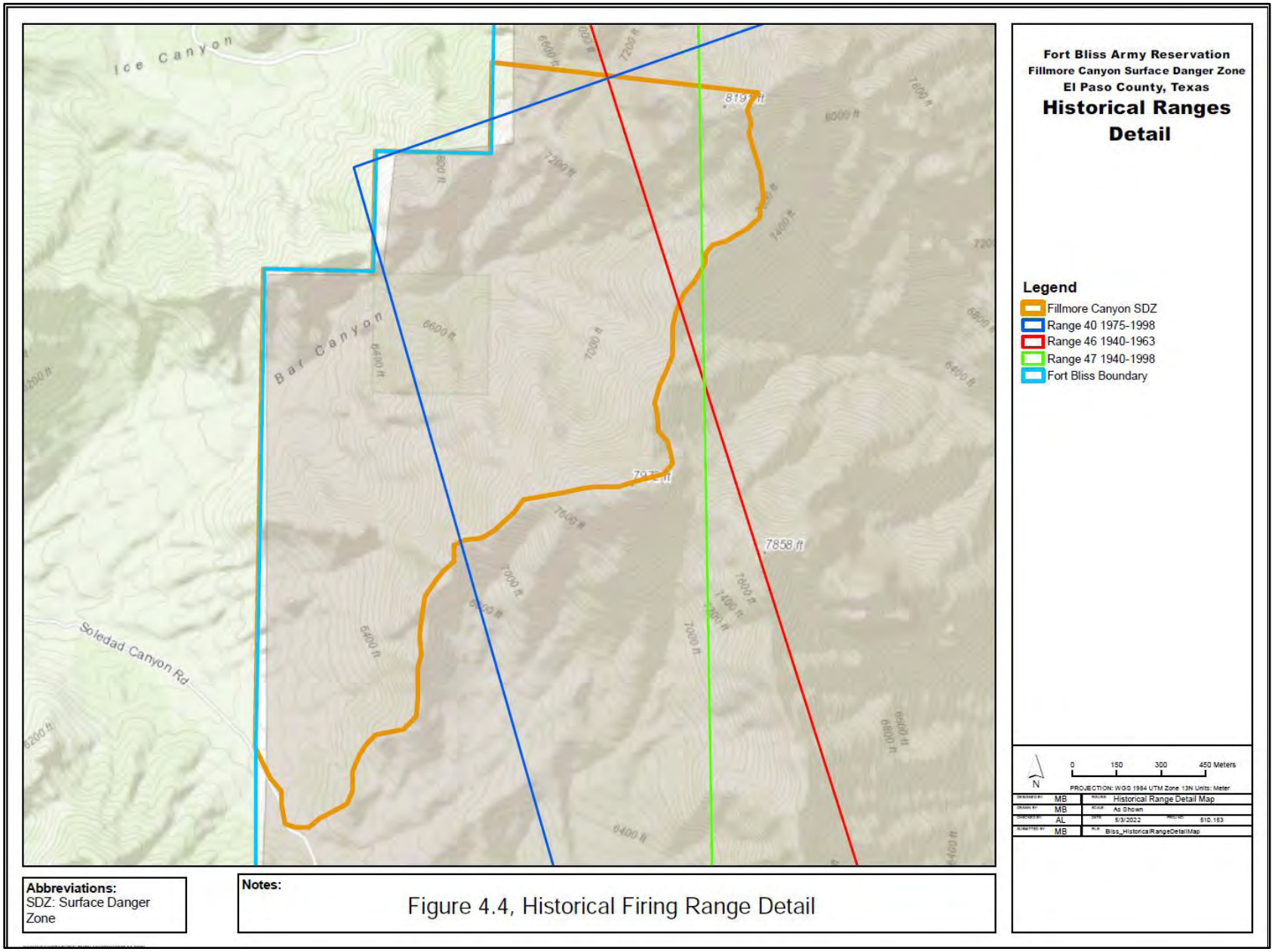
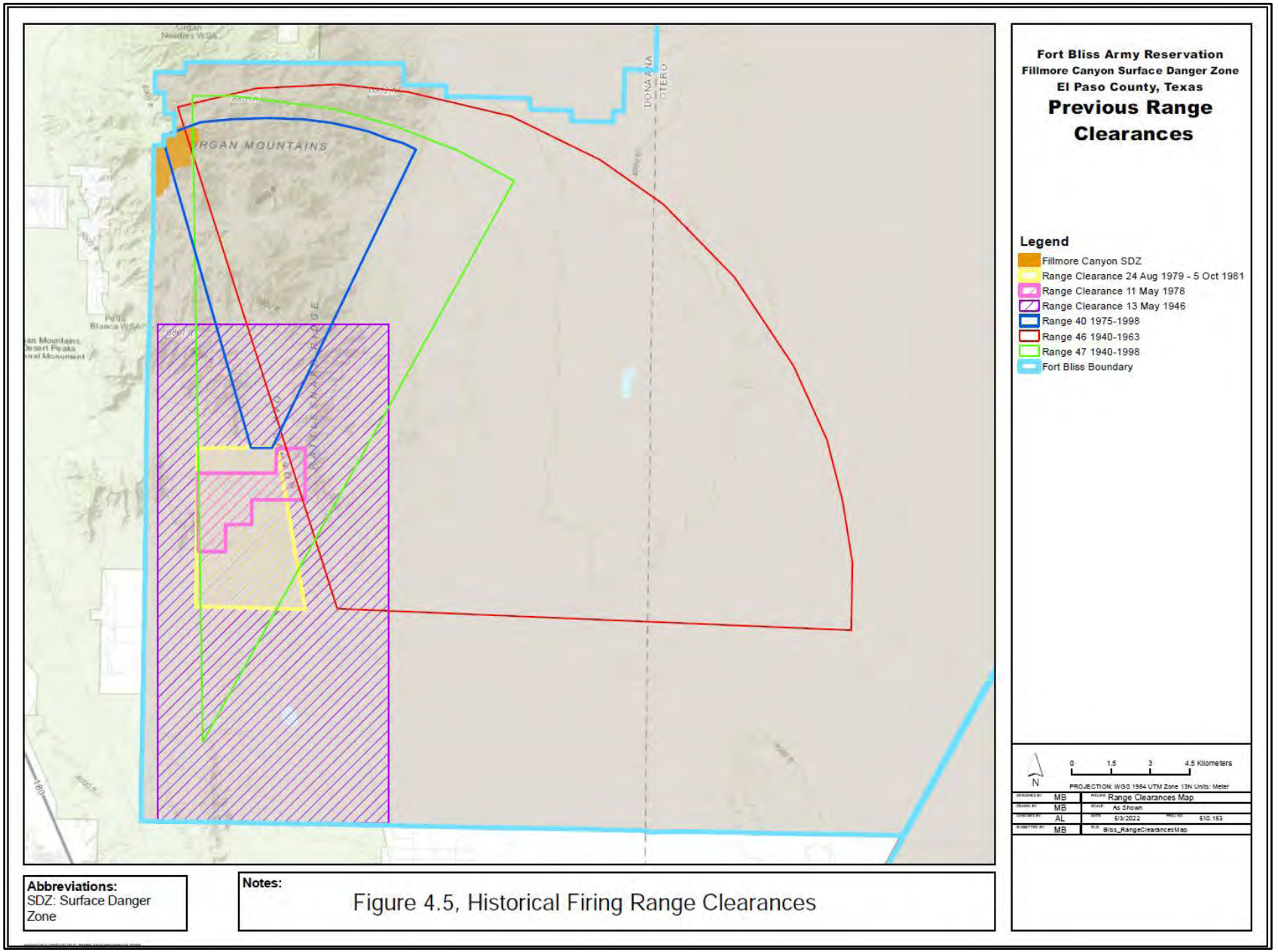


Figure 4.4, Historical Firing Range Detail


Fort Bliss Army Reservation
Fillmore Canyon Surface Danger Zone
El Paso County, Texas
Previous Range Clearances
Legend
Fillmore Canyon SDZ
Range Clearance 24 Aug 1979 - 5 Oct 1981
Range Clearance 11 May 1978
Range Clearance 13 May 1946
Range 40 1975-1998
Range 46 1940-1963
Range 47 1940-1998
Fort Bliss Boundary
0 1.5 3 4.5 Kilometers
PROJECTION: WGS 1984 UTM Zone 13N Units: Meter
MB Range Clearances Map
MB As Shown
AL 5/3/2022 510.153
MB Bliss_RangeClearancesMap
Abbreviations:
SDZ: Surface Danger Zone
Notes:
Figure 4.5, Historical Firing Range Clearances

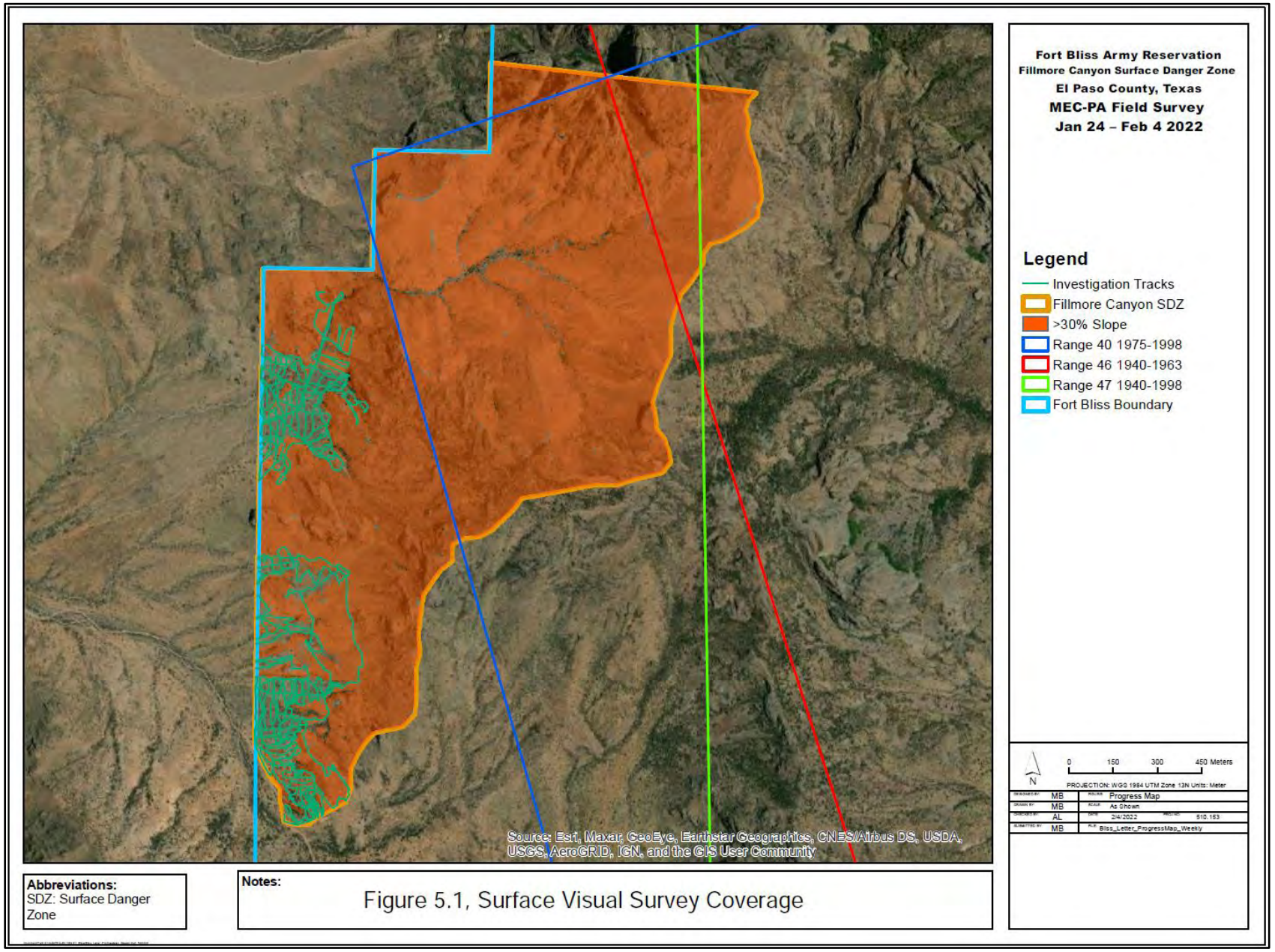


Figure 5.1, Surface Visual Survey Coverage

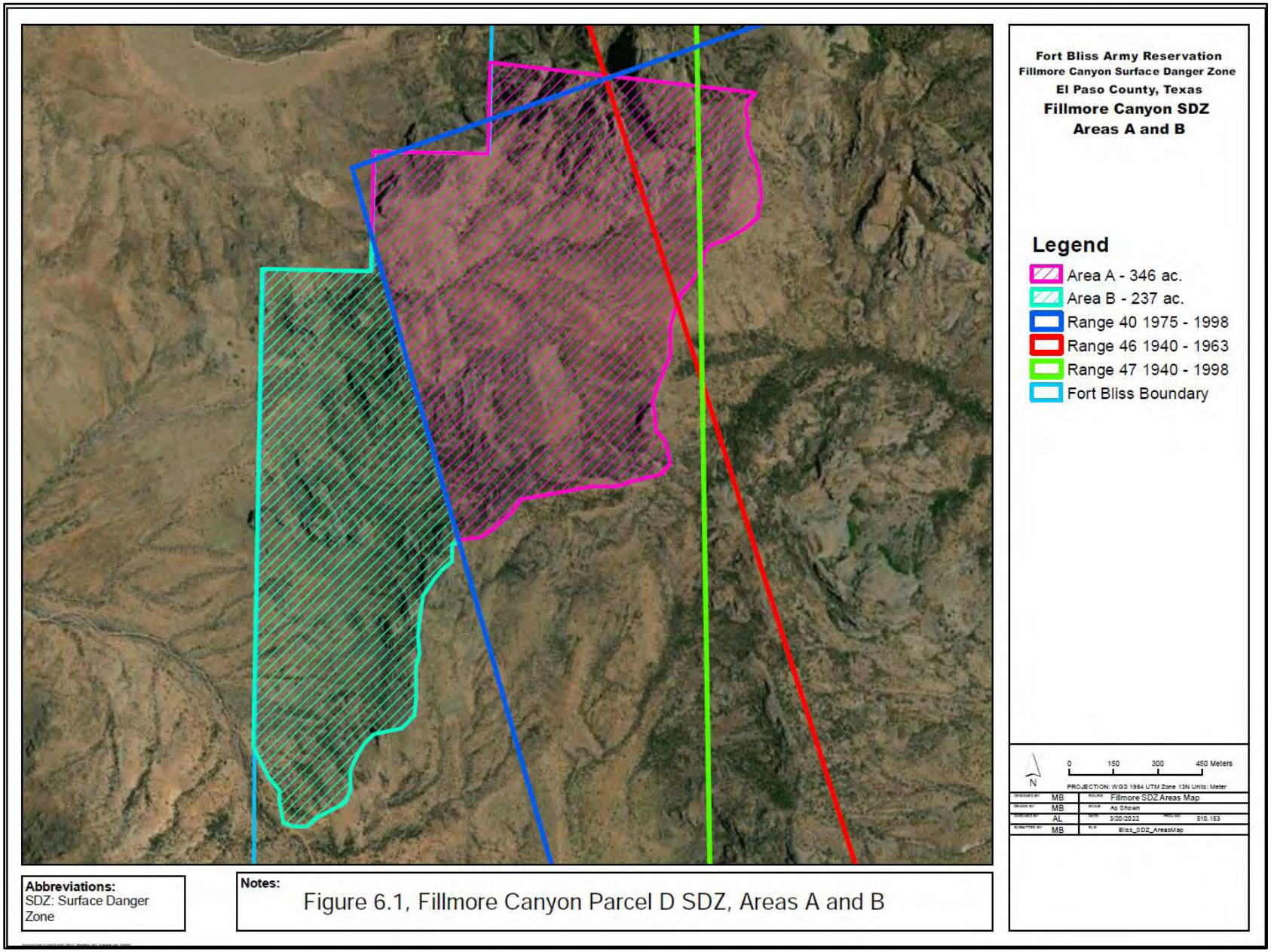


Figure 6.1, Fillmore Canyon Parcel D SDZ, Areas A and B

Appendix B

MEC Probability Assessment Appendix Z Scoring Tables

USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables
FILLMORE CANYON PARCEL D SDZ – ENTIRE AREA (583 Acres)

Table Z.1, MUNITIONS TYPE

Physical or historical evidence suggests High/low Explosives (Le., pyrotechnics, Riot control filler, propellants, or Chemical Agent) regardless of configuration may be located on site.	***10***
Small Arms Ammunition. Physical or historical evidence supports that no military munitions other than small arms were used on the site.	2
Physical or historical evidence supports that no military munitions or small arms ammunition were used on site.	0

Table Z.2, Hazard Source

Physical or historical evidence supports the site is a former or active range (practice or Live), for Open Burning/Open Detonation of Munitions, munitions burial pit, or the site is a former or active munitions maintenance, manufacturing. demilitarization facility.	***5***
Physical or historical evidence supports the site was a firing point. munitions storage or transfer point. or small arms range.	2
Physical or historical evidence supports that no military munitions or small arms ammunition were used on site.	0

Table Z.3, MEC Assessment

Total score from tables 1 and 2	
Combined score from tables 1 and 2 = 8-15	***Moderate to High probability***
Combined score from tables 1 and 2 = 1-7	Low probability
Combined score from tables 1 and 2 = 0	No probability

USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables

FILLMORE CANYON PARCEL D SDZ – AREA A (346 Acres)

Table Z.1, MUNITIONS TYPE

Physical or historical evidence suggests High/low Explosives (Le., pyrotechnics, Riot control filler, propellants, or Chemical Agent) regardless of configuration may be located on site.	***10***
Small Arms Ammunition. Physical or historical evidence supports that no military munitions other than small arms were used on the site.	2
Physical or historical evidence supports that no military munitions or small arms ammunition were used on site.	0

Table Z.2, Hazard Source

Physical or historical evidence supports the site is a former or active range (practice or Live), for Open Burning/Open Detonation of Munitions, munitions burial pit, or the site is a former or active munitions maintenance, manufacturing. demilitarization facility.	***5***
Physical or historical evidence supports the site was a firing point. munitions storage or transfer point. or small arms range.	2
Physical or historical evidence supports that no military munitions or small arms ammunition were used on site.	0

Table Z.3, MEC Assessment

Total score from tables 1 and 2	
Combined score from tables 1 and 2 = 8-15	***Moderate to High probability***
Combined score from tables 1 and 2 = 1-7	Low probability
Combined score from tables 1 and 2 = 0	No probability

USACE EM 385-1-9, MEC-PA Appendix Z Scoring Tables

FILLMORE CANYON PARCEL D SDZ – AREA B (237 Acres)

Table Z.1, MUNITIONS TYPE

Physical or historical evidence suggests High/low Explosives (Le., pyrotechnics, Riot control filler, propellants, or Chemical Agent) regardless of configuration may be located on site.	10
Small Arms Ammunition. Physical or historical evidence supports that no military munitions other than small arms were used on the site.	2
Physical or historical evidence supports that no military munitions or small arms ammunition were used on site.	***0***

Table Z.2, Hazard Source

Physical or historical evidence supports the site is a former or active range (practice or Live), for Open Burning/Open Detonation of Munitions, munitions burial pit, or the site is a former or active munitions maintenance, manufacturing. demilitarization facility.	5
Physical or historical evidence supports the site was a firing point. munitions storage or transfer point. or small arms range.	2
Physical or historical evidence supports that no military munitions or small arms ammunition were used on site.	***0***

Table Z.3, MEC Assessment

Total score from tables 1 and 2	
Combined score from tables 1 and 2 = 8-15	Moderate to High probability
Combined score from tables 1 and 2 = 1-7	Low probability
Combined score from tables 1 and 2 = 0	***No probability***

Appendix C

MEC-HA Worksheets

MEC HA Summary Information

Site ID:	Fillmore Canyon Parcel D SDZ Area A
Date:	3/23/2022

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

Fillmore Canyon Parcel D SDZ Area A

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	U.S. Army Corps of Engineers, Ordnance and Explosives Usage Doña Ana Range Complex Ft Bliss, Texas Archive Search Report (ASR), April 1998.
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): 346 acres
2. Past munitions-related use:

Safety Buffer Areas

3. Current land-use activities (list all that occur):

Biology surveys and possible hiking

4. Are changes to the future land-use planned? No
5. What is the basis for the site boundaries?

This site is a part of a land transfer parcel that falls within the extreme limits of historical firing range safety fans

6. How certain are the site boundaries?

Unknown

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? No, none
2. If a clearance occurred:
   a. What year was the clearance performed?

Comments: Multiple clearances were reported to have been performed on the impact areas associated with the range safety buffers associated with the site, but not on the site

MECHA - Fillmore Canyon Parcel D SDZ Area A
Summary Info Worksheet

5. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Reference(s) for Part C:

[redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

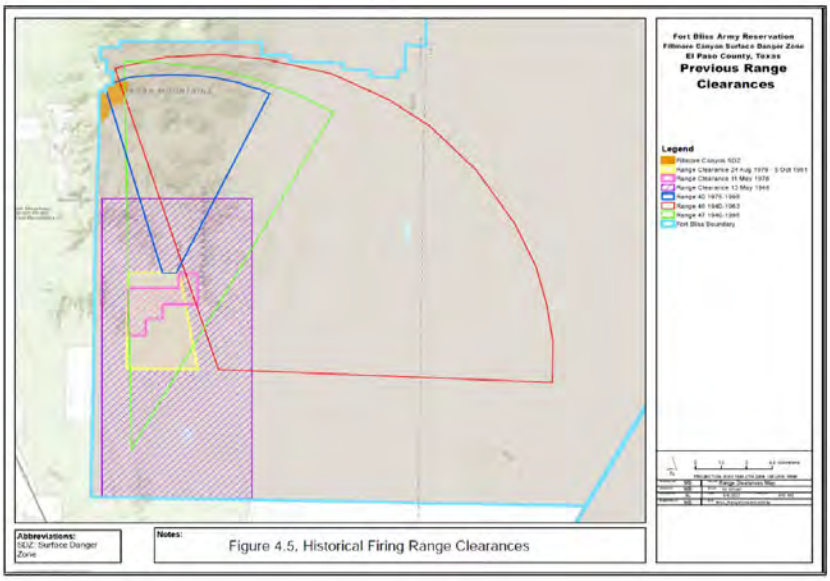


Figure 4.5, Historical Firing Range Clearances

MECHA - Fillmore Canyon Parcel D SDZ Area A
Summary Info Worksheet

Site ID: **Fillmore Canyon Parcel D SDZ Area A**
Date: **3/23/2022**

Cased Munitions Information

Item No.	Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Location of Munitions
1	Artillery	75	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
2	Artillery	90	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
3	Artillery	105	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
4	Artillery	106	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
5	Artillery	155	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
6	Artillery	175	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
7	Artillery	8	inches	High Explosive	Yes	Impact	UNK	Surface and Subsurface
8	Artillery	210	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
9	Mortars	60	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
10	Mortars	81	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
11	Mortars	4.2	inches	High Explosive	Yes	Impact	UNK	Surface and Subsurface
12	Artillery	165	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
13	Artillery	20	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
14	Artillery	25	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
15	Artillery	30	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
16	Artillery	35	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
17	Artillery	40	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
18	Rockets	66	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface
19	Rockets	2.75	inches	High Explosive	Yes	Impact	UNK	Surface and Subsurface
20	Guided and Ballistic Missiles	150	mm	High Explosive	Yes	Impact	UNK	Surface and Subsurface

Reference(s) for table above:

[redacted]

Bulk Explosive Information

Item No.	Explosive Type	Comments
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

MECHA - Fillmore Canyon Parcel D SDZ Area A
Munitions, Bulk Explosive Info Worksheet

Site ID: **Fillmore Canyon Parcel D SDZ Area A**
Date: **3/23/2022**

Activities Currently Occurring at the Site

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	Hiking	70,000	2	**140,000**	0	Average of visitors 2018 -2021 - Access through Soledad Recreation Center
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
			Total Potential Contact Time (receptor hrs/yr):	**140,000**		
			Maximum intrusive depth at site (ft):		**0**	

Reference(s) for table above:

Provided by BLM

[redacted]

Public Visitation Numbers

These originate from vehicle counters and the assumption that there are an average of 2.5 people per vehicle.

Soledad Canyon Day Use Area

2018*	46,990
2019	73,158
2020*	69,575
2021	74,415

Note: 2018-counter malfunctioned for several months so the visitation numbers are skewed. 2020-COVID shut down the sites for 2-3 months so visitation numbers were also skewed that year.

MECHA - Fillmore Canyon Parcel D SDZ Area A
Current and Future Activities Worksheet

Site ID: **Fillmore Canyon**
Parcel D SDZ Area A
Date: **3/23/2022**

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'.

	Score
Baseline Conditions:	**100**
Surface Cleanup:	**100**
Subsurface Cleanup:	**100**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? feet

2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No

3. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for current use activities

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Outside of the ESQD arc', based on Question 2.'

	Score
Baseline Conditions:	**0**
Surface Cleanup:	**0**
Subsurface Cleanup:	**0**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?

6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores. ***Score***

MECHA - Fillmore Canyon Parcel D SDZ Area A
Input Factors Worksheet

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

Very Limited Accessibility

Baseline Conditions: **5**
Surface Cleanup: **5**
Subsurface Cleanup: **5**

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

[redacted]

Response Alternative No. 1: None

Based on the 'Planned Remedial or Removal Actions' Worksheet, this alternative will lead to 'Very Limited Accessibility'.

Baseline Conditions: **5**
Surface Cleanup: **5**
Subsurface Cleanup: **5**

Response Alternative No. 2:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

MECHA - Fillmore Canyon Parcel D SDZ Area A
Input Factors Worksheet

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **140,000** receptor hrs/yr
Based on the table above, this corresponds to a input factor score for baseline conditions of: **70** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: receptor hrs/yr
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1: None

Based on the 'Planned Remedial or Removal Actions' Worksheet, land use activities will not change if this alternative is implemented.
Total Potential Contact Time, based on the contact time listed for current use activities (see 'Current and Future Activities' Worksheet) **140,000**
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions: **70**
Surface Cleanup: **50**
Subsurface Cleanup: **20**

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: Score
Baseline Conditions:

MECHA - Fillmore Canyon Parcel D SDZ Area A
Input Factors Worksheet

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

Safety Buffer Areas

Baseline Conditions: **30**
Surface Cleanup: **10**
Subsurface Cleanup: **5**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: ft
The deepest intrusive depth: **0** ft
The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Not enough information has been entered to determine the input factor category. ***Score***

MECHA - Fillmore Canyon Parcel D SDZ Area A
Input Factors Worksheet

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? No

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Unlikely.'

	Score
Baseline Conditions:	**10**
Surface Cleanup:	**10**
Subsurface Cleanup:	**10**

Reference(s) for above information:

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'Safety Buffer Areas'. It cannot be automatically assumed that the MEC items from this category are DMM. Therefore, the conservative assumption is that the MEC items in this MRS are UXO.

Has a technical assessment shown that MEC in the OB/OD Area is DMM?

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: Yes

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

At least one item listed in the 'Munitions, Bulk Explosive Info' Worksheet was identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

UXO Special Case	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

MECHA - Fillmore Canyon Parcel D SDZ Area A
Input Factors Worksheet

Based on your answers above, the MEC classification is 'UXO Special Case'.

	Score
Baseline Conditions:	180
Surface Cleanup:	180
Subsurface Cleanup:	180

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

	Score
Baseline Conditions:	40
Surface Cleanup:	40
Subsurface Cleanup:	40

MECHA - Fillmore Canyon Parcel D SDZ Area A
Input Factors Worksheet

Scoring Summary

Site ID:	Fillmore Canyon Parcel D SDZ Ar	a. Scoring Summary for Current Use Activities	
Date:	3/23/2022	Response Action Cleanup:	No Response Action
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors		Outside of the ESQD arc	0
III. Site Accessibility		Very Limited Accessibility	5
IV. Potential Contact Hours		100,000 to 999,999 receptor hrs/yr	70
V. Amount of MEC		Safety Buffer Areas	30
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Unlikely	10
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	**435**
		Hazard Level Category	**4**

Site ID:	Fillmore Canyon Parcel D SDZ Ar	b. Scoring Summary for Future Use Activities	
Date:	3/23/2022	Response Action Cleanup:	No Response Action
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Safety Buffer Areas	30
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Unlikely	10
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	360
		Hazard Level Category	4

Site ID:	Fillmore Canyon Parcel D SDZ Ar	c. Scoring Summary for Response Alternative 1: None	
Date:	3/23/2022	Response Action Cleanup:	No MEC cleanup
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors		Outside of the ESQD arc	0
III. Site Accessibility		Very Limited Accessibility	5
IV. Potential Contact Hours		100,000 to 999,999 receptor hrs/yr	70
V. Amount of MEC		Safety Buffer Areas	30
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240
VII. Migration Potential		Unlikely	10
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	**675**
		Hazard Level Category	**3**

MECHA - Fillmore Canyon Parcel D SDZ Area A
Scoring Summaries Worksheet

MEC HA Hazard Level Determination			
Site ID:	**Fillmore Canyon Parcel D SDZ Area A**	**Hazard Level Category**	**Score**
Date:	**3/23/2022**		
a. Current Use Activities		**4**	**435**
b. Future Use Activities			
c. Response Alternative 1:			
d. Response Alternative 2:			
e. Response Alternative 3:			
f. Response Alternative 4:			
g. Response Alternative 5:			
h. Response Alternative 6:			

Characteristics of the MRS	
Is critical infrastructure located within the MRS or within the ESQD arc?	No
Are cultural resources located within the MRS or within the ESQD arc?	Yes
Are significant ecological resources located within the MRS or within the ESQD arc?	No

MECHA - Fillmore Canyon Parcel D SDZ Area A
Hazard Level Worksheet

APPENDIX B – Public Participation

This appendix provides a summary of the public participation activities associated with this EA.

The Draft EA and Draft FONSI is available to federal, state, and local agencies, Native American tribes, and the public for review and comment for 30 days. Fort Bliss will publish a Notice of Availability for the Draft EA in the following newspapers:

- El Paso Times;
- Las Cruces Sun-News (only available digitally on Saturdays);
- El Diario.

Fort Bliss will also make the Draft EA available for online viewing at https://home.army.mil/bliss/index.php/about/Garrison/directorate-public-works/environmental and at the following libraries:

- Las Cruces: Thomas Branigan Memorial Library, 200 E. Picacho Avenue, Las Cruces, New Mexico 88001;
- El Paso: El Paso Public Library Richard Burges Branch, 9600 Dyer St C, El Paso, TX 79924; and

Following the 30-day review of the Draft EA, the Army will incorporate relevant comments received. If the Army identifies any significant impacts during the review of comments, the Army would prepare a Notice of Intent and commence the Environmental Impact Statement process. If the EA does not identify significant impacts, the Army would sign the EA, and prepare and sign a FONSI.

The following pages include the distribution list of agencies that were e-mailed the Notice of Availability and an electronic copy of the Draft EA.

In the Final EA, this appendix will also include the 1. Affidavits of Publication for the public notice published in area newspapers, and 2. any public or agency comments.

No.	Organization	Contact	Title	Address	Email	Type
1	U.S. Department of Agriculture		Forest Supervisor	Lincoln National Forest 3463 Las Palomas Rd. Alamogordo, NM 88310		Federal
2	White Sands Missile Range		Environmental Division Chief			Federal
3	U.S. Fish and Wildlife Service		Regional Director	500 Gold Ave. SW Albuquerque, NM 87102		Federal
4	US Environmental Protection Agency, Region 6		Acting Regional Administrator	1201 Elm Street Dallas, Texas 75270		Federal
5	Advisory Council on Historic Preservation		Program Analyst/Liaison	401 F Street NW, Suite 308 Washington DC 20001		Federal
6	Doña Ana County	Fernando R. Macias	County Manager	845 N Motel Blvd Las Cruces, NM 88007	fernandom@donaanacounty.org	Local

No.	Organization	Contact	Title	Address	Email	Type
7	Otero County	Pamela Heltner	County Manager	1101 New York Avenue Room106 Alamogordo, NM 88310	pheltner@co.otero.nm.us	Local
8	City of El Paso	Oscar Leeser	Mayor	300 N. Campbell El Paso, TX 79901	mayor@elpasotexas.gov	Local
9	City of El Paso	Tommy Gonzalez	City Manager	300 N. Campbell El Paso, TX 79901		Local
10	City of Las Cruces	Ken Miyagishima	Mayor	700 North Main Las Cruces, NM 88001	KMiyagishima@las-cruces.org	Local
11	National Register of Historic Places	Greg Smith	Coordinator, Federal Programs		greg.smith@thc.texas.gov	State
12	New Mexico Historic Preservation Division	Jeff Pappas	State Historic Preservation Officer	Bataan Memorial Building, 407 Galisteo Street, Suite	jeff.pappas@state.nm.us	State

No.	Organization	Contact	Title	Address	Email	Type
				236, Santa Fe, NM 87501		
13	New Mexico Game and Fish	Mike Matthews	SW Area Captain	2715 Northrise Dr. Las Cruces, NM 88011	michiel.matthews@state.nm.us	State
14	BLM Las Cruces District Office	Bill Childress	District Manager	1800 Marquess Street, Las Cruces, NM 88005	wchildre@blm.gov	State
15	New Mexico Environmental Department	Michael Kesler	District Manager	2301 Entrada Del Sol Las Cruces, NM 88001	Alamogordo.ehb@state.nm.us	State
16	Comanche Nation of Oklahoma	Mark Woommavovah	Chairman	PO Box 908 Lawton, OK 73502		Tribe
17	Fort Sill Apache Tribe of Oklahoma	Lori Gooday-Ware	Chairman	43187 US Highway 281 Apache, OK 73006	lori.g.ware@fortsillapache-nsn.gov	Tribe
18	Kiowa Tribe of Oklahoma	Matthew Komalty	Chairman	PO Box 369 Carnegie, OK 73015	mkomalty@kiowatribe.org	Tribe

No.	Organization	Contact	Title	Address	Email	Type
19	Mescalero Apache Tribe	Gabe Aguilar	Tribal President	P.O. Box 227 108 Central Avenue Mescalero, NM 88340		Tribe
20	White Mountain Apache Tribe	Kasey Velasquez	Chairman	PO Box 700 Whiteriver, AZ 85941	KaseyVelasquez@wmat.us	Tribe
21	Ysleta del Sur Pueblo (Tigua)	Michael Silvas	Governor	PO Box 17579 - Ysleta Station El Paso, TX 79917	michael.silvas@ydsp-nsn.gov	Tribe
22	Pueblo of Isleta	Vernon B. Abeita	Governor	P.O. Box 1290 Isleta, NM 87022		Tribe