

**RELEASE ASSESSMENT REPORT
PARCELS 11, 12, 14 AND 25
DRAFT**

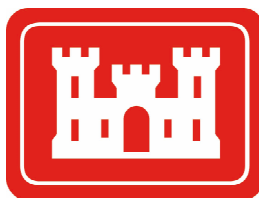
**FORT WINGATE DEPOT ACTIVITY
McKinley County, New Mexico**

28 August 2007

**Contract No. W9126G-06-D-0016
Task Order No. 0005**

Prepared for:

**U.S. Army Corps of Engineers
Fort Worth, Texas**



Prepared by:

Terranear**PMC**

222 Valley Creek Blvd
Suite 210
Exton, PA 19341

Requests for this document must be referred to:
Commander, U.S. Army Corps of Engineers
Fort Worth District
Attn: CESWF-PER-DI (Beverly Post)
819 Taylor Street
Room 3A12
Fort Worth, TX 76112

1 **TABLE OF CONTENTS**

	<u>Page No.</u>
3 ES.0 EXECUTIVE SUMMARY	ES-1
4 ES.1 PURPOSE	ES-1
5 ES.2 SIGNIFICANT CONCLUSIONS	ES-1
6 ES.3 CONCLUSIONS	ES-2
7 1.0 INTRODUCTION	1-1
8 1.1 PURPOSE/OBJECTIVE	1-1
9 1.2 PERMIT RELEASE ASSESSMENT REPORT REQUIREMENTS	1-1
10 1.3 REPORT ORGANIZATION	1-2
11 2.0 OVERVIEW	2-1
12 2.1 INSTALLATION DESCRIPTION AND HISTORY	2-1
13 2.2 AREAS OF CONCERN WITHIN PARCELS 11, 12, 14, AND 25	2-2
14 3.0 RELEASE ASSESSMENT METHODOLOGY	3-1
15 3.1 RECORDS REVIEW	3-1
16 3.2 SITE RECONNAISSANCE AND CONFIRMATORY SAMPLING	3-1
17 4.0 AOC 46 – AST LOCATED NEAR BUILDING 11	4-1
18 4.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	4-1
19 4.2 WASTE MANAGEMENT INFORMATION	4-1
20 4.3 RELEASE ASSESSMENT	4-1
21 4.3.1 Historical Records/Document Review	4-1
22 4.3.2 Site Reconnaissance Findings	4-2
23 4.3.3 Confirmatory Sampling	4-2
24 4.4 RELEASE ASSESSMENT CONCLUSION	4-3
25 5.0 AOC 47 – TPL SPILL OF PHOTOFASH POWDER WEST OF	
26 BUILDING 11	5-1
27 5.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	5-1

TABLE OF CONTENTS (CONTINUED)

		<u>Page No.</u>
1	5.2 WASTE MANAGEMENT INFORMATION	5-1
2	5.3 RELEASE ASSESSMENT	5-1
3	5.3.1 Historical Records/Document Review	5-1
4	5.3.2 Site Reconnaissance Findings	5-2
5	5.3.3 Confirmatory Sampling	5-2
6	5.4 RELEASE ASSESSMENT CONCLUSION	5-2
7	6.0 AOC 48 – BUILDING 34, FIRE STATION	6-1
8	6.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	6-1
9	6.2 WASTE MANAGEMENT INFORMATION	6-1
10	6.3 RELEASE ASSESSMENT	6-1
11	6.3.1 Historical Records/Document Review	6-1
12	6.3.2 Site Reconnaissance Findings	6-2
13	6.3.3 Confirmatory Sampling	6-2
14	6.4 RELEASE ASSESSMENT CONCLUSION	6-2
15	7.0 AOC 49 – STRUCTURE 38 (END LOADING DOCK) AND STRUCTURE	
16	39 (SIDE LOADING DOCK)	7-1
17	7.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	7-1
18	7.2 WASTE MANAGEMENT INFORMATION	7-1
19	7.3 RELEASE ASSESSMENT	7-1
20	7.3.1 Historical Records/Document Review	7-1
21	7.3.2 Site Reconnaissance Findings	7-2
22	7.3.3 Confirmatory Sampling	7-2
23	7.4 RELEASE ASSESSMENT CONCLUSION	7-2
24	8.0 AOC 51 – STRUCTURE 64, FORMER UNDERGROUND STORAGE	
25	TANK AT BUILDING 11	8-1
26	8.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	8-1
27	8.2 WASTE MANAGEMENT INFORMATION	8-1
28	8.3 RELEASE ASSESSMENT	8-1
29	8.3.1 Historical Records/Document Review	8-1
30	8.3.2 Site Reconnaissance Findings	8-2
31	8.3.3 Confirmatory Sampling	8-2

TABLE OF CONTENTS (CONTINUED)

		<u>Page No.</u>
1	8.4 RELEASE ASSESSMENT CONCLUSION	8-2
2	9.0 AOC 52 – BUILDING 79 AND BUILDING 80, STORAGE VAULTS	9-1
3	9.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	9-1
4	9.2 WASTE MANAGEMENT INFORMATION	9-1
5	9.3 RELEASE ASSESSMENT	9-1
6	9.3.1 Historical Records/Document Review	9-1
7	9.3.2 Site Reconnaissance Findings	9-1
8	9.3.3 Confirmatory Sampling	9-2
9	9.4 RELEASE ASSESSMENT CONCLUSION	9-2
10	10.0 AOC 93 – NEW MEXICO NATIONAL GUARD TRAINING AREA	
11	(PARCELS 11, 12, AND 14)	10-1
12	10.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	10-1
13	10.2 WASTE MANAGEMENT INFORMATION	10-1
14	10.3 RELEASE ASSESSMENT	10-1
15	10.3.1 Historical Records/Document Review	10-1
16	10.3.2 Site Reconnaissance Findings	10-3
17	10.3.3 Confirmatory Sampling	10-3
18	10.4 RELEASE ASSESSMENT CONCLUSION	10-4
19	11.0 AOC 75 –ELECTRICAL TRANSFORMER LOCATIONS	11-1
20	11.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY	11-1
21	11.2 WASTE MANAGEMENT INFORMATION	11-1
22	11.3 RELEASE ASSESSMENT	11-1
23	11.3.1 Historical Records/Document Review	11-1
24	11.3.1.1 Structure 81, Main Substation	11-1
25	11.3.1.2 Vault A, Building 15	11-1
26	11.3.1.3 Vault B, Building 34	11-1
27	11.3.1.4 Vault C, Building 2	11-2
28	11.3.1.5 Vault D and Pad-Mounted Transformer,	
29	Building 11	11-2
30	11.3.1.6 Building 29 Pole-Mounted Transformer	11-2
31	11.3.1.7 Building 22 Transformers	11-2
32	11.3.1.8 Other Transformer Locations	11-3
33	11.3.2 Site Reconnaissance Findings	11-3

TABLE OF CONTENTS (CONTINUED)

		<u>Page No.</u>
1	11.3.2.1 Structure 81, Main Substation	11-3
2	11.3.2.2 Vault A, Building 15	11-3
3	11.3.2.3 Vault B, Building 34	11-3
4	11.3.2.4 Vault C, Building 2	11-3
5	11.3.2.5 Vault D and Pad-Mounted Transformer,	
6	Building 11	11-4
7	11.3.2.6 Building 29 Pole-Mounted Transformer	11-4
8	11.3.2.7 Building 22 Transformers	11-4
9	11.3.2.8 Other Transformer Locations	11-4
10	11.3.3 Confirmatory Sampling	11-4
11	11.4 RELEASE ASSESSMENT CONCLUSION	11-5
12	12.0 ADDITIONAL AREAS EVALUATED	12-1
13	13.0 REFERENCES	13-1
14		
15		

TABLE OF CONTENTS (CONTINUED)

1 LIST OF FIGURES

- 2 *Figure 1 Installation Location*
- 3 *Figure 2 Historical Land Use and Reuse Parcel Boundaries*
- 4 *Figure 3 Parcels 11 and 12 SWMU and AOC Locations*
- 5 *Figure 4 Parcels 14 and 25 SWMU and AOC Locations*
- 6 *Figure 5 Administration Area SWMU and AOC Locations*
- 7 *Figure 6 AOC 46, AOC 47, AOC 49 and AOC 51*
- 8 *Figure 7 AOC 93*
- 9 *Figure 8 AOC 75*

10 LIST OF TABLES

- 11 *Table 1 Summary of Detected Constituents*

12 LIST OF APPENDICES

- 13 *Appendix A Consultation Process Documentation*
- 14 *Appendix B Information from Relevant Historical Documents*
- 15 *Appendix C Site Reconnaissance Photographs*
- 16 *Appendix D Analytical Results*
- 17 *Appendix E Asbestos Evaluation Report*

1 **LIST OF ACRONYMS**

2	ACM	Asbestos Containing Material
3	ADA	Air Defense Artillery
4	AOC	Area of Concern
5	AST	Above Ground Storage Tank
6	ASTM	American Society for Testing and Materials
7	ATV	All-Terrain Vehicle
8	bgs	Below Ground Surface
9	BRAC	Base Realignment and Closure
10	BRACD	BRAC Office
11	CFR	Code of Federal Regulations
12	CTC	Carbon Tetrachloride
13	DOI	Department of the Interior
14	FWDA	Fort Wingate Depot Activity
15	GPS	Global Positioning System
16	HWB	Hazardous Waste Bureau
17	HWMU	Hazardous Waste Management Unit
18	MD	Munitions Debris
19	mm	Millimeter
20	MSSL	Medium-Specific Screening Level
21	NARA	National Archives and Records Administration
22	NMAC	New Mexico Administrative Code
23	NMED	New Mexico Environmental Department
24	OB/OD	Open Burning/Open Detonation
25	PCB	Polychlorinated Biphenyl
26	PID	Photo-Ionization Detector
27	ppm	Parts Per Million
28	RA	Release Assessment
29	RAR	Release Assessment Report
30	RCRA	Resource Conservation and Recovery Act
31	RFI	RCRA Facility Investigation
32	SSL	Soil Screening Level
33	SUXOS	Senior Unexploded Ordnance Supervisor
34	SVOC	Semi-volatile Organic Compound
35	SWMU	Solid Waste Management Unit
36	TCL	Target Compound List
37	TEAD	Tooele Army Depot
38	TNT	Trinitrotoluene
39	TSCA	Toxic Substances Control Act
40	USACE	U.S. Army Corps of Engineers
41	USEPA	U.S. Environmental Protection Agency
42	USGS	U.S. Geological Survey
43	UST	Underground Storage Tank

1 **ES.0 EXECUTIVE SUMMARY**

2 This Release Assessment Report for Parcels 11, 12, 14, and 25 at Fort Wingate
3 Depot Activity (FWDA) describes release assessment activities conducted as
4 part of the environmental restoration program at FWDA. This document has
5 been prepared for submission to the New Mexico Environment Department
6 (NMED) Hazardous Waste Bureau (HWB), as required by Section VII.F.1 of the
7 Resource Conservation and Recovery Act (RCRA) Permit No. NM 6213820974.

8 **ES.1 PURPOSE**

9 The purpose of this document is to compile and present available information
10 regarding the possibility of releases from Areas of Concern (AOCs) located within
11 Parcels 11, 12, 14, and 25. As required by the Permit, this document was
12 prepared in conjunction with and is submitted as a companion to the Parcels 11
13 and 12 RCRA Facility Investigation (RFI) Work Plan.

14 As shown in Permit Table VII.2, Parcel 12 was not scheduled to be evaluated
15 until 2012, Parcel 14 was not scheduled to be evaluated until 2013, and Parcel
16 25 was not scheduled to be evaluated until 2014. The Army has elected to
17 include Parcels 12, 14, and 25 in this evaluation.

18 This report contains information for six AOCs within Parcels 11 and 12, as
19 follows:

- 20 • AOC 46 Above ground storage tank (AST) located near Building 11;
- 21 • AOC 47 TPL spill of photoflash powder west of Building 11;
- 22 • AOC 48 Building 34 (Fire Station);
- 23 • AOC 49 Structure 38 (End Loading Dock) and Structure 39 (Side Loading
24 Dock);
- 25 • AOC 51 Structure 64 [Underground storage tank (UST) near Building 11];
26 and
- 27 • AOC 52 Building 79 and Building 80 (Storage Vaults).

28 AOC 93 (Bivouac and Tank Training Area) is located in Parcels 11, 12, 13, 14,
29 16, 18, and 25.

30 Seven former or existing electrical transformer locations (part of AOC 75) are
31 located in Parcels 11 and 12.

32 **ES.2 SIGNIFICANT CONCLUSIONS**

33 Based on the documentation provided in this report, the Army proposes no
34 corrective action is warranted for AOC 93 within Parcel 11, Parcel 14 or Parcel
35 25, and that only "housekeeping" actions (e.g., debris removal) described herein

1 are warranted for AOC 93 in Parcel 12. The Army proposes that AOC 93 be
2 designated "Corrective Action Complete Without Controls".

3 Because AOC 93 is the only AOC or Solid Waste Management Unit (SWMU) in
4 Parcels 14 and 25, the Army also proposes the Permit be modified to remove
5 Parcels 14 and 25.

6 **ES.3 CONCLUSIONS**

7 Based on the release assessments conducted as described in this document,
8 conclusions were reached as follows.

- 9 • AOC 46 A release of hazardous constituents from diesel fuel occurred at
10 AOC 46. Elevated photo-ionization detector (PID) readings were
11 encountered below ground surface at the former AST location
12 during the October 2006 site reconnaissance. One semi-volatile
13 organic compound (SVOC), benzo(a)pyrene, was detected at a
14 concentration exceeding the cleanup level in one sample collected
15 from 4 feet bgs. Other SVOCs were detected at concentrations
16 below cleanup levels. Because it is possible and likely that the
17 underground piping associated with the AST remains in place, it is
18 possible that the constituents detected in subsurface soil at this
19 location are associated with the piping rather than spills from the
20 AST itself. However, because the underground fill pipe likely
21 remains in place and because the fill pipe was connected to the fuel
22 system at Building 6 (SWMU 45), the Army proposes that
23 "Structure 65, AST Located Near Building 11" be added to the
24 description of SWMU 45 and be addressed under corrective action
25 for that SWMU. If that is acceptable to NMED, the Army proposes
26 that AOC 46 be designated "Corrective Action Complete Without
27 Controls" with corrective action to be addressed under SWMU 45.

- 28 • AOC 47 A release of a hazardous waste or hazardous constituents occurred
29 at AOC 47. A removal of the hazardous waste and impacted soil
30 has been completed by TPL; however, the Army has not been
31 provided a copy of supporting documentation that TPL reportedly
32 provided to NMED; a copy of the final soil sample report referenced
33 above was not available for review at the time of this release
34 assessment. White powder was observed on the ground surface
35 immediately adjacent to the former building slab during the site
36 reconnaissance in October 2006, however, it is not known if the
37 observed powder is related to the photoflash spill. If the reported
38 amount spilled (1-3 pounds) is accurate, and responses were
39 conducted as described in information provided by TPL, the Army
40 believes that the site has been addressed. The Army requests that
41 NMED review Section XI of the document entitled *Response of*
42 *TPL, Inc. to Request for Information Dated July 29, 2004 from the*
43 *New Mexico Environment Department (TPL, 2004)*, and the
44 supporting documentation. If NMED believes the information

1 provided by TPL to be accurate, the Army believes that there is no
2 evidence to suggest AOC 47 poses an unacceptable risk to human
3 health or the environment. Therefore, no further corrective action
4 activities would be warranted or proposed for AOC 47, and the
5 Army would propose that AOC 47 be designated "Corrective Action
6 Complete Without Controls."

- 7 • AOC 48 A release of a hazardous waste or hazardous constituents is
8 unlikely to have occurred at Building 34. Further, there is no
9 evidence to suggest AOC 48 poses an unacceptable risk to human
10 health or the environment. Staining in the garage is considered de
11 minimus and not significant. Equipment to refill carbon
12 tetrachloride fire extinguishers was located within Building 34, but
13 there is no evidence of a release from those activities. Because
14 FWDA had a large machine shop within Building 9 (SWMU 37), it is
15 unlikely that significant activities involving the "machining and
16 grinding of metals" took place within Building 34. Therefore, no
17 further corrective action activities are warranted or proposed for
18 AOC 48, and the Army proposes that AOC 48 be designated
19 "Corrective Action Complete Without Controls".
- 20 • AOC 49 A release of a hazardous waste or hazardous constituents is
21 unlikely to have occurred at Structure 38 and Structure 39. Further,
22 there is no evidence to suggest AOC 49 poses an unacceptable
23 risk to human health or the environment. Therefore, no further
24 corrective action activities are warranted or proposed for AOC 49,
25 and the Army proposes that AOC 49 be designated "Corrective
26 Action Complete Without Controls". A private railroad company is
27 interested in the utilizing the current railroad system at FWDA, and
28 therefore, the future land use of AOC 49 will be for similar railroad
29 reuse.
- 30 • AOC 51 It is possible that a release of hazardous constituents from diesel
31 fuel occurred at AOC 51. Historical records indicate that the UST
32 and a portion of its piping were abandoned in place. However,
33 because underground piping remains in place and because the
34 UST was likely connected to the fuel system at Building 6 (SWMU
35 45), the Army proposes that "Structure 64, Former Underground
36 Storage Tank at Building 11" be added to the description of SWMU
37 45 and be addressed under corrective action for that SWMU. If that
38 is acceptable to NMED, the Army proposes that AOC 51 be
39 designated "Corrective Action Complete Without Controls" with
40 corrective action to be addressed under SWMU 45.
- 41 • AOC 52 A release of a hazardous waste or hazardous constituents is
42 unlikely to have occurred at Building 79 and Building 80. Further,
43 there is no evidence to suggest this AOC poses a threat to human
44 health or the environment. Therefore, no further corrective action
45 activities are warranted or proposed for AOC 52, and the Army

1 proposes that AOC 52 be designated “Corrective Action Complete
2 Without Controls”.

3 • AOC 93 Based on historical operations conducted at AOC 93 and the
4 findings of the site reconnaissance, it is concluded that it is unlikely
5 a release occurred during New Mexico National Guard training
6 exercises in AOC 93. Further, there is no evidence to suggest
7 AOC 93 poses an unacceptable risk to human health or the
8 environment. Therefore, no further corrective action activities are
9 warranted or proposed for AOC 93, and the Army proposes that
10 AOC 93 be designated “Corrective Action Complete Without
11 Controls”. Observed debris and empty rocket motor tubes in AOC
12 93 within Parcel 12 will be removed prior to land transfer as part of
13 a “housekeeping” action.

14 • AOC 75 Based on the findings of this release assessment, there is no
15 evidence to suggest that any of the AOC 75 locations in Parcels 11
16 and 12 pose a threat to human health or the environment. Staining
17 was observed on interior surfaces in three existing transformer
18 vaults and on the concrete pad at Structure 81. The single pole-
19 mounted transformer, formerly located near Building 18 in Parcel
20 12, was determined to be non-PCB and removed in 1993. These
21 locations will be addressed in accordance with Toxic Substances
22 Control Act (TSCA) and Army requirements prior to land transfer.
23 Because NMED does not have TSCA primacy and does not have a
24 screening level for polychlorinated biphenyls (PCBs) on porous
25 surfaces, the appropriate response action will likely require
26 coordination with U.S. Environmental Protection Agency (USEPA)
27 Region 6. The Army will consult with the Pueblo of Zuni and
28 Navajo Nation during response actions involving TSCA issues.

29 • Additional Areas Evaluated

30 An asbestos evaluation was performed to identify sites that are not SWMUs
31 or AOCs where there is a potential for asbestos contamination. Suspect
32 asbestos containing material was observed and sampled in 13 locations;
33 based on sample results, five of the 13 locations had confirmed ACM.
34 Confirmed ACM will be mitigated prior to land transfer.

35 Empty 3.25-inch rocket motor tubes have been reused at various locations at
36 FWDA as vertical marking posts for valve boxes and culverts. Because they
37 have been fully demilitarized and classified as scrap metal, the rocket motor
38 tubes should not be considered munitions debris. The empty rocket motor
39 tubes will be removed prior to land transfer as part of a “housekeeping”
40 action.

41 As noted in the discussion for AOCs 46 and 51, underground fuel piping
42 remains in place within Parcel 11. Based upon historical drawings, a fuel
43 valve box north of former Building 11 was located and inspected. This valve

1 box contains three steel lines with valves and a meter. A single pipe enters
2 the valve box from the east and is assumed to be the supply piping from
3 Building 6 shown in historical drawings. A single pipe exits the valve box from
4 the south and is assumed to be the fill piping to the former AST (AOC 46)
5 and/or the UST (AOC 51). A single pipe exits the valve box from the north
6 and is assumed to be the supply piping to the former diesel fuel dispenser at
7 the northwest corner of Building 11. A sheen was present on the water in the
8 valve box and a slight petroleum-like odor was present when the valve box
9 was open. No elevated PID readings were detected in the valve box.
10 Because the fuel valve/meter box and underground piping remains in place
11 and because they were part of/connected to the fuel system at Building 6
12 (SWMU 45), the Army proposes that "Structure 64, Former Underground
13 Storage Tank at Building 11, Structure 65, AST Located Near Building 11,
14 existing fuel valve/meter box, and remaining underground fuel piping" be
15 added to the description of SWMU 45 and be addressed under corrective
16 action for that SWMU.

17

1 **1.0 INTRODUCTION**

2 This Release Assessment (RA) Report (RAR) for Parcels 11, 12, 14, and 25 at
3 Fort Wingate Depot Activity (FWDA) describes release assessment activities
4 conducted as part of the environmental restoration program at FWDA. This
5 document was prepared by TerranearPMC, LLC of Exton, Pennsylvania, in
6 partial fulfillment of the requirements of Task Order No. 0005 under contract
7 W9126G-06-D-0016. Contracting Officer's Representative and technical
8 oversight responsibilities for the tasks described in this document were provided
9 by the U.S. Army Corps of Engineers (USACE), Fort Worth District.

10 This document has been prepared for submission to the New Mexico
11 Environment Department (NMED) Hazardous Waste Bureau (HWB), as required
12 by Section VII.F.1 of the Resource Conservation and Recovery Act (RCRA)
13 Permit (hereinafter referred to as "the Permit") for FWDA. The Permit (NM
14 6213820974) was finalized in December 2005 and became effective 31
15 December 2005.

16 FWDA consulted with the Pueblo of Zuni and Navajo Nation during development
17 of this document, as required by Permit Section VIII.B.1 and in accordance with
18 Section 4.0 of the Community Relations Plan (TPMC, 2006). Consultation
19 process documentation is provided in Appendix A.

20 **1.1 PURPOSE/OBJECTIVE**

21 The purpose of this document is to compile and present available information
22 regarding the possibility of releases from Areas of Concern (AOCs) located within
23 Parcels 11, 12, 14, and 25. As required by the Permit, this document was
24 prepared in conjunction with and is submitted as a companion to the Parcels 11
25 and 12 RCRA Facility Investigation (RFI) Work Plan.

26 As shown in Permit Table VII.2, Parcel 12 was not scheduled to be evaluated
27 until 2012, Parcel 14 was not scheduled to be evaluated until 2013, and Parcel
28 25 was not scheduled to be evaluated until 2014. The Army has elected to
29 include Parcels 12, 14, and 25 in this evaluation.

30 **1.2 PERMIT RELEASE ASSESSMENT REPORT REQUIREMENTS**

31 As outlined in Permit Section VII.F.1, a Release Assessment Report must, at a
32 minimum, include the following information:

- 33 1. Location of unit(s) on a topographic map of appropriate scale such as
34 required under 20.4.1.900 New Mexico Administrative Code (NMAC)
35 [incorporating 40 Code of Federal Regulations (CFR) 270.14(b)(19)];
- 36 2. Designation of type and function of unit(s);
- 37 3. General dimensions, capacities and structural description of unit(s) (supply
38 any available plans/drawings);

- 1 4. Dates that the unit(s) operated;
- 2 5. All available site history information;
- 3 6. Specification of all wastes that have been managed at/in the unit(s) to the
- 4 extent available (include any available data on hazardous waste or hazardous
- 5 constituents in the wastes); and
- 6 7. All available information pertaining to any release of hazardous waste or
- 7 hazardous constituents from such unit(s) (to include ground water data, soil
- 8 analyses, air, and surface water data).

9 According to Permit Section VII.F.2, NMED will review the information presented
10 herein to determine whether any further investigative action is required. NMED
11 will notify FWDA of a corrective action complete decision, the need for
12 confirmatory sampling, or the need to perform an RFI.

13 **1.3 REPORT ORGANIZATION**

14 Section 2.0 of this document provides an overview, including a description and
15 history of the installation and a description of historical operations.

16 Section 3.0 of this document presents the methodology used to perform the
17 release assessments.

18 Sections 4.0 through 11.0 of this document present the release assessments for
19 individual AOCs within Parcels 11, 12, 14, and 25.

20 Section 12.0 of this document presents information for other areas evaluated
21 during the release assessment.

22 Section 13.0 provides references cited in this document.

23 The following appendices are included in this document:

24 Appendix A Consultation Process Documentation

25 Appendix B Relevant Historical Documents and Information

26 Appendix C Site Reconnaissance Photographs

27 Appendix D Analytical Results

28 Appendix E Asbestos Evaluation Report

29

1 **2.0 OVERVIEW**

2 **2.1 INSTALLATION DESCRIPTION AND HISTORY**

3 FWDA is a closed U.S. Army depot whose former mission was to receive, store,
4 maintain, and ship assigned materials (primarily explosives and military
5 munitions), and to dispose of obsolete or deteriorated explosives and military
6 munitions. Since 1975, the installation has been under the administrative
7 command of Tooele Army Depot (TEAD), located near Salt Lake City, Utah. The
8 active mission of FWDA ceased and the installation closed in January 1993, as a
9 result of the Defense Authorization Amendments and Base Realignment and
10 Closure (BRAC) Act of 1988. In 2002, the Army reassigned many functions at
11 FWDA to the BRAC Division (BRACD), including property disposal, caretaker
12 duties, management of caretaker staff, and performance of environmental
13 restoration and compliance activities. TEAD retained command and control
14 responsibilities, and continues to provide support services to FWDA.

15 FWDA currently occupies approximately 24 square miles (approximately 15,277
16 acres) of land in northwestern New Mexico, in McKinley County. The installation
17 is located 8 miles east of Gallup on U.S. Route 66 and approximately 130 miles
18 west of Albuquerque on Interstate 40 (Figure 1). FWDA contains facilities
19 formerly used to operate a reserve storage activity providing for the care,
20 preservation, and minor maintenance of assigned commodities, primarily
21 conventional military munitions. The installation mission included the
22 disassembly and demilitarization of unserviceable and obsolete military
23 munitions. Ammunition maintenance facilities existed for the clipping, linking,
24 and repackaging of small arms ammunition.

25 As shown in Figure 2, the installation is almost entirely surrounded by federally
26 owned or administered lands, including both national forest and Tribal lands.
27 The installation can be divided into several areas based upon location and
28 historical land use. As shown in Figure 2, these historical land-use areas
29 include:

- 30 • The Administration Area - located in the northern portion of the installation
31 and encompassing approximately 800 acres; contains former office facilities,
32 housing, equipment maintenance facilities, warehouse buildings, and utility
33 support facilities;
- 34 • The Workshop Area - located south of the Administration Area and
35 encompassing approximately 700 acres; consisting of an industrial area
36 containing former ammunition maintenance and renovation facilities, the
37 former trinitrotoluene (TNT) washout facility, and the TNT Leaching Beds
38 Area;
- 39 • The Magazine (Igloo) Area - covering approximately 7,400 acres in the
40 central portion of the installation and encompassing ten Igloo Blocks (A
41 through H, J and K) consisting of 732 earth-covered igloos and 241 earthen
42 revetments previously used for storage of munitions;

- 1 • Protection and Buffer Areas - encompassing approximately 4,050 acres
2 consisting of buffer zones surrounding the former magazine and demolition
3 areas; these areas are located adjacent to the eastern, northern, and western
4 boundaries of the installation; and

- 5 • The Open Burning/Open Detonation (OB/OD) Area - located within the west
6 central portion of the installation and encompassing approximately 1,800
7 acres; the OB/OD Area can be separated into two subareas based on period
8 of operation, the Closed OB/OD Area and the Current OB/OD Area. The
9 OB/OD Unit Hazardous Waste Management Unit (HWMU) is an area within
10 the Current OB/OD Area..

11 FWDA has been undergoing final environmental restoration prior to property
12 transfer/reuse. As part of planned property transfer to the Department of the
13 Interior (DOI), the installation has been divided into reuse parcels (Figure 2).
14 Parcels transferred to date consist of Parcels 1, 15, and 17.

15 As shown in Figure 3, Parcel 11 contains the majority of buildings and structures
16 which made up the Administration Area. According to the most recent reuse plan
17 (DOI, 2005), Parcel 11 planned reuse is mixed institutional/office/commercial;
18 Parcel 12 planned reuse is commercial. As shown in Figure 4, Parcels 14 and
19 25 contain primarily buffer area and the rights-of-way for the railroad and
20 Interstate 40; Parcel 14 planned reuse is commercial, while Parcel 25 reuse
21 remains as rights-of-way (DOI, 2005).

22 **2.2 AREAS OF CONCERN WITHIN PARCELS 11, 12, 14, AND 25**

23 This report contains release assessment information for AOCs within Parcels 11,
24 12, 14, and 25.

25 The Permit lists a total of six AOCs within Parcel 11, as follows (Figures 3 and 5):

- 26 • AOC 46 Above ground storage tank (AST) located near Building 11;
- 27 • AOC 47 TPL spill of photoflash powder west of Building 11;
- 28 • AOC 48 Building 34 (Fire Station);
- 29 • AOC 49 Structure 38 (End Loading Dock) and Structure 39 (Side Loading
30 Dock);
- 31 • AOC 51 Structure 64 [Underground storage tank (UST) near Building 11];
32 and
- 33 • AOC 52 Building 79 and Building 80 (Storage Vaults).

34 As shown in Figures 3 and 4, AOC 93 (Bivouac and Tank Training Area) is
35 located in Parcels 11, 12 13, 14, 16, 18, and 25.

1 Seven former or existing electrical transformer locations (part of AOC 75) are
2 located in Parcel 11, and one former electrical transformer location is in Parcel
3 12.

4 The Permit also lists a total of ten Solid Waste Management Units (SWMUs)
5 within Parcel 11, as follows (Figures 3 and 5):

- 6 • SWMU 3 Fenced Storage Yards (Former Storage Yard or DRMO Area,
7 Extended Storage Yard, and Former Coal Storage Area);
- 8 • SWMU 5 Building 5 (Automotive Garage);
- 9 • SWMU 6 Building 11 (Former Locomotive Shop);
- 10 • SWMU 10 Sewage Treatment Plant;
- 11 • SWMU 23 Building 7 (Paint Shop or Paint Storage Warehouse) and Building
12 8 (Paint Shop or Carpenter Shop);
- 13 • SWMU 24 Building 15 (Garage and Storage Building);
- 14 • SWMU 37 Building 9 (Machine Shop and Signal Shop);
- 15 • SWMU 40 Southern Administration Area;
- 16 • SWMU 45 Building 6 (Gas Station); and
- 17 • SWMU 50 Structure 35 (UST located near Building 45).

18 One structure (a septic tank) associated with SWMU 10 (Sewage Treatment
19 Plant) is also located within Parcel 12.

20 Specific operations/activities conducted at the AOCs located in Parcels 11, 12,
21 14, and 25 are discussed in the section for each respective AOC in this report.
22 Specific operations and investigations conducted at the ten SWMUs located in
23 Parcels 11 and 12 are discussed in the Parcels 11 and 12 RFI Work Plan.

1 **3.0 RELEASE ASSESSMENT METHODOLOGY**

2 There is no specific release assessment methodology for AOCs under RCRA.
3 During Permit implementation discussions, NMED HWB described an approach
4 generally similar to the American Society for Testing and Materials (ASTM)
5 Phase I Environmental Site Assessment process. The current version of ASTM
6 guidance for conducting a Phase I Environmental Site Assessment is entitled
7 *Standard Practice for Environmental Site Assessments: Phase I Environmental*
8 *Site Assessment Process*, designated as ASTM Standard E 1527-05; this
9 standard is available for download from the ASTM website, www.astm.org.

10 **3.1 RECORDS REVIEW**

11 All available records pertaining to operations at the AOCs within Parcels 11, 12,
12 14, and 25 were reviewed as part of this release assessment.

13 Records reviewed included:

- 14 • Historical aerial photograph analysis for FWDA (ERI, 2006);
- 15 • Historical maps, drawings, and records located at FWDA;
- 16 • Historical records and documents, obtained from the National Archives and
17 Records Administration (NARA) Rocky Mountain Region Federal Records
18 Center;
- 19 • Historical records and documents obtained from the NARA College Park,
20 Maryland, location;
- 21 • Historical records obtained from Army Field Support Command/Joint
22 Munitions Command History Office's archives and document collection; and
- 23 • Other historical documents contained in the FWDA Information Repository.

24 When information included herein was found in a document already in the FWDA
25 Information Repository, the full citation in Section 13.0 of this document includes
26 the Information Repository index number for the cited document. When
27 information cited herein was found in another location, copies of relevant portions
28 of the cited document have been included in Appendix B.

29 **3.2 SITE RECONNAISSANCE AND CONFIRMATORY SAMPLING**

30 A site reconnaissance of the Parcels 11 and 12 AOCs was conducted during the
31 week of 23 October 2006. A team consisting of an environmental professional
32 and a Senior Unexploded Ordnance Supervisor (SUXOS)-qualified professional
33 performed the site reconnaissance. Representative photographs of each AOC
34 (or suspected AOC location) are included in Appendix C.

1 A site reconnaissance for selected areas within Parcel 14 was completed by
2 USACE Fort Worth personnel in August 2006. Representative photographs are
3 included in Appendix C.

4 For locations in Parcel 11 where munitions and/or munitions components were
5 possibly handled, a handheld magnetometer (Schonstedt MAC-51Bx) was used
6 to augment the visual reconnaissance.

7 For locations where buried piping was suspected in Parcel 11, the MAC-51Bx
8 was used to determine directions and extents of piping runs. Because of the
9 amount of metallic debris in some areas, the MAC-51Bx was used in conductive
10 tracing mode. In conductive tracing mode, a signal is introduced into the piping
11 using the MAC-51Bx's signal generator and the line (with introduced signal) is
12 traced using the handheld unit.

13 Sampling of two AOCs within Parcel 11 was completed during the site
14 reconnaissance. The sampling strategy was based upon historical information
15 regarding operations conducted at the individual AOCs, as well as issues
16 identified by NMED HWB as part of their basis for listing a given site as an AOC.
17 Analytical parameter lists for each AOC were tailored to the operations
18 conducted at each location.

19 Because AOC 46 is the location of a former diesel fuel AST, samples from this
20 AOC were analyzed for Target Compound List (TCL) Semi-Volatile Organic
21 Compounds (SVOCs). Because the surface in this location was disturbed when
22 Building 11 was demolished, only subsurface samples were collected.
23 Subsurface samples from AOC 46 were collected using a decontaminated hand
24 auger with a disposable liner.

25 For AOC 75 (electrical transformer locations), NMED cited the possible release
26 of polychlorinated biphenyls (PCBs) from electrical transformers (more
27 specifically, the oil contained within the transformers) as their basis for listing
28 these locations as an AOC. For that reason, the samples from Structure 81, part
29 of AOC 75, were analyzed for PCBs. Samples from the Structure 81 location
30 were collected from the 0 to 6-inch depth interval from biased sampling locations
31 (low areas where possible leaks or spills may have run) using disposable plastic
32 trowels.

33 All locations were screened with a Photo-Ionization Detector (PID) to identify any
34 potential volatile compounds. All samples were sent to GPL Laboratories located
35 in Frederick, Maryland, for analysis.

36 Laboratory results are summarized in the section for the AOC at which the
37 samples were collected; a complete copy of analytical results is included in
38 Appendix D. Table 1 presents a summary of detected parameters. For this
39 Release Assessment Report, data have been screened against cleanup levels as
40 described in Permit Attachment 7 (NMED, 2005). According to the most recent
41 reuse planning document (DOI, 2005), the planned reuse for Parcel 11 is Mixed
42 institutional/office/commercial.

1 As a first attempt to evaluate environmental data relative to risk to human health,
2 soil and sediment analytical data were compared to NMED Residential Soil
3 Screening Levels (SSLs) (NMED, 2006). If a Residential SSL has not been
4 established for a given detected constituent, the data were compared to U.S.
5 Environmental Protection Agency (USEPA) Region 6 Human Health Medium
6 Specific Screening Levels (MSSLs) (USEPA, 2006).

7 AOC boundaries, site features, and sampling locations were surveyed using a
8 Trimble Pro XRS Global Positioning System (GPS) to accurately place them on a
9 map of FWDA.

1 **4.0 AOC 46 – AST LOCATED NEAR BUILDING 11**

2 **4.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

3 AOC 46 is the former location of an AST also known as Structure 65. As
4 described in the 1961 Facilities Data report (U.S. Army, 1961, Page 139),
5 Structure 65 was a 400-gallon steel storage tank installed in 1944 and was used
6 to supply fuel to diesel-powered standby generators located in Building 11.
7 However, as shown in historical photographs (Appendix B), the tank as it existed
8 at the time of installation closure in 1993 was smaller, approximately 250 gallons.
9 The AST was located on the north side of Building 11, near the eastern end, on a
10 concrete pad and saddles and was surrounded on three sides by asphalt
11 pavement and on the fourth by Building 11.

12 The AST, concrete pad and saddles, and surrounding pavement were removed
13 during the demolition of Building 11 in 2002. The former location of AOC 46 is
14 shown in Figure 6.

15 **4.2 WASTE MANAGEMENT INFORMATION**

16 There is no information suggesting hazardous wastes were handled at this AOC.

17 As described above, the former AST was used to store diesel fuel for the standby
18 generators.

19 **4.3 RELEASE ASSESSMENT**

20 The potential for a release of hazardous waste or hazardous constituents at this
21 AOC was assessed by combining review of available records and documents
22 with observations made during site reconnaissance.

23 **4.3.1 Historical Records/Document Review**

24 None of the historical documents reviewed suggested that releases of hazardous
25 wastes or hazardous constituents occurred from AOC 46.

26 A review of historical drawings and photos showed that the AST could be filled
27 from underground piping attached to the USTs at Building 6 (SWMU 45) as well
28 as through a fill pipe on top of the tank. The visible piping at the AST is shown in
29 historical photos (Appendix B). The AST and aboveground piping were removed
30 during demolition activities at Building 11; there is no documentation of removal
31 or abandonment of the underground piping.

32 As noted in the aerial photo analysis report (ERI, 2006, Page 46, Table 1), there
33 were no significant findings for AOC 46 on any of the photos reviewed, spanning
34 the years 1935 through 1997.

1 **4.3.2 Site Reconnaissance Findings**

2 The site reconnaissance conducted at AOC 46 included the observation of the
3 exterior/surrounding area where the former AST was located. Representative
4 photographs of the former AST location are included as Photos 1 and 2,
5 Appendix C.

6 As previously noted, both Building 11 and the AST had been removed prior to
7 this release assessment. The concrete pad and saddles had also been
8 removed. For this reason, the former location of the AST needed to be
9 approximated during the site reconnaissance.

10 The former AST location was approximated by reviewing historic building plans
11 to obtain scaled distances and by using these measurements to locate the former
12 AST from the still existing Building 11 floor slab. Based on the measured
13 location of the former AST from the historic building plans and the approximated
14 AST location compared to other nearby existing site features (monitoring well
15 MW-20, Building 9, and two valve boxes) three boring locations were chosen
16 along the former Building 11 exterior wall in the approximate area of the former
17 AST.

18 Three hand auger boring locations were placed near the former AST location:
19 one at the approximated center of the AST, one approximately 5 feet east of the
20 AST, and one approximately 5 feet west of the AST. During installation of the
21 soil borings at these three locations, the Building 11 foundation was encountered
22 in all three locations just below ground surface. Because of this, three additional
23 borings were located approximately 2 feet north of each original boring location in
24 an attempt to clear the foundation.

25 Two of the additional three soil borings (the eastern and western locations) were
26 free from significant obstructions. The centrally located boring encountered
27 refusal on weathered asphalt and was terminated. Materials encountered during
28 the installation of these borings included approximately 1 foot of soil mixed with
29 demolition debris (e.g., concrete debris, asphalt debris, and gravel), followed by
30 approximately 2 to 3 feet of gravelly clay, and finally a fat clay at approximately 3
31 to 4 feet below ground surface (bgs). It is assumed the demolition debris and the
32 gravelly clay are backfill for the former building, while the fat clay is possibly
33 native and undisturbed material.

34 During the completion of the hand auger borings, slightly elevated PID readings
35 [ranging from 0.1 to 3.9 parts per million (ppm)] were observed in the fill
36 materials, with the highest readings observed within the gravelly clay; PID
37 readings from soil beneath the fill were not elevated.

38 **4.3.3 Confirmatory Sampling**

39 Because there was a potential for a release from a leak or overflow event at AOC
40 46, two soil samples were collected. These samples were collected from
41 intervals of elevated PID readings that potentially indicated a release to soil.
42 Sample B11AST0103 was collected from approximately 3 feet bgs. Sample

1 B11AST0204 was collected from approximately 4 feet bgs. While PID readings
2 were elevated, they were less than 5 ppm from both representative soil and the
3 borehole headspace samples. Sample locations are shown in Figure 6.
4 Samples were analyzed for SVOCs. Analytical results are included in Appendix
5 D.

6 A summary of detected constituents is presented in Table 1. The detected
7 constituents are commonly found in diesel fuel; only one constituent
8 (benzo(a)pyrene) was detected at a concentration exceeding a cleanup level
9 (Table 1) for one sample location (B11AST0204).

10 **4.4 RELEASE ASSESSMENT CONCLUSION**

11 Based on the known use of AOC 46 and the findings of the site reconnaissance
12 and confirmatory sampling, it is concluded that a release of hazardous
13 constituents occurred at this location. Elevated PID readings were encountered
14 below ground surface at the former AST location. One SVOC, benzo(a)pyrene,
15 was detected at a concentration exceeding the cleanup level in one sample
16 collected from 4 feet bgs. Other SVOCs were detected at concentrations below
17 cleanup levels.

18 Because it is possible and likely that the underground piping associated with the
19 AST remains in place, it is possible that the constituents detected in subsurface
20 soil at this location are associated with the piping rather than spills from the AST
21 itself. However, as discussed in Section 12.0, because the underground fill pipe
22 likely remains in place and because the fill pipe was connected to the fuel system
23 at Building 6 (SWMU 45), the Army proposes that "Structure 65, AST Located
24 Near Building 11" be added to the description of SWMU 45 and be addressed
25 under corrective action for that SWMU. If that is acceptable to NMED, the Army
26 proposes that AOC 46 be designated "Corrective Action Complete Without
27 Controls", with corrective action to be addressed under SWMU 45.

1 **5.0 AOC 47 – TPL SPILL OF PHOTOFLASH POWDER WEST OF BUILDING 11**

2 **5.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

3 AOC 47 is a spill of photoflash powder west of Building 11 (SWMU 6). Building
4 11 was the former locomotive shop located in the western portion of the
5 Administration Area. In 1996, Building 11 was added to the facility use contract
6 under which TPL, Inc. (TPL; an FWDA tenant) operated. TPL used Building 11
7 to store a locomotive, and also as a shop for maintenance of the locomotive and
8 other vehicles. As described in historical documents, this spill occurred during
9 process tank dismantling activities over railroad ballast on the west end of
10 Building 11 in October 2001. AOC 47 is shown in Figure 6.

11 The spill material and impacted soil was reportedly removed by RinChem
12 Company, Inc. and verified by confirmatory sampling. The manifest and sample
13 results are included in Appendix B.

14 **5.2 WASTE MANAGEMENT INFORMATION**

15 A metal tank containing residual photoflash powder was handled in this area.

16 **5.3 RELEASE ASSESSMENT**

17 The potential for a release of hazardous waste or hazardous constituents at this
18 AOC was assessed by combining review of available records and documents
19 with observations made during site reconnaissance.

20 **5.3.1 Historical Records/Document Review**

21 The source of the tanks being dismantled at Building 11 was a photoflash
22 recycling project conducted by TPL at Building 551 (part of SWMU 27, Parcel
23 22). After encountering problems with the recycling process, TPL discontinued
24 the project.

25 The spill of photoflash powder by TPL occurred when one of the tanks was being
26 cut open on the ground on the west side of Building 11. Information regarding
27 this spill was contained in Section XI of a document entitled *Response of TPL,*
28 *Inc. to Request for Information Dated July 29, 2004 from the New Mexico*
29 *Environment Department* (TPL, 2004), hereafter referred to as “TPL Response to
30 NMED.” A copy of relevant portions of the response document is included in
31 Appendix B.

32 In the TPL Response to NMED, the spill that became AOC 47 in the FWDA
33 RCRA permit was described as follows:

34 “A conical container thought to be empty was taken to Building 11 to be
35 cut up for disposal at a landfill. During the cutting operation a small
36 quantity (1-3 pounds) of barium salts fell onto the crushed gravel of the
37 railroad bed. RinChem was hired to clean-up the spill and conduct
38 associated testing. A copy of the final soil sample report is attached to

1 this Response (TPL 0008-0013). More soil was recovered than impacted
2 by the spill. However, because the background levels for barium were
3 already high, the soil samples show elevated barium results.”

4 Because the TPL response to NMED was not submitted until November 2004,
5 the information was not available for review by NMED prior to the issuance of the
6 first draft of the FWDA RCRA permit (issued in September 2004). It is unknown
7 if the information provided by TPL was reviewed by NMED prior to issuance of
8 the final RCRA permit in December 2005.

9 The Army was not provided a copy of supporting documentation to the TPL
10 Response to NMED; a copy of the final soil sample report referenced above was
11 not available for review at the time of this release assessment. The Army is
12 currently pursuing this documentation. Other information provided by TPL
13 regarding this spill is included in Appendix B.

14 Based on information provided by TPL (Appendix B), the spill occurred in
15 November 2001; spilled residual materials were vacuumed up and containerized,
16 then transported off-site for disposal. In September 2002, following completion of
17 the demolition of Building 11, approximately 6,000 pounds of residual material
18 and impacted soil in the area of the photoflash powder spill was removed by
19 RinChem.

20 The aerial photo analysis report (ERI, 2006, Page 47, Table 1) did not include
21 information for AOC 47, because the spill occurred in 2001 and the last date
22 available for analysis was 1997.

23 **5.3.2 Site Reconnaissance Findings**

24 The exact location of the spill was not available at the time site reconnaissance
25 was conducted for AOC 47; the area to the west of the former building slab was
26 observed. A white powder was observed on the ground surface immediately
27 adjacent to the west end of the building; representative photographs of this area
28 are included as Photos 3 through 5 Appendix C. No other staining or suspected
29 photoflash residuals were observed on the ground surface west of the former
30 building slab.

31 **5.3.3 Confirmatory Sampling**

32 No confirmatory sampling was completed during the October 2006 release
33 assessment.

34 **5.4 RELEASE ASSESSMENT CONCLUSION**

35 Based on the historical records review and the findings of the site
36 reconnaissance, it is concluded that a release of a hazardous waste or
37 hazardous constituents occurred at AOC 47. A removal of the hazardous waste
38 and impacted soil has been completed by TPL; however, the Army has not been
39 provided a copy of supporting documentation to the TPL Response to NMED; a

1 copy of the final soil sample report referenced above was not available for review
2 at the time of this release assessment.

3 As noted above, white powder was observed on the ground surface immediately
4 adjacent to the former building slab during the site reconnaissance in October
5 2006. It is not known if the observed powder is related to the photoflash spill; the
6 powder is present in an area that was excavated to approximately 2 feet bgs and
7 backfilled with clean soil during remediation of Building 11 in 2002 (Weston,
8 2002, Pages 4-5 through 4-7 and Figure 4-4). Consequently, residual photoflash
9 powder could not be on the surface in that location unless it was deposited
10 sometime after July 2002. It is possible that the powder is unrelated to the
11 photoflash spill.

12 If the reported amount spilled (1-3 pounds) is accurate, and responses were
13 conducted as described in information provided by TPL (Appendix B), the Army
14 believes that the site has been addressed.

15 The Army requests that NMED review Section XI of the document entitled
16 *Response of TPL, Inc. to Request for Information Dated July 29, 2004 from the*
17 *New Mexico Environment Department* (TPL, 2004), and the supporting
18 documentation. If NMED believes the information provided by TPL to be
19 accurate, the Army believes that there is no evidence to suggest AOC 47 poses
20 an unacceptable risk to human health or the environment. Therefore, no further
21 corrective action activities would be warranted or proposed for AOC 47, and the
22 Army would propose that AOC 47 be designated "Corrective Action Complete
23 Without Controls."

1 **6.0 AOC 48 – BUILDING 34, FIRE STATION**

2 **6.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

3 AOC 48 is Building 34, the Fire Station, which was built in 1943 to house fire
4 protection equipment and personnel. This one-story building is comprised of a
5 garage (approximately 38 feet long by 49 feet wide) to the west and an attached
6 living space (approximately 65 feet long by 31 feet wide) to the east. AOC 48 is
7 shown in Figure 5.

8 In their basis for listing this location as an AOC, NMED cited a document listing
9 activities that took place in Building 34 including filling fire extinguishers, and
10 machining and grinding metals; cited potential contaminants included carbon
11 tetrachloride, and metal and abrasive dusts.

12 Building 34 is currently in use as caretaker offices and equipment storage.

13 **6.2 WASTE MANAGEMENT INFORMATION**

14 There is no information suggesting hazardous wastes were handled at this AOC.

15 **6.3 RELEASE ASSESSMENT**

16 The potential for a release of hazardous waste or hazardous constituents at this
17 AOC was assessed by combining review of available records and documents
18 with observations made during site reconnaissance.

19 **6.3.1 Historical Records/Document Review**

20 None of the historical documents reviewed suggested that releases of hazardous
21 wastes or hazardous constituents occurred from operations at AOC 48. The
22 document cited in the NMED basis for listing this site as an AOC, entitled
23 *Enhanced Preliminary Assessment Report: Fort Wingate Depot Activity* (ANL,
24 1990, Page 43, Table 3.1), restated information from earlier documents regarding
25 “possible contaminants” from activities within Building 34. No document
26 identified Building 34 as a potential SWMU or AOC.

27 Fire extinguishers filled with carbon tetrachloride (CTC) were in use at FWDA for
28 a period of time; information provided by a former FWDA fire department
29 employee indicated that CTC-filled fire extinguishers were being phased out in
30 1976. Equipment for refilling the extinguishers was located within Building 34.
31 CTC-filled fire extinguishers were refilled on an as needed basis (e.g., when they
32 had been discharged to extinguish a fire); there was no wholesale dumping and
33 refilling of CTC-filled fire extinguishers at Building 34.

34 Because FWDA had a large machine shop within Building 9 (SWMU 37), it is
35 unlikely that significant activities involving the “machining and grinding of metals”
36 took place within Building 34. There is no workshop area within the building, and
37 the garage area was used to store fire fighting vehicles and equipment.

1 No significant findings for AOC 48 were noted in the aerial photo analysis report
2 (ERI, 2006, Pages 47-48, Table 1) spanning the years 1935 through 1997.

3 **6.3.2 Site Reconnaissance Findings**

4 The site reconnaissance conducted at Building 34 included both the interior and
5 exterior/surrounding area. Representative photographs of Building 34 are
6 included as Photos 6 through 9, Appendix C.

7 No stains were observed around the building exterior. No other signs of a
8 release (e.g., stressed vegetation) were noted around Building 34.

9 Only de minimus staining was observed within the interior of Building 34; staining
10 was limited to the boiler room and garage. While the staining within the garage
11 appeared to be petroleum products, those observed in the boiler room were most
12 likely caused by water. No other signs of a release were noted in Building 34.

13 A closet containing aerosols, cleaners, solvents, and paints was observed in a
14 room adjacent to and accessed from the garage. Only de minimus staining was
15 observed on the flooring and shelving.

16 A single sump was observed in the boiler room attached to Building 34. Based
17 on historical drawings (Appendix B), the sump served to collect boiler blowdown
18 and condensate discharges, and drained to the sanitary sewer system.

19 A single central floor drain was observed in the garage at Building 34 (Photo 9,
20 Appendix C), which based on historical drawings (Appendix B), is connected to
21 the storm sewer system. In addition to this floor drain, a sink in the garage is
22 connected to the same line from the floor drain, and therefore also connected to
23 the storm sewer system. No stains were observed around the floor drain or in
24 the sink.

25 **6.3.3 Confirmatory Sampling**

26 Based on known historic operations conducted at Building 34, no confirmatory
27 sampling was conducted in or around Building 34.

28 **6.4 RELEASE ASSESSMENT CONCLUSION**

29 Based on the known historical operations conducted at Building 34 and the
30 findings of the site reconnaissance, it is concluded that it is unlikely a release of a
31 hazardous waste or hazardous constituents occurred at Building 34. Further,
32 there is no evidence to suggest AOC 48 poses an unacceptable risk to human
33 health or the environment.

34 Staining in the garage is considered de minimus and not significant.

35 As noted previously, equipment to refill CTC fire extinguishers was located within
36 Building 34, but there is no evidence of a release from those activities. Because

1 CTC quickly becomes a vapor when exposed to the atmosphere, minor spills (if
2 any) during refilling activities would be unlikely to migrate into the environment.

3 Because FWDA had a large machine shop within Building 9 (SWMU 37), it is
4 unlikely that significant activities involving the “machining and grinding of metals”
5 took place within Building 34. There was no evidence of residuals from these
6 activities in or around Building 34.

7 Therefore, no further corrective action activities are warranted or proposed for
8 AOC 48, and the Army proposes that AOC 48 be designated “Corrective Action
9 Complete Without Controls”.

1 **7.0 AOC 49 – STRUCTURE 38 (END LOADING DOCK) AND STRUCTURE 39**
2 **(SIDE LOADING DOCK)**

3 **7.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

4 AOC 49 is comprised of two loading docks: Structure 38, which is the end
5 loading dock; and Structure 39, which is the side loading dock. Both docks were
6 built in 1948. These loading docks are approximately 60 feet long by 25 feet
7 wide (Structure 38) and 60 feet long by 60 feet wide (Structure 39). These docks
8 were used for loading and unloading railroad cars. AOC 49 is shown in Figure 6.

9 The exact date the use of these loading docks ceased is unknown based on
10 existing information.

11 **7.2 WASTE MANAGEMENT INFORMATION**

12 There is no information suggesting hazardous wastes were handled at this AOC.

13 **7.3 RELEASE ASSESSMENT**

14 The potential for a release of hazardous waste or hazardous constituents at this
15 AOC was assessed by combining review of available records and documents
16 and observations made during site reconnaissance.

17 **7.3.1 Historical Records/Document Review**

18 These structures exist on historical drawings, however none of the drawings
19 indicate a specific use for the docks. No historical records were found detailing
20 amounts or types of materials loaded/unloaded at these docks. Based on their
21 location within the Administration Area near vehicle and equipment maintenance
22 operations, and the fact that adjacent warehouses used for the receipt and
23 storage of various products and materials are also equipped with rail sidings and
24 loading/unloading docks, it is assumed that Structure 38 and 39 were primarily
25 used to load and unload vehicles and equipment from railcars. No historical
26 document identified either Structure 38 or Structure 39 as a potential SWMU or
27 AOC.

28 As shown in FWDA Drawing No. D-1-96 (Appendix B), fill lines for the fuel
29 storage USTs formerly located at Building 6 (SWMU 45) were installed near the
30 rails adjacent to the loading docks. There is no documentation of removal or
31 abandonment of the underground piping.

32 As noted in the aerial photo analysis report (ERI, 2006, Page 48, Table 1), there
33 were no significant findings for AOC 49 on any of the photos reviewed, spanning
34 the years 1935 through 1997.

1 **7.3.2 Site Reconnaissance Findings**

2 Structure 38 and Structure 39 were inspected for evidence of a release.
3 Representative photographs of Structure 38 and Structure 39 are included as
4 Photos 10 through 22, Appendix C.

5 Both docks exhibited spalled concrete decking and rust staining of the concrete
6 was observed in several locations. A steel rail car bumper was present on the
7 west side of Structure 38.

8 There was no evidence of a release around either structure. Each dock had two
9 access panels to their respective crawl spaces, however nothing of significance
10 (e.g., piping, stains, containers) was observed at any of the access points.

11 **7.3.3 Confirmatory Sampling**

12 Because there was no historical information suggesting the possibility of a
13 release, samples were not collected as part of the release assessment for this
14 AOC.

15 **7.4 RELEASE ASSESSMENT CONCLUSION**

16 Based on historical operations conducted at AOC 49 and the findings of the site
17 reconnaissance, it is concluded that it is unlikely a release of a hazardous waste
18 or hazardous constituents occurred at these structures. Further, there is no
19 evidence to suggest AOC 49 poses an unacceptable risk to human health or the
20 environment. Therefore, no further corrective action activities are warranted or
21 proposed for AOC 49, and the Army proposes that AOC 49 be designated
22 “Corrective Action Complete Without Controls”. A private railroad company is
23 interested in the utilizing the current railroad system at FWDA, and therefore, the
24 future land use of AOC 49 will be for similar railroad reuse.

25 The presence of underground piping associated with the fuel storage system at
26 Building 6 (SWMU 45) is discussed in Section 12.0 of this document.

27

28

1 **8.0 AOC 51 – STRUCTURE 64, FORMER UNDERGROUND STORAGE TANK AT**
2 **BUILDING 11**

3 **8.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

4 AOC 51 is a former diesel UST Also known as Structure 64 As described in the
5 1961 Facilities Data report (U.S. Army, 1961, Page 138), Structure 64 was a 300-
6 gallon steel UST installed in 1956 to supply fuel to diesel powered standby
7 generators located in Building 11. Military property records (Appendix B) show
8 that the UST was 3 feet in diameter and 6 feet long, and that in June 1961 the
9 UST and a portion of related piping was listed as abandoned in place.

10 The suspected location of AOC 51 is shown in Figure 6.

11 **8.2 WASTE MANAGEMENT INFORMATION**

12 There is no information suggesting hazardous wastes were handled at this AOC.

13 As described above, this AOC was used to store diesel fuel for the standby
14 generator.

15 **8.3 RELEASE ASSESSMENT**

16 The potential for a release of hazardous waste or hazardous constituents at this
17 AOC was assessed by combining review of available records and documents
18 and observations made during site reconnaissance.

19 **8.3.1 Historical Records/Document Review**

20 As noted above, military property records (FWDA File Numbers D-3-9a and D-3-
21 13a, copies included in Appendix B) noted that the 300-gallon UST was installed
22 in 1956, was located on the east end of Building 11, and was listed as
23 abandoned in place in June 1961. Photographs of Building 11 in the 1961
24 Facilities Data report (U.S. Army, 1961; copy of photo included in Appendix B)
25 show a suspected tank vent pipe on the east wall of Building 11, near the
26 northeast corner. No historical drawings were found showing the exact location
27 of this UST. It is believed that this UST was connected to the fuel system at
28 Building 6 (SWMU 45), as described above for the AST at AOC 46.

29 Magnetic gradient mapping from a geophysical survey conducted as part of
30 characterization efforts for Building 11 in 1999 (Appendix B) indicated a magnetic
31 anomaly along the east side of Building 11 near the northeast corner. This
32 anomaly is also in the general area of the suspected vent pipe shown in the
33 photo of Building 11 in the 1961 Facilities Data report. This anomaly was not
34 investigated further.

35 As noted in the aerial photo analysis report (ERI, 2006, Page 49, Table 1), there
36 were no significant findings for AOC 51 on any of the photos reviewed, spanning
37 the years 1935 through 1997.

1 **8.3.2 Site Reconnaissance Findings**

2 As noted previously, Building 11 has been demolished and portions of the
3 foundation removed. Representative photographs of the suspected location of
4 AOC 51 are included as Photos 23 and 24, Appendix C.

5 No indications of a UST (e.g., observable vent or fill piping, subsidence of the
6 ground surface from a collapsed tank) were present during the site
7 reconnaissance.

8 **8.3.3 Confirmatory Sampling**

9 Samples were not collected as part of the release assessment for this AOC.

10 **8.4 RELEASE ASSESSMENT CONCLUSION**

11 Based on the known use of AOC 51 and the findings of the site reconnaissance,
12 it is possible that a release of diesel fuel occurred at this location. Historical
13 records indicate that the UST and a portion of its piping were abandoned in
14 place. Additionally, based on previous geophysical survey findings, an anomaly
15 in the general location may indicate the UST is still present at AOC 51.

16 However, as discussed in Section 12.0, because underground piping remains in
17 place and because the UST was likely connected to the fuel system at Building 6
18 (SWMU 45), the Army proposes that “Structure 64, Former Underground Storage
19 Tank at Building 11” be added to the description of SWMU 45 and be addressed
20 under corrective action for that SWMU. If that is acceptable to NMED, the Army
21 proposes that AOC 51 be designated “Corrective Action Complete Without
22 Controls”, with corrective action to be addressed under SWMU 45.

23

1 **9.0 AOC 52 – BUILDING 79 AND BUILDING 80, STORAGE VAULTS**

2 **9.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

3 AOC 52 consists of Building 79 and Building 80, Storage Vaults. Both Building
4 79 and Building 80 are one-story buildings, approximately 10 feet long by 12 feet
5 wide, constructed in 1944.

6 As described in the 1961 Facilities Data report (U.S. Army, 1961, Pages 113-
7 114), both Building 79 and Building 80 were fire proof vaults used for housing
8 documents, drawings, and restricted war department records during construction
9 of present facilities and later were used for the storage of miscellaneous
10 inflammable materials (U.S. Army, 1961, Pages 113-114). AOC 52 is shown in
11 Figure 5.

12 The exact date use of AOC 52 ceased is unknown based on existing information,
13 but the buildings were inactive for some time prior to FWDA closure in January
14 1993.

15 **9.2 WASTE MANAGEMENT INFORMATION**

16 There is no information suggesting hazardous wastes were handled at this AOC.

17 **9.3 RELEASE ASSESSMENT**

18 The potential for a release of hazardous waste or hazardous constituents at this
19 AOC was assessed by combining review of available records and documents
20 and observations made during site reconnaissance.

21 **9.3.1 Historical Records/Document Review**

22 None of the historical documents reviewed suggested that releases of hazardous
23 wastes or hazardous constituents occurred from operations at AOC 52. No
24 document identified this building as a potential SWMU or AOC.

25 Building 80 is located within the Fenced Storage Yard (SWMU 3).

26 As noted in the aerial photo analysis report (ERI, 2006, Page 49, Table 1), there
27 were no significant findings for AOC 52 on any of the photos reviewed, spanning
28 the years 1935 through 1997.

29 **9.3.2 Site Reconnaissance Findings**

30 The exteriors and interiors of Building 79 and Building 80 were inspected for
31 indications of a release. Representative photographs are included as Photos 29
32 through 35, Appendix C.

33 As shown in the photographs, access to each building is via a single door of
34 standard width and height. The floor slab of each building is slightly above

1 grade, with no evidence of a ramp or other access improvement at either
2 building.

3 Water staining was observed on the interior of both buildings, but appeared to be
4 from roof leaks or condensation buildup (Photos 32 and 35, Appendix C). No
5 indications of releases were observed around the buildings' exteriors.

6 Coal bottom ash was observed on the ground surface around Building 79, most
7 likely placed as an access road.

8 **9.3.3 Confirmatory Sampling**

9 Because there was no historical information suggesting the possibility of a
10 release, samples were not collected as part of the release assessment for this
11 AOC.

12 **9.4 RELEASE ASSESSMENT CONCLUSION**

13 Based on the known use of AOC 52 and the findings of the site reconnaissance,
14 it is concluded that it is unlikely that a release of a hazardous waste or hazardous
15 constituents occurred at these buildings. Further, there is no evidence to
16 suggest this AOC poses a threat to human health or the environment.

17 Because the buildings are small in size and access is restricted by the door size,
18 it is believed that only small amounts of easily moved products or materials were
19 stored in these buildings.

20 As noted above, it appears that coal bottom ash was placed by FWDA around
21 Building 79 as an access road. Analytical results from samples of similar coal
22 bottom ash road materials at FWDA identified metals and trace levels of SVOCs
23 below applicable RCRA limits, indicating the material was non-hazardous/non-
24 regulated material. The results of previous analyses are presented in Appendix
25 B. Arsenic concentrations in the previous coal bottom ash samples ranged from
26 4.92 to 8.42 mg/kg, exceeding the Permit cleanup level of 3.90 mg/kg; however,
27 the detected arsenic concentrations are of the same magnitude as the maximum
28 concentration of arsenic detected in soil samples collected from unimpacted
29 areas of FWDA (Malcolm Pirnie, 2000, Table 4-4). There is no evidence to
30 suggest that the coal bottom ash poses a threat to human health or the
31 environment.

32 Therefore, no further corrective action activities are warranted or proposed for
33 AOC 52, and the Army proposes that AOC 52 be designated "Corrective Action
34 Complete Without Controls".

1 **10.0 AOC 93 – NEW MEXICO NATIONAL GUARD TRAINING AREA**

2 **10.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

3 AOC 93 is listed in the Permit as a “Bivouac and Tank Training Area.” Portions
4 of AOC 93 were used by New Mexico National Guard units to conduct training
5 exercises.

6 In their basis for listing this location as an AOC, NMED cited a document stating
7 that “some firing of weapons took place during this activity.”

8 As shown in historical records, the area available for training was approximately
9 650 acres along the northern border of FWDA. AOC 93 is shown in Figure 7.

10 **10.2 WASTE MANAGEMENT INFORMATION**

11 There is no information suggesting hazardous wastes were handled within AOC
12 93.

13 **10.3 RELEASE ASSESSMENT**

14 The potential for a release of hazardous waste or hazardous constituents at this
15 AOC was assessed by combining review of available records and documents
16 and observations made during site reconnaissance.

17 **10.3.1 Historical Records/Document Review**

18 FWDA Drawing No. C-8-51 (Appendix B) presents the land plot “leased” from
19 FWDA by the National Guard for training purposes; the land available for training
20 was approximately 650 acres in size, located in the buffer area on the northern
21 edge of FWDA near Interstate 40 and east of the main entrance road. Additional
22 relevant information is included in Appendix B.

23 The historical documents reviewed did not suggest that releases of hazardous
24 wastes or hazardous constituents occurred from operations at this location. The
25 documents did not identify this location as a potential SWMU or AOC.

26 Two historic reports (USATHAMA, 1980 and Inland Pacific, 1982; copies
27 included in Appendix B) contained statements that weapons were not fired during
28 National Guard training activities. Because the document (ANL, 1990; copy
29 included in Appendix B) cited by NMED in their basis for listing the training area
30 as an AOC references the two previous reports as the source for information on
31 the training activities, it is assumed that the statement “some firing of weapons
32 took place during this activity” is erroneous.

33 An interview was conducted in 2005 with Colonel James Morgan of the New
34 Mexico National Guard. Colonel Morgan had served in the New Mexico National
35 Guard for more than 35 years, and had firsthand knowledge of training
36 conducted at FWDA. According to Colonel Morgan, training exercises at FWDA
37 consisted of one battery of air defense artillery (ADA), the 3rd Battalion, 200th

1 ADA from Gallup and Farmington. The battery was comprised of 148 personnel
2 and 16 pieces of ADA equipment. Training exercises were conducted no more
3 than three times per year at FWDA. The equipment (M42 Duster anti-aircraft
4 tanks) was trucked from Gallup to FWDA. The M42 Duster was equipped with
5 two 40 millimeter (mm) cannons and one .30 caliber machine gun. Ordnance for
6 the Dusters was stored at Fort Bliss, and was not issued for training exercises
7 conducted at FWDA. Fuel (gasoline) for the exercises was transported in an
8 M49 Fuel Tanker Truck (also known as a 6x6 or “deuce and a half”); equipment
9 refueling was conducted over drip pans by a Military Occupational Specialty
10 qualified, licensed Petroleum Supply Specialist. Battery training was limited to
11 maneuver, tracking of aircraft, and overnight bivouac; no munitions were fired
12 from the unit’s equipment. If small arms training was to be conducted, it was
13 conducted at the existing FWDA small arms range; no small arms were fired
14 within AOC 93 as part of New Mexico National Guard training exercises.

15 As noted in the aerial photo analysis report (ERI, 2006, Pages 79-81, Table 1),
16 the findings for AOC 93 in Parcel 12 noted excavations and areas of rubble
17 beginning in the 1948 photo; these findings appear to be unrelated to New
18 Mexico National Guard training exercises, as they pre-date that activity by at
19 least 20 years and are most likely related to borrow areas for construction
20 materials and attempts to control erosion along the Puerco River. Reviews of
21 U.S. Geological Survey (USGS) topographical maps and interviews with former
22 FWDA employees indicate confirmed the existence of borrow/gravel pits in
23 Parcel 12.

24 As noted in the aerial photo analysis report (ERI, 2006, Pages 79-81, Table 1),
25 several trenches were noted on aerial photographs within Parcel 14, beginning in
26 the 1948 photo and last seen in the 1962 photo. Because these trenches were
27 created sometime between the 1935 and 1948 photo coverage, it is believed that
28 they were gravel borrow pits used to generate materials for the construction of
29 FWDA facilities in the 1940s. The 1966 photo shows significant ground
30 disturbance (the trenches are no longer visible) and access roads leading to the
31 newly constructed Interstate 40. Based on the timeframe and the presence of
32 the access roads, it appears that the entire area was mined for gravel used in the
33 construction of Interstate 40. Subsequent photos show the entire mined area (no
34 trenches visible). Reviews of USGS topographical maps and interviews with
35 former FWDA employees confirmed the existence of borrow/gravel pits in Parcel
36 14. A copy of the USGS map with the aerial photo trench locations
37 superimposed is included in Appendix B.

38 As noted in the aerial photo analysis report (ERI, 2006, Pages 79-81, Table 1),
39 structures and material stockpiles were noted in the extreme northeast portion of
40 Parcel 25 beginning in the 1935 photo. Based on their proximity to Route
41 66/Interstate 40 and the railroad and the fact that there are no known FWDA
42 structures or activities in the area, it is believed that the observed structures and
43 stockpiles were related to railroad and/or highway operations.

1 **10.3.2 Site Reconnaissance Findings**

2 The portions of AOC 93 within Parcels 11 and 12 were inspected for indications
3 of a release. Representative photographs are included as Photos 36 through 50,
4 Appendix C. The area where trenches in Parcel 14 were identified by the aerial
5 photo analysis report were also inspected for indications of a release.
6 Representative photographs are included as Photos 65 through 67, Appendix C.

7 No evidence of New Mexico National Guard training exercises was observed.

8 Debris consisting of concrete, tile, and brick was observed along the top of the
9 south bank of the Rio Puerco River valley (Photos 36 through 39, Appendix C).
10 Because of the placement and the type of debris, it is assumed this debris was
11 placed to prevent erosion of the south bank of the Rio Puerco River channel
12 (Figure 7).

13 A large borrow pit and piles of demolition debris were observed in the central
14 portion of the eastern half of Parcel 12 (Figure 7). The borrow pit consists of a
15 depression approximately 150 feet in diameter and approximately 15 feet deep at
16 the deepest part (to the north and east). The piles of demolition debris are
17 located to the west of the borrow pit and consist of concrete and asphalt
18 pavement debris, cast iron pipe, wood, presumed asbestos cement pipe, plastic
19 pipe, soil, and gravel. The borrow pit and debris piles are shown in Photos 40
20 through 46 (Appendix C). According to the aerial photo analysis, the origin of the
21 borrow pit appears to have occurred simultaneously with the construction the
22 Interstate 40. The piles of debris appear to have originated from a construction
23 project somewhere on FWDA.

24 A ground scar corresponding to the identified location on the 1948 aerial
25 photograph was observed to the south west of the borrow pit, extending to the
26 Rio Puerco River channel as shown in Photos 47 through 49, Appendix C. Only
27 a few pieces of metal scrap (banding, wire, etc.) was observed at the ground scar
28 area. As noted with the borrow pit, it is also thought this ground scar is the result
29 of the construction of Interstate 40.

30 Ground scars, mature vegetation, and gravel were observed in the gravel pit
31 locations in Parcel 14 (Photos 66 and 67, Appendix C). The site reconnaissance
32 confirmed that the topographic peaks shown in USGS maps (Appendix B) have
33 been excavated and that there is no evidence of the trenches identified in the
34 1948 through 1962 aerial photos. There was no evidence of buried materials or
35 waste; the area was clearly used as a gravel borrow area and was not backfilled
36 or otherwise restored.

37 **10.3.3 Confirmatory Sampling**

38 Because there was no historical information suggesting the possibility of a
39 release, samples were not collected as part of the release assessment for this
40 AOC 93.

1 **10.4 RELEASE ASSESSMENT CONCLUSION**

2 Based on historical operations conducted at AOC 93 and the findings of the site
3 reconnaissance, it is concluded that it is unlikely a release occurred during New
4 Mexico National Guard training exercises in AOC 93. As noted, training
5 exercises were limited to maneuver, aircraft tracking, and overnight bivouac of air
6 defense artillery units. Refueling of equipment was performed by qualified
7 personnel over drip pans. No weapons, either air defense artillery or small arms,
8 were fired within AOC 93. Further, there is no evidence to suggest AOC 93
9 poses an unacceptable risk to human health or the environment. Therefore, no
10 further corrective action activities are warranted or proposed for AOC 93, and the
11 Army proposes that AOC 93 be designated "Corrective Action Complete Without
12 Controls".

13 Two 3.25-inch rocket motor tubes (a metal tube, approximately 46 inches long,
14 2.5 inches in diameter, and threaded on each end) were observed on the ground
15 near AOC 93, however, they appeared to be empty tubes used as a marker for a
16 valve box. According to historical Standard Operating Procedures provided in
17 the Release Assessment Report for Parcel 21, 3.25-inch target rockets were
18 demilitarized during FWDA operations. After demilitarization, the motor tubes
19 were classified as scrap metal to be salvaged. A number of these tubes were
20 reused at various locations at FWDA as vertical marking posts for drainage
21 culverts and walkways, and also as "decorative" fencing (one such fence,
22 consisting of empty rocket motor tubes welded together, is present around the
23 parking area at the Fire Training Ground (SWMU 7). Because they have been
24 fully demilitarized and classified as scrap metal, the rocket motor tubes should
25 not be considered munitions debris (MD).

26 Observed debris and empty rocket motor tubes at AOC 93 will be removed prior
27 to land transfer as part of a "housekeeping" action.

1 **11.0 AOC 75 –ELECTRICAL TRANSFORMER LOCATIONS**

2 **11.1 LOCATION, DESCRIPTION, AND OPERATIONAL HISTORY**

3 AOC 75 is listed in the Permit as “Electrical Transformers (at least 65 former or
4 existing transformers)”. FWDA records (included in Appendix B) show 65
5 transformers in 29 locations throughout FWDA. As shown in Figure 8, a number
6 of these locations are within Parcels 11 and 12.

7 **11.2 WASTE MANAGEMENT INFORMATION**

8 There is no information suggesting hazardous wastes were handled at any
9 location in this AOC.

10 **11.3 RELEASE ASSESSMENT**

11 The potential for a release of PCBs at locations in AOC 75 was assessed by
12 combining review of available records and documents and observations made
13 during site reconnaissance.

14 **11.3.1 Historical Records/Document Review**

15 According to FWDA records (Appendix B), a number of transformers are or were
16 present within Parcels 11 and 12. AOC 75 locations within Parcel 11 are shown
17 in Figure 8.

18 **11.3.1.1 Structure 81, Main Substation**

19 According to FWDA records (Appendix B), Structure 81 (the main electrical
20 substation for FWDA, shown in Figure 8) contained three electrical transformers
21 and three electrical voltage regulators (similar in size, shape, and construction to
22 a transformer). These items were all classified as “non-PCB”, with PCB
23 concentrations in the transformers ranging from 23 to 29 ppm and less than 10
24 ppm in the voltage regulators. These transformers and voltage regulators remain
25 in place and are still in use.

26 **11.3.1.2 Vault A, Building 15**

27 According to FWDA records (Appendix B), Vault A on the south side of Building
28 15 (Figure 8) contained three transformers which would have been classified as
29 “PCB-contaminated”, with PCB concentrations ranging from 58 to 280 ppm; the
30 three PCB-contaminated transformers were removed and manifested for off-site
31 disposal in January 1993. FWDA records also show that three “non-PCB-
32 transformers” were relocated to Vault A from Building 527 (Parcel 22) in
33 September 1992; these transformers are still in use.

34 **11.3.1.3 Vault B, Building 34**

35 According to FWDA records (Appendix B), Vault B on the south side of Building
36 34 (Figure 8) contained three transformers classified as “non-PCB-

1 transformers”, all with PCB concentrations of less than 10 ppm. These
2 transformers remain in place and are still in use.

3 11.3.1.4 Vault C, Building 2

4 According to FWDA records (Appendix B), Vault C on the north side of Building 2
5 (Figure 8) contained three electrical transformers. No information regarding the
6 PCB content of these transformers was available. FWDA records document
7 these transformers as “leaking” in June 1990; the transformers were removed
8 and manifested for off-site disposal in January 1991.

9 11.3.1.5 Vault D and Pad-Mounted Transformer, Building 11

10 According to FWDA records (Appendix B), Vault D in the basement of Building
11 11 (Figure 8) contained two electrical transformers classified as “non-PCB-
12 transformers”, both with PCB concentrations of less than 10 ppm. These
13 transformers were removed during the demolition of Building 11 in 2002 and
14 replaced with a single pad-mounted non-PCB transformer that is located just east
15 of former Building 11. Vault D was addressed as part of the remedial action at
16 Building 11, as documented in a document entitled *Remedial Action Summary
17 Report, PCB Remediation and Demolition of Building 11* (Weston, 2002). The
18 two non-PCB transformers removed from Building 11 were placed in Building 10
19 (part of SWMU 40, Parcel 11, discussed in the companion RFI Work Plan) to
20 await reuse or disposition.

21 There was also a non-PCB transformer located on a pad on the north side of
22 Building 11, immediately adjacent to the diesel fuel AST (AOC 46). According to
23 FWDA records, this transformer had a manufacturer’s tag stating that the
24 transformer did not contain PCBs. This transformer was relocated to the new
25 electrical substation east of the former Building 11, and is currently in use.

26 11.3.1.6 Building 29 Pole-Mounted Transformer

27 According to FWDA records (Appendix B), a single pole-mounted electrical
28 transformer was located at Building 29 (Figure 8). The transformer was
29 classified as PCB-contaminated with a PCB concentration of 240 ppm. This
30 transformer was removed and manifested for disposal in January 1993.

31 11.3.1.7 Building 22 Transformers

32 According to FWDA records (Appendix B), two electrical transformers were
33 located inside Building 22 at the Sewage Treatment Plant (SWMU 10). Two
34 PCB-contaminated transformers (210 and 270 ppm PCBs) were removed and
35 manifested for off-site disposal in January 1993. Two pairs of non-PCB
36 transformers (two less than 3 ppm PCBs and two less than 10 ppm PCBs) were
37 installed and/or stored in the building and then removed and manifested for off-
38 site disposal in April 1996. No transformers are currently located in Building 22.

1 **11.3.1.8 Other Transformer Locations**

2 FWDA records (Appendix B) show several other transformer locations in either
3 Parcel 11 or 12.

4 One non-PCB transformer shown in the 1990 inventory as being located on a
5 pole at the coal tar storage tank area (Parcel 7, part of SWMU 40) is shown in
6 the more recent inventory as being located at Building 48 (within Parcel 11); the
7 more recent inventory notes that this same transformer was stored in Building 11
8 prior to disposal.

9 One non-PCB transformer shown in the inventories as being located on a pole
10 east of the main gate (within Parcel 12, Figure 8) was classified as non-PCB and
11 was removed and manifested for off-site disposal in January 1993.

12 **11.3.2 Site Reconnaissance Findings**

13 Existing or former electrical transformer locations in Parcels 11 and 12 that are
14 part of AOC 75 were inspected for stained surfaces and/or stained soil.
15 Representative photographs are included as Photos 51 through 64, Appendix C.
16 Because the four transformer vaults are confined spaces, they were observed to
17 the extent possible without performing confined space entry.

18 **11.3.2.1 Structure 81, Main Substation**

19 As shown in Photos 52 through 54 (Appendix C), light staining of the concrete
20 pad and evidence of oil seeping around fixtures on the transformers was
21 observed at Structure 81. No other indications of leaks were observed at
22 Structure 81.

23 **11.3.2.2 Vault A, Building 15**

24 As shown in Photo 56 (Appendix C), minor staining on the vault floor was
25 observed within Vault A. The active transformers did not appear to be leaking,
26 however, according to FWDA records, more than one set of transformers has
27 been housed in Vault A. Additionally, a small floor stain was observed under an
28 oil-filled switch within Vault A. All stains appeared to be confined to the interior of
29 the vault; there was no evidence of a release to the environment.

30 **11.3.2.3 Vault B, Building 34**

31 As shown in Photos 59 and 60 (Appendix C), minor staining on the vault floor
32 was observed within Vault B. The active transformers did not appear to be
33 leaking. All stains appeared to be confined to the interior of the vault; there was
34 no evidence of a release to the environment.

35 **11.3.2.4 Vault C, Building 2**

36 As shown in Photos 62 and 63 (Appendix C), minor staining on the vault floor
37 was observed within Vault C. The transformers have been removed, but several

1 switches and other appurtences remain. All stains appeared to be confined to
2 the interior of the vault; there was no evidence of a release to the environment.

3 A pad-mounted transformer is located on the ground surface adjacent to Vault C.
4 This transformer was identified as non-PCB by a manufacturer's tag.

5 *11.3.2.5 Vault D and Pad-Mounted Transformer, Building 11*

6 Vault D was filled during the remediation and demolition of Building 11, and
7 therefore, no observation of Vault D was made during the site reconnaissance.

8 As noted previously, the pad-mounted transformer has been relocated east of the
9 former Building 11 and is a non-PCB transformer.

10 *11.3.2.6 Building 29 Pole-Mounted Transformer*

11 No evidence of a release was observed at the former pole-mounted transformer
12 location near the former location of Building 29.

13 *11.3.2.7 Building 22 Transformers*

14 No electrical transformers were present within Building 22, however, a fenced
15 concrete pad and associated electrical distribution panel were present. No
16 staining was observed on the concrete pad, although the pad was partially
17 obscured by dust.

18 *11.3.2.8 Other Transformer Locations*

19 Site reconnaissance of Building 48 conducted prior to issuance of the Permit
20 (with NMED and stakeholder participation) did not identify any issues at Building
21 48. Building 48 did not have electrical power, so it is likely that the non-PCB
22 transformer was only stored temporarily within the building.

23 No evidence of a release was observed at the former pole-mounted transformer
24 location east of the main gate.

25 **11.3.3 Confirmatory Sampling**

26 Because it is an open air substation and has housed transformers from the time
27 of its construction in 1941, Structure 81 was determined to be the only AOC 75
28 location in Parcels 11 and 12 with a possibility of a release to the environment.
29 Samples were collected from surface soils surrounding Structure 81 as part of
30 the release assessment.

31 Two biased samples (B8100101 and B8100102) were collected from surface
32 soils adjacent to the concrete transformer pad and analyzed for PCBs. The
33 sample locations were chosen based on prevailing wind direction (from the west)
34 and locations of staining on the concrete pad. Sample locations are shown in
35 Figure 8 and Photos 53 and 54 (Appendix C).

1 No PCBs were detected in the samples collected from Structure 81. Analytical
2 results are included in Appendix D.

3 No other samples were collected from the other transformer locations, primarily
4 because those transformers were either non-PCB transformers, showed no
5 evidence of a release to the environment, and/or were housed in concrete vaults
6 and therefore contained.

7 **11.4 RELEASE ASSESSMENT CONCLUSION**

8 Based on the findings of this release assessment, there is no evidence to
9 suggest that any of the AOC 75 locations in Parcels 11 and 12 pose a threat to
10 human health or the environment.

11 As noted above, staining was observed on interior surfaces in three existing
12 transformer vaults and on the concrete pad at the substation (Structure 81).
13 These locations will be addressed in accordance with Toxic Substances Control
14 Act (TSCA) and Army requirements prior to land transfer. Because NMED does
15 not have TSCA primacy and does not have a screening level for PCBs on porous
16 surfaces, the appropriate response action will likely require coordination with
17 USEPA Region 6. The Army will consult with the Pueblo of Zuni and Navajo
18 Nation during response actions involving TSCA issues.

1 **12.0 ADDITIONAL AREAS EVALUATED**

2 As required by Permit Section VIII.A.1.e, an asbestos evaluation was performed
3 to identify sites that are not SWMUs or AOCs where there is a potential for
4 asbestos contamination. Parcels 11 and 12, a total of 334 acres, were surveyed
5 by a two person team (one person was a Certified Asbestos Inspector) from
6 Envirotech, Inc., of Farmington, New Mexico. The inspection team transected
7 the entire area using a two-passenger all-terrain vehicle. A copy of the
8 inspection report is included in Appendix E. Suspect asbestos containing
9 material (ACM) was observed and sampled in 13 locations; based on sample
10 results, five of the 13 locations had confirmed ACM. In addition, piping debris in
11 one location on Parcel 12 (labeled as “suspect pipe” in Figure 1, Appendix E, and
12 discussed in Section 10.3.2) was presumed to be ACM. ACM in debris areas
13 outside buildings will be mitigated in accordance with all federal, state, and local
14 requirements prior to land transfer.

15 No asbestos evaluation was conducted for Parcel 14 or Parcel 25. As noted in
16 this document, only one AOC (AOC 93, Bivouac and Tank Training Area) is
17 associated with Parcels 14 and 25. There are no other historical Army activities
18 or structures within Parcels 14 and 25, and therefore asbestos contamination is
19 unlikely. The Army surveyed the Rio Puerco and other drainage areas facility-
20 wide in 1998; no suspect ACM was found during the survey of the Rio Puerco or
21 other drainage areas within Parcels 14 and 25. The Army elected to survey the
22 industrial and administration areas at FWDA using all-terrain vehicles (ATVs)
23 because of the increased likelihood of finding ACM, however the Army does not
24 plan to survey the more remote/less developed parcels using this method
25 because of the potential environmental/habitat/cultural resource damage caused
26 by the ATVs. Additionally, the Army consulted with NMED 16 March 2007 about
27 the evaluation approach for the asbestos evaluations in compliance with Permit
28 section VIII.A.1.e; NMED stated their intent was to focus the evaluations on
29 FWDA buildings and immediate surrounding areas, and not on areas without
30 buildings.

31 As noted in the Section 10.4, empty 3.25-inch rocket motor tubes (a metal tube,
32 approximately 46 inches long, 2.5 inches in diameter, and threaded on each end)
33 have been reused at various locations at FWDA as vertical marking posts for
34 valve boxes (see Photo 50, Appendix C) and culverts. Because they have been
35 fully demilitarized and classified as scrap metal, the rocket motor tubes should
36 not be considered MD. The empty rocket motor tubes will be removed prior to
37 land transfer as part of a “housekeeping” action.

38 As noted in the discussion for AOCs 46 and 51 (Section 4.0 and 8.0,
39 respectively), underground fuel piping remains in place within Parcel 11. Based
40 upon historical drawings (Appendix B), the fuel valve box north of former Building
41 11 was located and inspected (Photos 24 through 26, Appendix C). This valve
42 box contains three steel lines with valves and a meter. A single pipe enters the
43 valve box from the east and is assumed to be the supply piping from Building 6
44 shown in historical drawings. A single pipe exits the valve box from the south
45 and is assumed to be the fill piping to the former AST (AOC 46) and/or the UST

1 (AOC 51). A single pipe exits the valve box from the north and is assumed to be
2 the supply piping to the former diesel fuel dispenser at the northwest corner of
3 Building 11 (Appendix B). A sheen was present on the water in the valve box
4 and a slight petroleum-like odor was present when the valve box was open. No
5 elevated PID readings were detected in the valve box.

6 Using a Schonstedt MAC-51B pipe and cable locator, piping from the valve box
7 was traced to termination in all directions (Photos 24 and 26 through 28,
8 Appendix C). However, it is possible piping extends further in some directions
9 and was masked because of a non-conductive coupling between two lengths of
10 piping. The piping exiting the valve box to the north appeared to terminate within
11 a few feet of the valve box; this piping may have been replaced with plastic
12 piping to the former dispenser on the west end of Building 11; in 1999, a
13 contractor reported striking a plastic diesel fuel line in a soil boring on the south
14 side of Building 9. The UST removal report (Envirotech, 1993) is unclear
15 regarding the amount of piping removed during removal of the USTs at Building 6
16 (SWMU 45); it appears that some of the lines were removed in 1993.

17 Because the fuel valve/meter box and underground piping remains in place and
18 because they were part of/connected to the fuel system at Building 6 (SWMU
19 45), the Army proposes that Structure 64, Former Underground Storage Tank at
20 Building 11, Structure 65, AST Located Near Building 11, existing fuel
21 valve/meter box, and remaining underground fuel piping” be added to the
22 description of SWMU 45 and be addressed under corrective action for that
23 SWMU.

24

1 **13.0 REFERENCES**

2 ANL, 1990. Enhanced Preliminary Assessment Report: Fort Wingate Depot
3 Activity. Argonne National Laboratory, March 1990. FWDA Information
4 Repository Document Number FW 90-1.

5 ASTM, 2005. Standard Practice for Environmental Site Assessments: Phase I
6 Environmental Site Assessment Process (ASTM Standard E 1527-05).
7 American Society for Testing and Materials, 2005.

8 DOI, 2005. Reuse Plan for Fort Wingate Depot Activity. U.S. Department of the
9 Interior, August 31, 2005.

10 Envirotech, 1993. Underground Storage Tank Closure, Fort Wingate Army
11 Depot. Envirotech, Inc., February 1993. FWDA Information Repository
12 Document Number FW 93-1.

13 ERI, 2006. Aerial Photographic Analysis, Fort Wingate Depot Activity.
14 Environmental Research, Inc., September 2006.

15 Inland Pacific, 1982. Installation Environmental Assessment, Fort Wingate Depot
16 Activity. Inland Pacific Engineering Company, December 1982.

17 NMED, 2005. Resource Conservation and Recovery Act permit, EPA ID No. NM
18 6213820974. New Mexico Environment Department Hazardous Waste Bureau,
19 December 1, 2005.

20 NMED, 2006. Technical Background Document for Development of Soil
21 Screening Levels, Revision 4.0. New Mexico Environment Department,
22 Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary
23 Remediation Program, June 2006.

24 TPL, 2004. Response of TPL, Inc. to Request for Information Dated July 29,
25 2004 from the New Mexico Environment Department. TPL, Inc., November
26 2004.

27 TPMC, 2006. Community Relations Plan, Version 1, Fort Wingate Depot Activity.
28 TerranearPMC, LLC, 29 August 2006.

29 U.S. Army, 1961. Fort Wingate Ordnance Depot, Facilities Data Report. U.S.
30 Army, May 1961. FWDA Information Repository Document Number FW 61-1.

31 USATHAMA, 1980. Installation Assessment of Fort Wingate Depot Activity,
32 Report No. 136. U.S. Army Toxic and Hazardous Materials Agency, January
33 1980.

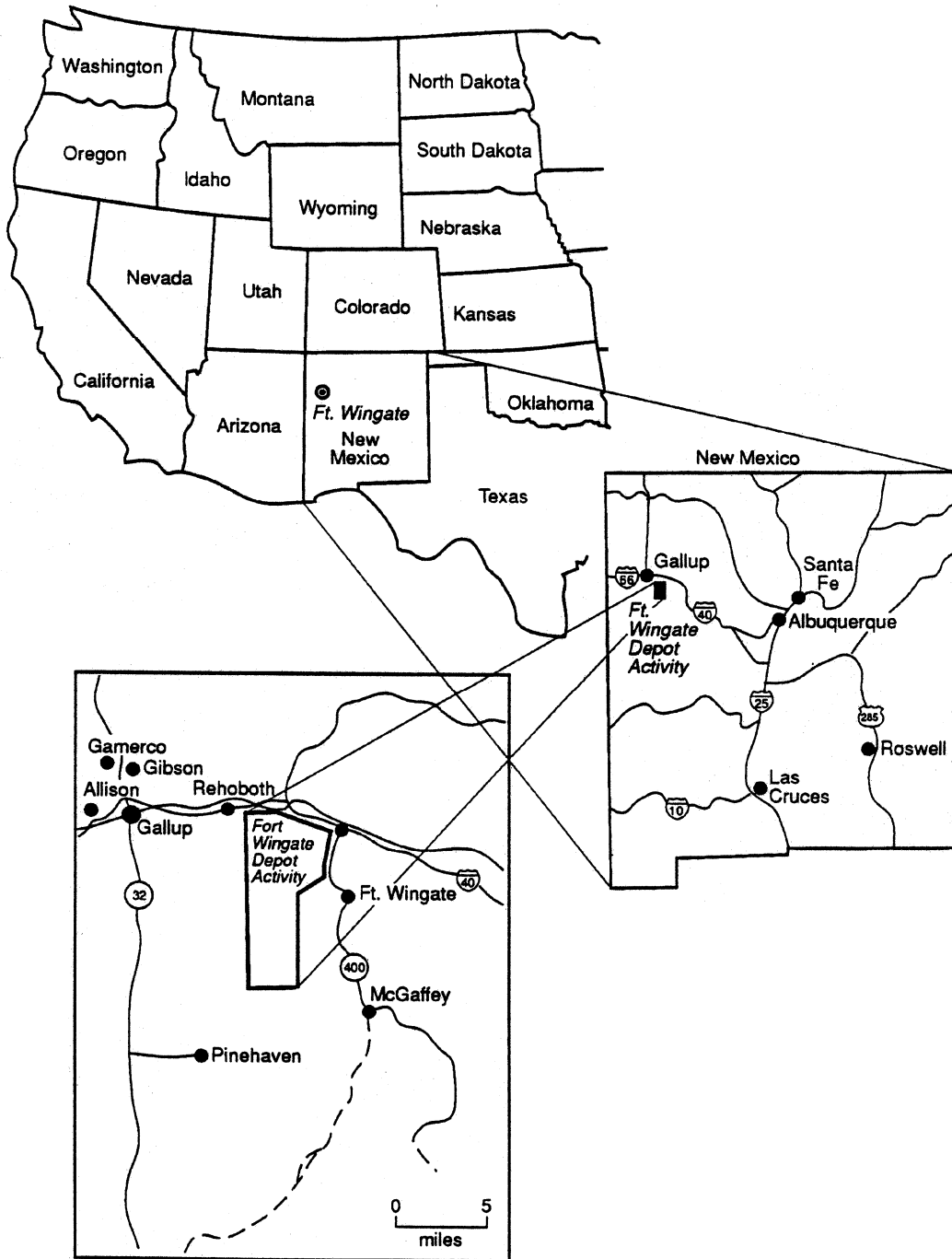
34 USEPA, 2006. Region 6 Human Health Medium Specific Screening Levels.
35 U.S. Environmental Protection Agency, Region 6, 2006.

36 Weston, 2002. Remedial Action Summary Report, PCB Remediation and
37 Demolition of Building 11. Roy F. Weston, Inc., October 2002. FWDA
38 Information Repository Document Number FW-02-5

39

FIGURES

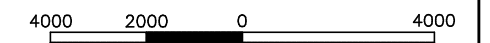
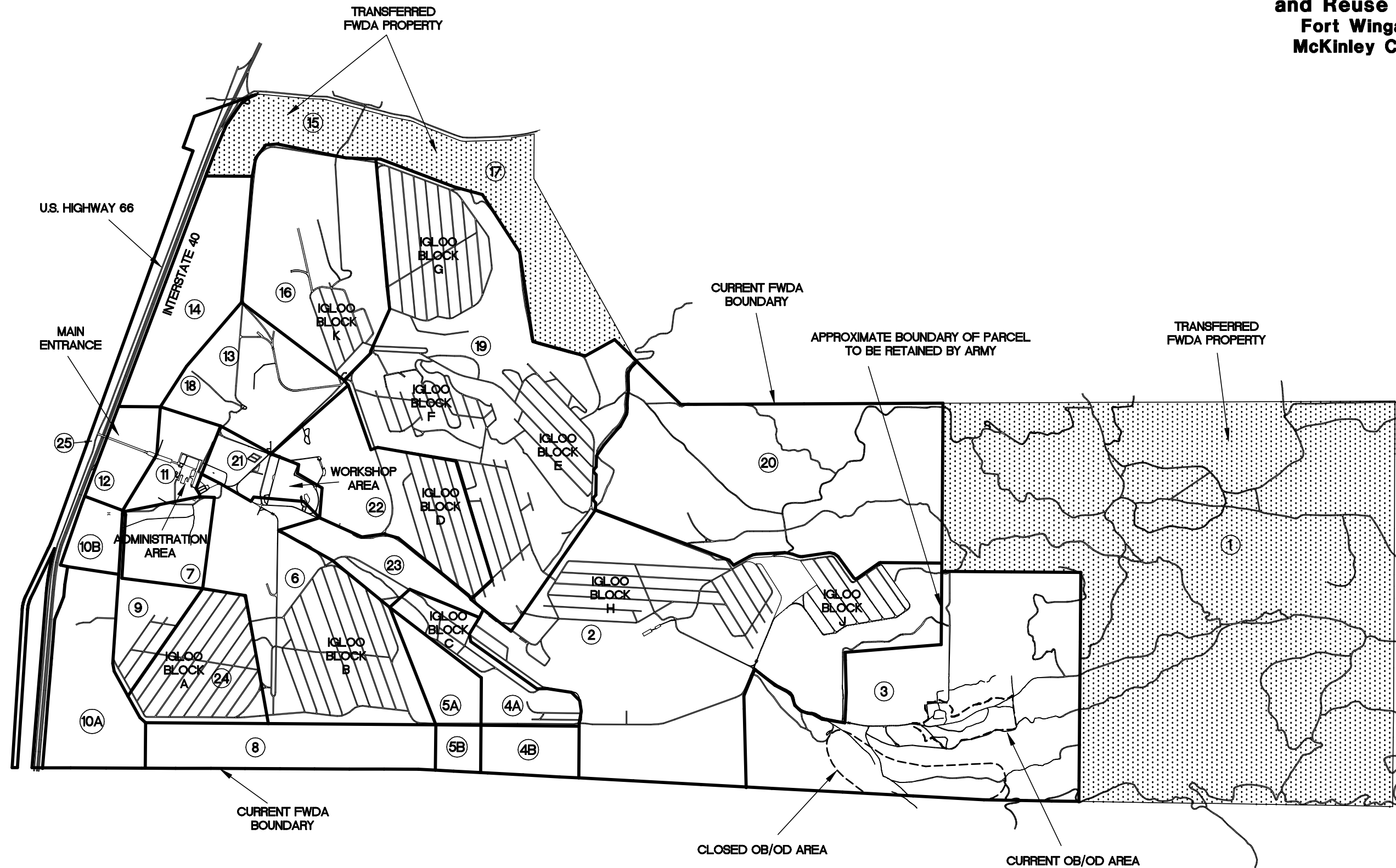
**Figure 1
Installation Location
Fort Wingate Depot Activity
McKinley County, New Mexico**



NOT TO SCALE

SOURCE: "MASTER ENVIRONMENTAL PLAN: WINGATE DEPOT ACTIVITY, GALLUP, NEW MEXICO," DECEMBER 1990.

Figure 2
Historical Land Use
and Reuse Parcel Boundaries
Fort Wingate Depot Activity
McKinley County, New Mexico



SCALE IN FEET

Figure 3 SWMU and AOC Locations Parcels 11 and 12 Fort Wingate Depot Activity McKinley County, New Mexico

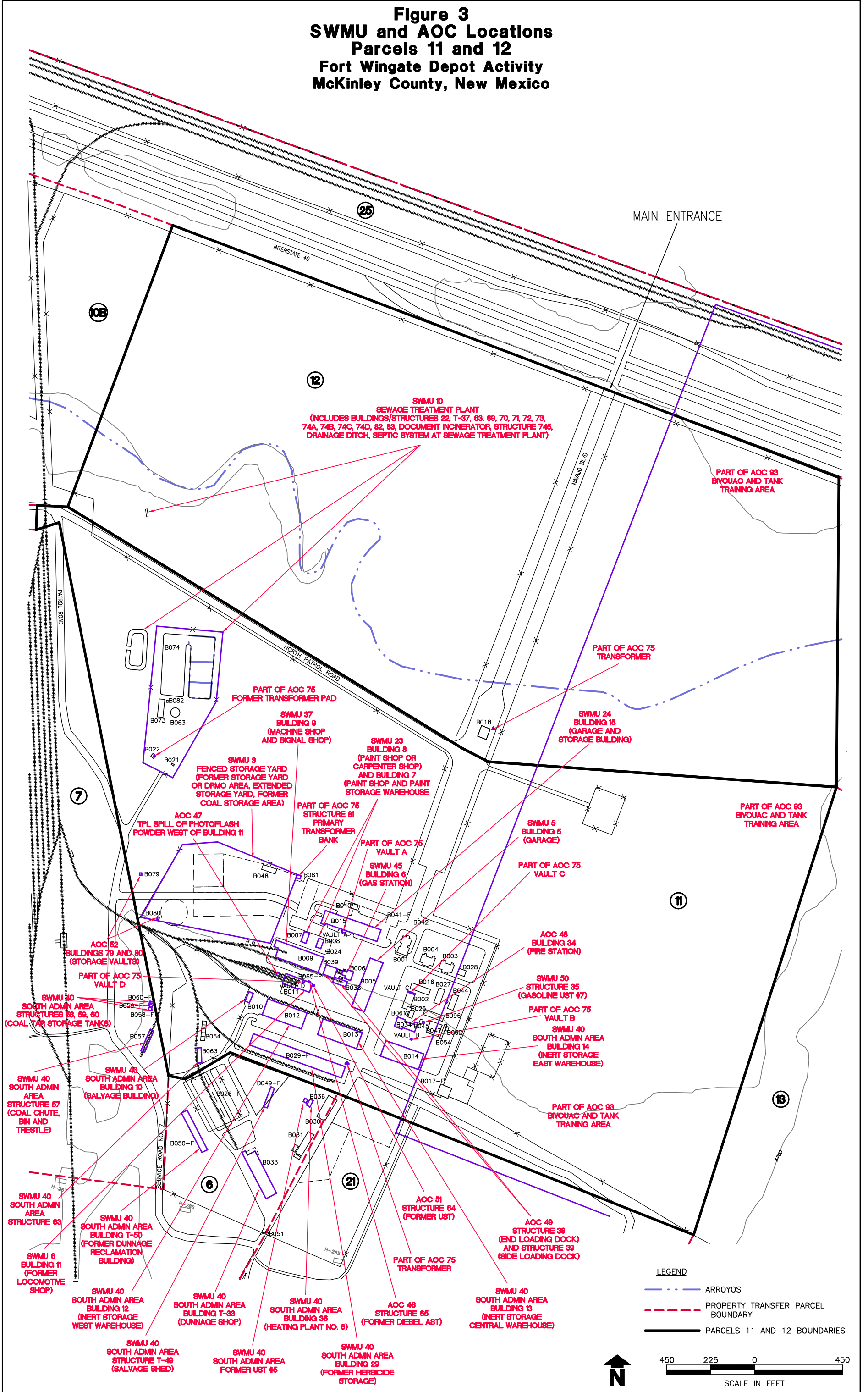


Figure 4
SWMU and AOC Locations
Parcels 14 and 25
Fort Wingate Depot Activity
McKinley County, New Mexico

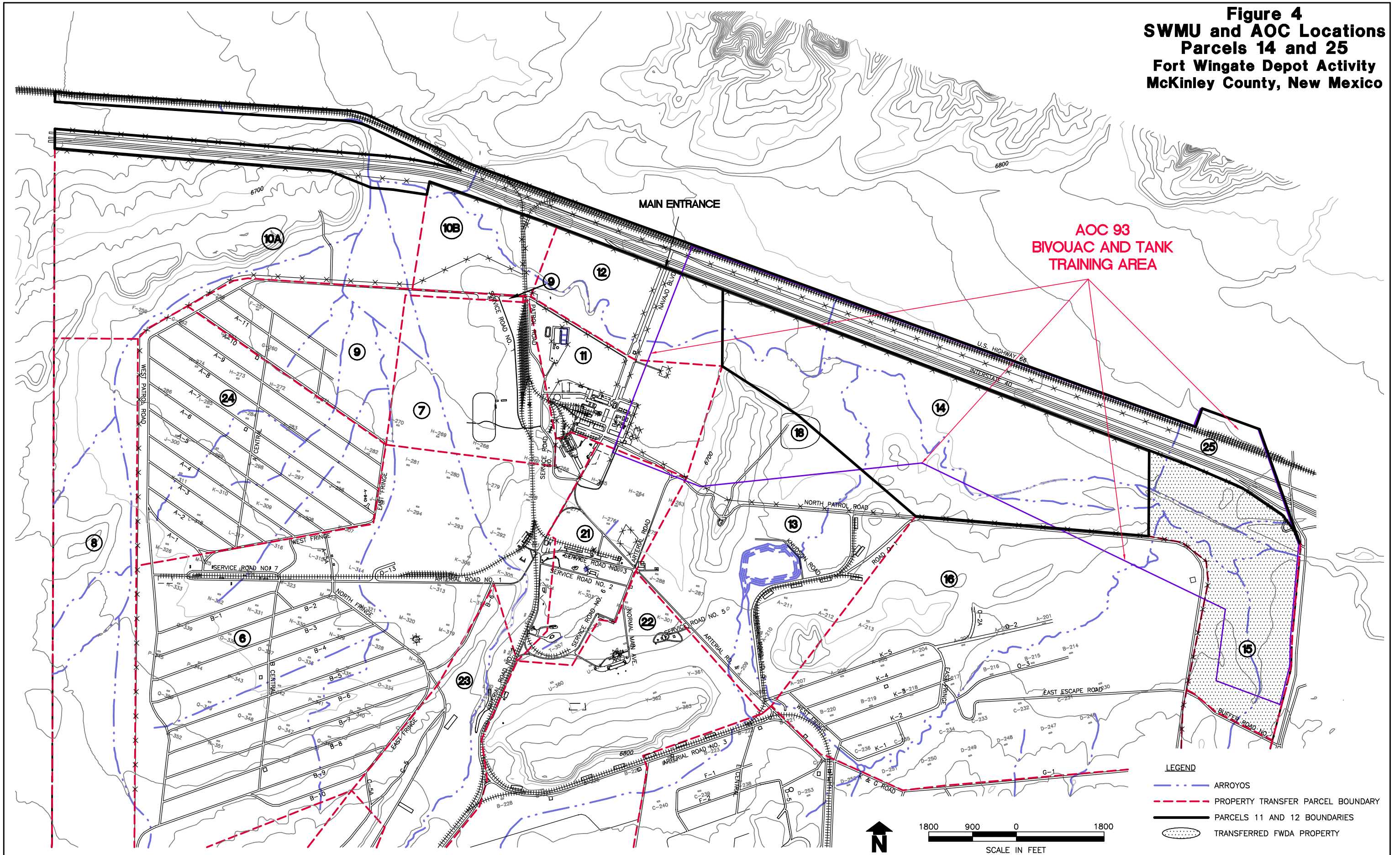
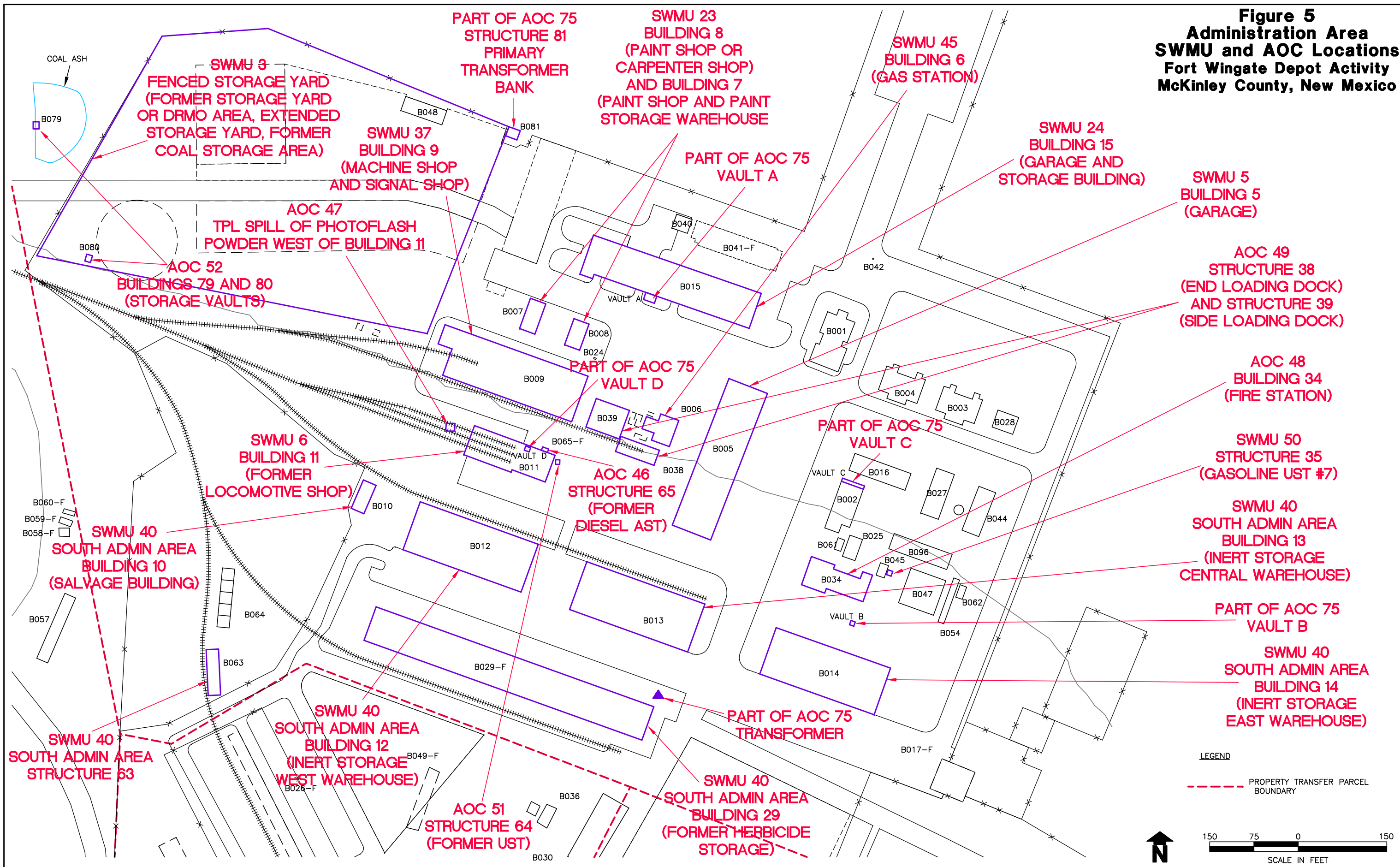
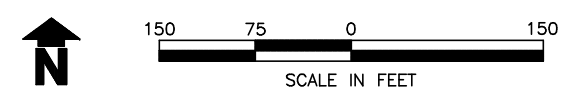


Figure 5
Administration Area
SWMU and AOC Locations
Fort Wingate Depot Activity
McKinley County, New Mexico



LEGEND
----- PROPERTY TRANSFER PARCEL BOUNDARY



**Figure 6
AOC 46, AOC 47,
AOC 49, and AOC 51
Fort Wingate Depot Activity
McKinley County, New Mexico**

**AOC 49
STRUCTURE 38
(END LOADING DOCK)
AND STRUCTURE 39
(SIDE LOADING DOCK)**

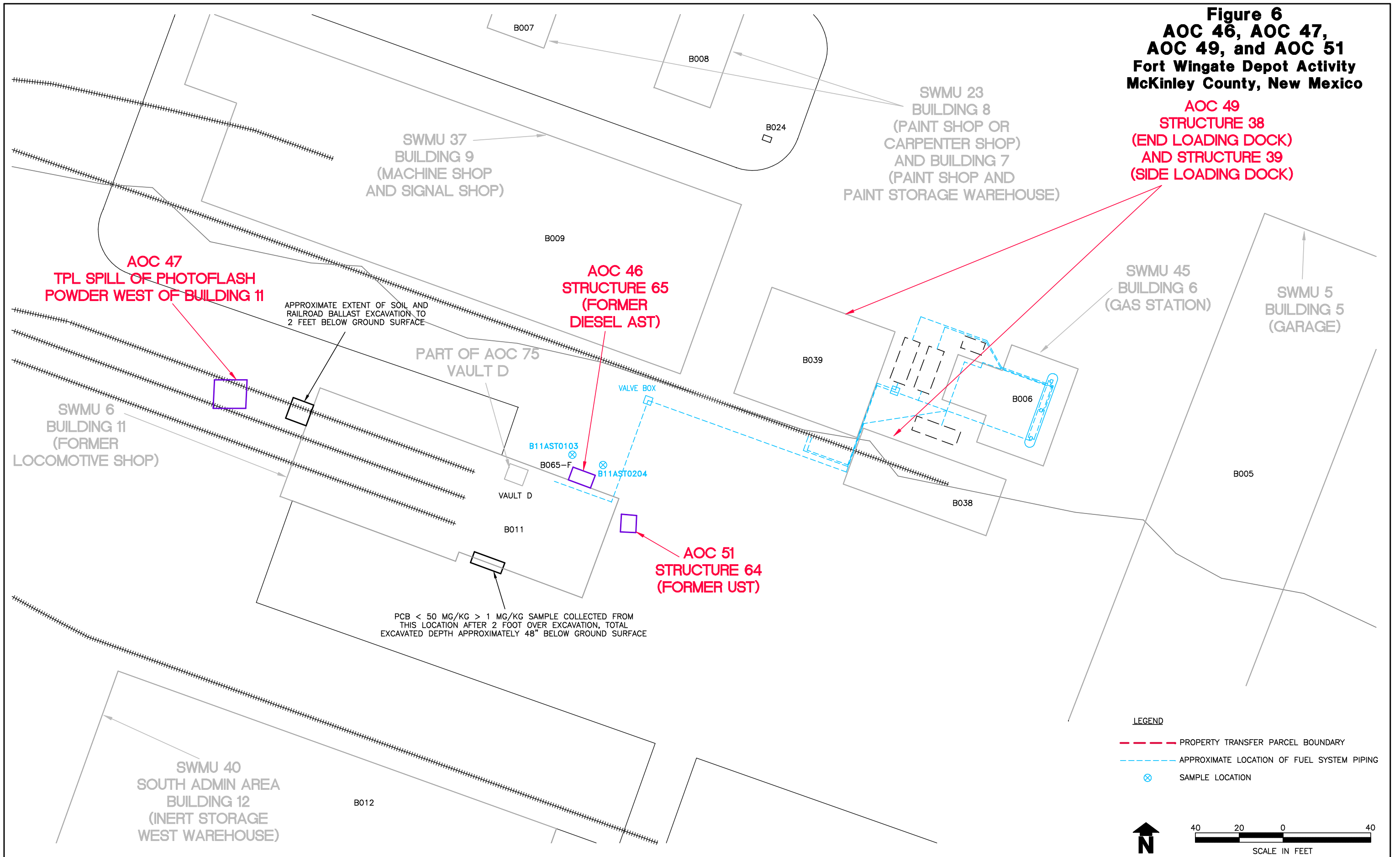


Figure 7
AOC 93
Fort Wingate Depot Activity
McKinley County, New Mexico

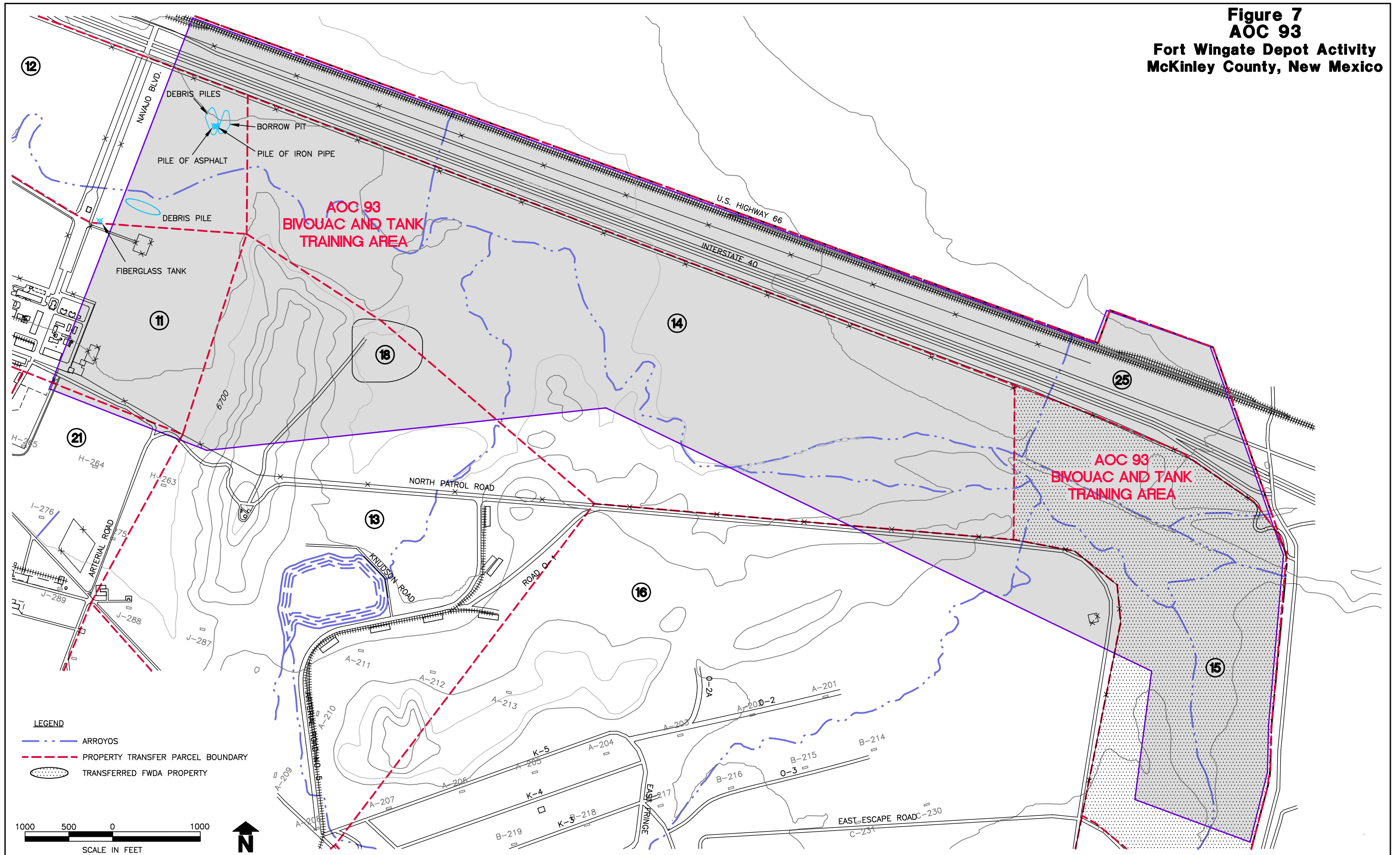
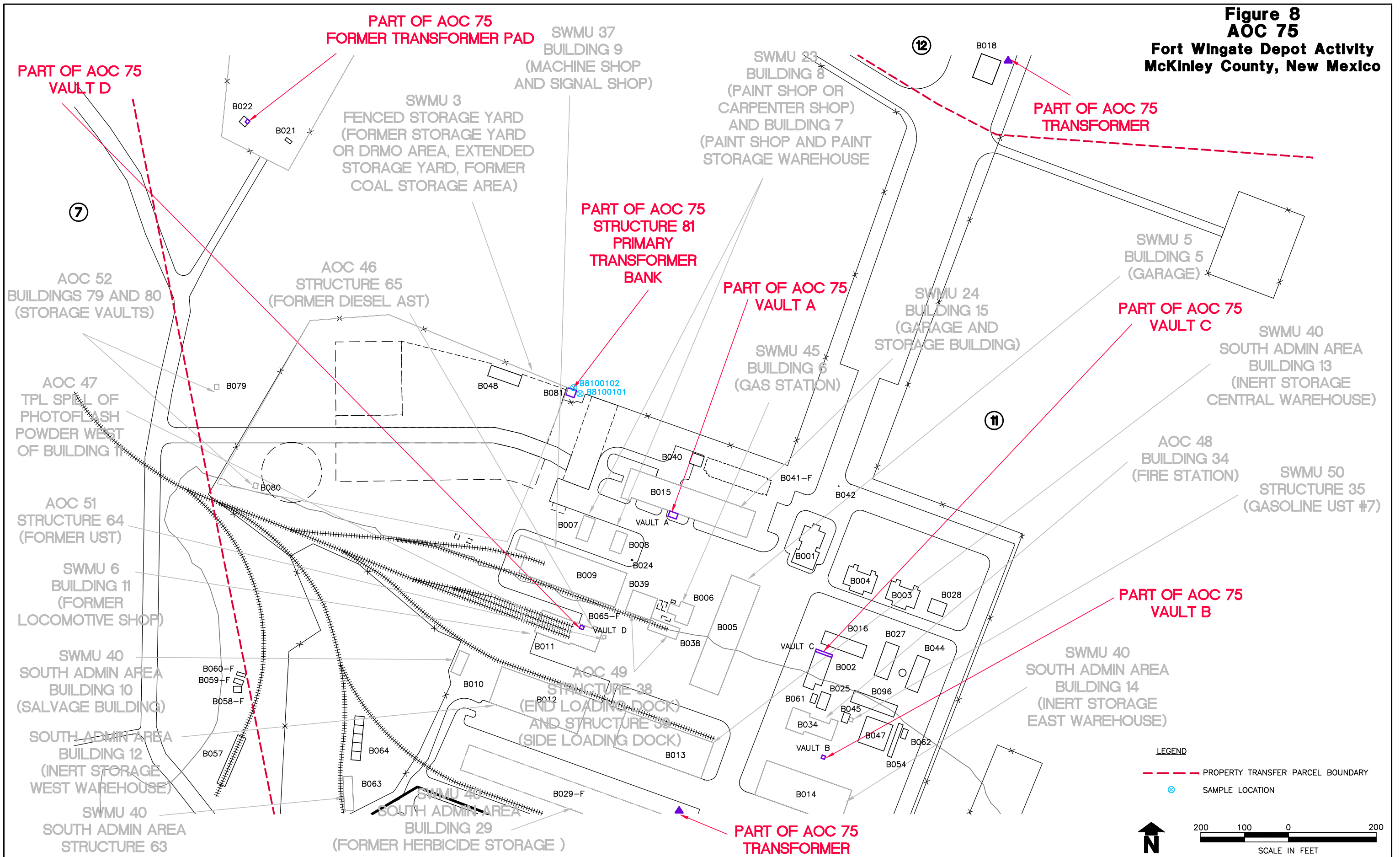
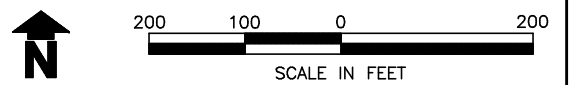


Figure 8
AOC 75

Fort Wingate Depot Activity
McKinley County, New Mexico



LEGEND
--- PROPERTY TRANSFER PARCEL BOUNDARY
⊗ SAMPLE LOCATION



TABLES

Table 1
Summary of Detected Constituents
Parcels 11 and 12 Release Assessment Sampling
Fort Wingate Depot Activity
McKinley County, New Mexico

Sample Id	Collection Date	Analyte	Result (mg/kg)	Report Flag	NMED Residential SSL (mg/kg)	USEPA Region VI		Cleanup Level (mg/kg)	Cleanup Level Basis	Exceed Cleanup Level?
						Residential MSSL (mg/kg)	Residential MSSL (mg/kg)			
B11AST0103	10/26/06	Benzo(a)anthracene	1.10E-01	J	6.21E+00	6.21E-01	6.21E-01	6.21E+00	NMED Residential	
B11AST0103	10/26/06	Benzo(a)pyrene	1.00E-01	J	6.21E-01	6.21E-02	6.21E-02	6.21E-01	NMED Residential	
B11AST0103	10/26/06	Benzo(b)fluoranthene	1.80E-01	J	6.21E+00	6.21E-01	6.21E-01	6.21E+00	NMED Residential	
B11AST0103	10/26/06	Benzo(ghi)perylene	6.10E-02	J	NS	NS	NS	No Standard	No Standard	
B11AST0103	10/26/06	Chrysene	9.90E-02	J	6.15E+02	6.21E+01	6.21E+01	6.15E+02	NMED Residential	
B11AST0103	10/26/06	Fluoranthene	2.30E-01	J	2.29E+03	2.29E+03	2.29E+03	2.29E+03	NMED Residential	
B11AST0103	10/26/06	Indeno(1,2,3-c,d)pyrene	5.70E-02	J	6.21E+00	6.21E-01	6.21E-01	6.21E+00	NMED Residential	
B11AST0103	10/26/06	Phenanthrene	1.20E-01	J	1.83E+03	NS	NS	1.83E+03	NMED Residential	
B11AST0103	10/26/06	Pyrene	1.90E-01	J	2.29E+03	2.31E+03	2.31E+03	2.29E+03	NMED Residential	
B11AST0204	10/26/06	2-Methylnaphthalene	4.80E-02	J	NS	NS	NS	No Standard	No Standard	
B11AST0204	10/26/06	Acenaphthene	2.30E-01	J	3.73E+03	3.68E+03	3.68E+03	3.73E+03	NMED Residential	
B11AST0204	10/26/06	Anthracene	8.00E-01	J	2.20E+04	2.19E+04	2.19E+04	2.20E+04	NMED Residential	
B11AST0204	10/26/06	Benzo(a)anthracene	1.50E+00	J	6.21E+00	6.21E-01	6.21E-01	6.21E+00	NMED Residential	
B11AST0204	10/26/06	Benzo(a)pyrene	1.40E+00	J	6.21E-01	6.21E-02	6.21E-02	6.21E-01	NMED Residential	YES
B11AST0204	10/26/06	Benzo(b)fluoranthene	1.90E+00	J	6.21E+00	6.21E-01	6.21E-01	6.21E+00	NMED Residential	
B11AST0204	10/26/06	Benzo(ghi)perylene	8.80E-01	J	NS	NS	NS	No Standard	No Standard	
B11AST0204	10/26/06	Benzo(k)fluoranthene	5.20E-01	J	6.21E+01	6.21E+00	6.21E+00	6.21E+01	NMED Residential	
B11AST0204	10/26/06	bis(2-ethylhexyl)phthalate	5.80E-02	J	3.47E+02	3.47E+01	3.47E+01	3.47E+02	NMED Residential	
B11AST0204	10/26/06	Carbazole	2.00E-01	J	NS	2.43E+01	2.43E+01	2.43E+02	Proposed	
B11AST0204	10/26/06	Chrysene	1.40E+00	J	6.15E+02	6.21E+01	6.21E+01	6.15E+02	NMED Residential	
B11AST0204	10/26/06	Dibenz(a,h)anthracene	2.10E-01	J	6.21E-01	6.21E-02	6.21E-02	6.21E-01	NMED Residential	
B11AST0204	10/26/06	Dibenzofuran	1.80E-01	J	1.42E+02	1.45E+02	1.45E+02	1.42E+02	NMED Residential	
B11AST0204	10/26/06	Fluoranthene	3.70E+00	J	2.29E+03	2.29E+03	2.29E+03	2.29E+03	NMED Residential	
B11AST0204	10/26/06	Fluorene	3.50E-01	J	2.66E+03	2.64E+03	2.64E+03	2.66E+03	NMED Residential	
B11AST0204	10/26/06	Indeno(1,2,3-c,d)pyrene	7.80E-01	J	6.21E+00	6.21E-01	6.21E-01	6.21E+00	NMED Residential	
B11AST0204	10/26/06	Naphthalene	9.20E-02	J	7.95E+01	1.25E+02	1.25E+02	7.95E+01	NMED Residential	
B11AST0204	10/26/06	Phenanthrene	3.00E+00	J	1.83E+03	NS	NS	1.83E+03	NMED Residential	
B11AST0204	10/26/06	Pyrene	3.10E+00	J	2.29E+03	2.31E+03	2.31E+03	2.29E+03	NMED Residential	

Notes:

mg/kg - milligrams per kilogram
NS - no standard
SSL - Soil Screening Level
MSSL - Medium Specific Screening Level
NMED - New Mexico Environment Department
USEPA - US Environmental Protection Agency
feet bgs - feet below ground surface

Flag Codes:

D - Duplicate
J - Estimated Concentration