

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM  
FORMERLY USED DEFENSE SITES  
FINDINGS AND DETERMINATION OF ELIGIBILITY

SAHUARITA AIR FORCE RANGE  
TUCSON, ARIZONA  
SITE NO. J09AZ057600

FINDINGS OF FACT

1. The site consists of 27,045.65 acres acquired by transfer, lease, and easement for use by the War Department. 2,062.72 acres were transferred from the Department of the Interior by Executive Order 9081 dated 27 February 1942. 22,544.51 acres were leased from the City of Tucson in 1942 through leases W-868-eng-4553, W-868-eng-4538, W-868-eng-4577, and W-509-eng-1603; on 11 September 1958 48.71 acres within these leases were acquired in fee. An additional 2,438.42 acres were acquired through easements for height limitation covenants in 1958.

2. The site was known as Sahuarita Bombing Range and was initially used as a bombing range by Davis-Monthan Army Air Force Base. Improvements included 12 buildings, 4 observation towers, a 5400' runway, a rotary launcher, and miscellaneous structures and utilities. There is no record or evidence of fueling facilities at the site. The site was exclusively under DOD control during their period of ownership and use.

3. On 18 August 1948, Public Land Order 517 transferred the 2,062.72 acres back to the Department of the Interior. Portions of the leases totaling 1,680 acres were terminated in 1948. Additional portions of the leases totaling 3,796.72 acres were terminated in 1949. The 2,438.42 acres acquired through easements and additional portions of the leases totaling 14,468.79 acres were terminated in 1971 and 1972. The final 2,550.29 acres of leases were terminated 31 March 1978. No restrictions were placed on the future use of the property. Approximately 20,000 acres are now owned by the state of Arizona with most of the land being utilized for grazing. Portions of the site are now farms and residential development. The 48.71 acres owned in fee were quitclaimed to Pima County on 11 August 1980. The quitclaim stipulated that the property be used for recreational facilities, and the property is currently a park.

DETERMINATION

Based on the foregoing Findings of Fact, the site has been determined to be formerly used by the Department of Defense. It is therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites established under 10 USC 2701 et seq.

26 Sep 94

Date

David E. Peixotto

DAVID E. PEIXOTTO  
Colonel, EN  
Commanding

SITE SURVEY SUMMARY SHEET  
FOR  
DERP-FUDS SITE NO. J09AZ057600  
SAHUARITA AIR FORCE RANGE  
TUCSON, ARIZONA  
7 SEPTEMBER 1993

SITE NAME: Sahuarita Air Force Range

LOCATION: The southeast end of the runway is located about 4 miles east of Sahuarita which is approximately 17 miles south of Tucson, Arizona on the east side of Interstate 19.

SITE HISTORY: Beginning in 1942 a total of 27,045.65 acres were acquired by the War Department for use as a bombing and gunnery range. The range was opened officially in January 1942. Maps acquired from Davis-Monthan Air Force Base appear to indicate two target areas on the site in addition to a runway and associated facilities. Initial facilities were constructed in 1943. Observation towers were built around the two target sites. After World War II the runway was used for emergency landings. Jet assisted take-off (JATO) bottles have been found in the runway area. Use of the runway was discontinued in 1962 and it was classified as an emergency landing strip. In 1978 the remaining portion of the site (approximately 2,550 acres) was cleared by an explosive ordnance disposal squadron.

All types of airborne ordnance could be present at the site. Another ordnance survey was conducted in early 1971 but the extent of the survey is unknown. The low incidence of reported ordnance implies that at least a surface survey of the target areas was done. EOD personnel at Davis-Monthan indicate they have received reports of ordnance found on the site since the last ordnance survey.

Approximately 20,000 acres of the site are now owned by the State of Arizona. Portions of the site have been developed as residential areas and other portions of the site have been developed as farms. Most of the area, including the major impact areas, are only used for grazing. There has not been extensive public exposure to most of the site.

SITE VISIT: On 10 December 1992, a site visit was conducted by Matthew Goddard, P.E. of Sverdrup Environmental.

CATEGORY OF HAZARD: OEW

PROJECT DESCRIPTIONS: Recommend that the Corps' Mandatory Center of Expertise (MCX) for OEW at the Huntsville Division make a determination if further investigation is appropriate.

AVAILABLE STUDIES AND REPORTS:

- a. Range Clearance Report, March 1978.
- b. Previous INPR dated March 1988.

DISTRICT POC: Jatin Desai, Los Angeles District, (213) 894-6266

PROJECT SUMMARY SHEET  
FOR  
DERP-FUDS OEW PROJECT NO. J09AZ057601  
SAHUARITA AIR FORCE RANGE  
DERP-FUDS SITE NO. J09AZ057600  
7 SEPTEMBER 1993

PROJECT DESCRIPTION: The site was used as a bombing and gunnery range from 1942 to 1962. Available drawings indicate what are probably two target areas, but the entire site is considered to be part of the OEW project. Given the types of aircraft which have used the site the possible ordnance includes machine gun and cannon shells, bombs, and rockets. EOD personnel (Sergeant Hufford at 602-750-5333) at Davis-Monthan AFB have received reports of unexploded ordnance on the site, but were unable to provide detailed information on the location of most of the findings.

PROJECT ELIGIBILITY: Any ordnance would be the result of Department of Defense activities.

POLICY CONSIDERATIONS: There are no policy considerations that would affect the proposal of this project.

PROPOSED PROJECT: Recommend that the Corps' Mandatory Center of Expertise (MCX) for OEW at the Huntsville Division make a determination if further investigation is appropriate.

RAC FORM: Attached

DISTRICT POC: Request that CEHND inform Mr. Jatin Desai at (213) 894-6266, when a determination is made in regard to project status.

RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES

Site Name Sahuarita AF Range Rater's Name M. Goddard  
 Site Location Tucson, AZ Organization Sverdrup Environmental  
 DERP Project # J09AZ057601 RAC 3 recommended

OEW RISK ASSESSMENT

This risk assessment procedure was developed in accordance with MIL-STD 882B and AR 385-10.

The OEW risk assessment is based upon documented evidence consisting of records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. These data are used to assess the risk involved based upon the hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability.

Any field activities should be made with the assistance of qualified EOD personnel.

Part I. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE

A. Conventional Ordnance and Ammunition

	YES VALUE	NO VALUE	VALUE
Small Arms (.22 cal - .50 cal)	1	0	<u>1</u>
Medium/Large Caliber (20mm and larger)	10	0	<u>10</u>
Bombs, Explosive	10	0	<u>0</u>
Bombs, Practice (w/spotting charges)	6	0	<u>6</u>
Grenades, Hand and Rifle, Explosive	10	0	<u>0</u>
Grenades, Practice (w/spotting charges)	4	0	<u>0</u>
Land Mines, Explosive	10	0	<u>0</u>
Land Mines, Practice (w/spotting charges)	4	0	<u>0</u>

	YES VALUE	NO VALUE	VALUE
Rockets, Guided Missiles, Explosive	10	0	<u>10</u>
Detonators, Blasting Caps	6	0	<u>0</u>
Conventional Ordnance and Ammunition Value (Maximum of 10)			<u>10</u>

B. Pyrotechnics

	YES VALUE	NO VALUE	VALUE
Any Munition Containing White Phosphorous or other Pyrophoric Material (i.e., Spontaneously Flammable)	10	0	<u>0</u>
Any Munition Containing a Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries)	6	0	<u>0</u>
Flares, Signals, Simulators	4	0	<u>4</u>
Pyrotechnics Value (Maximum of 10).			<u>4</u>

C. Bulk High Explosives (Bulk explosives not an integral part of conventional ordnance; uncontainerized.)

	YES VALUE	NO VALUE	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitro- glycerin, Mercury Azide, Mercury Fulminate, etc.)	10	0	<u>0</u>
Demolition Charges	10	0	<u>0</u>
Booster, Bursting or Fuse Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	0	<u>0</u>
Military Dynamite	6	0	<u>0</u>
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.)	3	0	<u>0</u>
High Explosives Value (Maximum value of 10)			<u>0</u>

D. Propellants

	YES VALUE	NO VALUE	VALUE
Solid or Liquid Propellants	6	0	<u>6</u>

E. Chemical Agents/Radiological Materials/Munitions

	YES VALUE	NO VALUE	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25	0	<u>0</u>
Radiological	15	0	<u>0</u>
Riot Control and Miscellaneous (Vomiting, Tear, etc.)	5	0	<u>0</u>
Radiological Materials/Chemical Agent/Weapons Value (Maximum value of 25)			<u>0</u>

Total Ordnance and Explosive Waste Characteristics Value (Total = A + B + C + D + E with a Maximum value of 61). 20  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY

Description	Category	Value
CATASTROPHIC	I	$\geq 21$
CRITICAL	II	$\geq 13 < 21$
MARGINAL	III	$\geq 5 < 13$
NEGLIGIBLE	IV	$\geq 1 < 5$
NONE		0

\* Apply Hazard Severity to Table 3.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION

A. Locations of Contamination

	YES VALUE	NO VALUE	VALUE
On the surface or within 3 feet.	5	0	<u>5</u>
Within Tanks, Pipes, Vessels, or Other confined locations.	4	0	<u>0</u>
Inside walls, ceilings, or other parts of Buildings or Structures.	3	0	<u>0</u>
Subsurface	2	0	<u>2</u>
Value for location of EXO (Maximum Value of 5).			<u>5</u>

B. Distance to nearest inhabited locations or structures likely to be at risk from OEW site (roads, parks, playgrounds, and buildings).

<u>Distance to Nearest Target</u>	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2.0 miles	1
Distance to Persons Value (Maximum Value of 5)	<u>4</u>

C. Numbers and types of Buildings within a 2 mile radius measured from the hazardous area, not the installation boundary.

Number of Buildings	VALUE	
0	0	
1 to 5	1	
6 to 10	2	
11 to 15	3	
16 to 25	4	
26 or over	5	
Number of Buildings Value (Maximum Value of 5).		<u>5</u>

D. Types of Buildings

	VALUE	
Educational, Child Care, etc.	5	
Residential, Hospitals, Hotels, etc.	5	
Commercial, Shopping Centers, etc.	5	
Industrial Warehouse, etc.	4	
Agricultural, Forestry, etc.	3	
Detention, Correctional	2	
Military	1	
No Buildings	0	
Types of Buildings Value (Maximum Value of 5).		<u>5</u>

E. Accessibility to site refers to the measures taken to limit access by humans or animals to ordnance and explosive wastes. Use the following guidance:

Barrier	Assigned Value
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility;	0
An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry at all times, through the gates or other entrances to the facility (e.g., an attendant,	0



Barrier	Assigned Value
television monitors, locked entrances, or controlled roadway access to the facility).	
Isolated site	1
Security guard, but no barrier	2
A barrier, (any kind of fence) but no separate means to control entry	3
Barriers do not completely surround the facility	3
No barrier or security system	5
Accessibility Value (Maximum Value of 5).	<u>3</u>

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
None Anticipated	0
Expected	5
(Maximum Value of 5)	<u>5</u>

Total Value for Hazard Probability. Sum of Values A through F. (Not to exceed 30). 27

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Apply this value to Hazard Probability Table 2 to determine Hazard Level.

TABLE 2  
HAZARD PROBABILITY

Description	Level	Value
FREQUENT	(A)	≥27
PROBABLE	B	≥21 <27
OCCASIONAL	C	≥ 15 <21
REMOTE	D	≥ 8 <15
IMPROBABLE	E	< 8

\* Apply Hazard Probability to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:					
CATASTROPHIC	I 1	1	2	3	4
CRITICAL	II (1)	2	3	4	5
MARGINAL	III 2	3	4	4	5
NEGLIGIBLE	IV 3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1        Imminent Hazard - Emergency action required to mitigate the hazard or protect personnel (i.e., Fencing, physical barrier, guards, etc.).
- RAC 2        Action required to mitigate hazard or protect personnel. Initial project phase--phased EECA.
- RAC 3        Action required to evaluate potential threat to personnel. Initial project phase--Archives search and site investigation.
- RAC 4        Action required to evaluate potential threat to personnel. Initial project phase--Archives search.
- RAC 5        No action required.

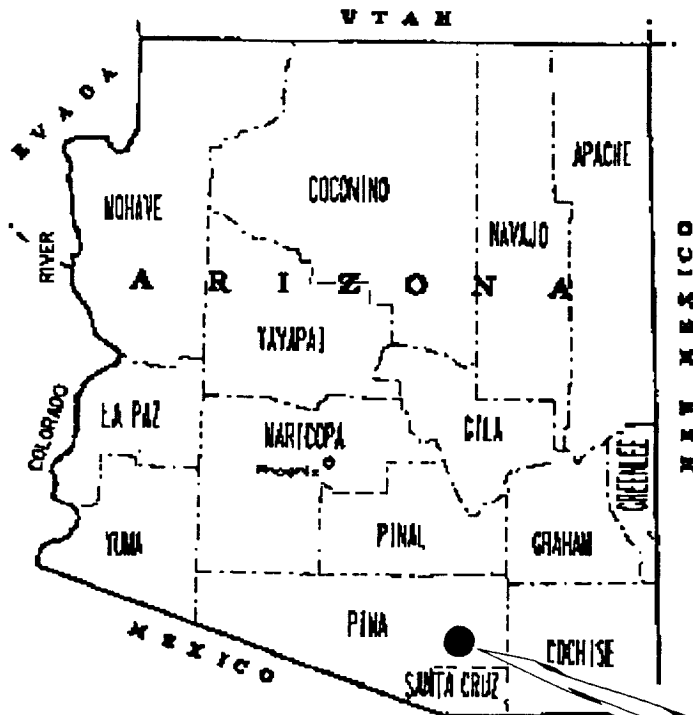
NOTE: Other phases may be considered depending on individual site conditions.

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Justification. This RAC is based upon the use of the site by Davis-Monthan AFB as a precision bombing and gunnery range. Records and drawings also show a rotary launcher (rocket?). The preceding risk assessment is for the entire site and uses best available information with regards to ordnance activities.

Most of the site is now State Trust Land that is utilized for grazing, although some of the site has been subdivided into residential lots and other portions are farms. Sergeant Hufford with Davis-Monthan EOD (602-750-5333) advised that the last report of ordnance found on the site of which he was aware concerned two 500 pound practice bombs "several years ago."

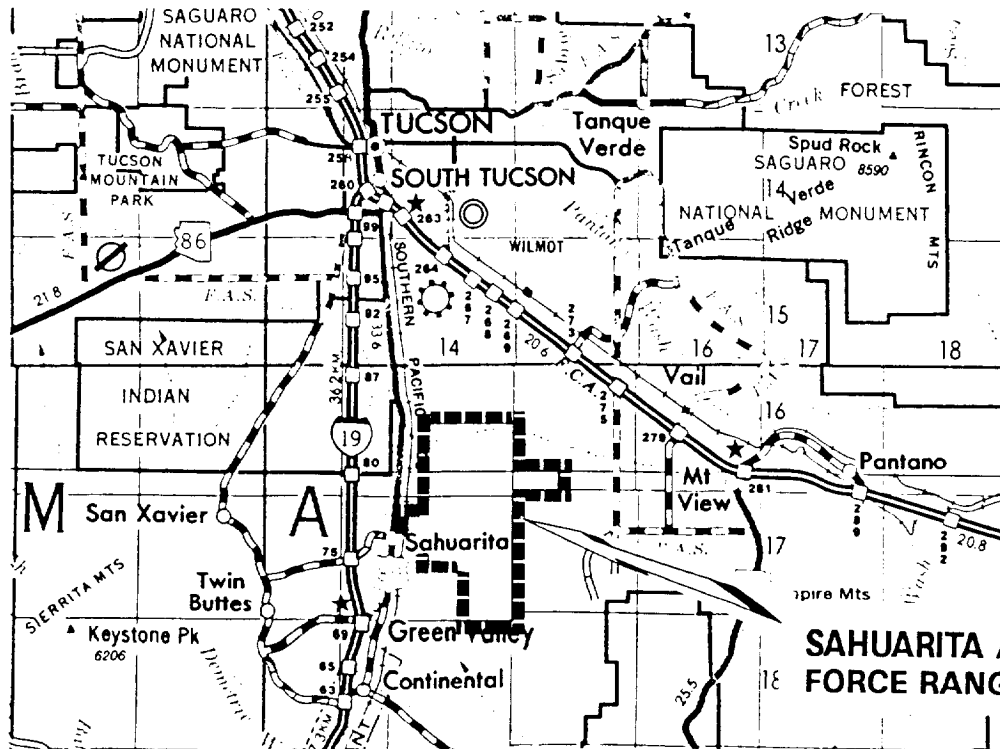
While various ordnance surveys may have been conducted, the only documentation available is for the last approximately 2,600 acres relinquished. This survey was conducted in March 1978 and was a surface survey. The sweep located and destroyed one 750 practice bomb and 71 JATO bottles. A wide variety of air force ordnance could possibly be located on the site. Most of the site has not had much public exposure and subsurface ordnance is a distinct possibility.

The RAC of 1 may be more severe than is warranted. Based upon our review of available ordnance information a RAC of 3 is recommended.



**SAHUARITA AIR FORCE RANGE**

SOURCE: AZ Department of Transportation



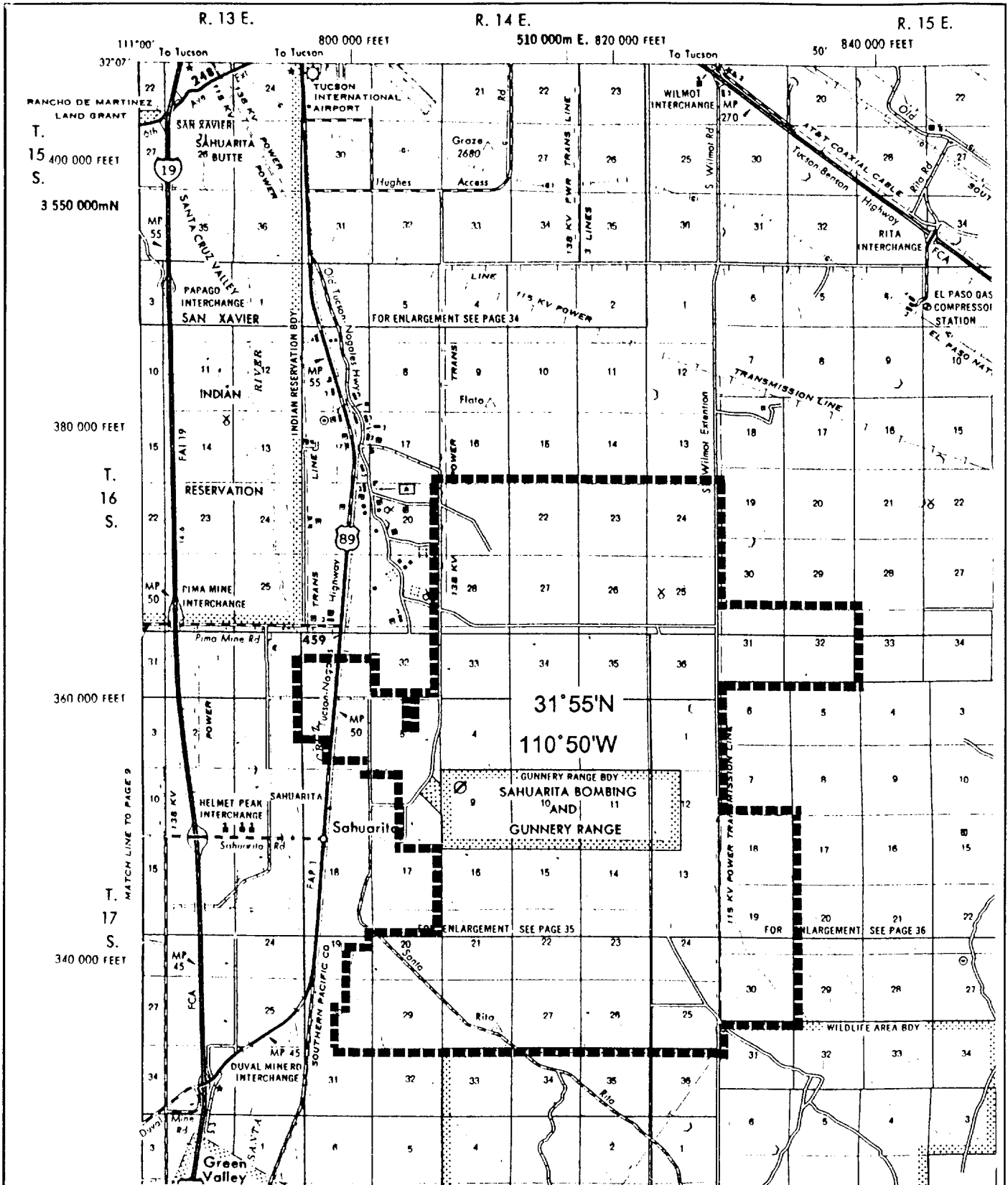
**SAHUARITA AIR FORCE RANGE**

SOURCE: AZ Department of Transportation General Highway Map

**SITE: J09AZ057600  
SAHUARITA AIR FORCE RANGE**

**SITE LOCATION MAPS**

DERP-FUDS: LOS ANGELES DISTRICT, CORPS OF ENGINEERS

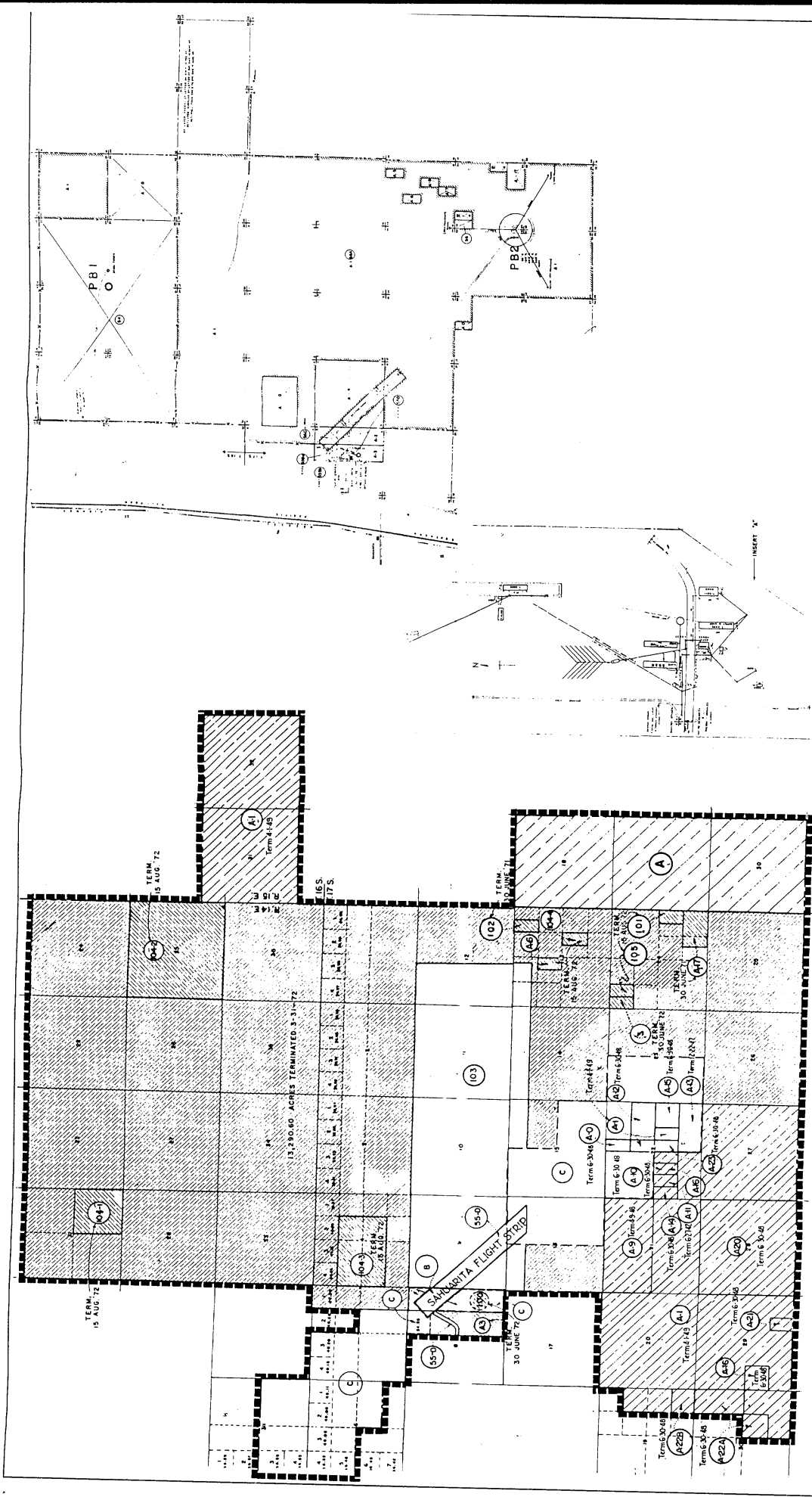


SOURCE: AZ Department of Transportation

**SITE: J09AZ057600**  
**SAHUARITA AIR FORCE RANGE**

**RANGE BOUNDARY MAP**

DERP-FUDS: LOS ANGELES DISTRICT, CORPS OF ENGINEERS



SOURCE: Sahuarita Air Force Range Real Estate Maps

**SITE NO. J09AZ057600**  
**SAHUARITA AIR FORCE RANGE**

BOUNDARY LOCATION MAPS

DEPR-FUIDS. LOS ANGELES DISTRICT, CORPS OF ENGINEERS