United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received
date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic White Sands V-2 Launching Site (Launch Complex 33)

and or common White Sands Blockhouse and Gantry Crane

2. Location

street & number White Sands Missile Range ___ not for publication

city, town ___ vicinity of

state New Mexico code 035 county Dona Ana code 013

3. Classification

Category	Ownership	Status	Present Use	
___ district	X public	___ occupied	___ agriculture	X museum
___ building(s)	___ private	___ unoccupied	___ commercial	___ park
___ structure	___ both	___ work in progress	___ educational	___ private residence
X site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	X yes: restricted	X government	___ scientific
	___ being considered	___ yes: unrestricted	___ industrial	___ transportation
		___ no	X military	___ other:

4. Owner of Property

name U.S. Army

street & number White Sands Missile Range

city, town White Sands ___ vicinity of state New Mexico 88002

5. Location of Legal Description

courthouse, registry of deeds, etc. Clerk's Office

street & number Dona Ana County Courthouse

city, town Las Cruces state New Mexico 88001

6. Representation in Existing Surveys

title New Mexico State Register of Cultural Properties #6580 has this property been determined eligible? ___ yes ___ no

date 1978 ___ federal ___ state ___ county ___ local

depository for survey records New Mexico State Planning Office

city, town Santa Fe state New Mexico

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	X original site
X good	___ ruins	X altered	___ moved date
___ fair	___ unexposed		

Describe the present and original (if known) physical appearance

Launch Complex 33 at the White Sands Missile Range has two important structures: the old Army Blockhouse and the launching crane, also known as the Gantry Crane.

The Army Blockhouse was completed in late September 1945 and was primarily used as an observation point and laboratory in the pioneer development of the V-2 rocket in the United States. Walls of the building are 10 feet thick and its pyramidal roof is of solid reinforced concrete 27 feet thick. The blockhouse is rectangular in shape 60 feet by 40 feet with concrete additions on the south and west sides. One observation window is on the east side and two observation windows are on the west side. The observation windows are covered with a high quality ground glass to allow scientists to view missile firings safely and at close range. The entrance door is on the south addition. A radar unit has been attached to the top of the structure. The blockhouse is currently utilized for the repair and maintenance of instrumentation and gauging devices.

The Gantry Crane was constructed in November 1946 to launch the V-2 and Viking rockets. The crane is a steel tower 75 feet tall and 25 feet wide. It is equipped with four platform levels for the placement of various types of rockets. The platforms swing toward the center of the crane from the two framed metal stands forming the vertical supports. Block-and-tackle pulleys descend from the top horizontal platform to assist in the placement of rockets. The crane is moved on tracks prior to a rocket launch. Underneath the concrete launch pad is a flame bucket for the rocket exhaust and a water spillway. The launch pad is concrete and is 365 feet by 372 feet. After the completion of the V-2 program the Gantry Crane was modified to support testing of the Army's Redstone Missile.[1]

The Gantry Crane has been restored by the Army to its original V-2 configuration. At the present time a Viking rocket is displayed for launching in the Gantry Crane.

8. Significance

Period	Areas of Significance—Check and justify below				
prehistoric	archeology-prehistoric	community planning	landscape architecture	X	religion
1400–1499	archeology-historic	conservation	law	X	science
1500–1599	agriculture	economics	literature		sculpture
1600–1699	architecture	education	X military		social
1700–1799	art	engineering	music		humanitarian
1800–1899	commerce	exploration settlement	philosophy		theater
X 1900–	communications	industry	politics government		transportation
		invention		X	other (specify) Space Exploration

Specific dates 1945-46 **Builder Architect** U.S. Army

Statement of Significance (in one paragraph)

Launch Complex 33 is significant because of its close association with the V-2 and the origins of the American Rocket Program. Launch Complex 33 was developed specifically to accommodate V-2 rocket tests at White Sands. The V-2 Gantry Crane and Army Blockhouse represent the first generation of rocket testing facilities that eventually would lead to the American exploration of Space and the first manned landing on the moon. This site test fired 67 V-2 rockets between 1946 and 1951, the first major rocket firings conducted in the United States. The V-2 was the first vehicle to carry scientific instruments into the upper atmosphere and the first large rocket with a liquid propellant motor. The V-2 provided the technological base upon which the United States would build to develop the Saturn family of rockets that eventually carried Americans to the moon and beyond.[2]

General History

The German V-2 Rocket (Vergeltungswaffen-2, or "weapon of retailation") was the most advanced rocket of its type in 1944-45. The V-2 was 46 feet long, 5.5 feet wide, and developed a thrust of 56,000 pounds. The V-2 was developed to support the German war effort and by 1945 hundreds of these rockets were launched against Allied targets in England and on the continent of Europe.

At the end of the war the American government in Operation Paperclip captured more than 100 V-2 rockets and numerous German scientists and engineers associated with the V-2 development program including Dr. Werner Von Braun. The Army brought Dr. Von Braun and the captured V-2s to the newly opened White Sands Missile Range in New Mexico. By March 1946 the first captured V-2 was static test fired at White Sands and in April 1946 the first V-2 was launched.

In the years from 1946 to 1951 while the Air Force concentrated on cruise missiles, the Army generated an increasing expertise in rocket technology based upon the experience and work of Dr. Von Braun at the White Sands Missile Test Range. During these years the Army launched 67 V-2s from White Sands establishing high altitude and velocity records that reached to the very edge of space. From these experiments, under the leadership of Dr. Von Braun, emerged the first generation of American built rockets such as the Corporal, Redstone, Nike, Aerobee and Atlas.

At the conclusion of the testing program for the V-2, the Army transferred its rocket team under Dr. Von Braun to the Redstone Arsenal in Huntsville, Alabama, to continue work on basic research and prototype development of new rockets. From this work would emerge the new generations of American rockets that would take Americans into space in the late 1950s and 1960s.

While the White Sands Missile Test Range would continue to test rockets and other areas such as Cape Canaveral and Vandenberg Air Force Base would test later generations of rockets only Launch Complex 33 at the White Sands Missile Test Range can lay claim to have tested and launched the very first generation of technologically sophisticated rockets that enabled Americans to probe to the very edge of space.

Bibliography

Bilstein, Roger B. Stages to Saturn: A Technological History of the Apollo/Saturn Launch Vehicles. Washington, D. C.: National Aeronautics and Space Administration, 1980.

Buchanan, David G. and Johnson, John P. Army Blockhouse Launch Complex 33. HABS/HAER Inventory Card, Silver Spring, Maryland: Building Technology Inc., 1983.

Buchanan, David G. and Johnson, John P. V-2 Gantry Crane Launch Complex 33. HABS/HAER Inventory Card, Silver Spring, Maryland: Building Technology Inc., 1983.

Emme, Eugene M. The History of Rocket Technology. Detroit: Wayne State Univerisity, 1964.

Fact Sheet. V-2 Story. Information Office, White Sands Missile Range, 1974.

Draft Historic Properties Report White Sands Missile Range, New Mexico and Sub-installation Utah Launch Complex, Green River, Utah. Silver Spring, Maryland: Building Technology Inc., 1983.

Ordway, Frederick I. and Mitchell R. Sharpe. The Rocket Team. New York: Crowell, 1979.

Footnotes

1. New Mexico State Register of Cultural Properties State Inventory Form #0580, White Sands V-2 Launch Site (1978), pp. 1-3.

   Buchanan, David G., and Johnson, John P. Army Blockhouse Launch Complex 33, HABS/HAER Inventory Card, (Silver Spring: Maryland, Building Technology Inc., 1983).

   Buchanan, David G., and Johnson, John P. V-2 Gantry Crane Launch Complex 33, HABS/HAER Inventory Card, (Silver Spring: Maryland, Building Technology Inc., 1983).

2. Draft Historic Properties Report, White Sands Missile Range, New Mexico and Subinstallation Utah Launch Complex, Green River, Utah, (Draft), (Silver Spring, Maryland: Building Technology Inc., 1983), pp. 105-106.

9. Major Bibliographical References

SEE CONTINUATION SHEET

10. Geographical Data

Acreage of nominated property 10 acres

Quadrangle name _____ Quadrangle scale 1:24:000

UTM References

	Zone	Easting	Northing
A	1 3	3 7 0 4 2 0	3 5 8 5 5 4 0
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

The boundary for Launch Complex 33 is drawn in green on the attached map titled "Launch Complex 33 Boundary map"

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
state	code	county	code

11. Form Prepared By

name/title Harry A. Butowsky, Historian

organization National Park Service date August 1, 1984

street & number 1100 L Street, NW telephone (202) 343-8168

city or town Washington state DC 20240

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national ___ state ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title date

For NPS use only

I hereby certify that this property is included in the National Register

date

Keeper of the National Register

Attest: date

Chief of Registration

GPO 894-788

VICINITY MAP - WHITE SANDS MISSILE RANGE

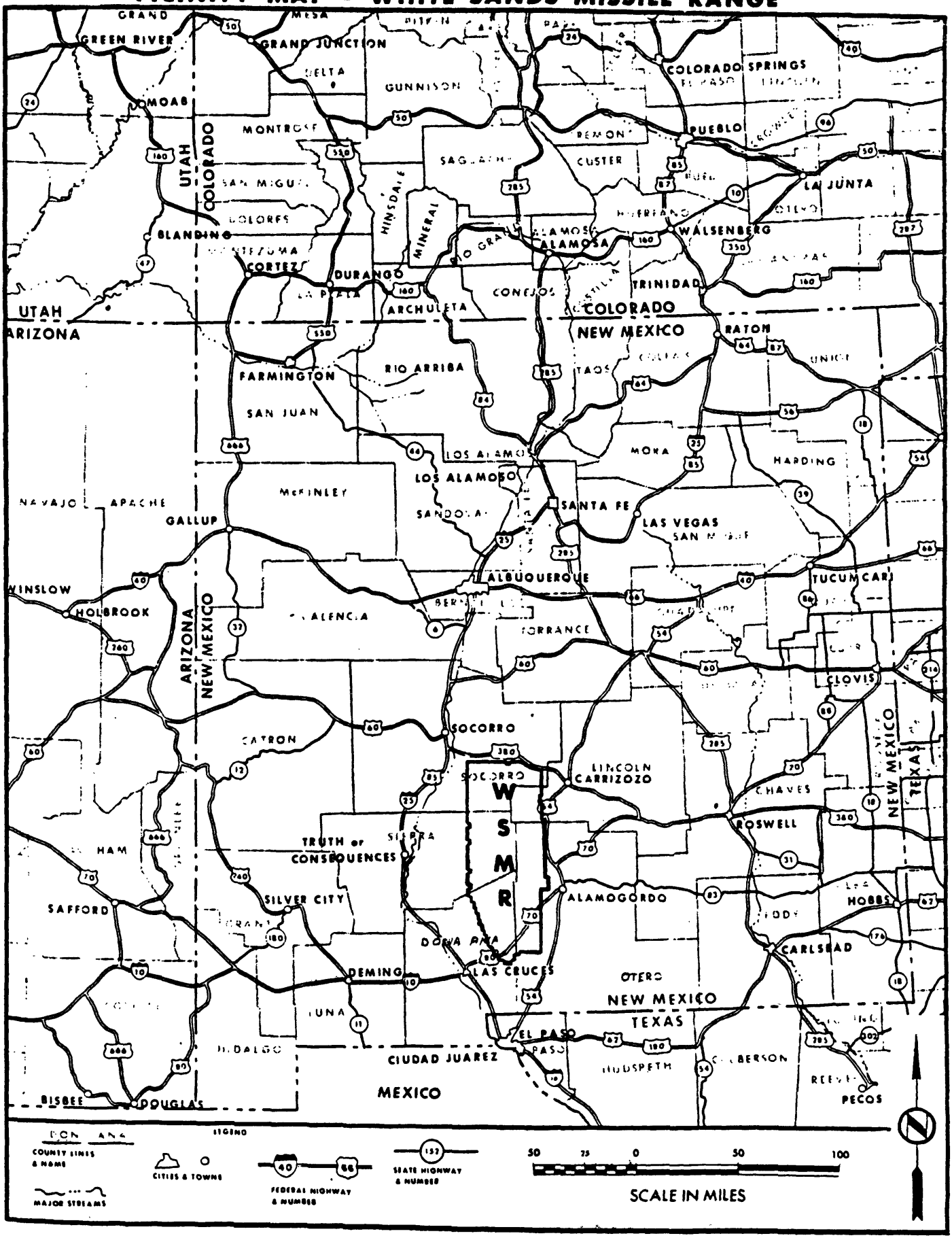
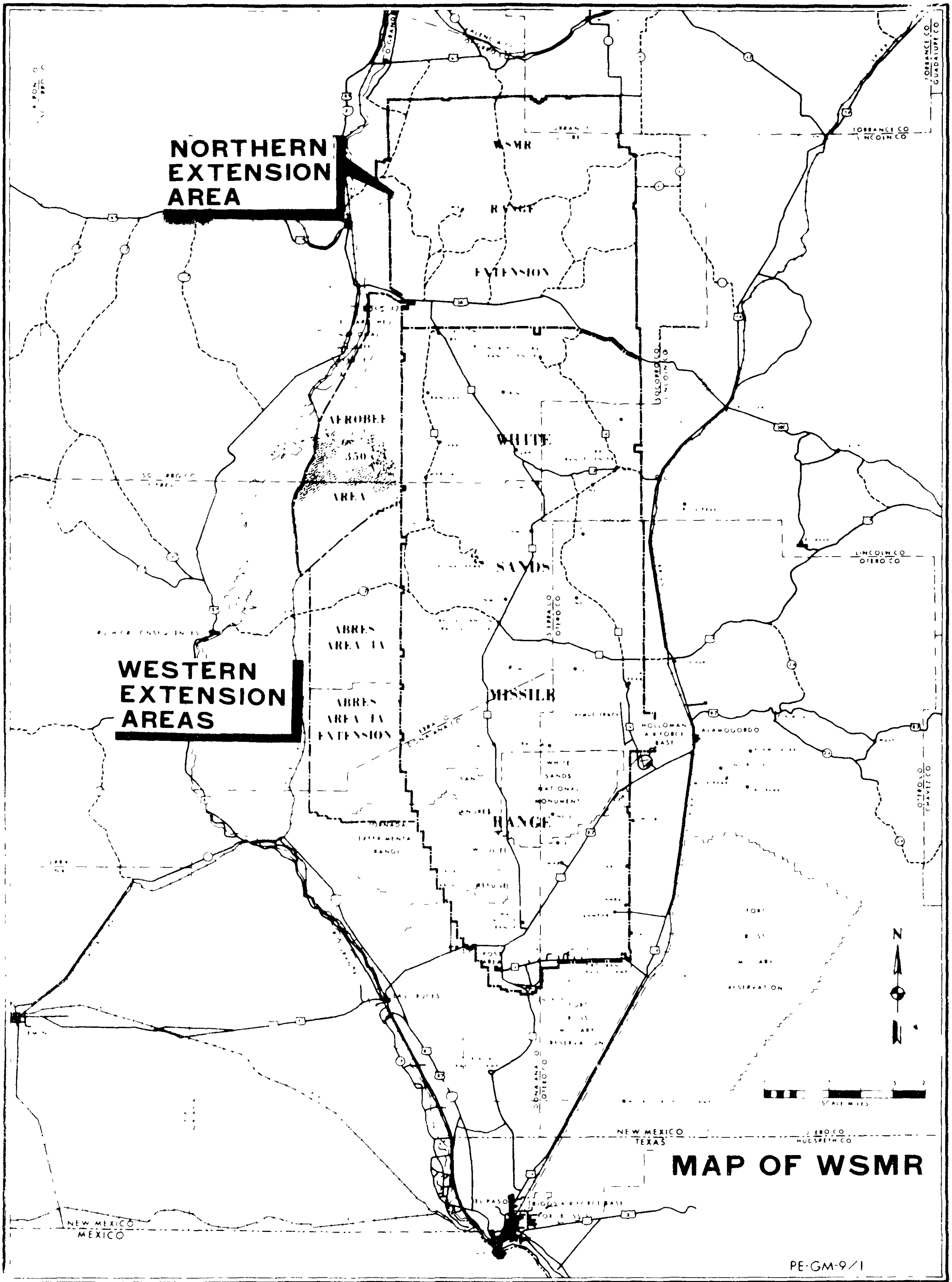
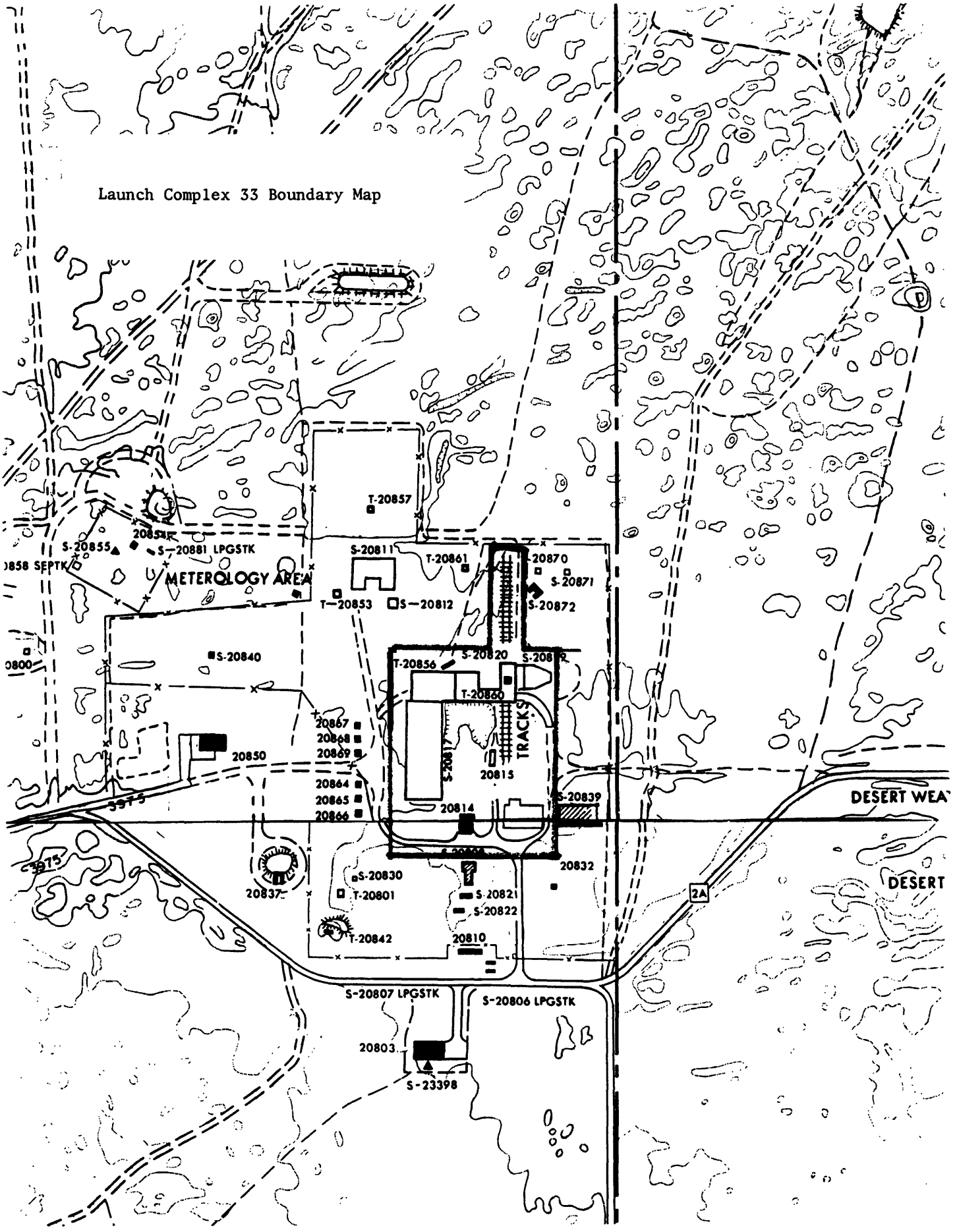


Figure 1



NORTHERN EXTENSION AREA
WESTERN EXTENSION AREAS
WSMR
RANGE
EXTENSION
AEROBEE 350 AREA
WHITE
SANDS
ABRES AREA 1A
ABRES AREA 1A EXTENSION
MISSILE
RANGE
WHITE SANDS NATIONAL MONUMENT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO
TORRANCE CO
LINCOLN CO
OTERO CO
NEW MEXICO
TEXAS
MEXICO
EL PASO
N
MAP OF WSMR
PE-GM-9/1


Launch Complex 33 Boundary Map
T-20857
S-20855
S-20881 LPGSTK
METEOROLOGY AREA
S-20811
T-20861
20870
S-20871
T-20853
S-20812
S-20872
S-20840
T-20856
S-20820
T-20860
TRACKS
20867
20868
20869
20850
S-20817
20815
20864
20865
20866
20814
S-20839
DESERT WEA
20832
20837
S-20830
T-20801
S-20821
S-20822
T-20842
20810
2A
DESERT
S-20807 LPGSTK
S-20806 LPGSTK
20803
S-23398