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ERTEC WESTERN INC. LONG BEACH CA

F/6 8/7

MX SITING INVESTIGATION. MINERAL RESOURCES SURVEY, SEVEN ADDITI--ETC(U)

JUN 81

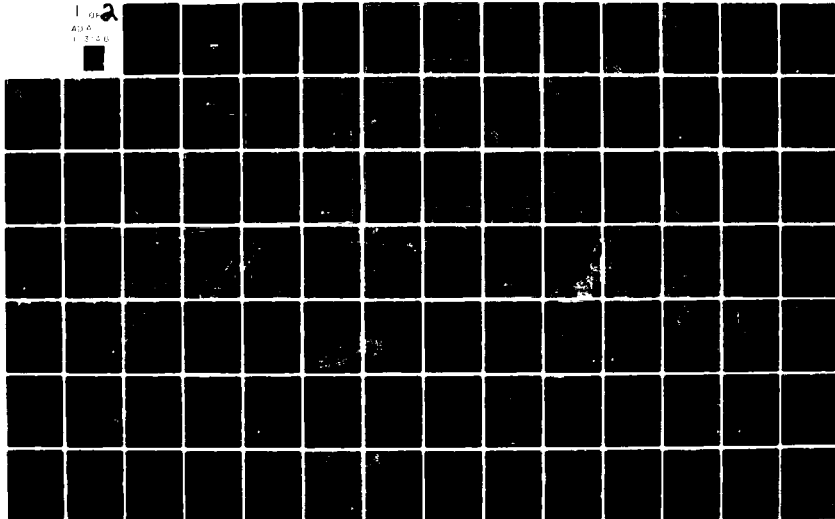
F04704-80-C-0006

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E-TR-50-VOL-4

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1 of 2
AD A
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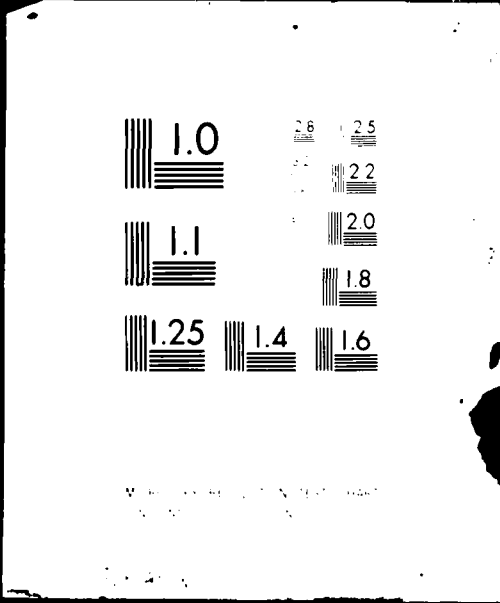
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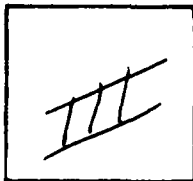
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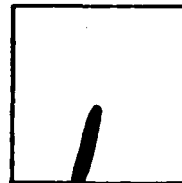
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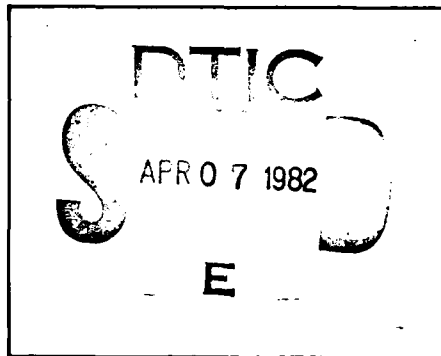
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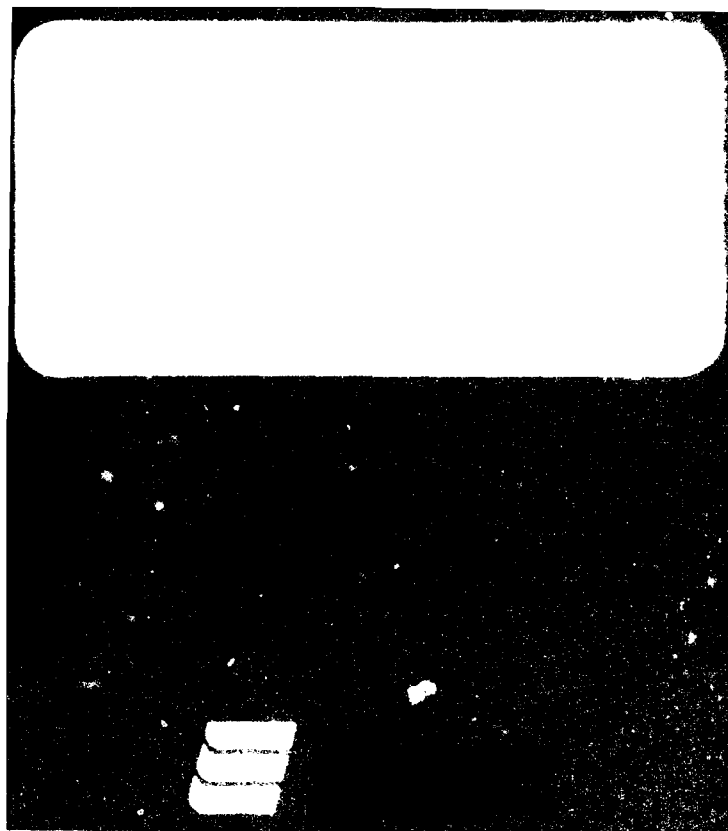


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MINERAL RESOURCES SURVEY
SEVEN ADDITIONAL VALLEYS
NEVADA/UTAH SITING AREA

VOLUME IV

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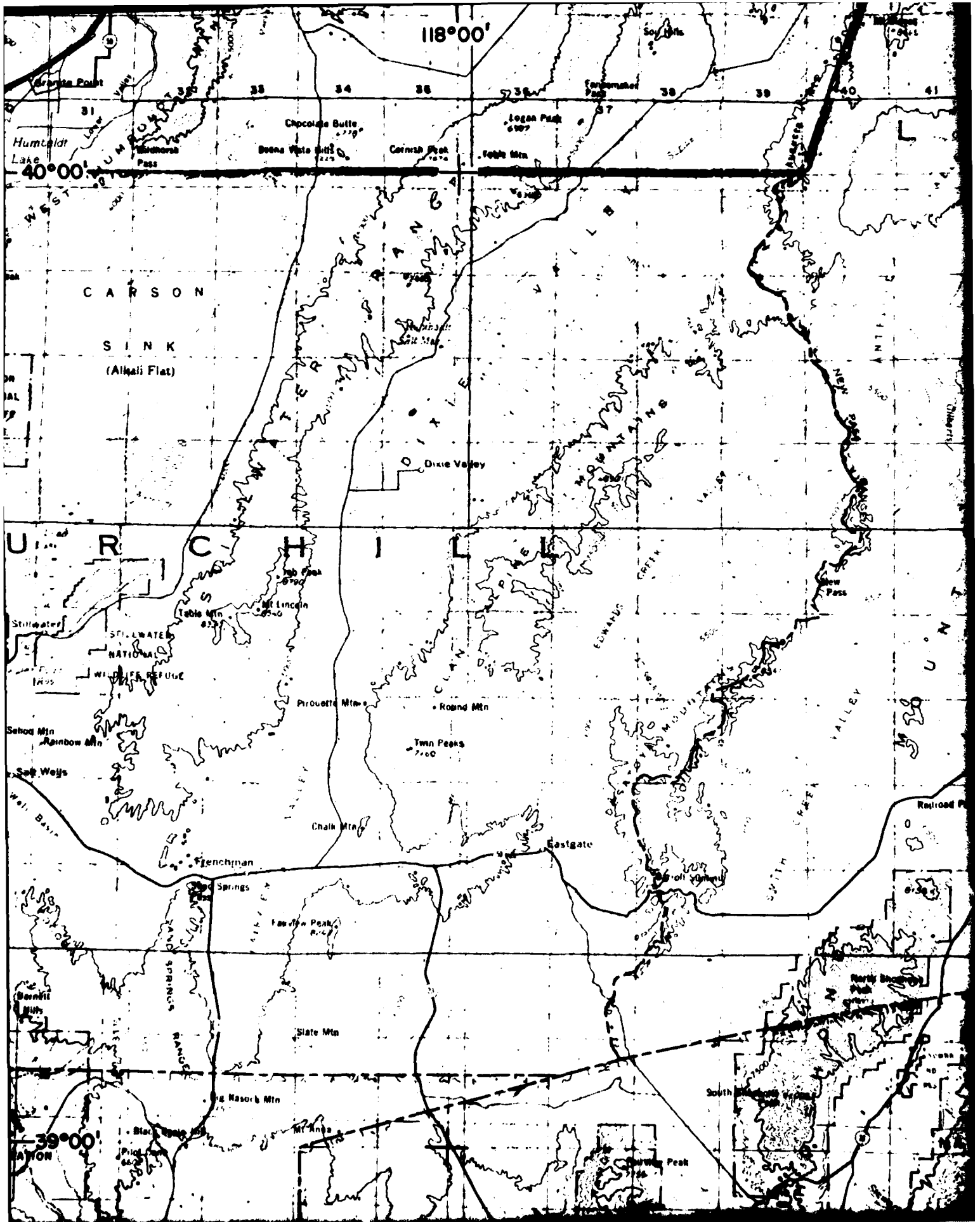
U. S. Department of the Air Force
Ballistic Missile Office
Norton Air Force Base, California 92409

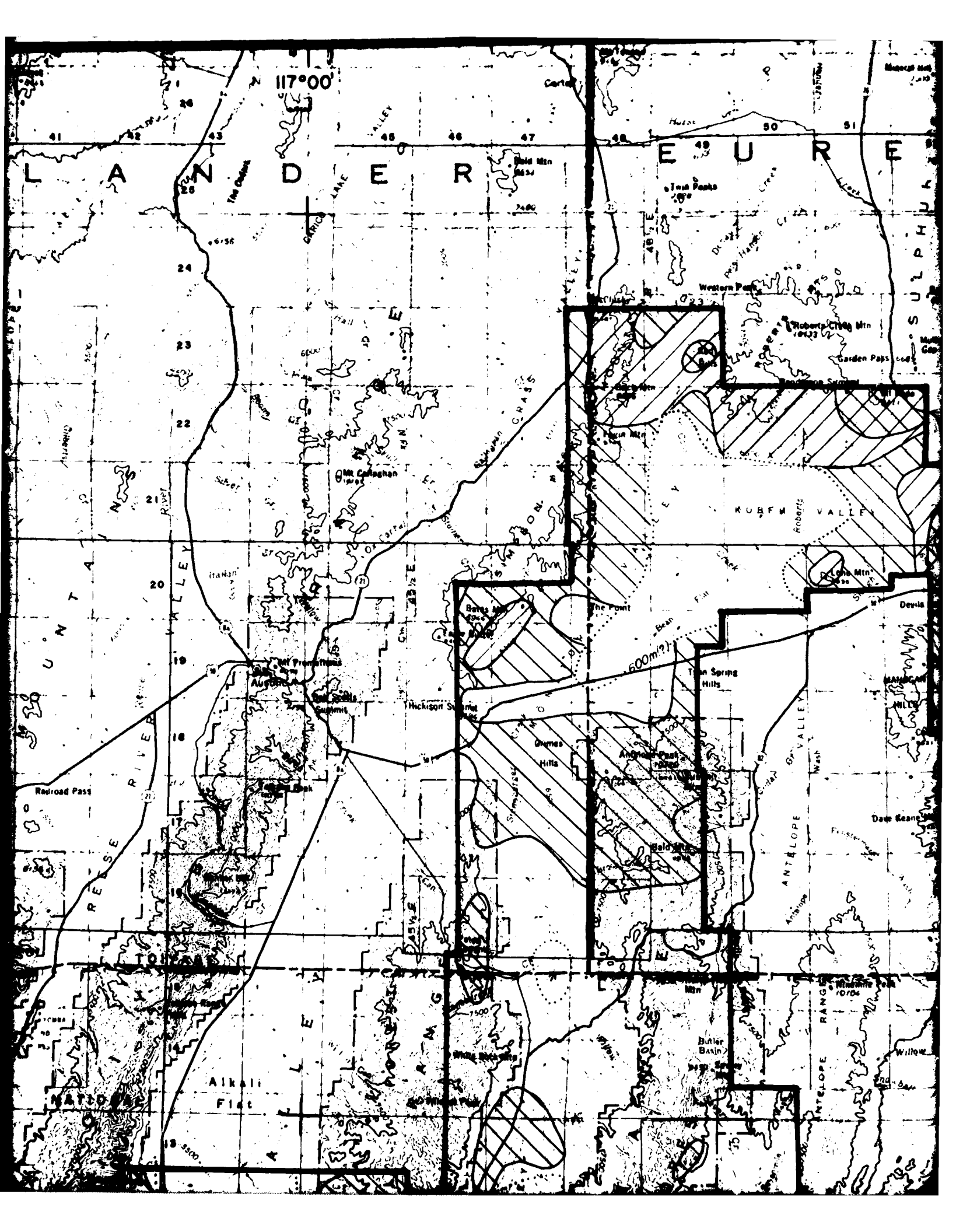
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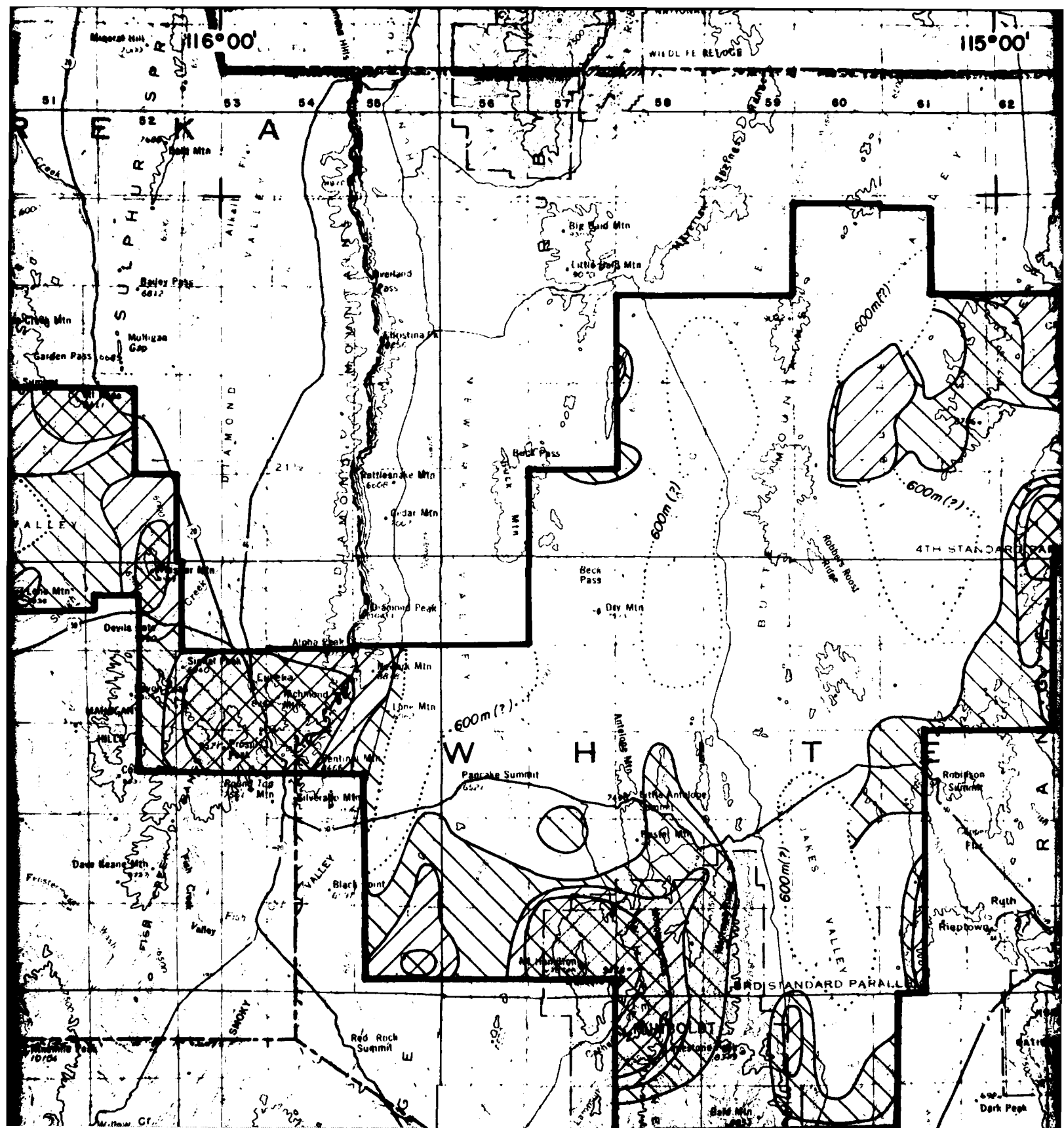
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3777 Long Beach Boulevard
Long Beach, California 90807

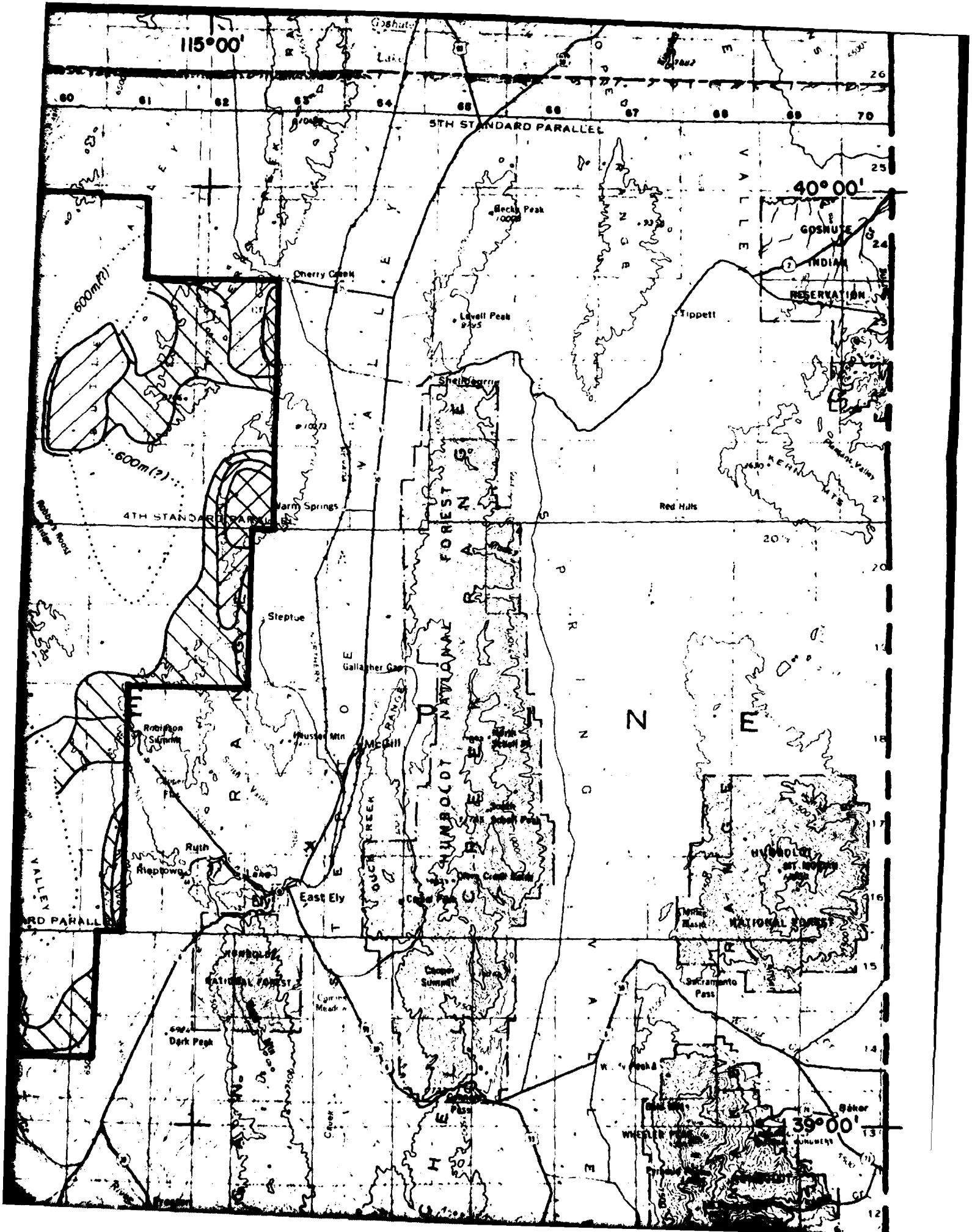
23 June 1981

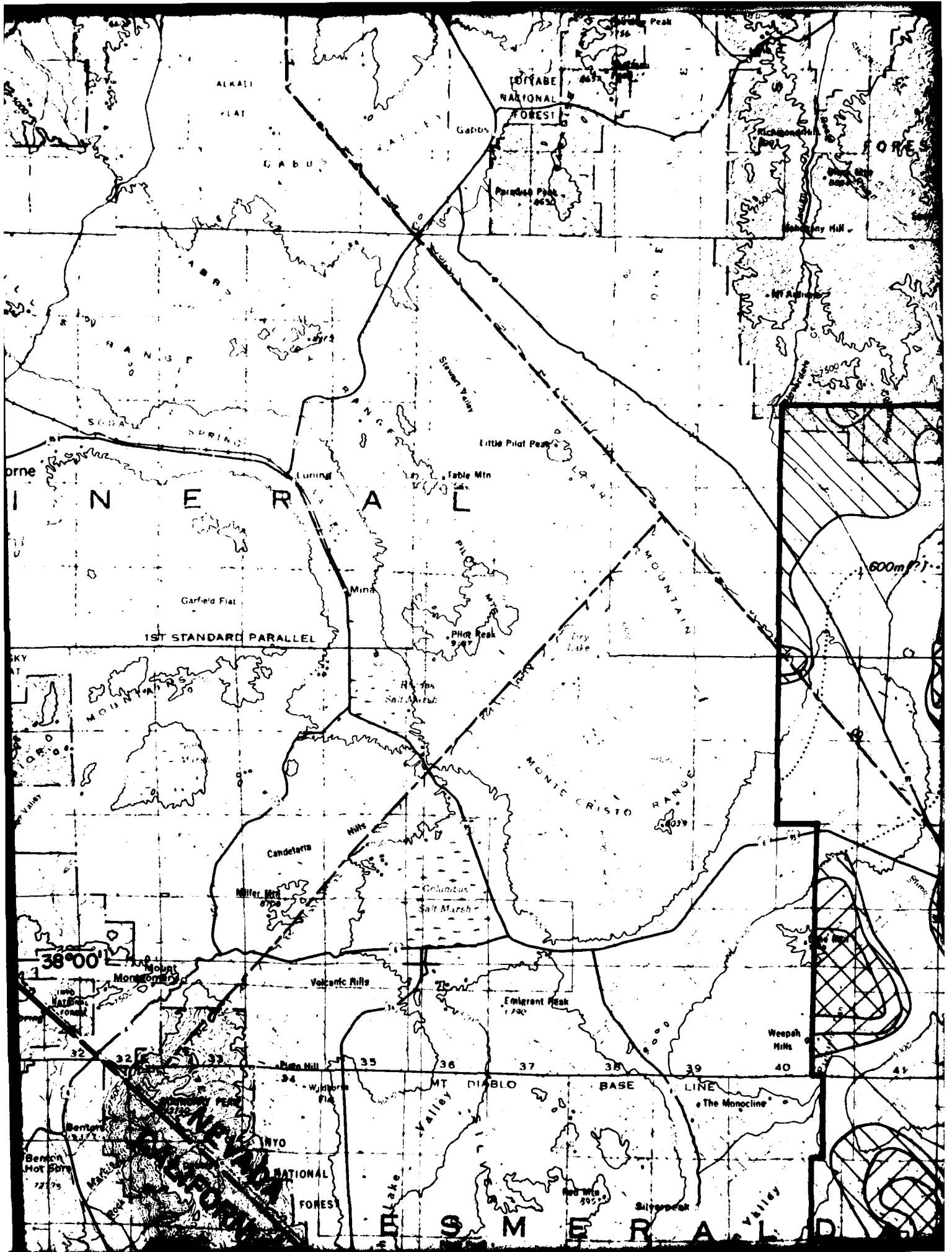
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1. REPORT NUMBER E-TR-50-IV	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Mineral Resources Survey Seven Additional Valleys Nevada/Utah Siting Area Vol II		5. TYPE OF REPORT & PERIOD COVERED Final
		6. PERFORMING ORG. REPORT NUMBER E-TR-50
7. AUTHOR(s) ERTEC Western, Inc		8. CONTRACT OR GRANT NUMBER(s) F04704-80-C-0006
9. PERFORMING ORGANIZATION NAME AND ADDRESS Ertec Western Inc (formerly Fuoro National) P.O. Box 7765 Long Beach Ca 90807		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 64312 F
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Department of the Air Force Space and Missile Systems Organization Norton AFB Ca 92409 (SAMSO)		12. REPORT DATE 23 June 1981
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Results of the evaluation of the mineral- and energy- resource potential of seven MX valleys in Nevada shows that besides the existing mining activities which occur in many mining districts in this area, a large portion of the area is also interpreted to possess high, good, and speculative potential for new economic discoveries to the year 2000 and beyond.		

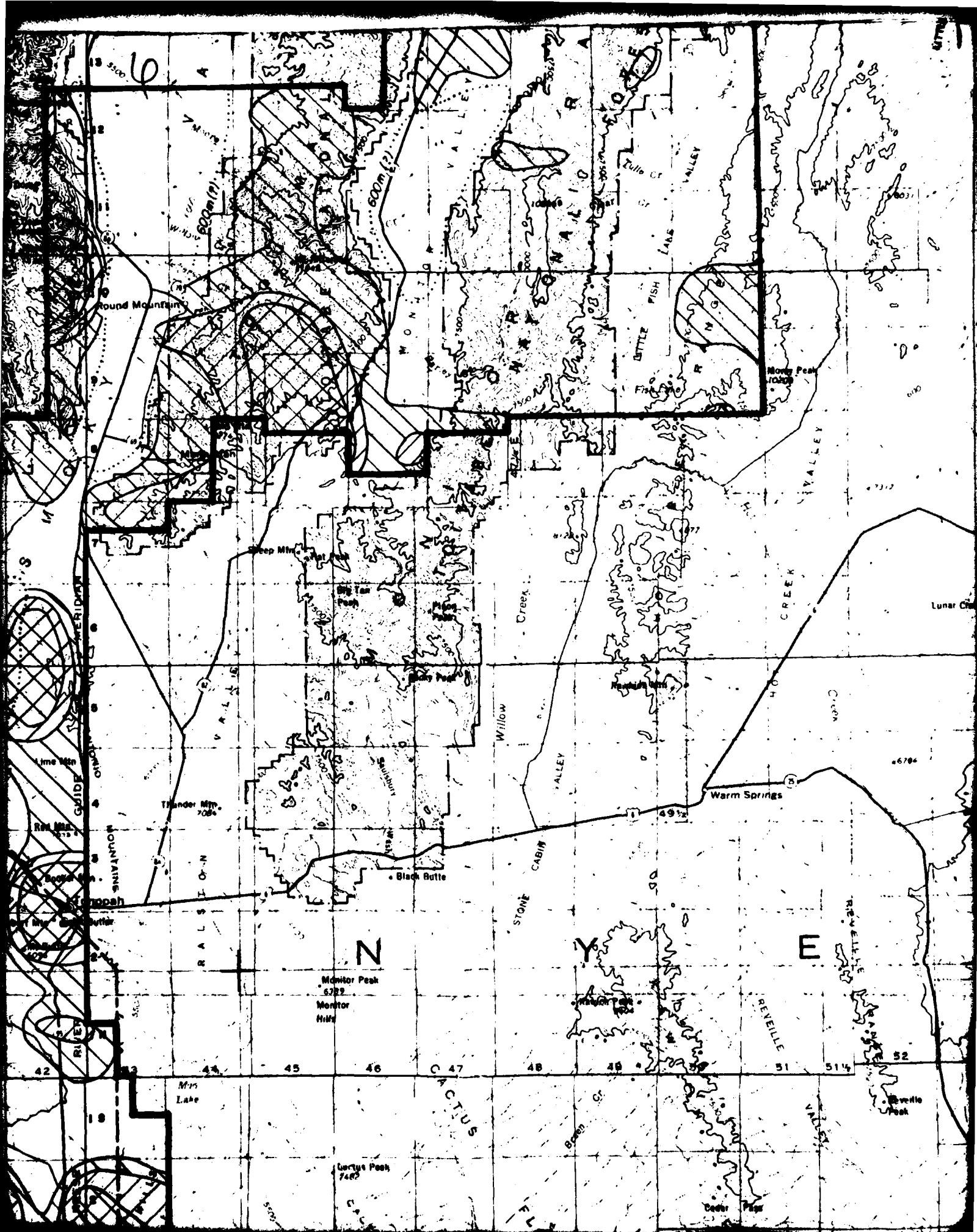












Round Mountain

Thunder Mtn. 7084'

Monitor Peak
5722'
Monitor Hill

Lortys Peak
7462'

Warm Springs

Beverly Peak

Snake River Highway
MOUNTAINS
RIVER
GUIDE

Black Butte

Willow Creek
STONE CABIN VALLEY

BEVELLE VALLEY

600m (P)
600m (P)
600m (P)

FISH LAKE VALLEY
LITTLE FISH LAKE
FISH LAKE

49 1/2

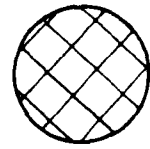
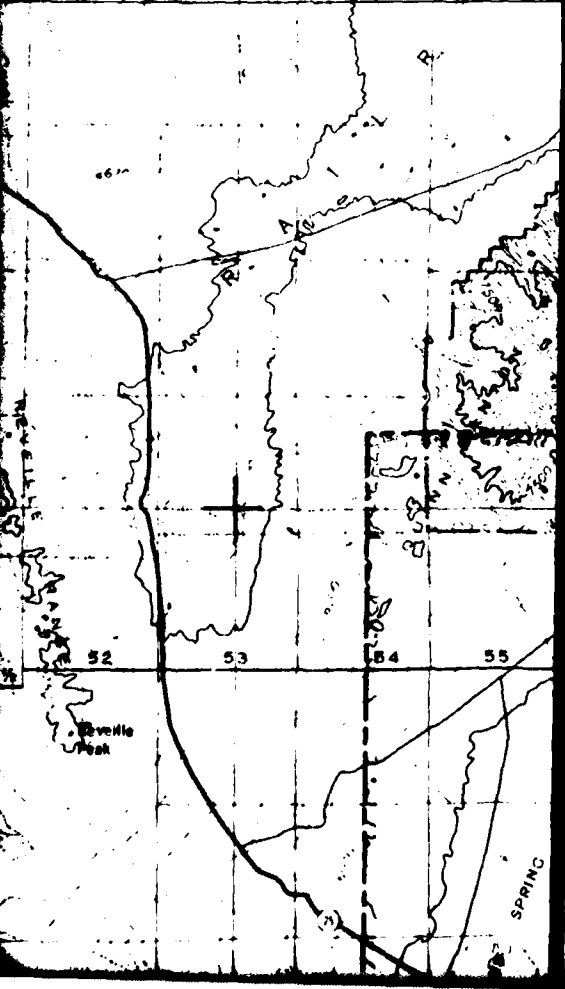
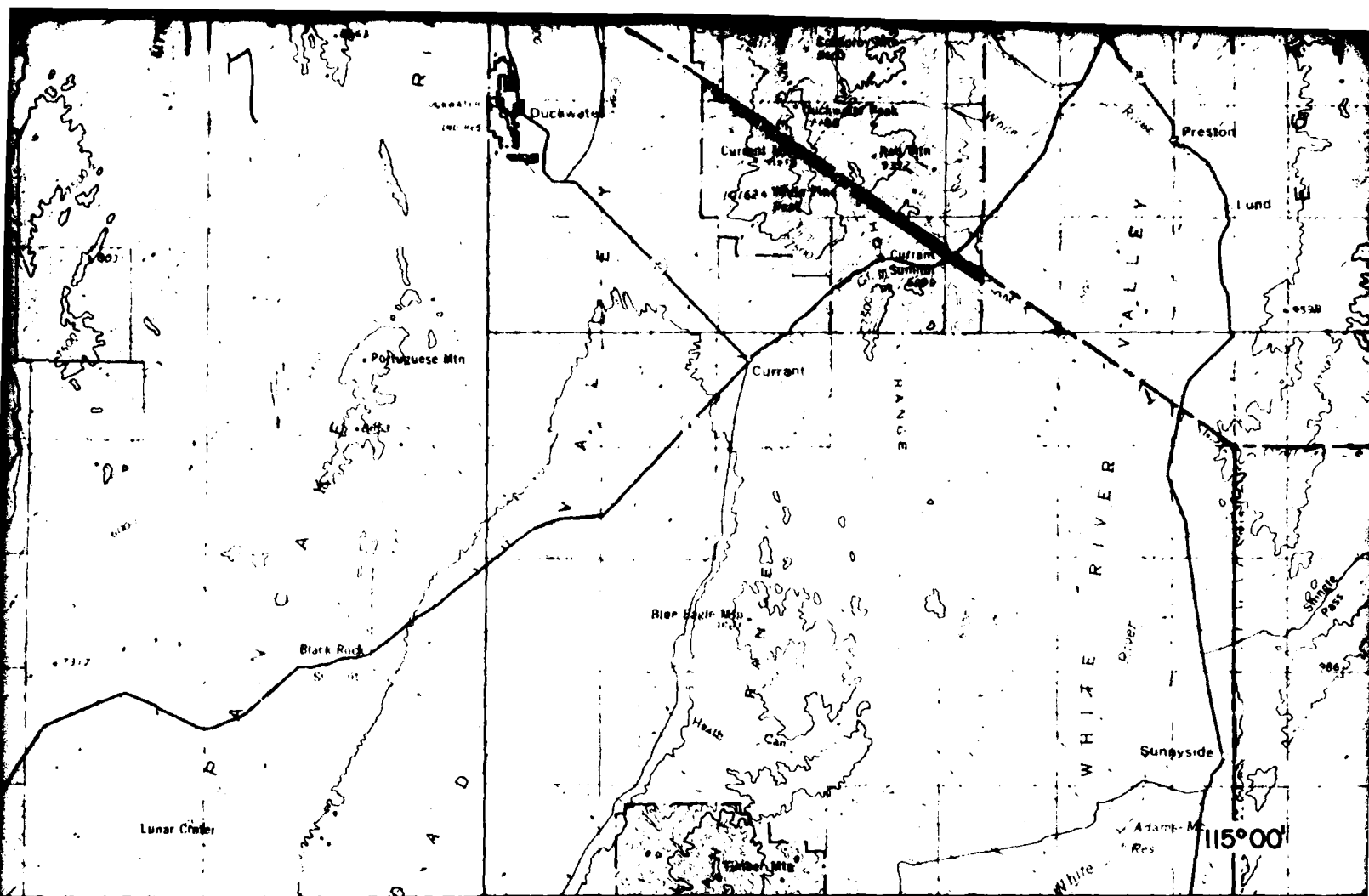
49 1/2

46784

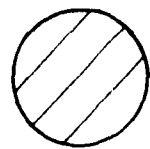
Mrs. Lake

Deer Park

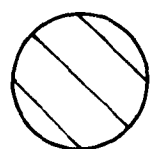
Lunar Cr.



HIGH POTENTIAL



GOOD POTENTIAL



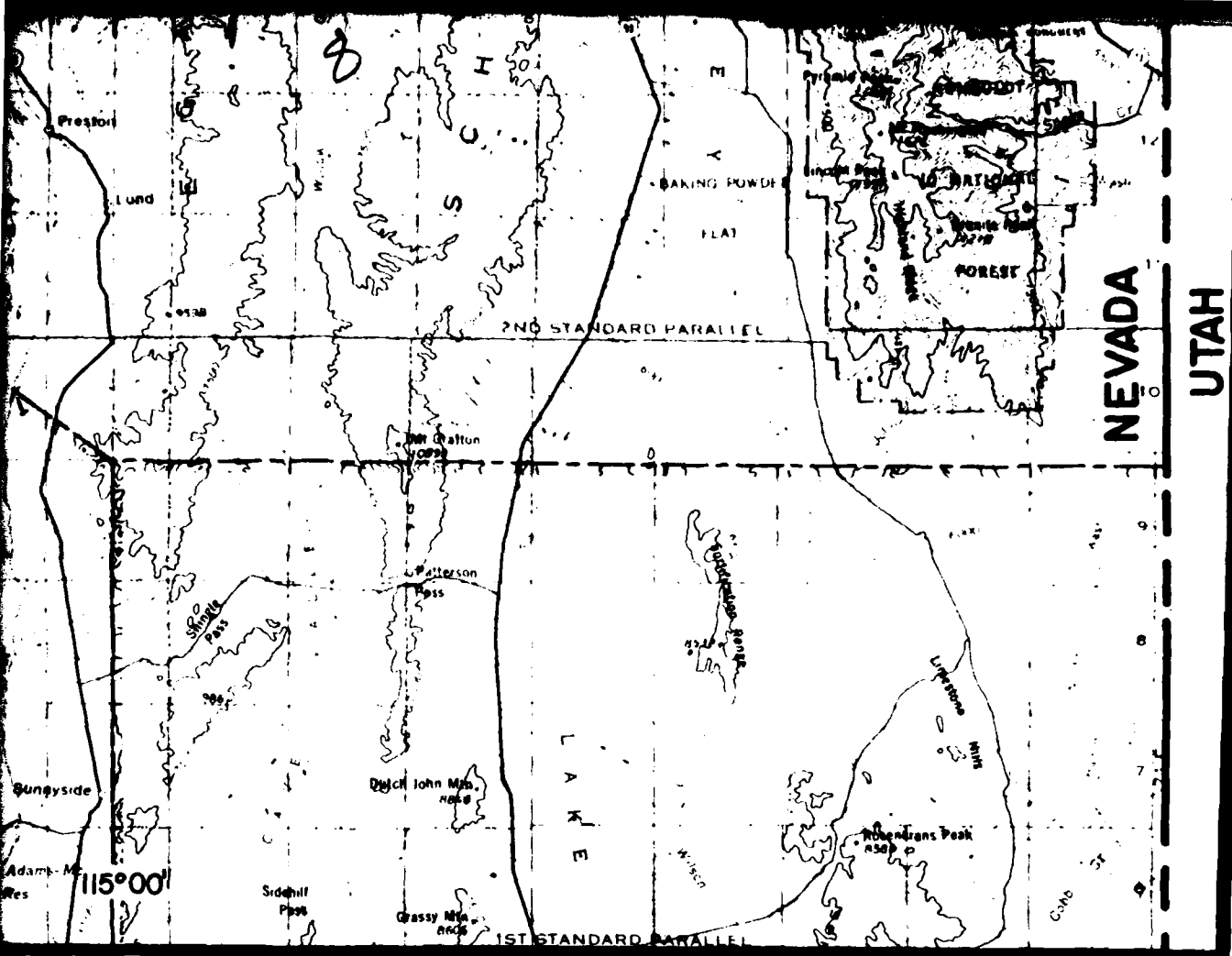
SPECULATIVE POTENTIAL

... 600 m (?) ... APPROXIMATE DEPTH TO BEDROCK IN METERS

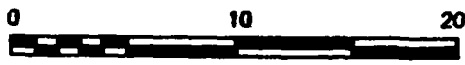


MX
STU

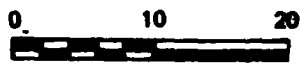
1	25 OCT
2	27 FEB



SCALE 1: 500,000



STATUTE MILES



KILOMETERS

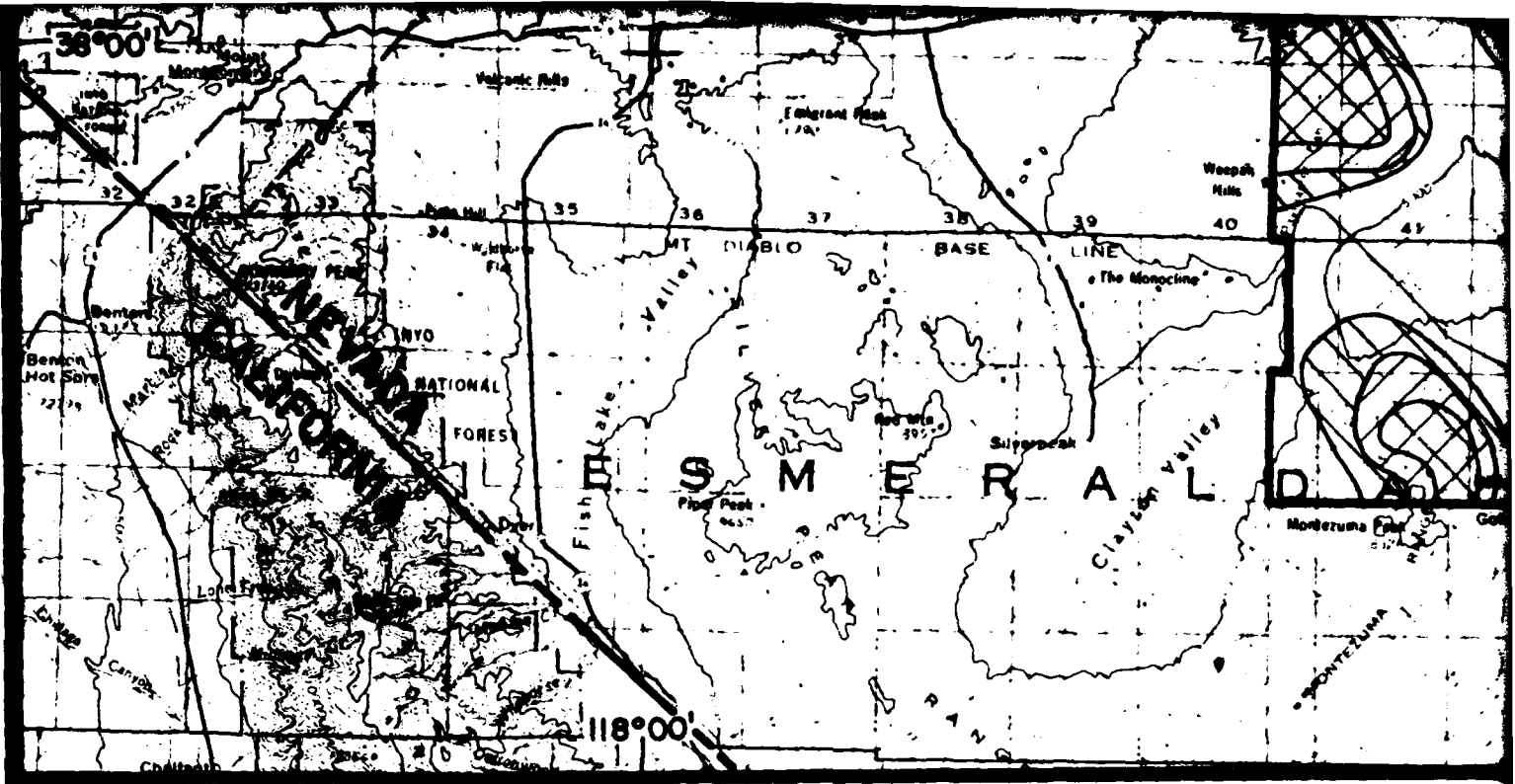


MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY
STUDY AREA BOUNDARY SEPT. 28, 1980

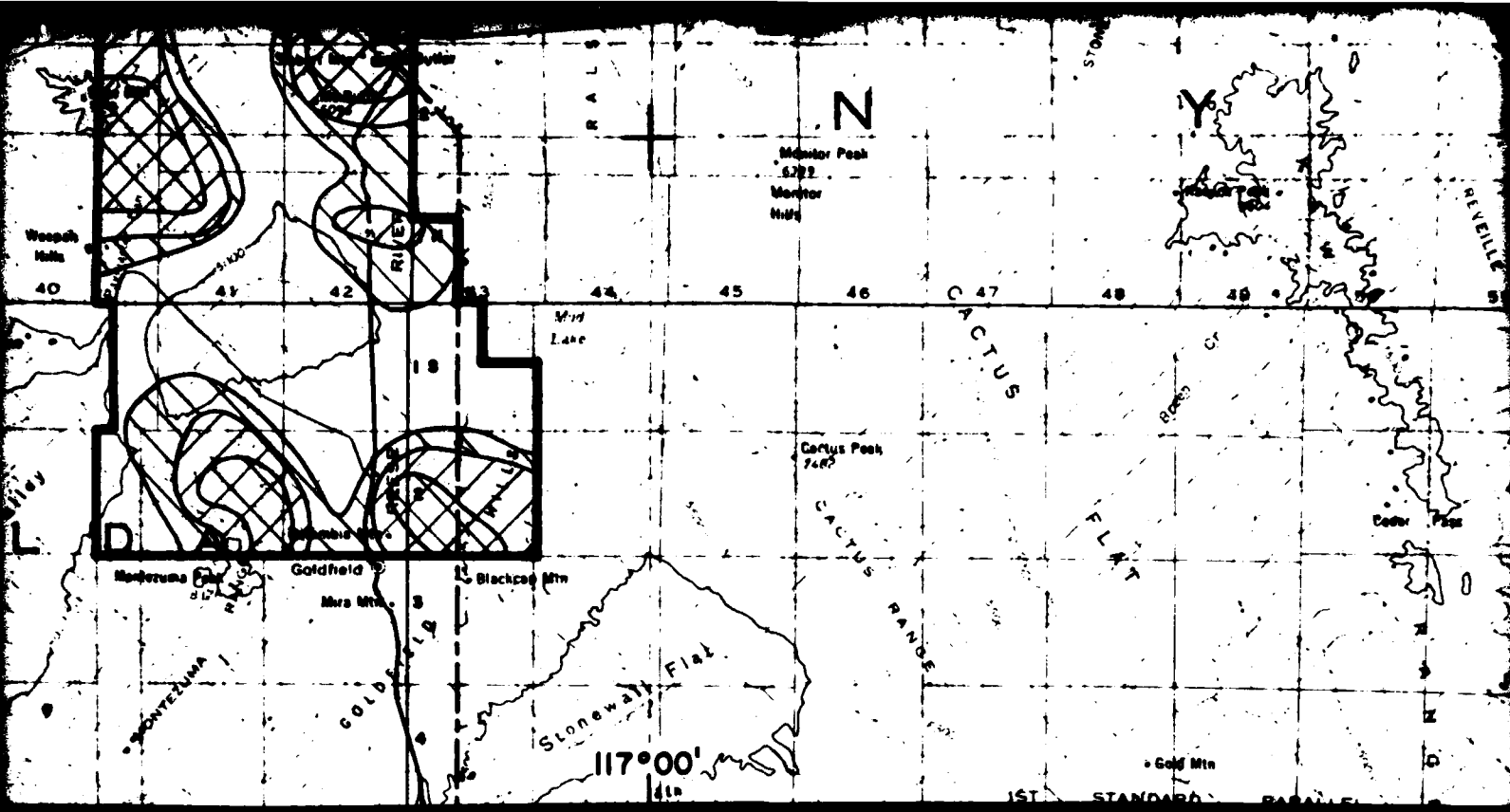
1 26 OCT 1979
 2 27 FEB 1980



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BMQ/AFRC-MX

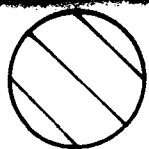
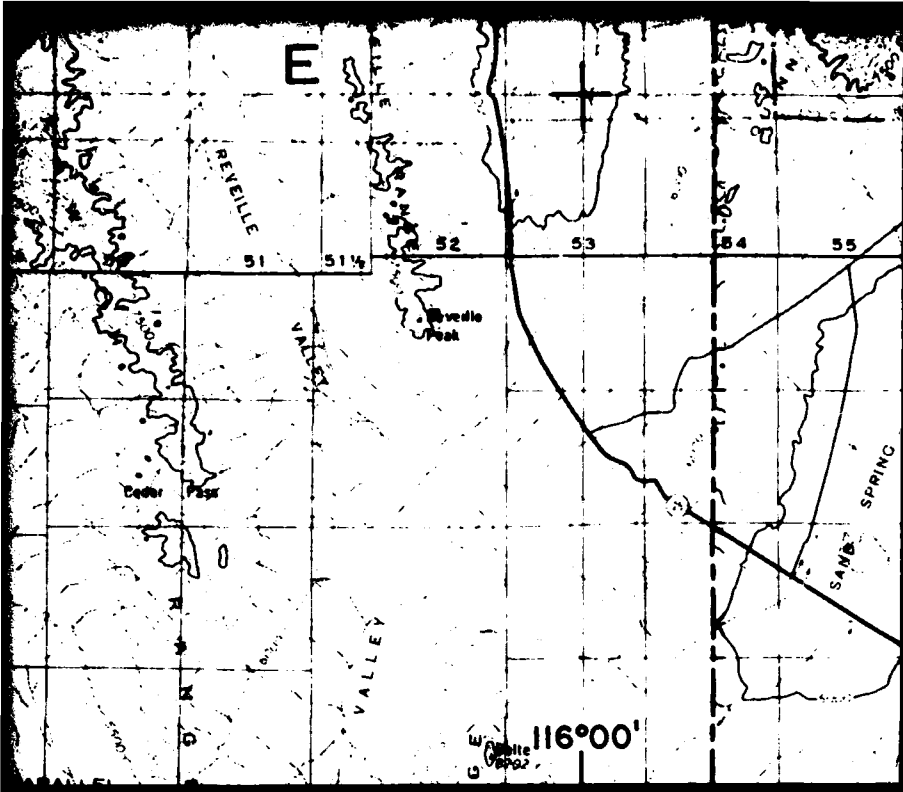


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110

1



SPECULATIVE POTENTIAL

... 600 m (?) ... APPROXIMATE DEPTH OF BEDROCK IN METERS

111

1

SCALE 1: 600,000



POTENTIAL

POTENTIAL

DATE DEPTH TO
IN METERS



MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY
STUDY AREA BOUNDARY SEPT. 26, 1980

- 1 25 OCT 1979
- 2 27 FEB 1980
- 3 20 JUN 1980
- 4 _____
- 5 _____
- 6 _____
- 7 _____



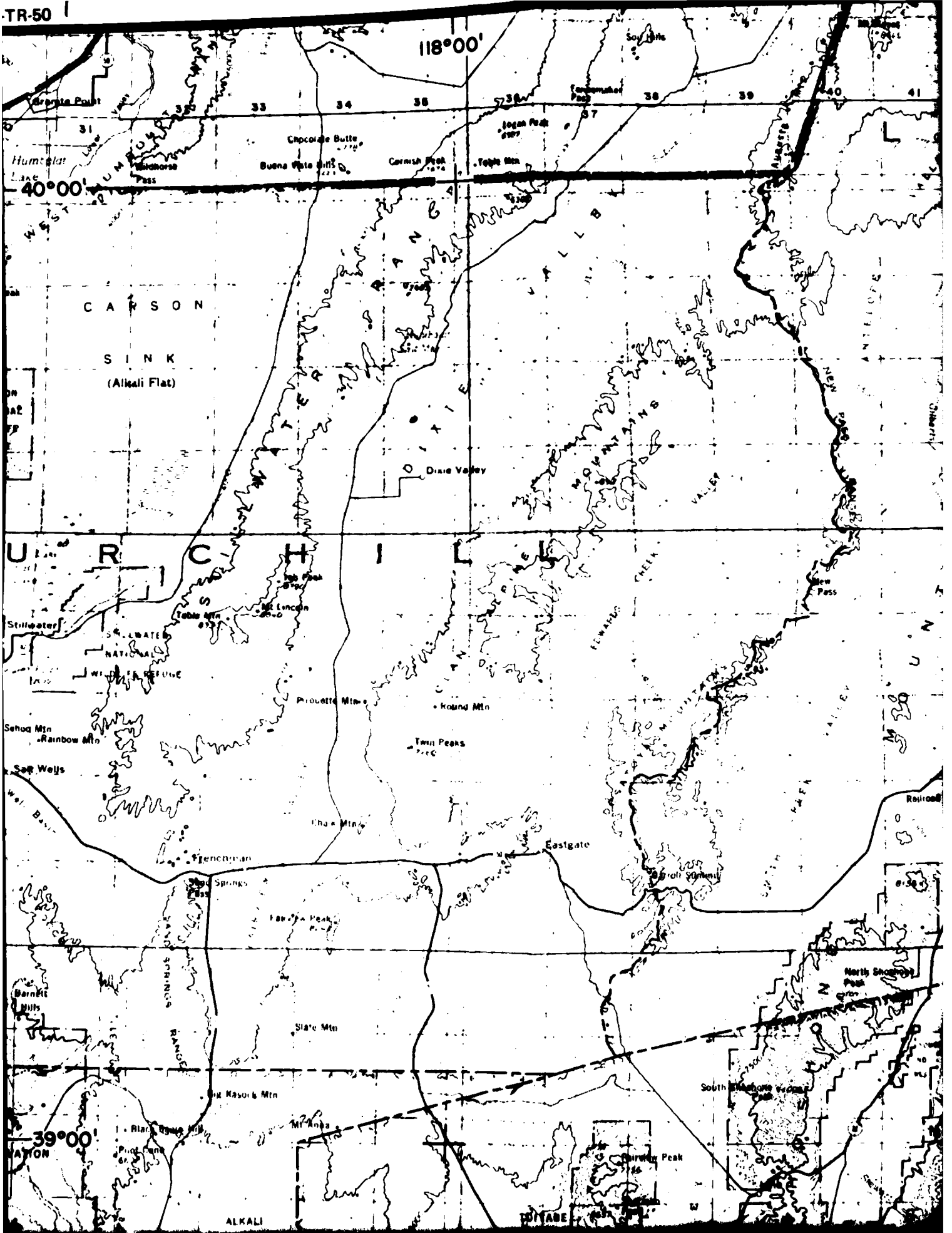
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BASE / FERROUS METALS POTENTIAL MAP

30 APR 81

DRAWING 12

112



CARSON
SINK
(Alkali Flat)

URICH HILLS

WILSON SPRINGS
NATIONAL MONUMENT
WILSON SPRINGS REFUGE

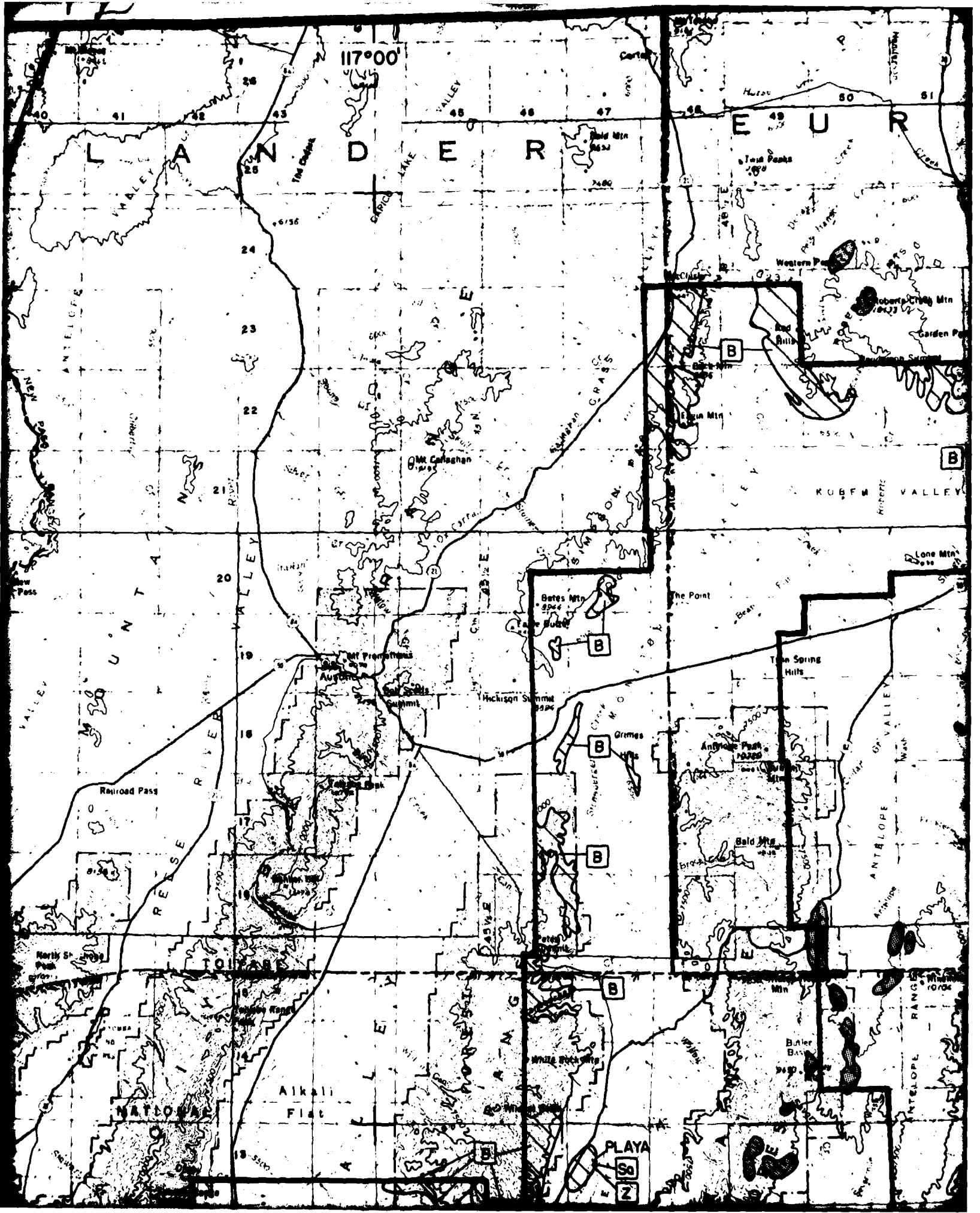
SERRA NEVADA
ANTICLINE

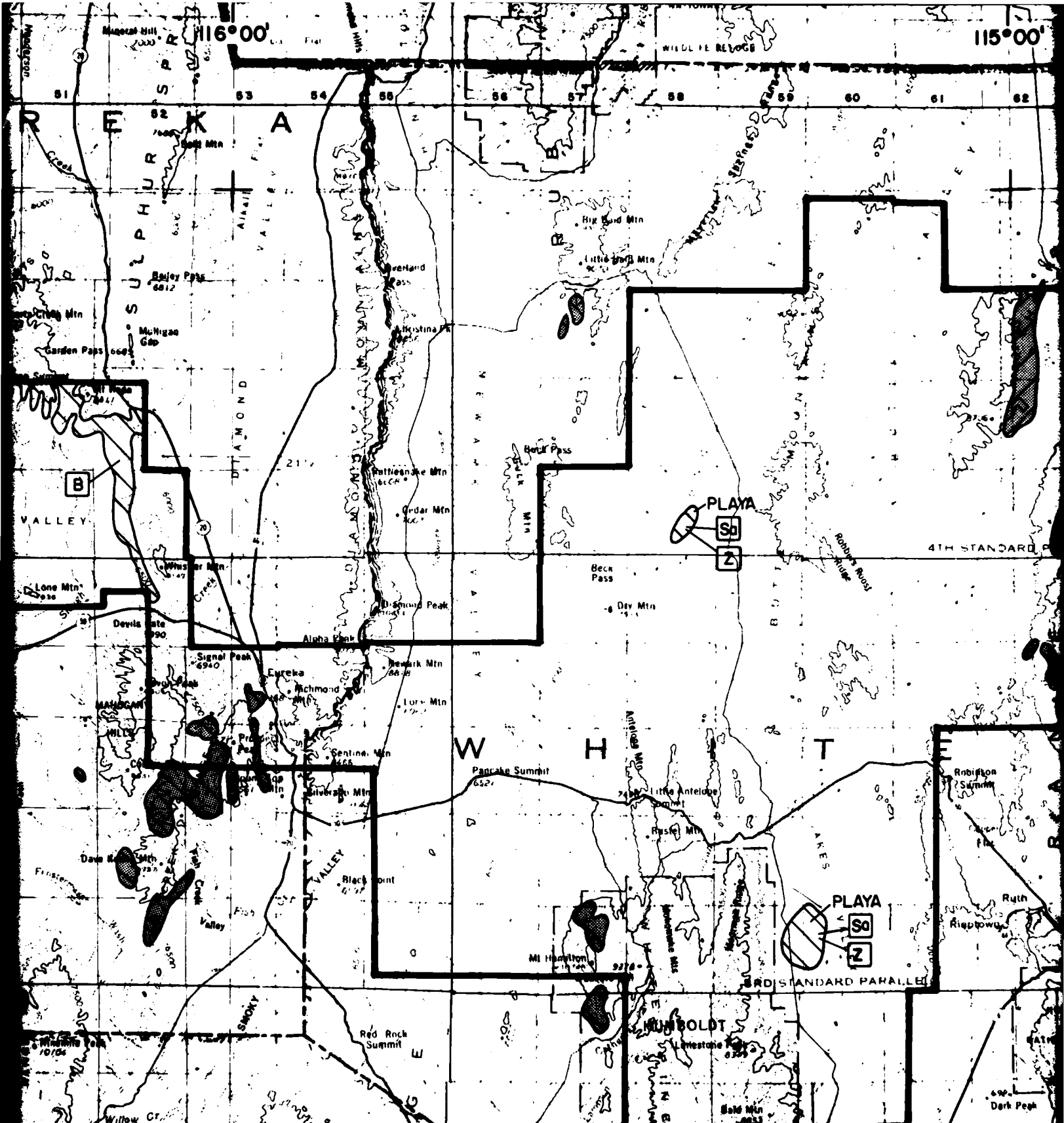
39°00'

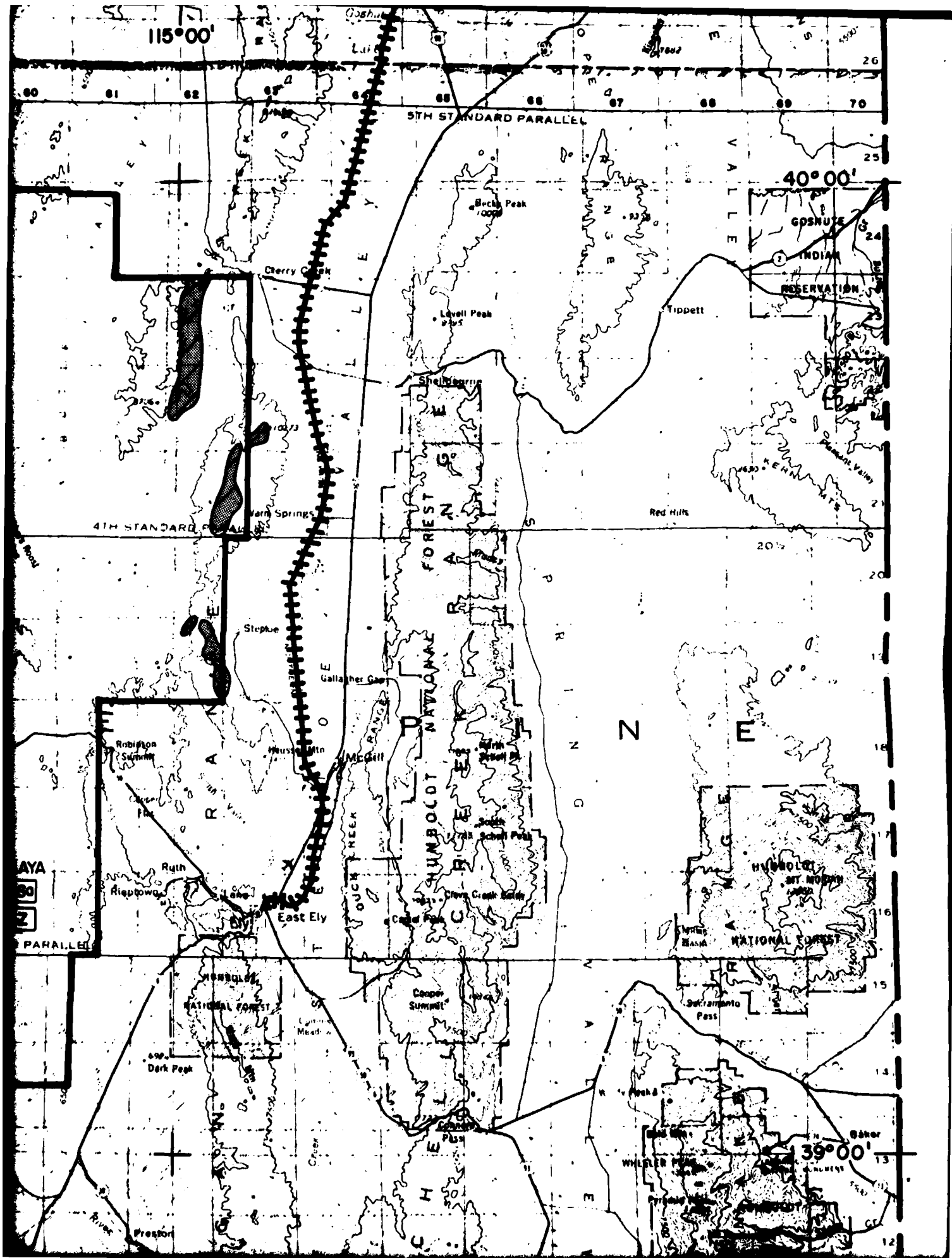
118°00'

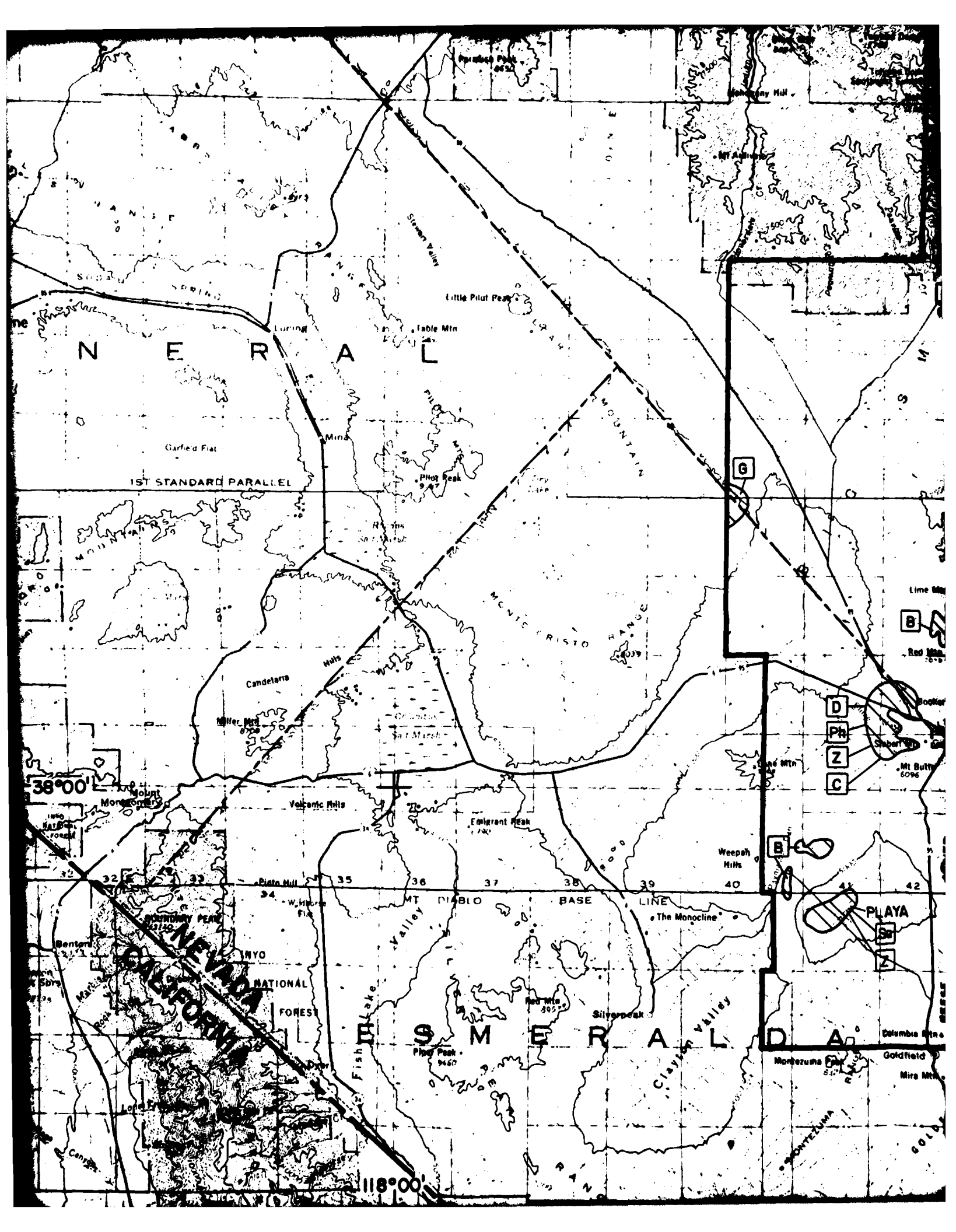
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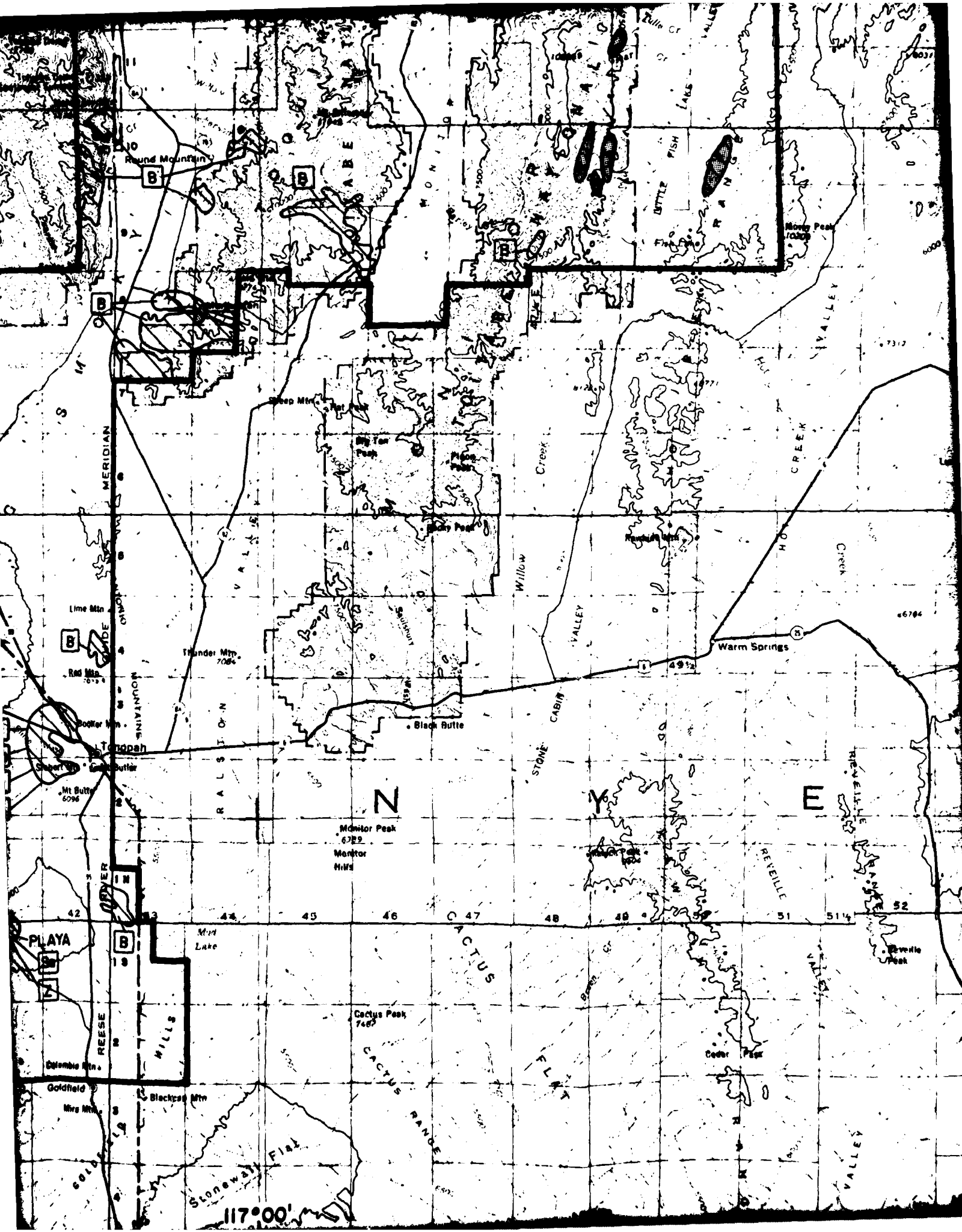
TOYABE



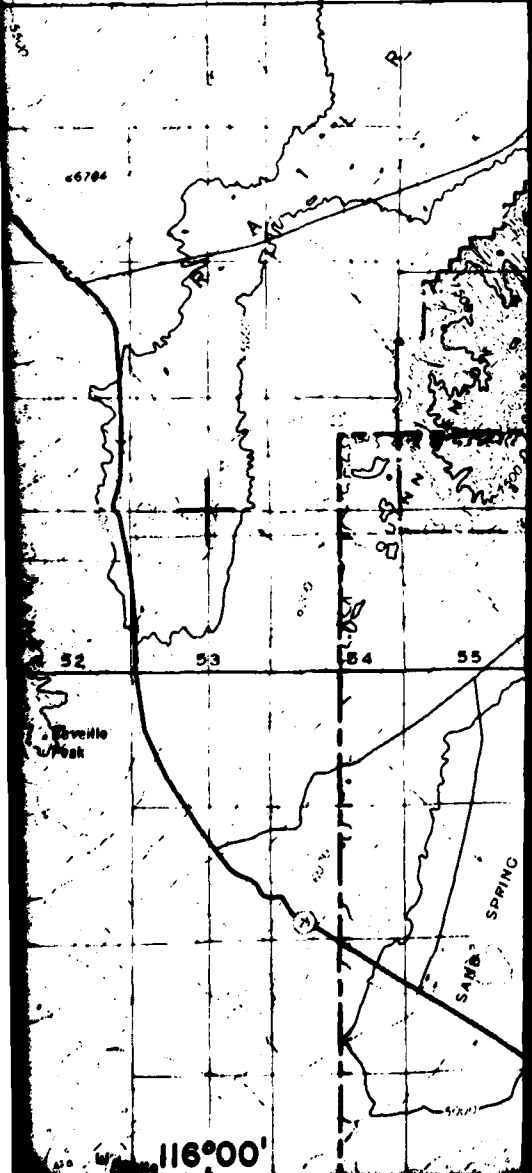
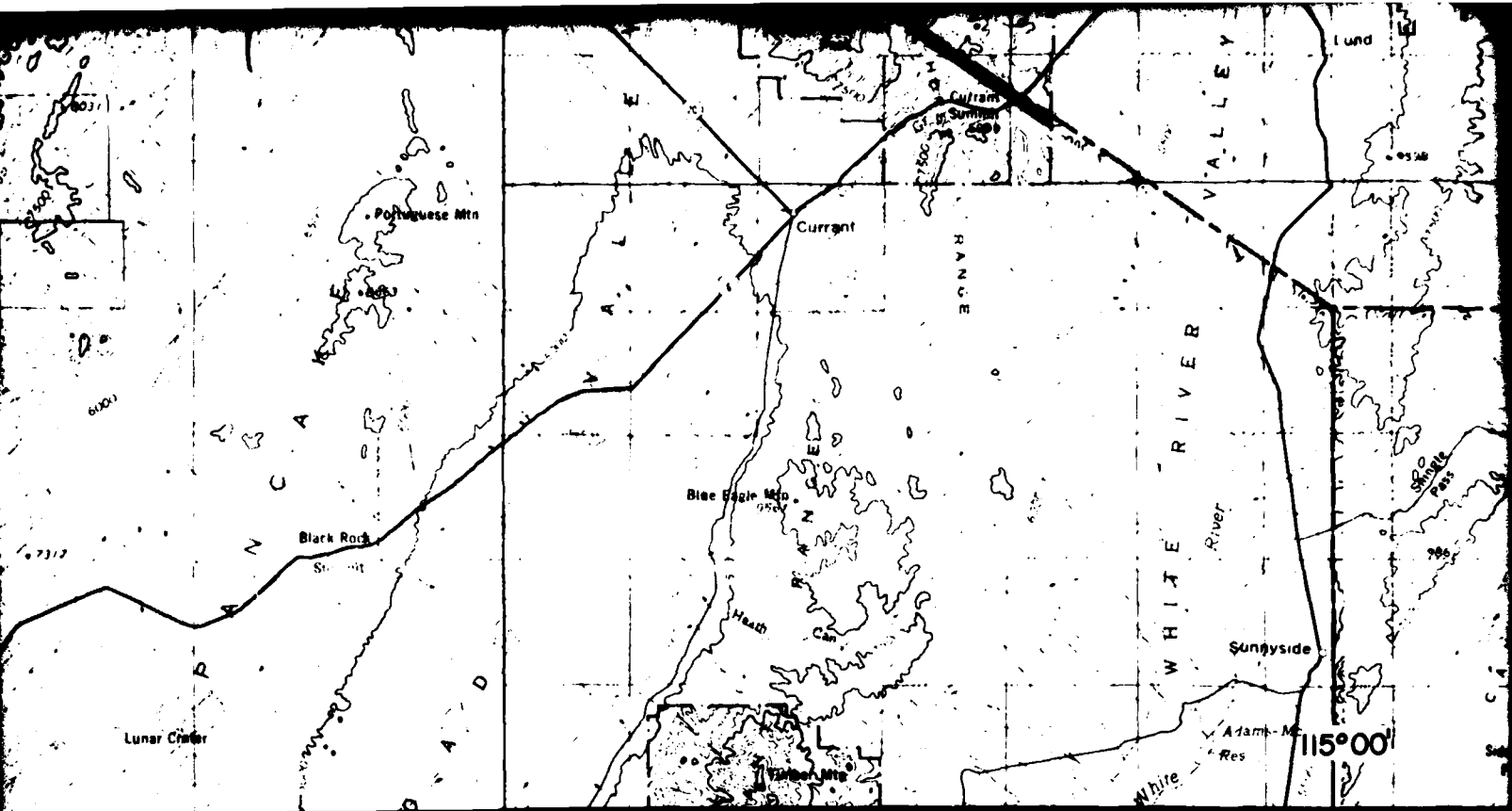






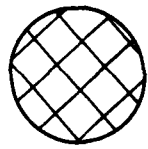




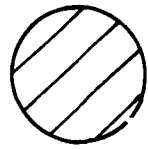
117°00'



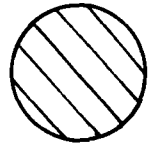
- B** BARITE
- C** CLAY
- D** DIATOMITE
- G** GEMS
- Ph** PHOSPHATE
- Sa** SALINES
- Z** ZEOLITES
-  SILICA (FROM KETNER, 1976)
-  RAILROAD



HIGH POTENTIAL



GOOD POTENTIAL

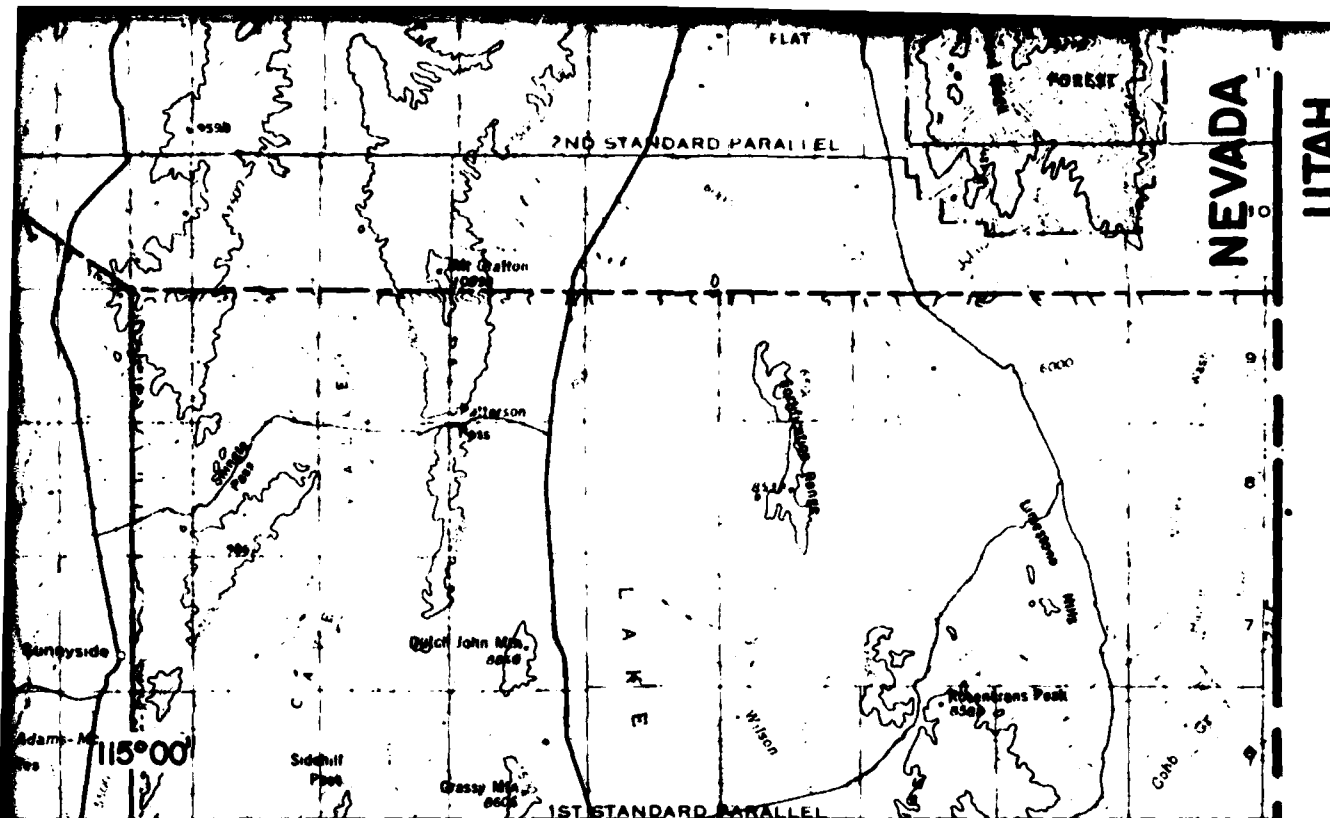


SPECULATIVE POTENTIAL



MX ADDITION
STUDY AREA

1	25 OCT 1979
2	27 FEB 1980
3	20 JUN 1980
4	
5	
6	
7	



HIGH POTENTIAL

GOOD POTENTIAL

SPECULATIVE POTENTIAL

SCALE 1: 500,000



MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY
STUDY AREA BOUNDARY SEPT. 26, 1980

- 1 25 OCT 1979
- 2 27 FEB 1980
- 3 20 JUN 1980
- 4 _____
- 5 _____
- 6 _____
- 7 _____

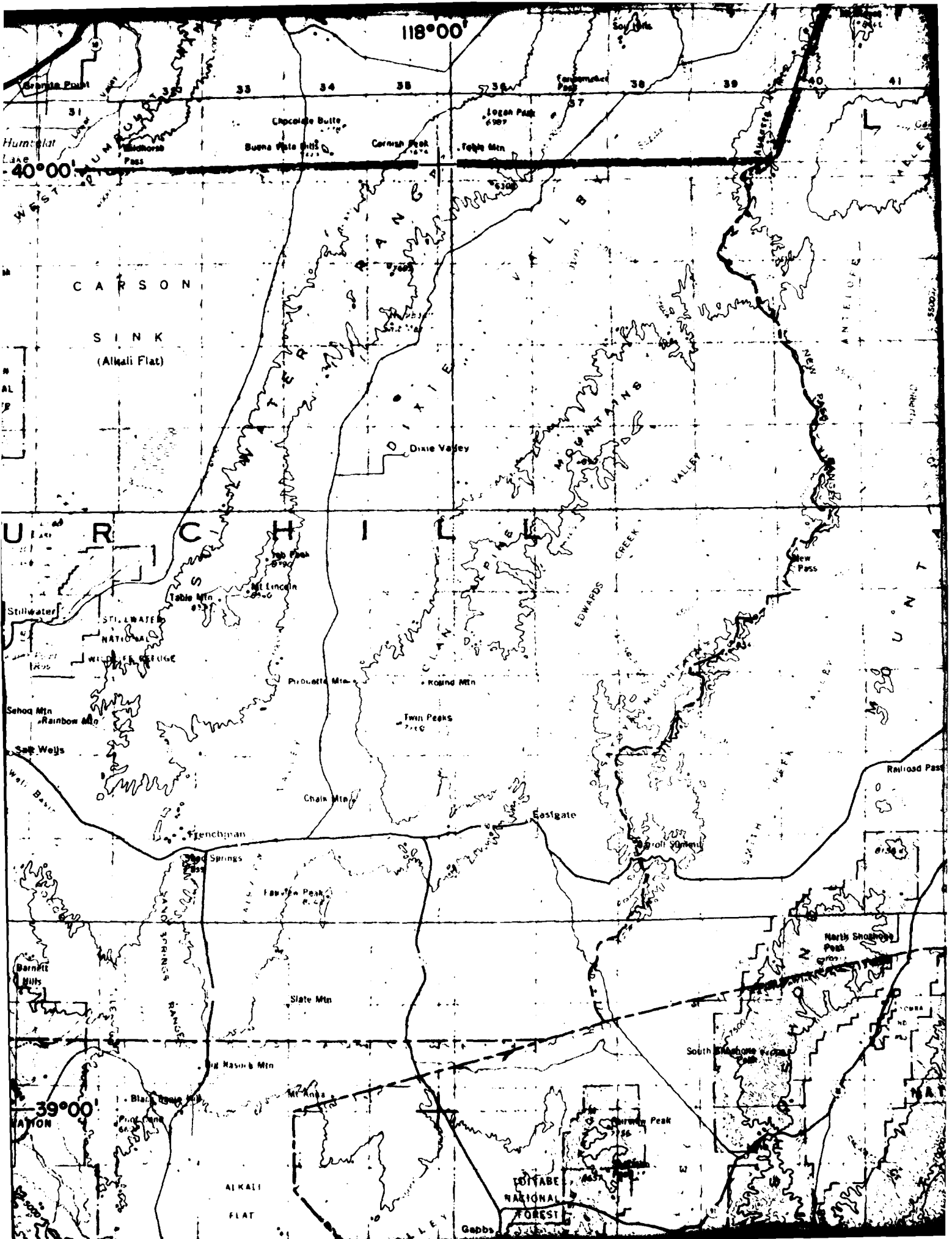


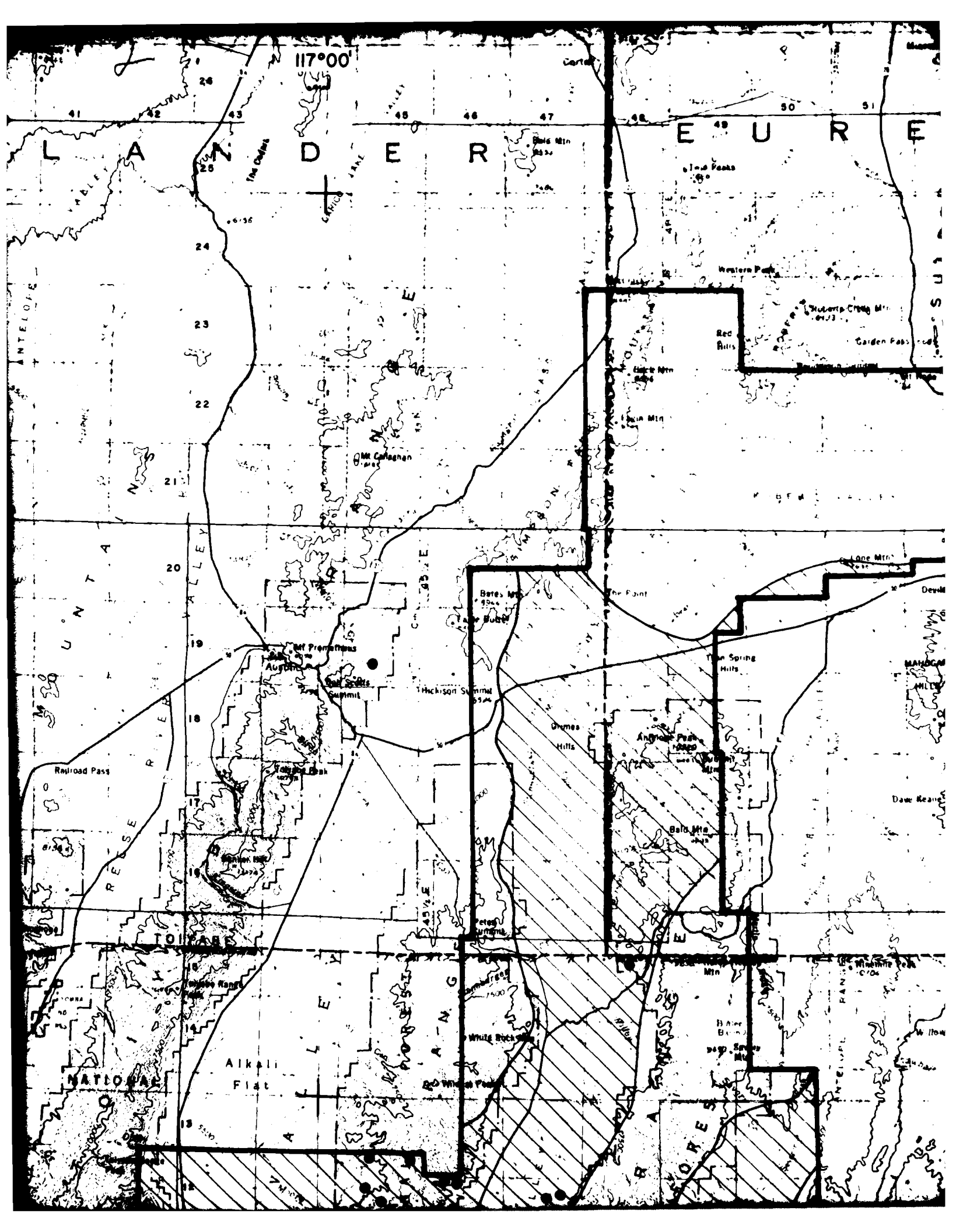
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DEPARTMENT OF THE AIR FORCE
BMO/AFRC-MX

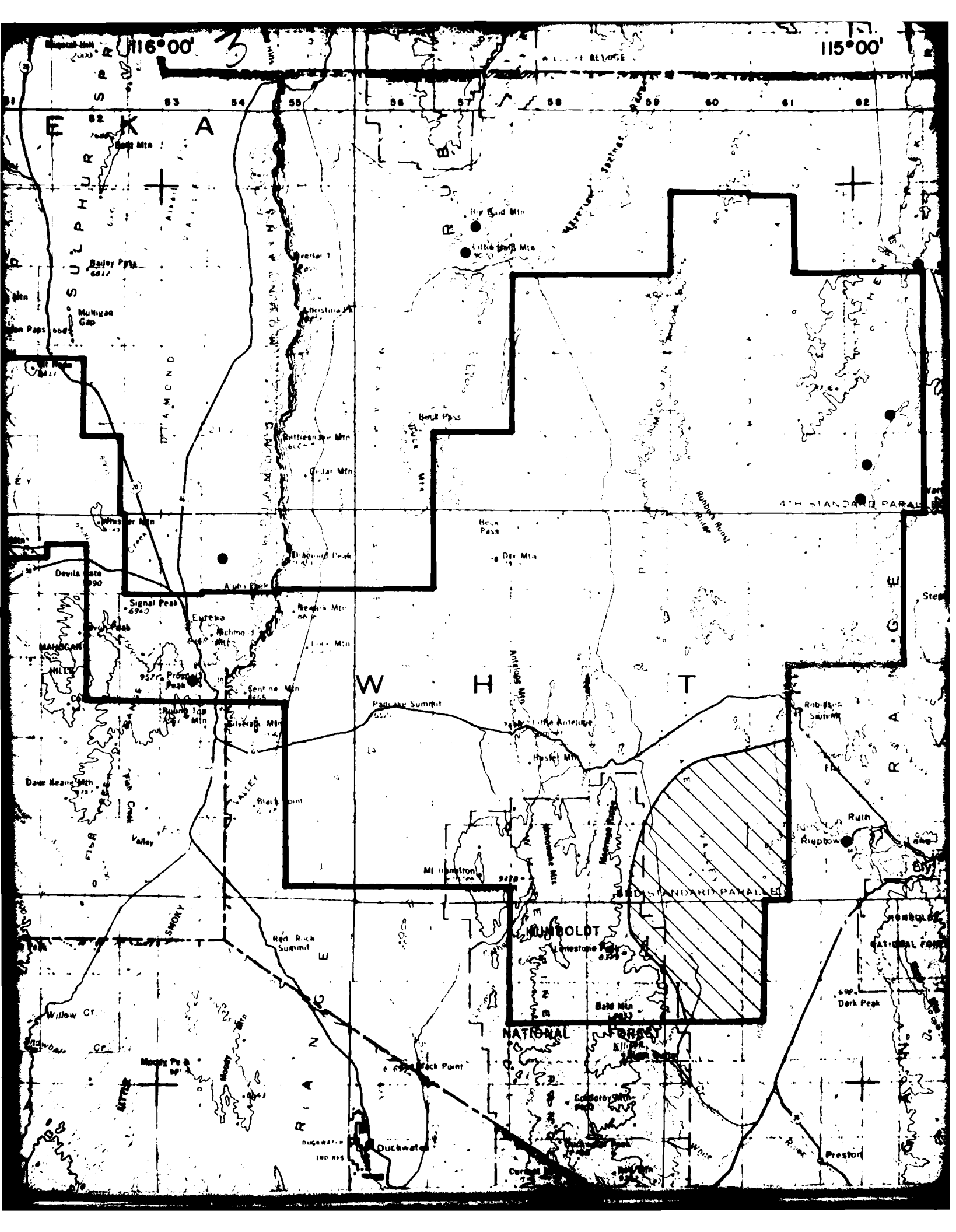
**NONMETALLIC AND INDUSTRIAL
MINERALS POTENTIAL MAP**

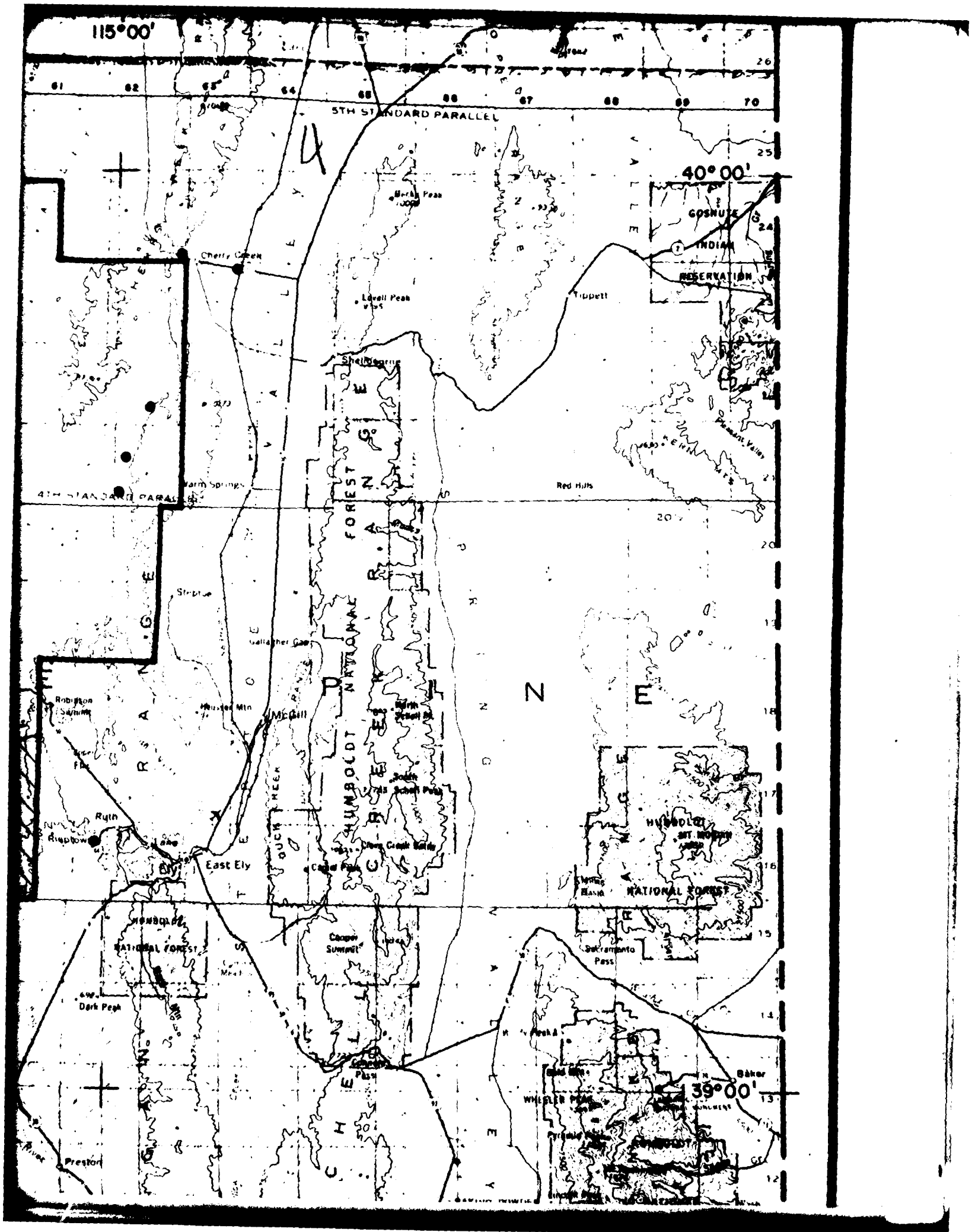
30 APR 81

DRAWING 13

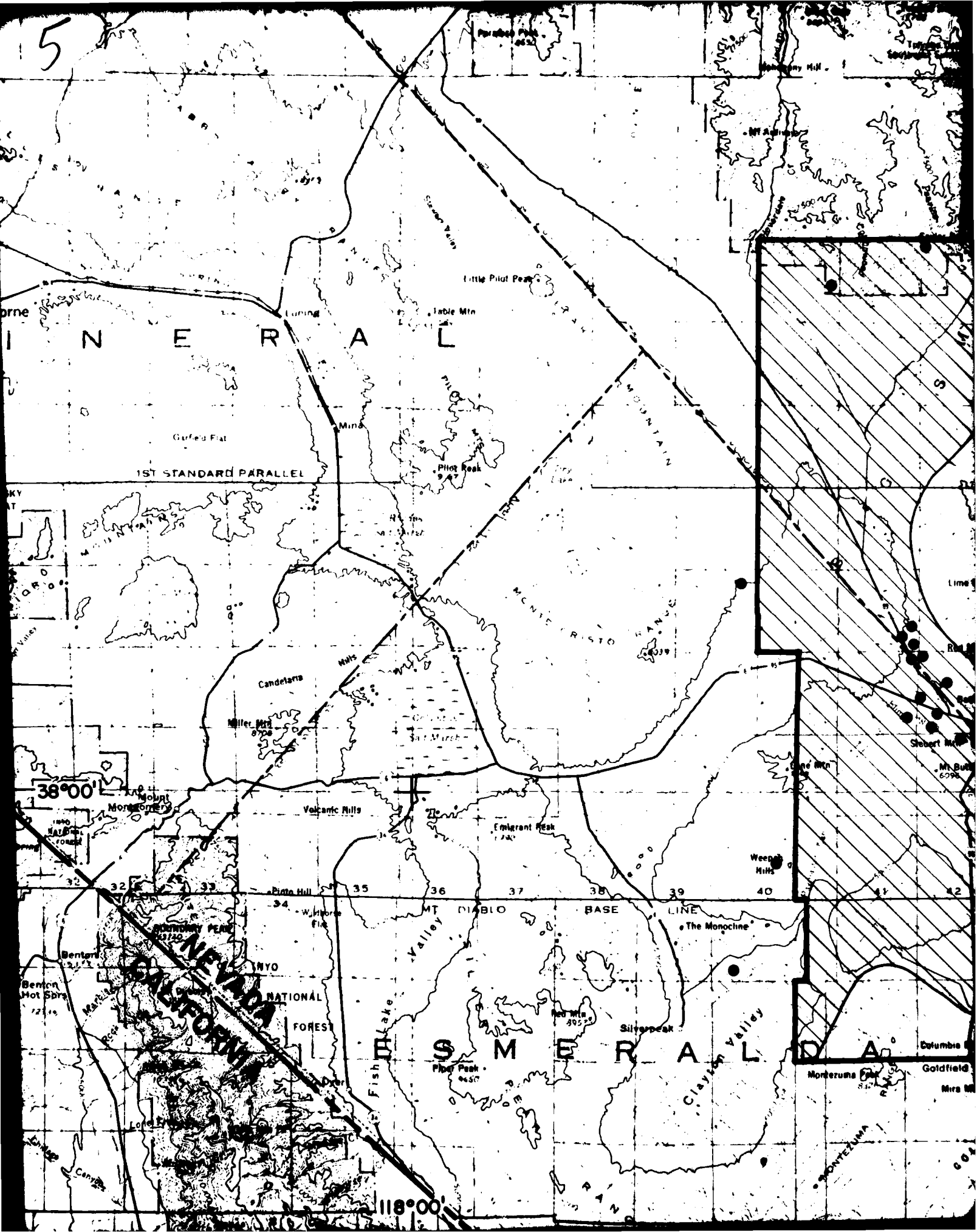


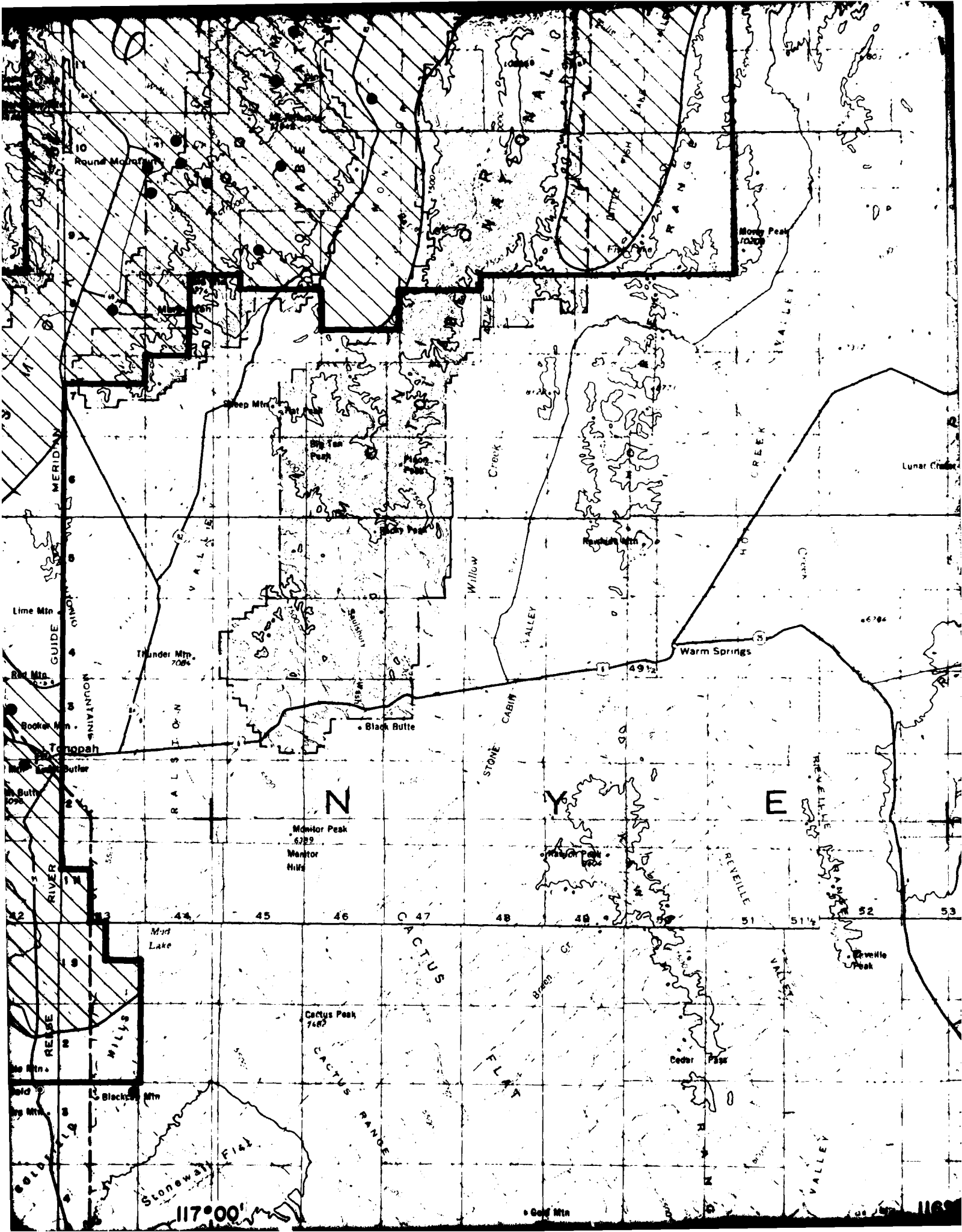






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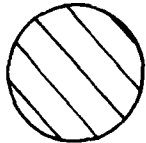
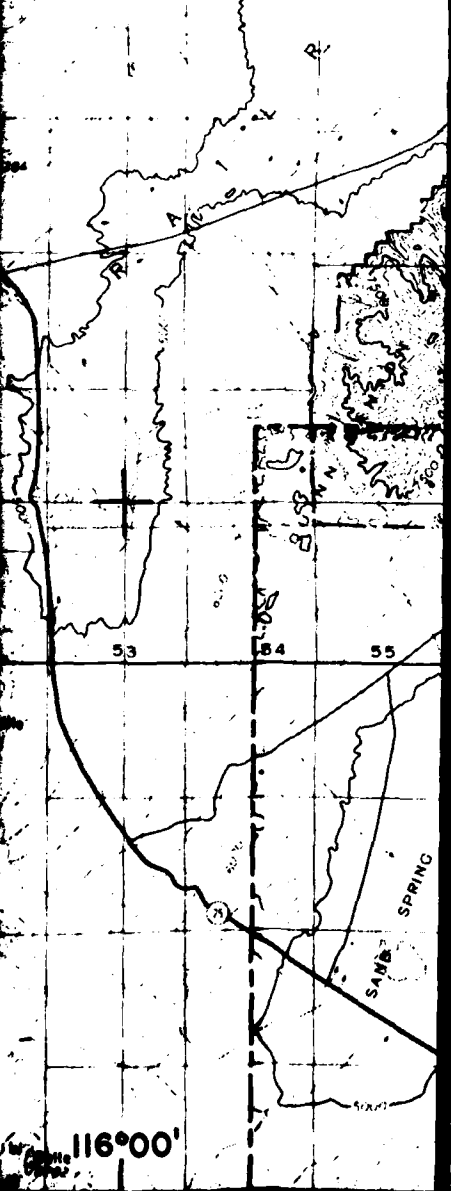
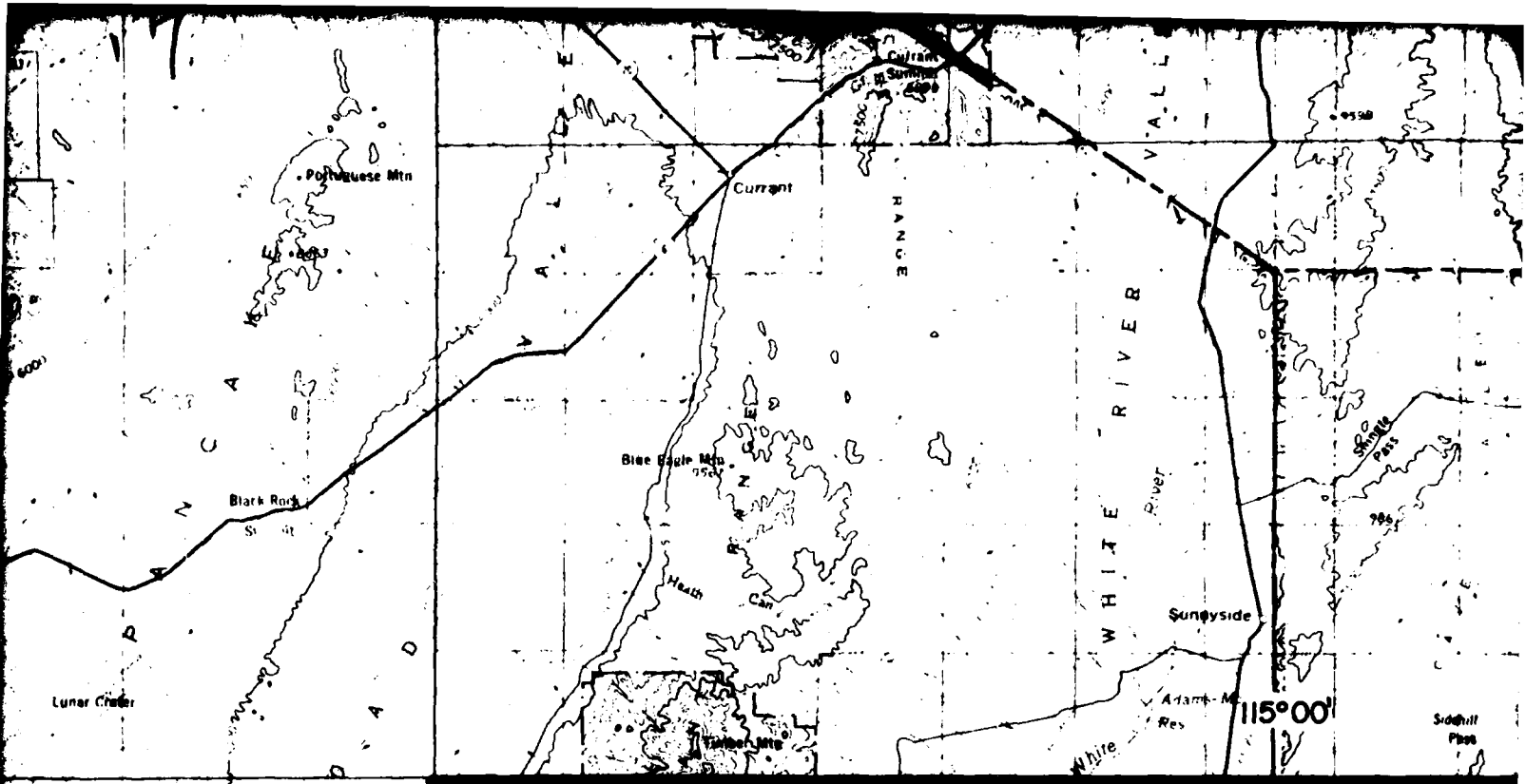


110
Round Mountain
Lime Mtn
Red Mtn
Booker Mtn
Topopah
Mud Lake
Black Mt
Stoneway Flats
117°00'

42 43 44 45 46 47 48 49 50 51 52 53
RAILROAD VALLEY
THUNDER MOUNTAINS
MONITOR PEAK
MONITOR HILLS
CACTUS RANGE
WILLOW VALLEY
STONE CABIN VALLEY
WARM SPRINGS VALLEY
REVILLE VALLEY

49 1/2
WARM SPRINGS
Cedar Pass
116°

66704
REVILLE PEAK
Cedar Pass
116°



SPECULATIVE POTENTIAL



**URANIUM OR RADIOACTIVE
OCCURRENCE OR OCCURRENCES**

SCALE 1: 500,000



STATUTE MILES

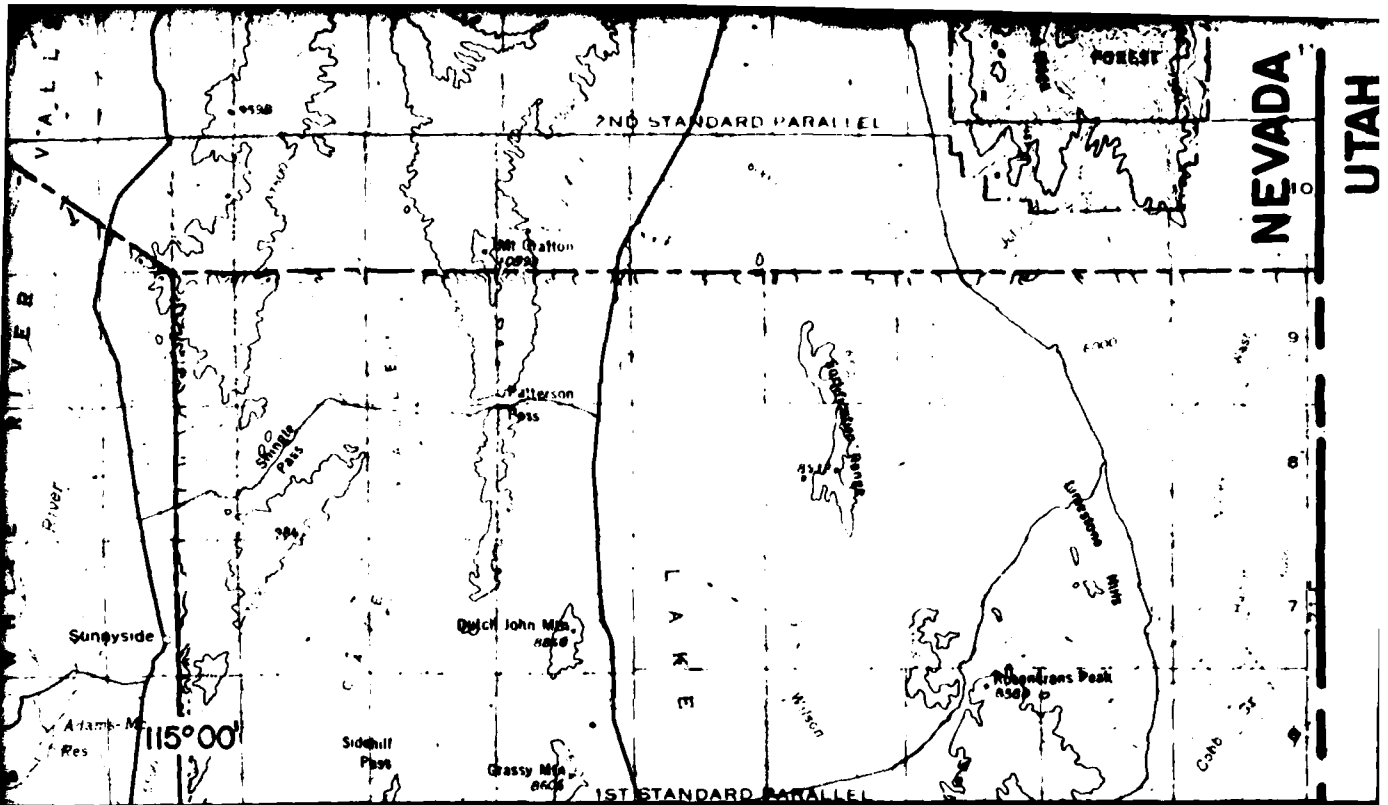


KILOMETERS



**MX ADDITIONAL
STUDY AREA**

- 1 26 OCT 1979
- 2 27 FEB 1980
- 3 20 JUN 1980
- 4 _____
- 5 _____
- 6 _____
- 7 _____



REFERENCES

- LARSON AND OTHERS, 1977 a AND b
- COHENOUR, 1980 b
- GARSDIE, 1973

REFERENCES



**MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY
STUDY AREA BOUNDARY SEPT. 26, 1980**

1	<u>25 OCT 1979</u>
2	<u>27 FEB 1980</u>
3	<u>20 JUN 1980</u>
4	_____
5	_____
6	_____
7	_____

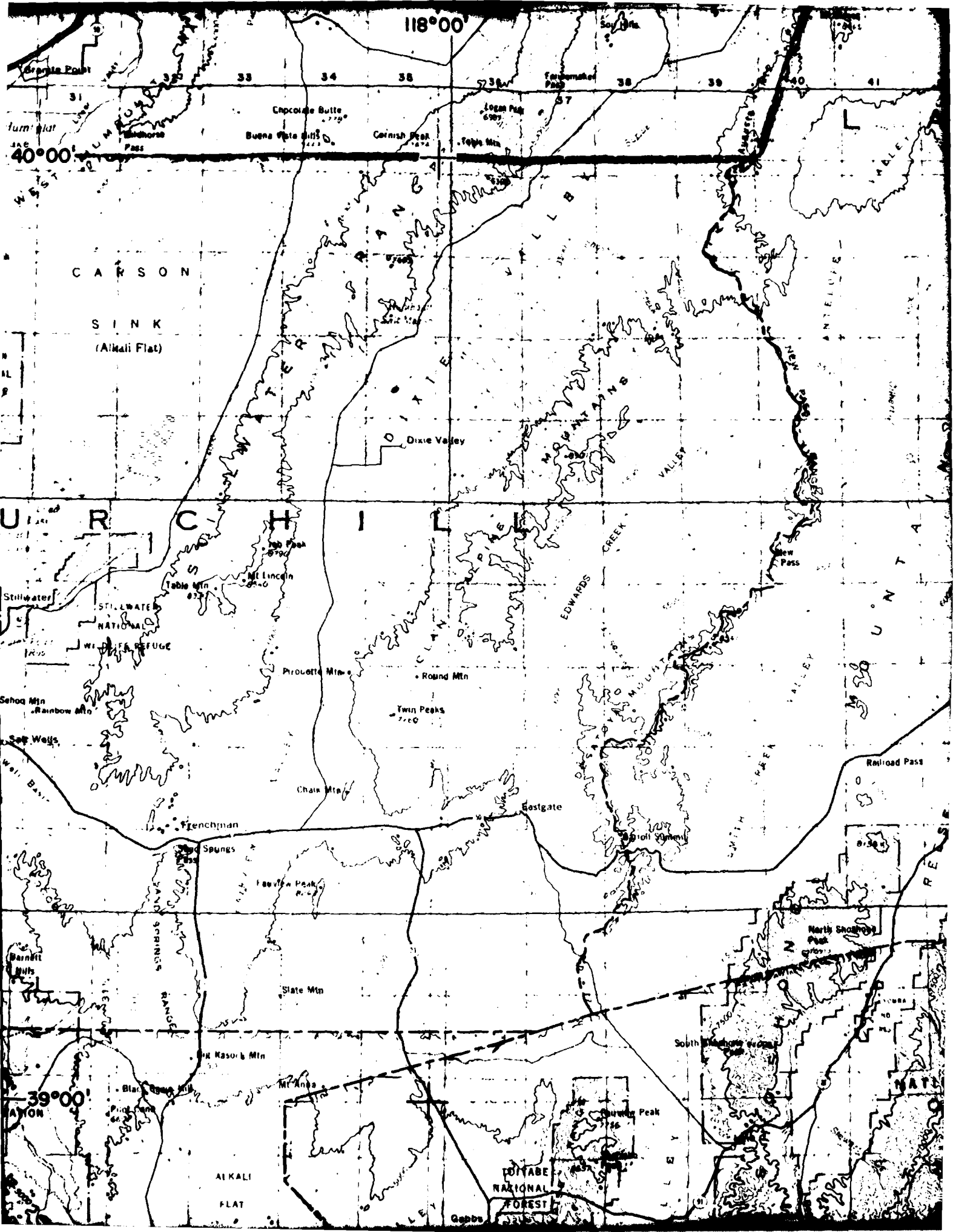


**MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRC-MX**

URANIUM POTENTIAL MAP

30 APR 81

14



118°00'

40°00'

39°00'

CARSON
SINK
(Alkali Flat)

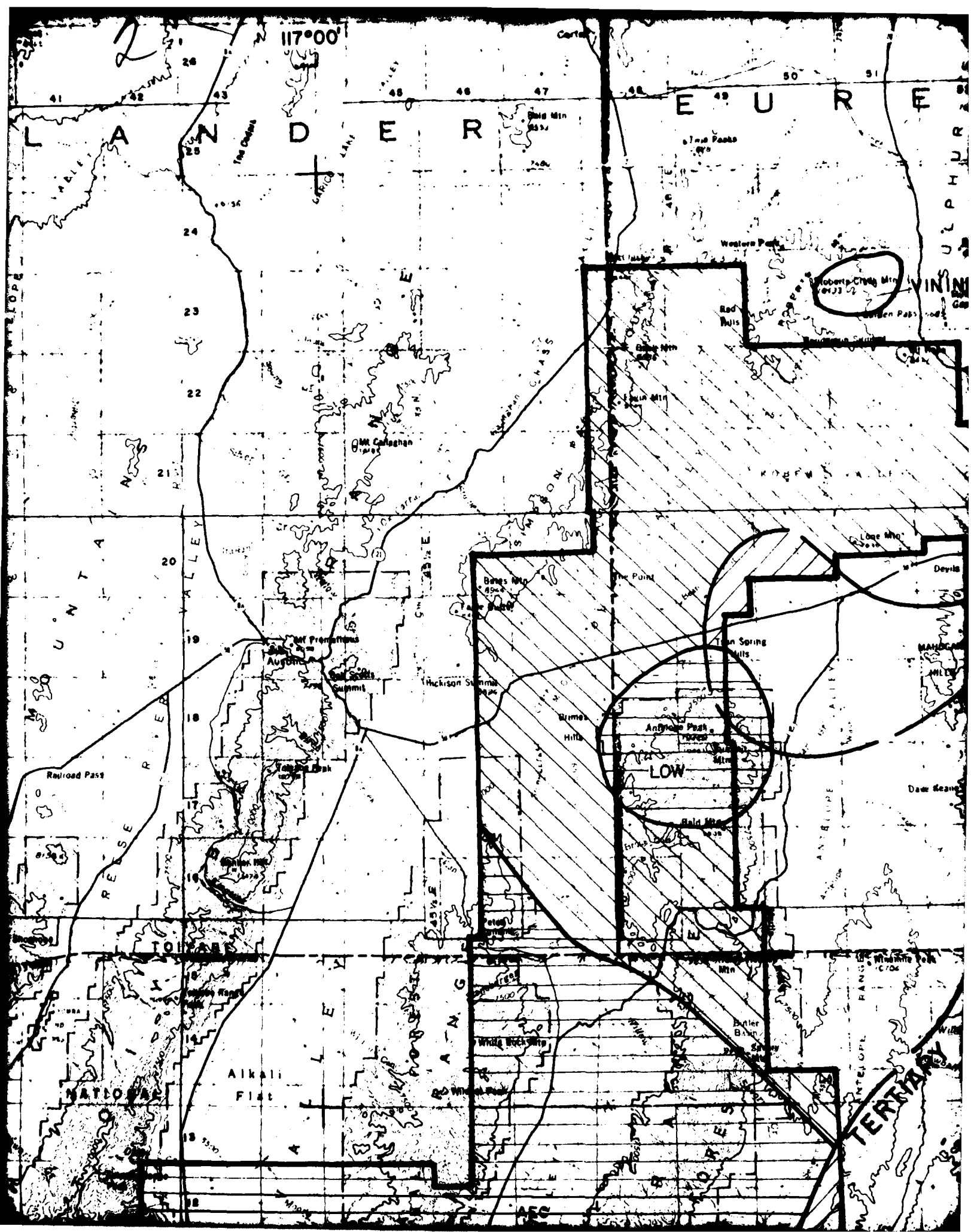
URICH HILL

STILLWATER
NATIONAL
WILDLIFE REFUGE

SNAKE
RANGE
NATIONAL
FOREST

ALKALI
FLAT

NAT



117°00'

EUR

LANDER

Robert-Craig Mt. 9232'

LOW

TERRAIN

Alkali Flats

NATIONAL

WHITE ROCK MOUNTAIN RANGE

WHITE ROCK MT. 7000'

Bald Mt. 9232'

Andrew Peak 8000'

Hickson Summit

Summit

Mountain

Bones Mt. 8500'

The Point

Town Spring Hills

Dave Keane

MAHOGANY

DEWIS

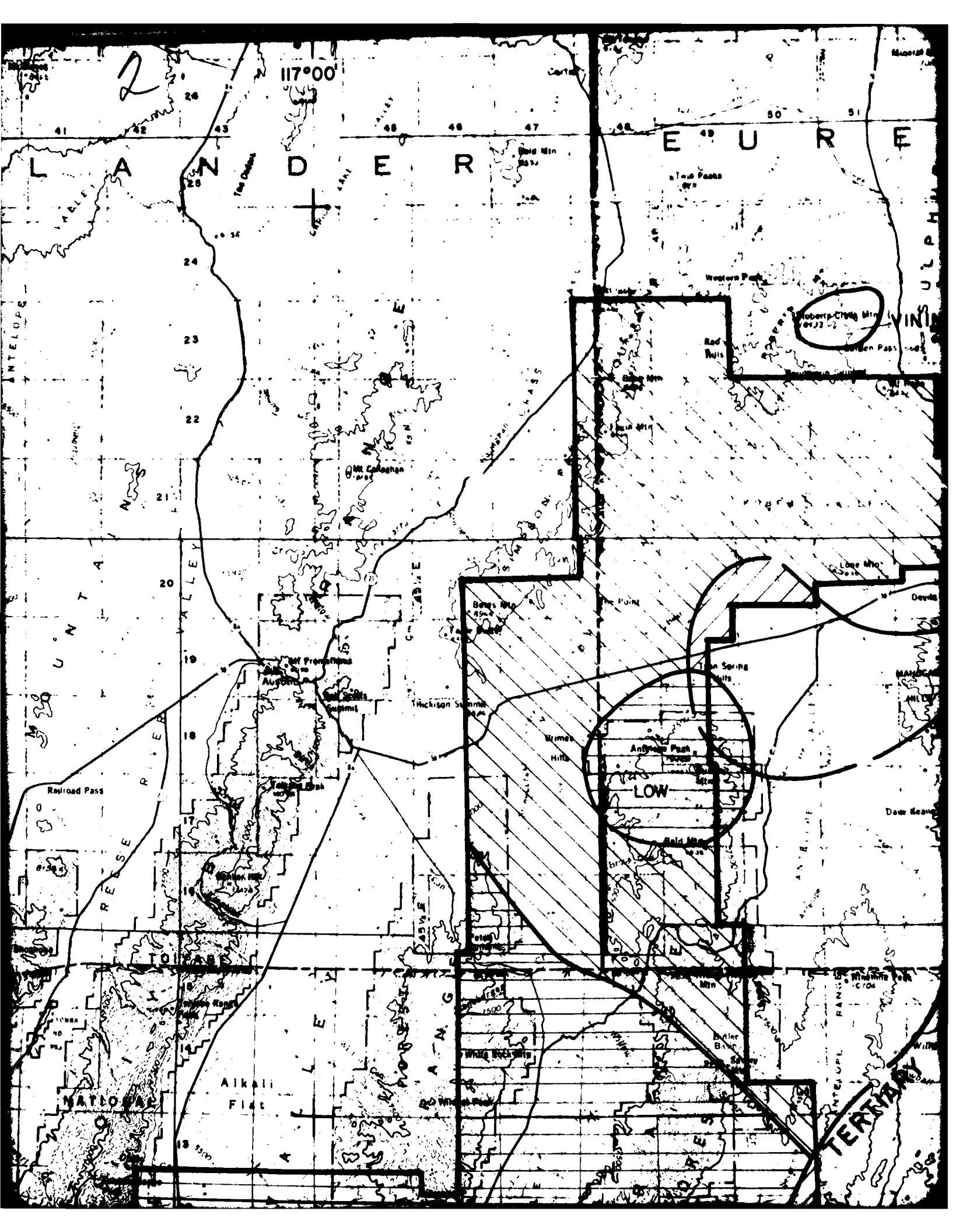
LONG MOUNTAIN

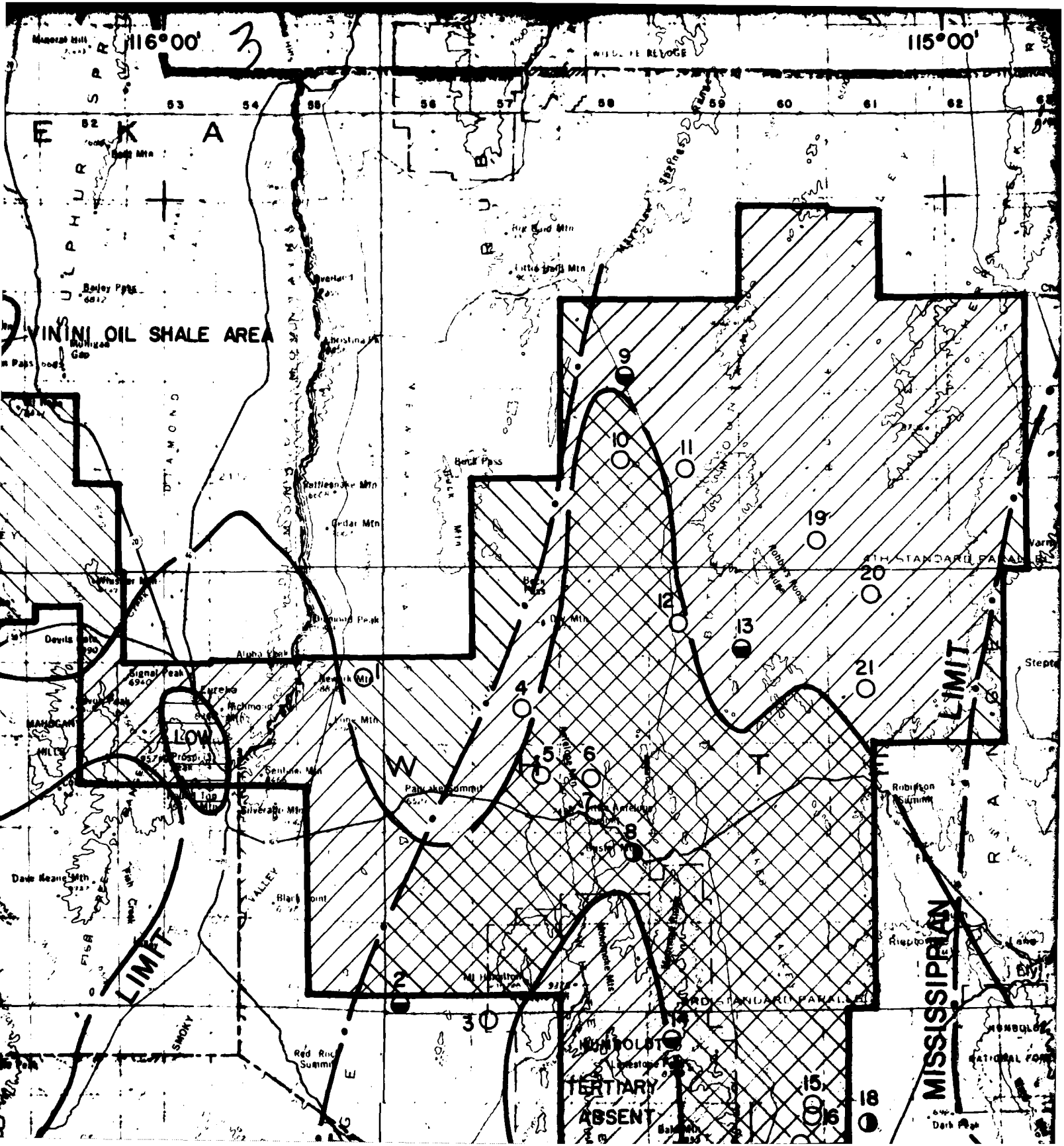
WINNING

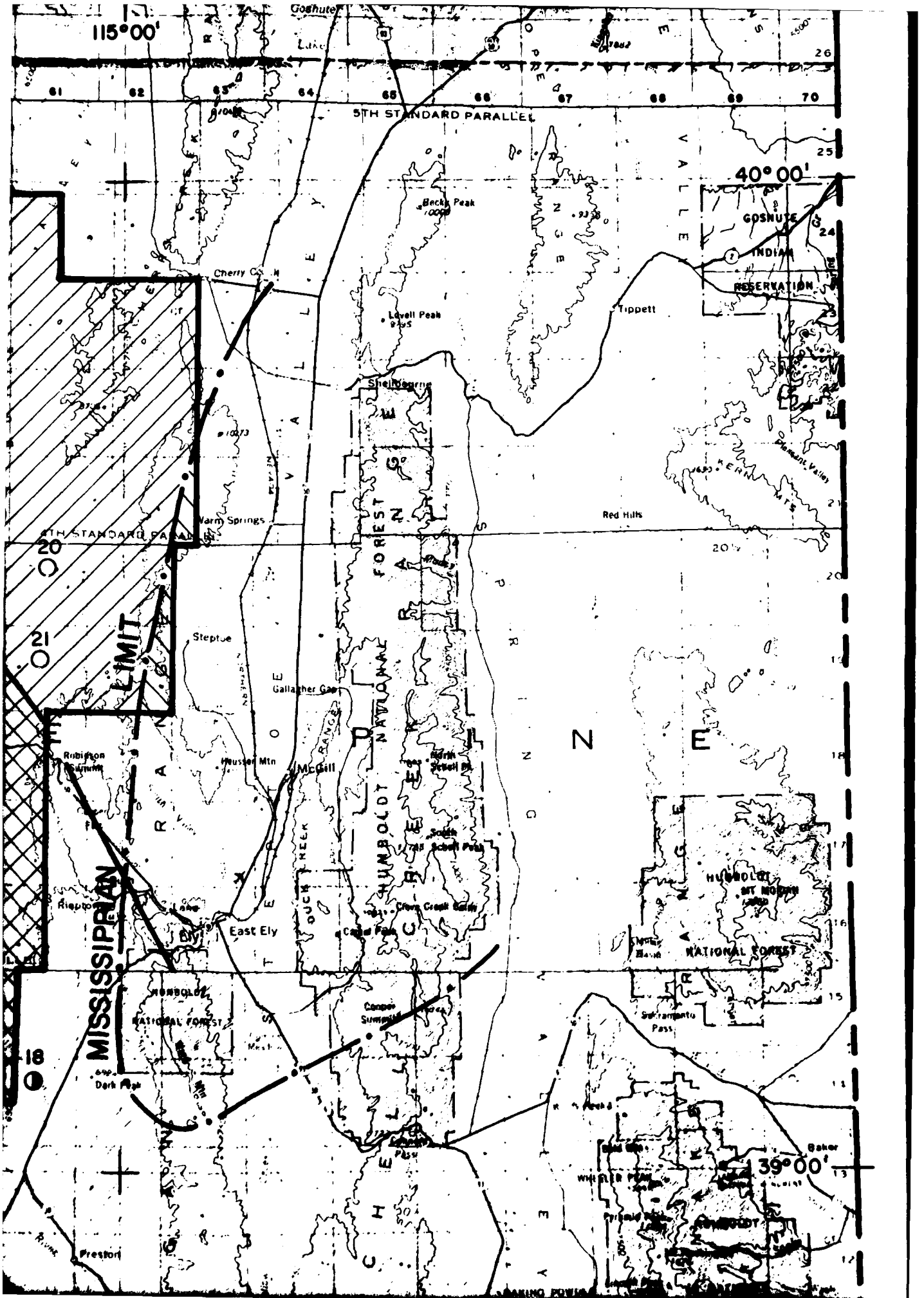
J.P.H.

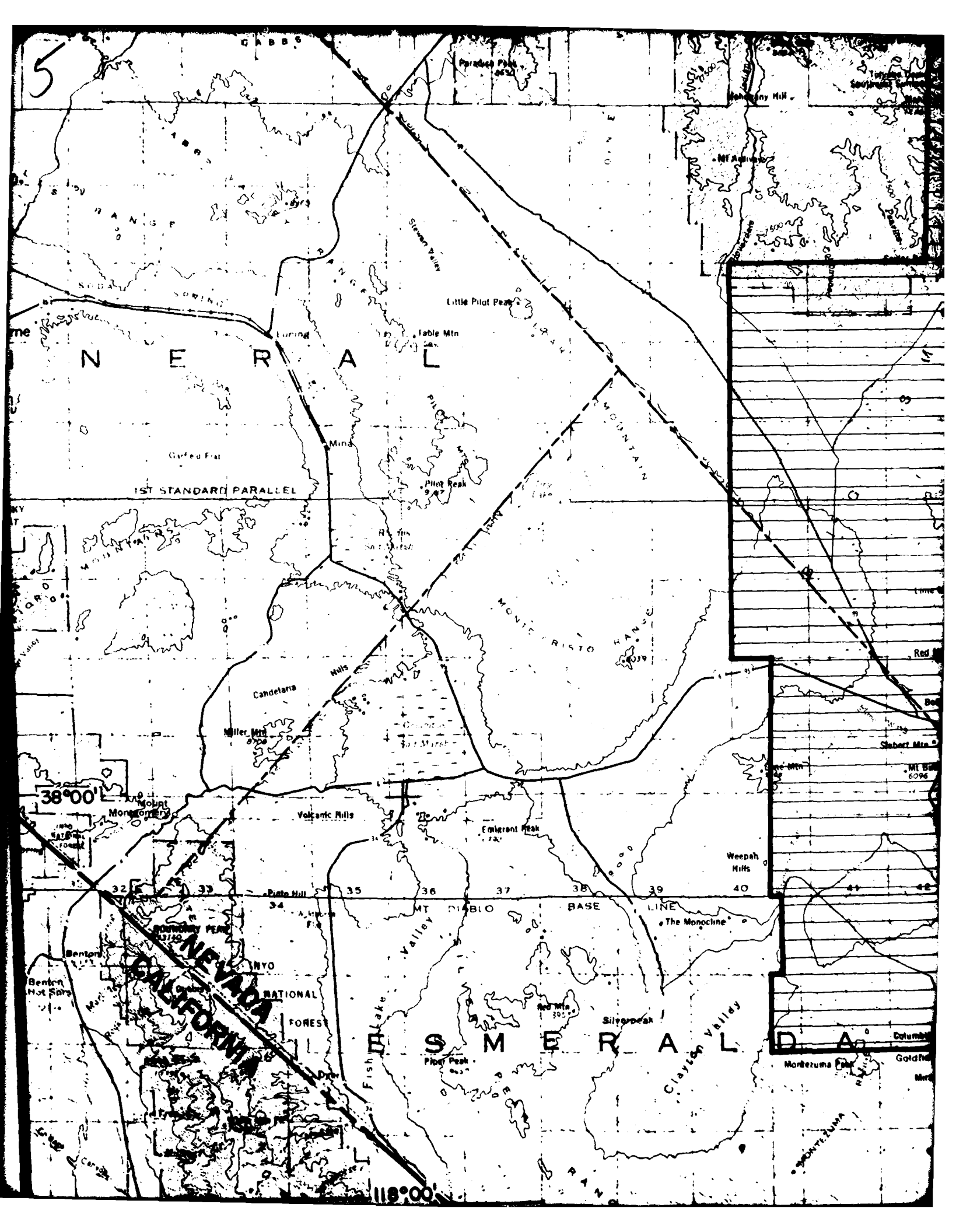
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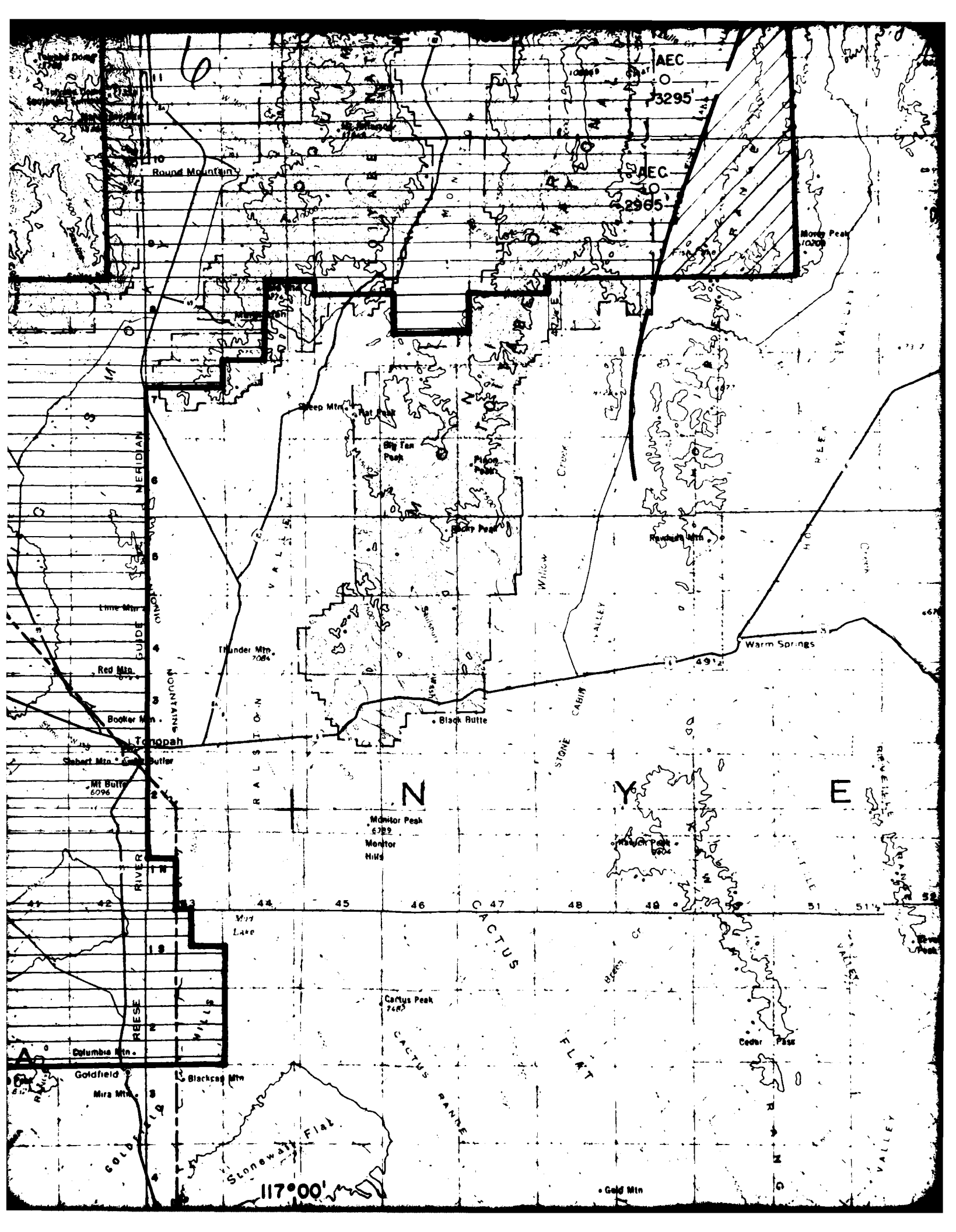
EUR











6

AEC

3295'

AEC

2965'

Monitor Peak
10200'

Round Mountain

NERIDIAN

GUIDE

MOUNTAINS

RIVER

PRESE

VALLES

VALLES

VALLES

VALLES

VALLES

VALLES

VALLES

VALLES

VALLES

VALLES

Steep Mtn.

Pat Peak

Big Tan Peak

Pigeon Peak

Black Peak

Thunder Mtn.
7064'

Black Butte

Monitor Peak
5782'

Monitor Hill

Watch Peak
5902'

Cartus Peak
7605'

Tonopah

Shober Mtn.

Butler

Mt Bull

6096'

Red Mtn.

Booker Mtn.

Time Mtn.

Goldfield

Mira Mtn.

Blackcap Mtn.

Columbia Mtn.

Gold Mtn.

Warm Springs

Willow Valley

Stone Cabin Valley

Monitor Hill

Watch Peak

Cartus Peak

Gold Mtn.

N

Y

E

47

46

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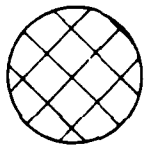
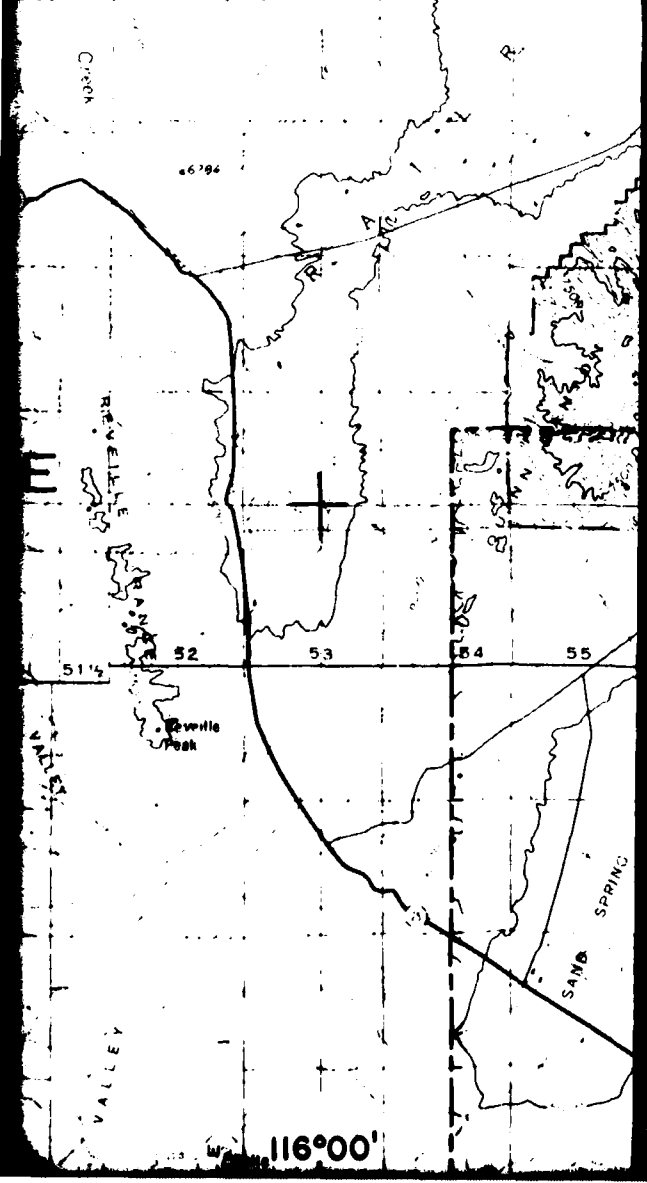
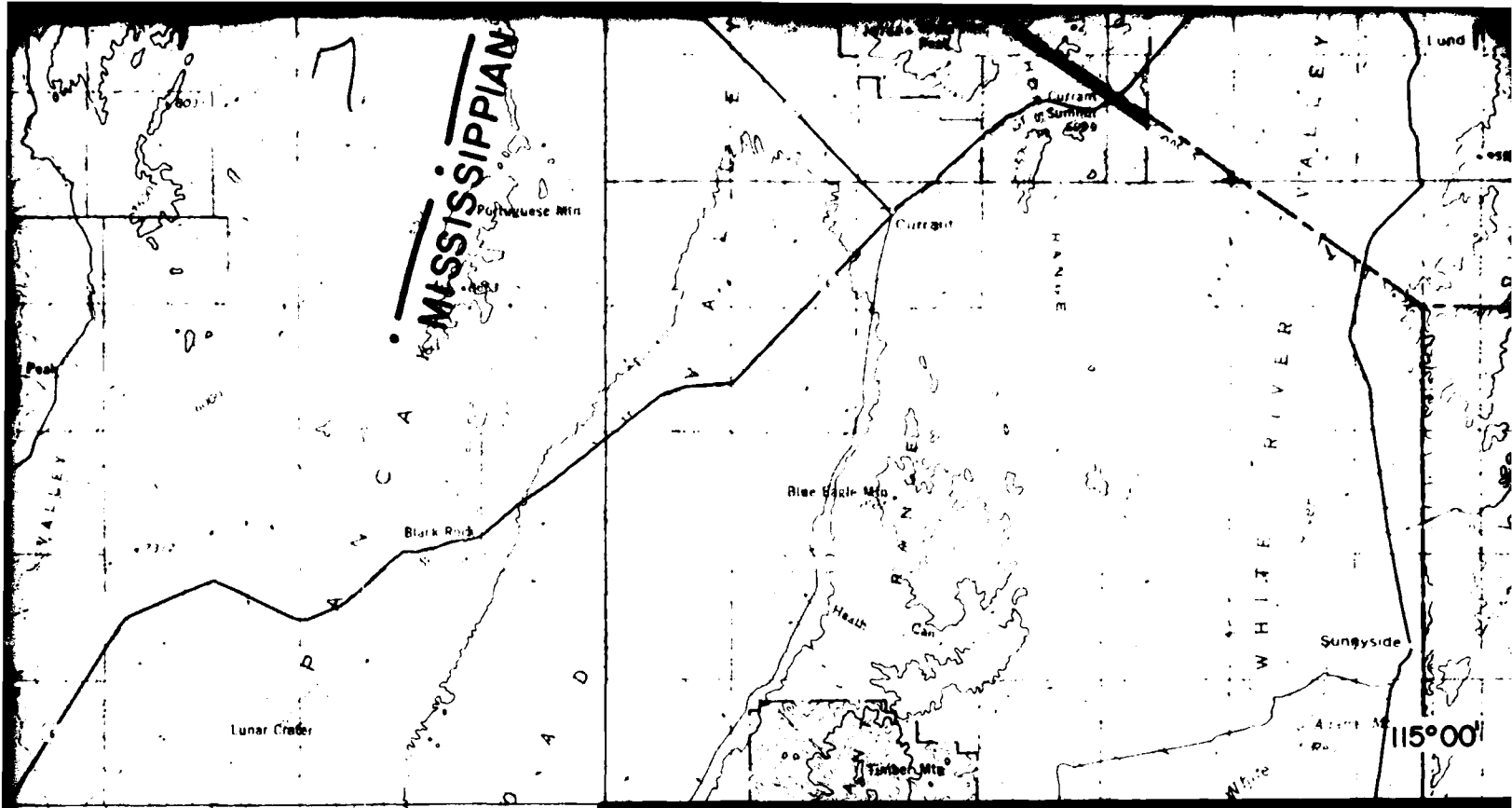
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41

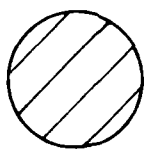
40

117°00'

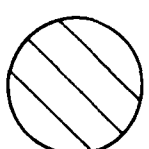
Gold Mtn



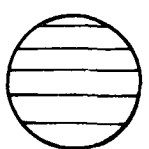
HIGH POTENTIAL



GOOD POTENTIAL



SPECULATIVE POTENTIAL



LOW POTENTIAL



DRY HOLE



OIL AND GAS SHOW

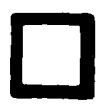


OIL SHOW

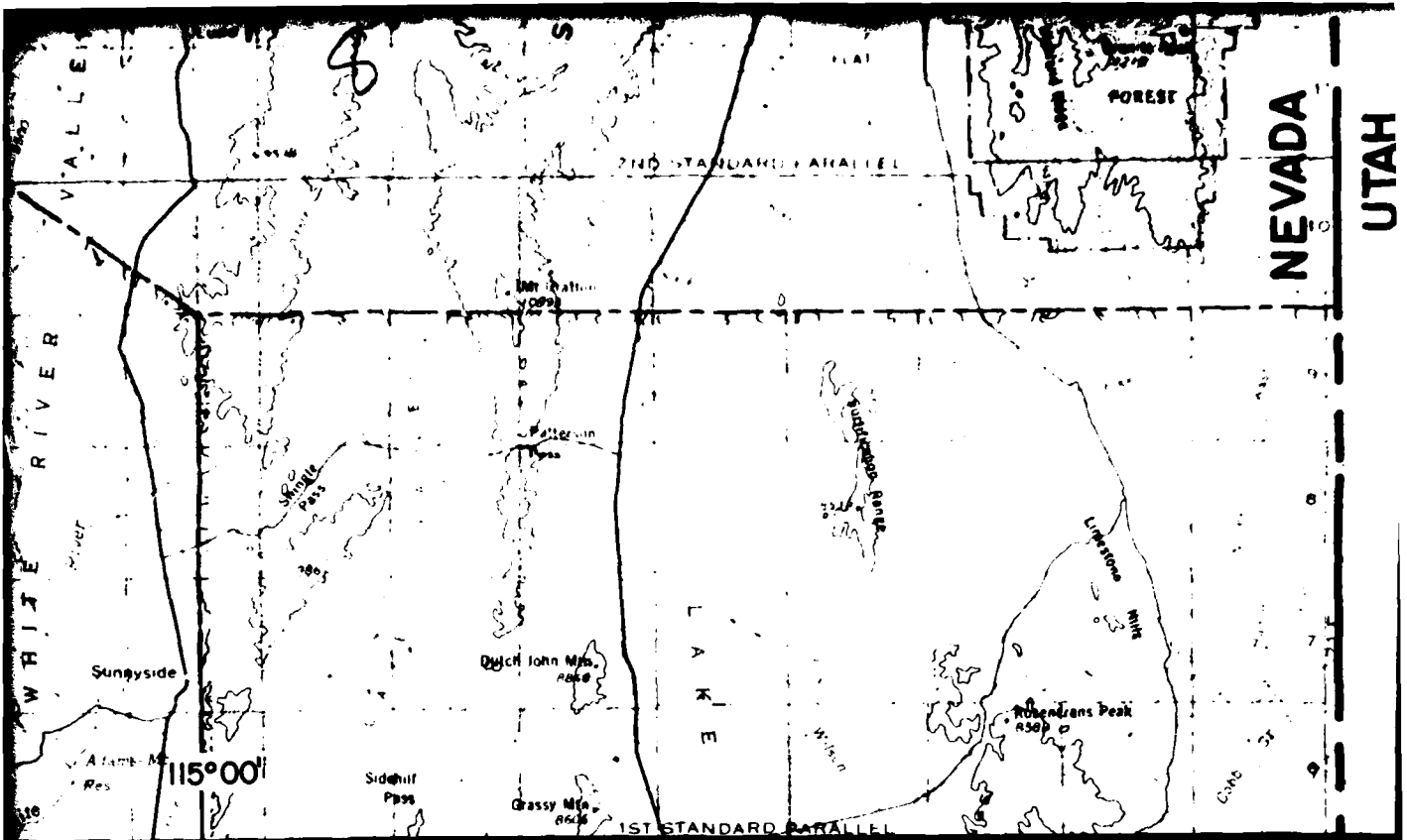


AEC TEST HOLE
(ATOMIC ENERGY COMMISSION)

REFERENCE TABLE 6 FOR DRILL HOLE INFORMATION



1	2
2	27
3	2
4	1
5	1
6	1
7	1



REFERENCES

- GARSDALE AND OTHER, 1977
- GARSDALE AND SCHILLING, 1977
- TERRASCAN GROUP, LTD., 1978
- TERRASCAN GROUP, INC., 1979

SCALE 1: 500,000



STATUTE MILES



KILOMETERS



**MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY
STUDY AREA BOUNDARY SEPT. 26, 1980**

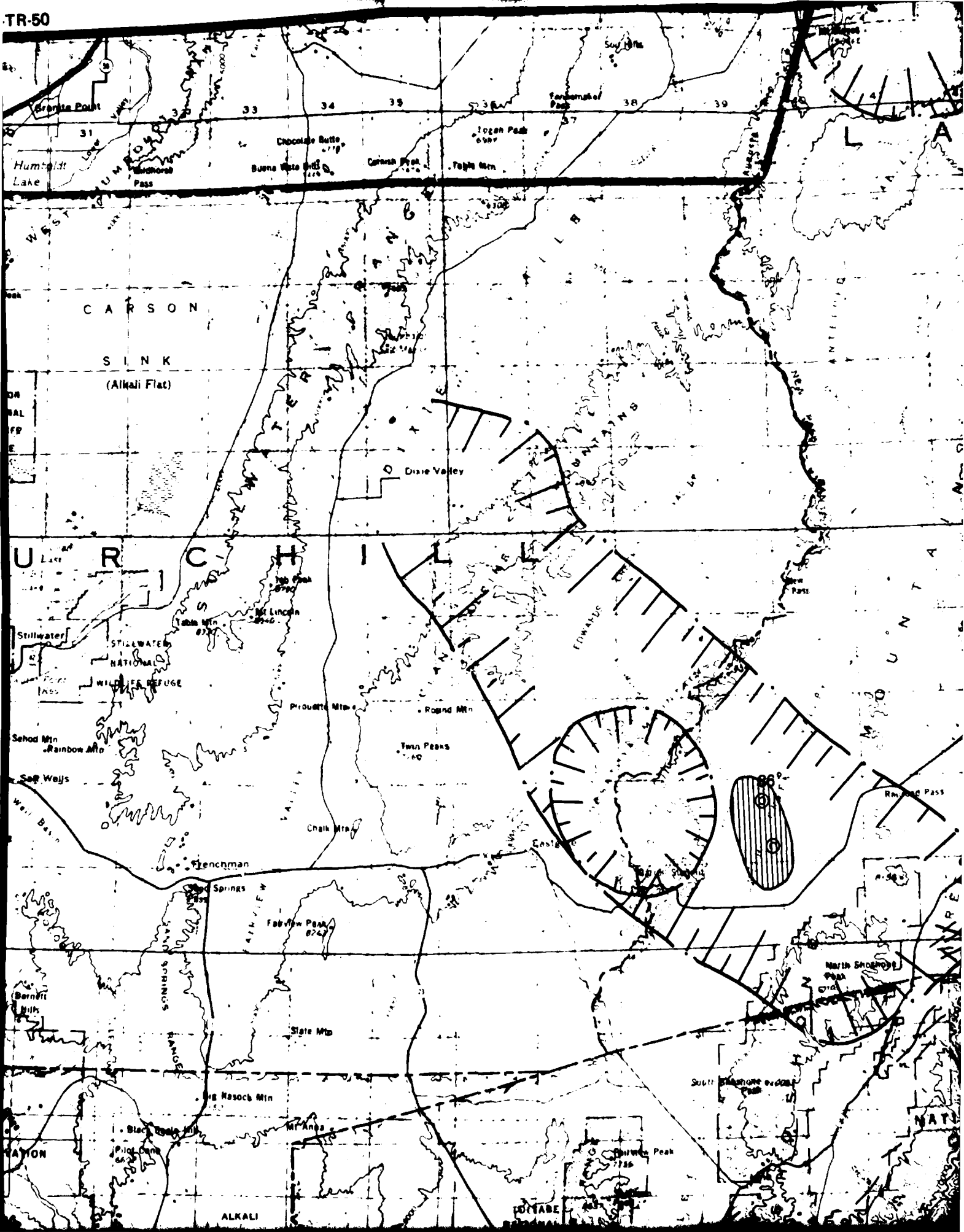
- 1 25 OCT 1979
- 2 27 FEB 1980
- 3 20 JUN 1980
- 4 _____
- 5 _____
- 6 _____
- 7 _____

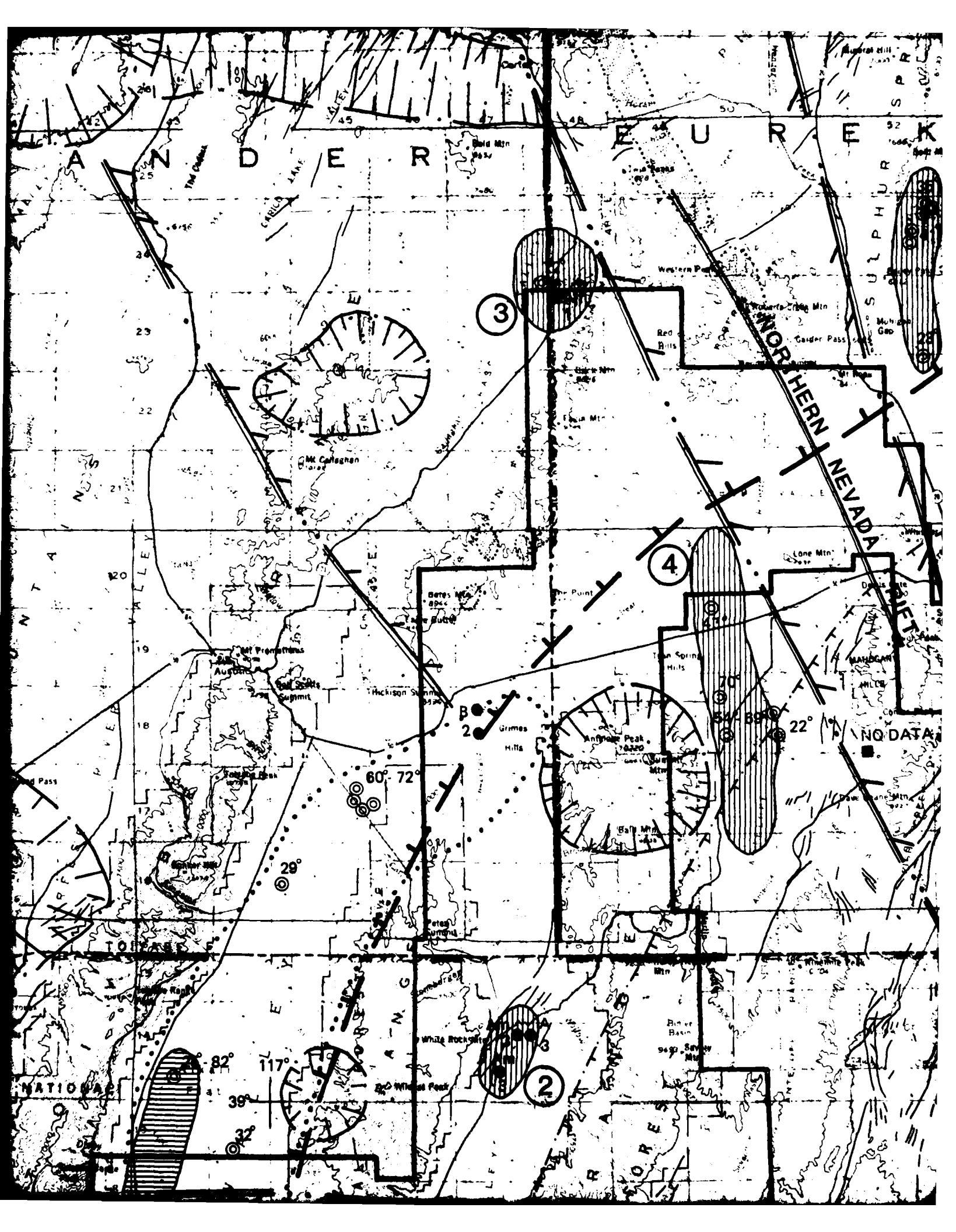


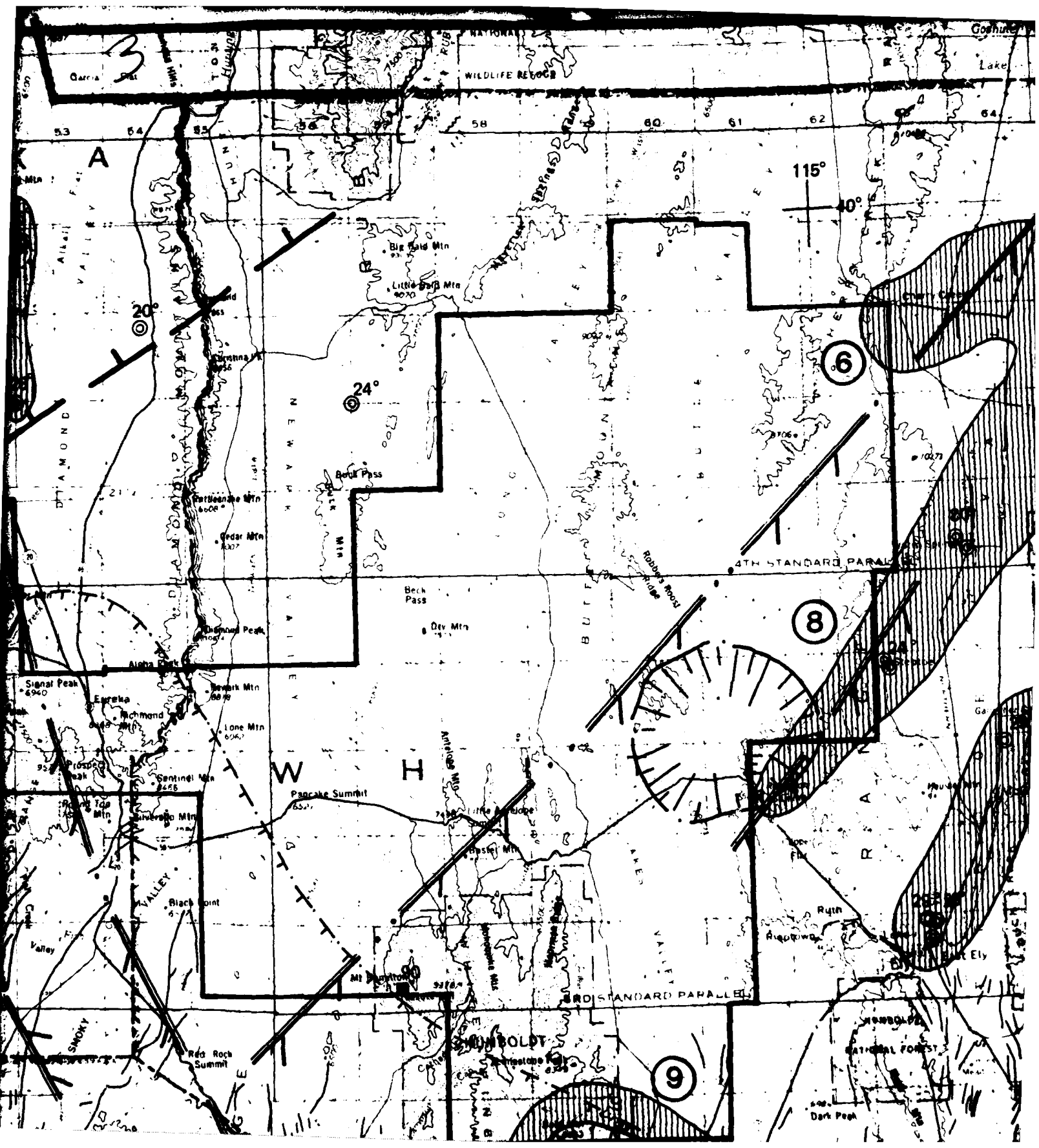
**MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRC-MX**

OIL AND GAS POTENTIAL MAP

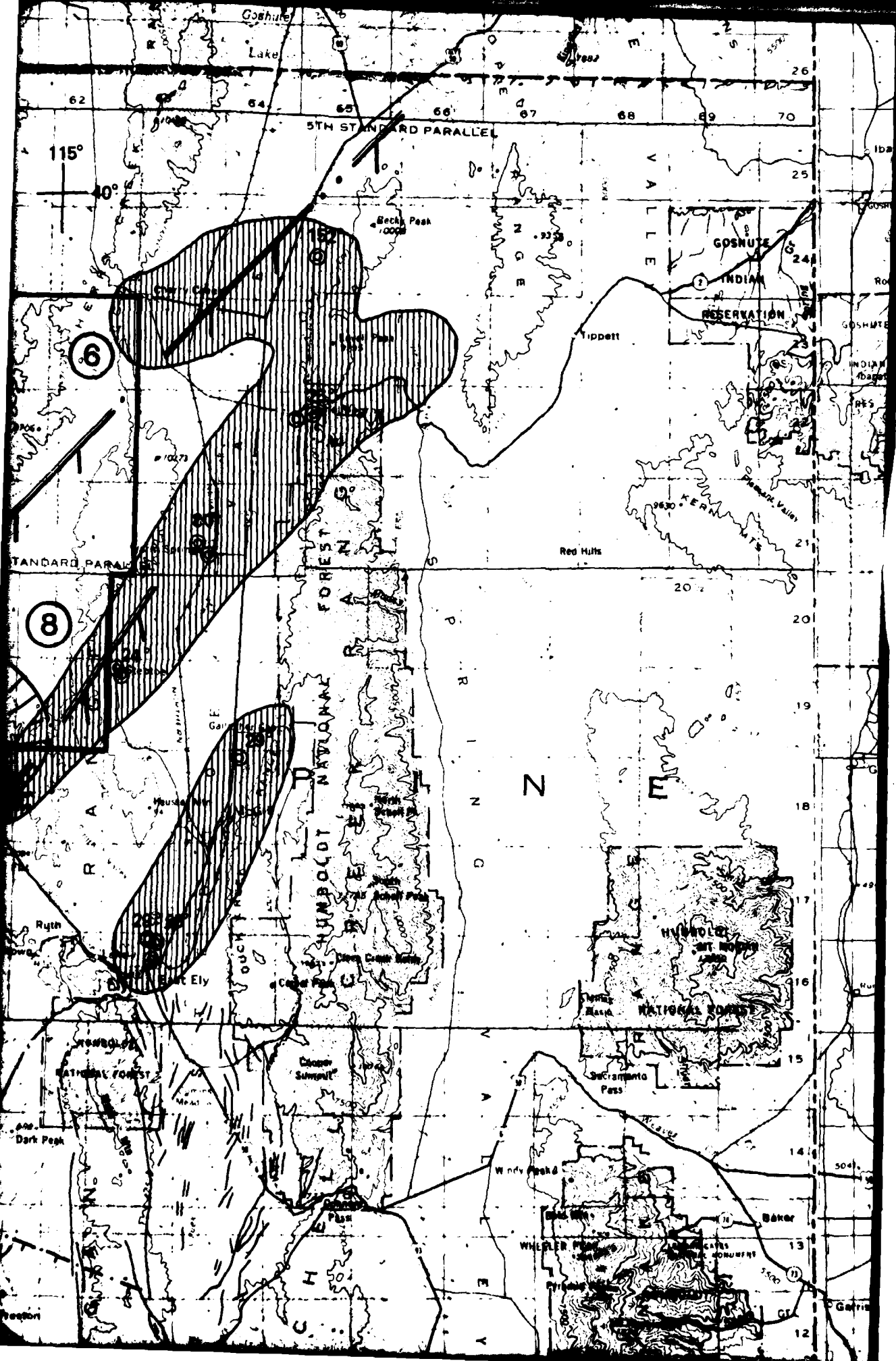
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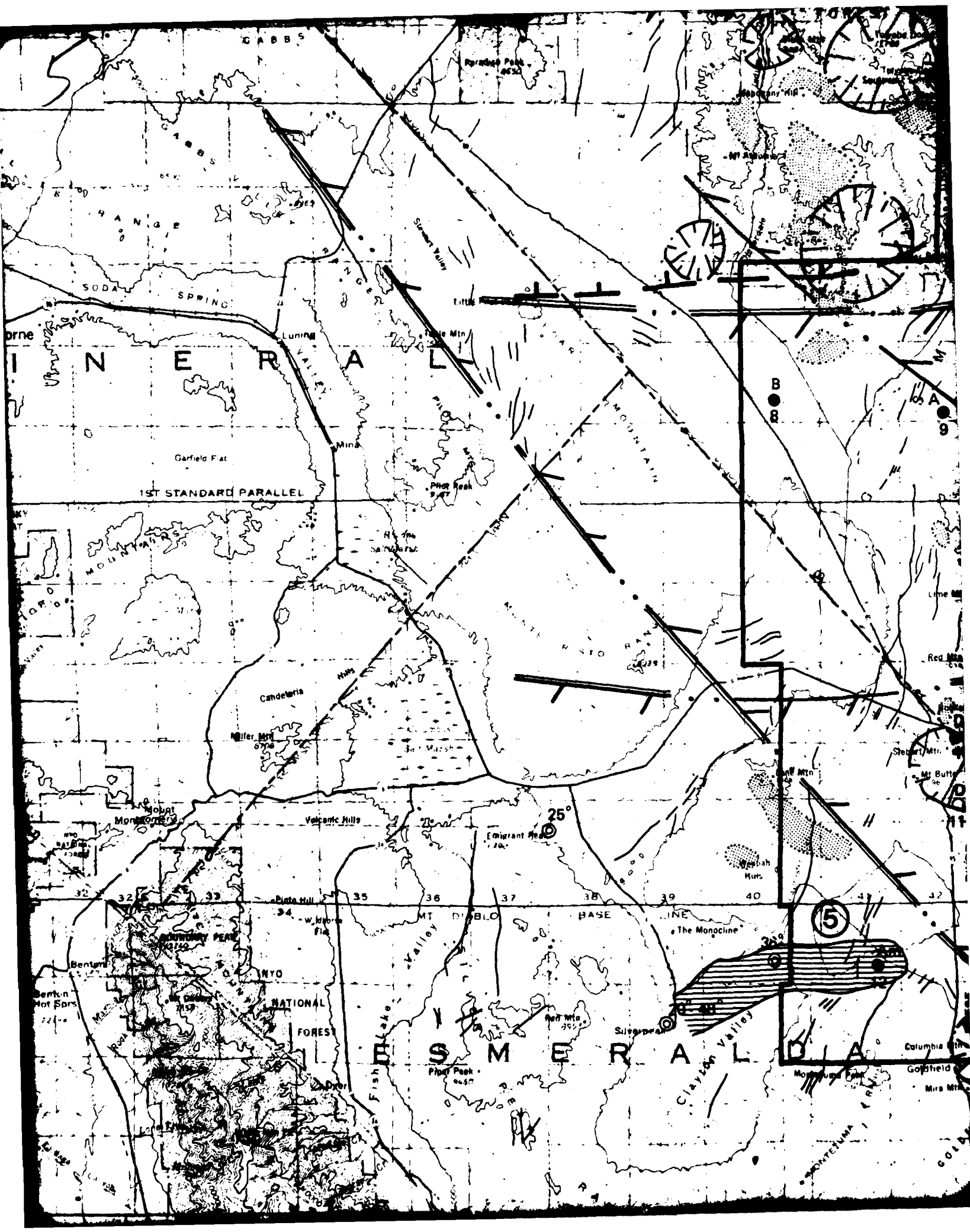


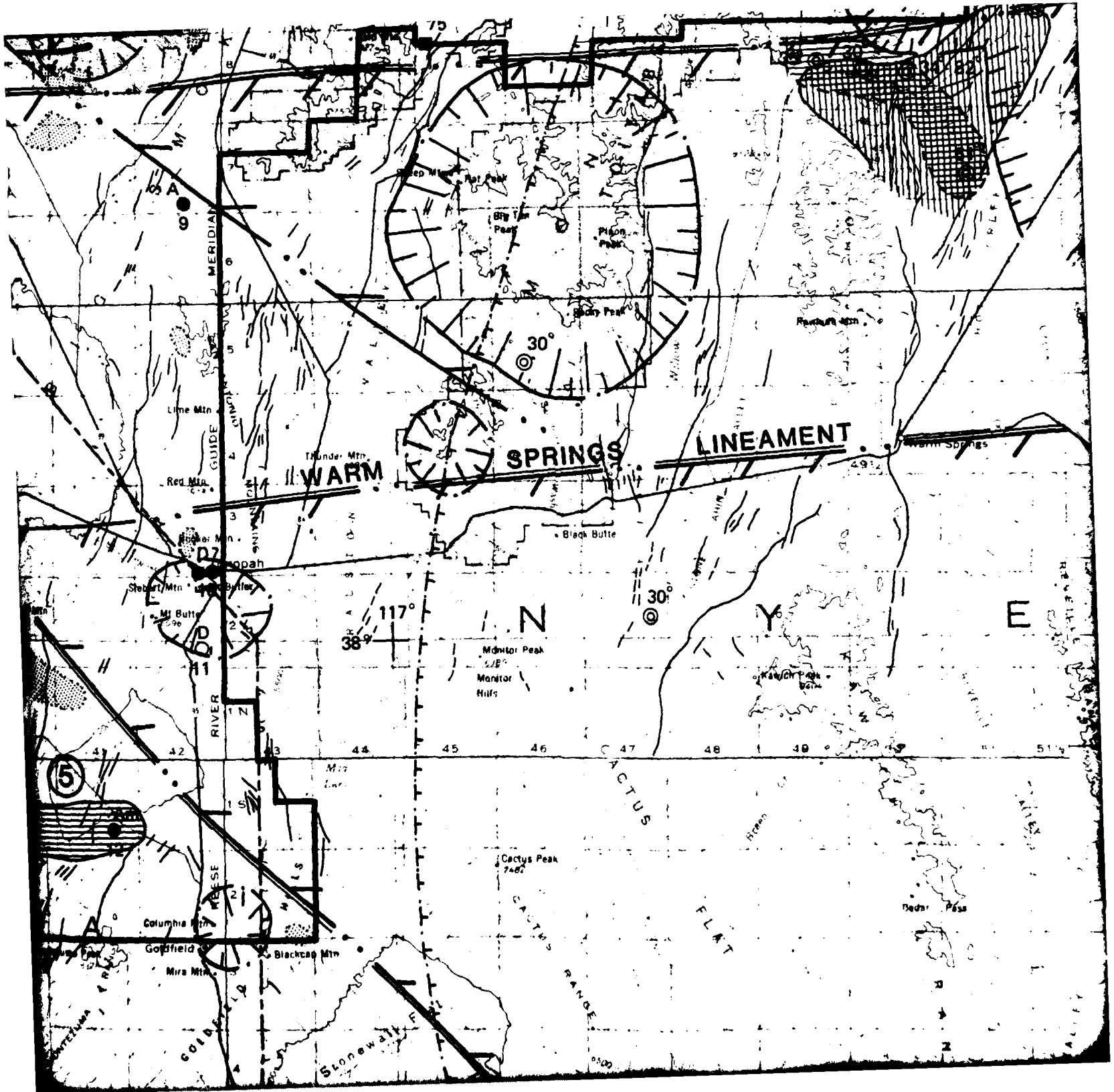


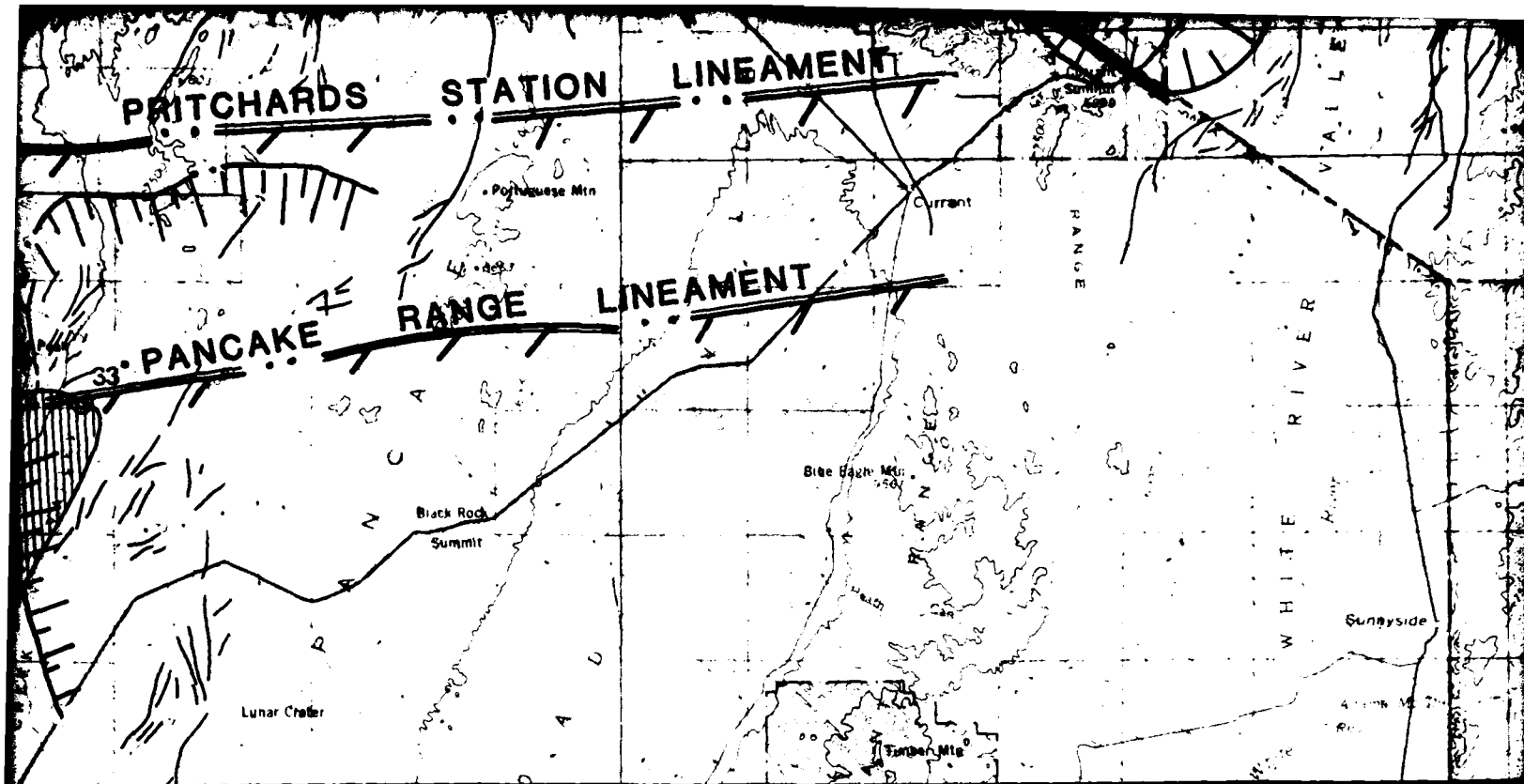


4
















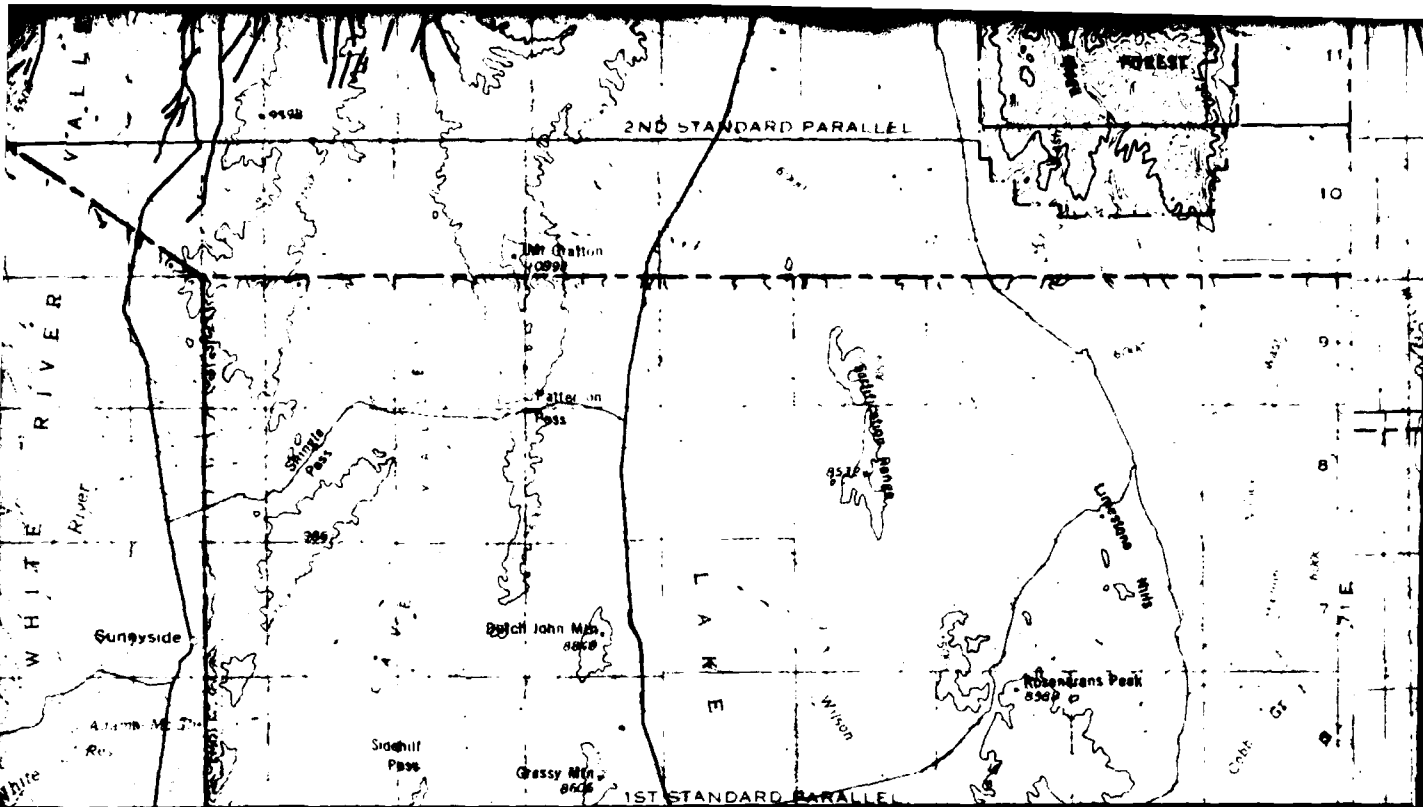






EXPLANATION

- | | | | |
|---|---|--|---|
|  | MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY STUDY AREA SEPT. 26, 1980 |  | AREA OF LOW TEMPERATURE GEOTHERMAL WATER POTENTIAL (NOAA, 1979) |
|  | LATE TERTIARY AND QUATERNARY FAULT (FROM FUGRO 1980) |  | MAGNETIC HIGHS 11,200 GAMMAS (FROM ZIETZ AND OTHERS, 1978) |
|  | LIMIT OF EUREKA HEAT FLOW LOW (FROM SASS AND OTHERS, 1980) | A | SPRING |
|  | BATTLE MOUNTAIN HEAT FLOW HIGH (FROM DEPT. OF ENERGY, 1978) | B | WELL |
|  | LINEAMENT (FROM EKREN AND OTHERS, 1976 AND THIS REPORT) | C | GEOTHERMAL TEST WELL |
|  | LIMIT OF VOLCANIC CENTER (CALDERA ?) | D | MINE WORKINGS |
|  | AREA OF GEOTHERMAL POTENTIAL | ● | LOW SURFACE TEMPERATURE (90 C) |
|  | AREA OF GEOTHERMAL POTENTIAL (FROM TREXLER AND OTHERS, 1979) | ○ | INTERMEDIATE TEMPERATURE (90 C TO NOTE: REFERENCE APPENDIX B FOR DETAILED DATA. |
|  | THERMAL WELLS AND SPRINGS LOCATED OUTSIDE STUDY AREA (NOT LISTED IN APPENDIX B) (FROM TREXLER AND OTHERS, 1979 AND GARSIDE AND SCHILLING, 1979) |  | KNOWN GEOTHERMAL RESOURCE AREA |
|  | HEAT FLOW MEASUREMENT (IN MW/m ² , 1 HFU = 41.87 MW/m ²) | 58 | MAP NUMBER (REFERENCE APPENDIX B) |
| | | m | MULTIPLE WELLS OR SPRINGS IN IMMEDIATE VICINITY |
| | | ? | POSITION UNCERTAIN |
| | | A m | EXAMPLE: LOW TEMPERATURE SPRING, IN APPENDIX B; MULTIPLE SPRINGS IN VICINITY; LOCATION UNCERTAIN. |
| | | ? | |
| | | 25 | |



NUMBERS REFER TO FAVORABLE AREAS FOR GEOTHERMAL POTENTIAL (PRIORITIZED)

TEMPERATURE GEOTHERMAL (NOAA, 1979)

200 GAMMAS (MATHERS, 1978)

WELL

TEMPERATURE (90 C)

TEMPERATURE (90 C TO 150 C) SOURCE APPENDIX B FOR AREA A.

MINERAL RESOURCE AREA (KGRA)

SOURCE APPENDIX B)

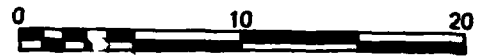
MINERAL SPRINGS IN IMMEDIATE VICINITY

IN

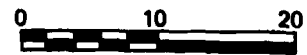
TEMPERATURE SPRING, NUMBER 25 MULTIPLE SPRINGS IN IMMEDIATE VICINITY UNCERTAIN.

- ① BIG SMOKY VALLEY, NORTH
- ② MONITOR VALLEY, CENTRAL
- ③ MONITOR VALLEY, NORTH
- ④ ANTELOPE VALLEY
- ⑤ BIG SMOKY VALLEY, SOUTH
- ⑥ BUTTE VALLEY, NORTH
- ⑦ LITTLE FISH LAKE VALLEY
- ⑧ BUTTE VALLEY, SOUTH
- ⑨ WHITE RIVER VALLEY

SCALE 1:500,000



STATUTE MILES



KILOMETERS



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DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

LOCATION OF GEOTHERMAL WATER AND GEOTHERMAL FAVORABILITY MAP OF THE MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY STUDY AREA

30 APR. 1981

DRAWING 16

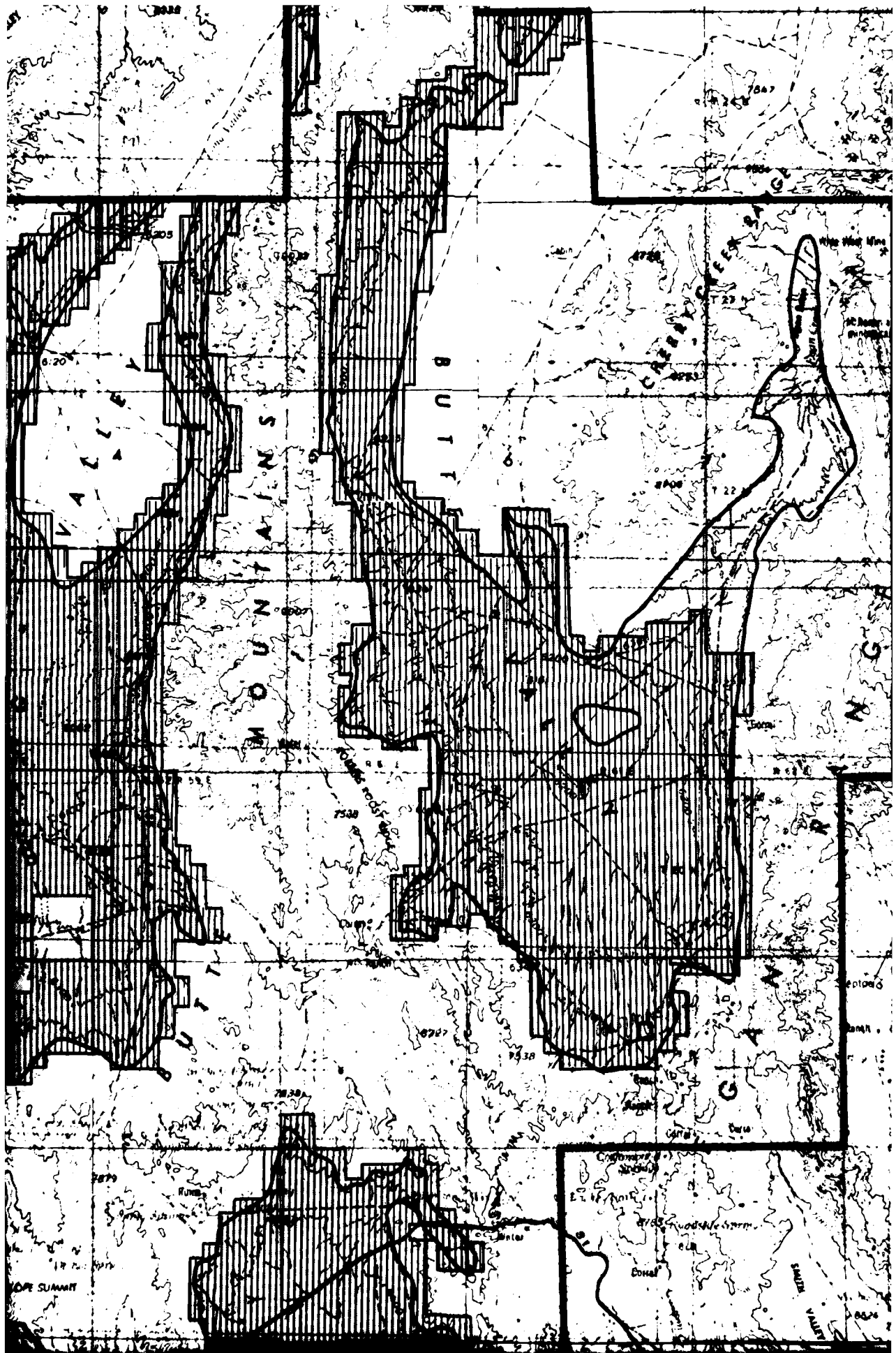
116°00' 40'00" 59 R 54 E 60 R 55 E 45 61 R 56 E 62 R 57 E 30 63 R 58 E



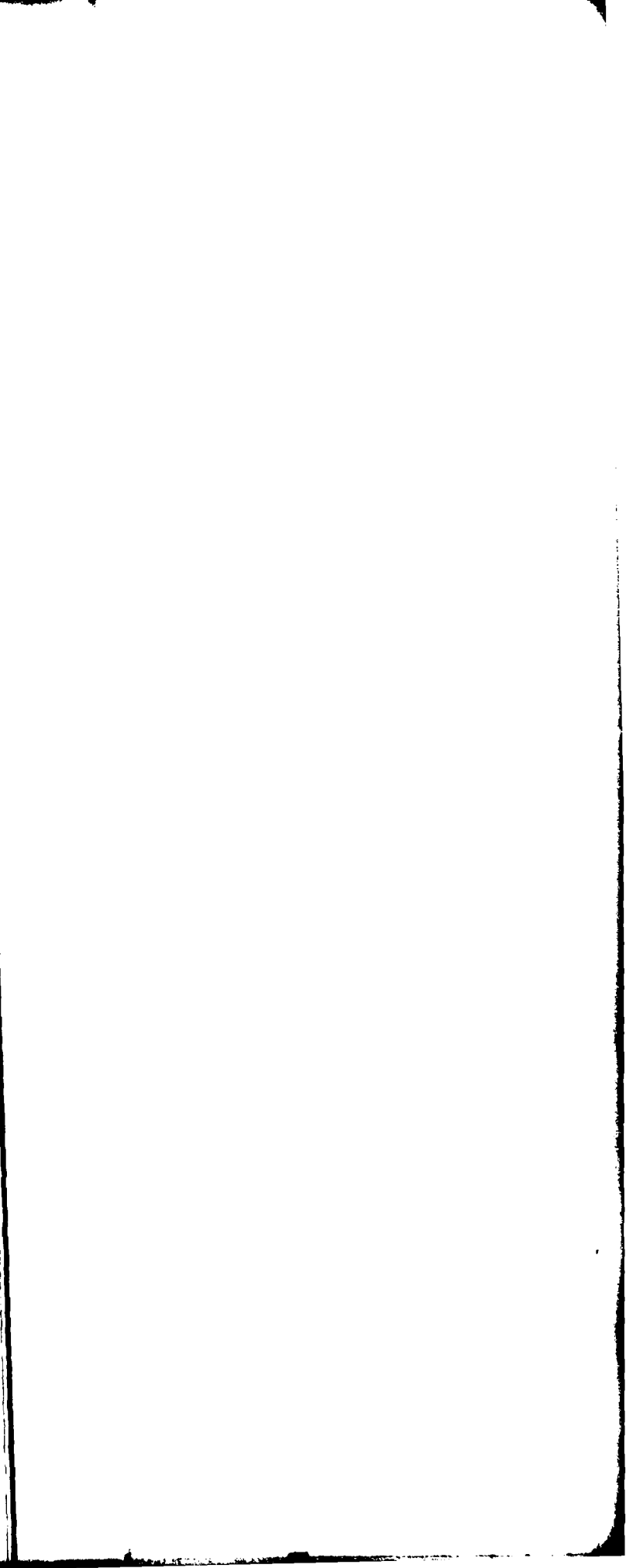
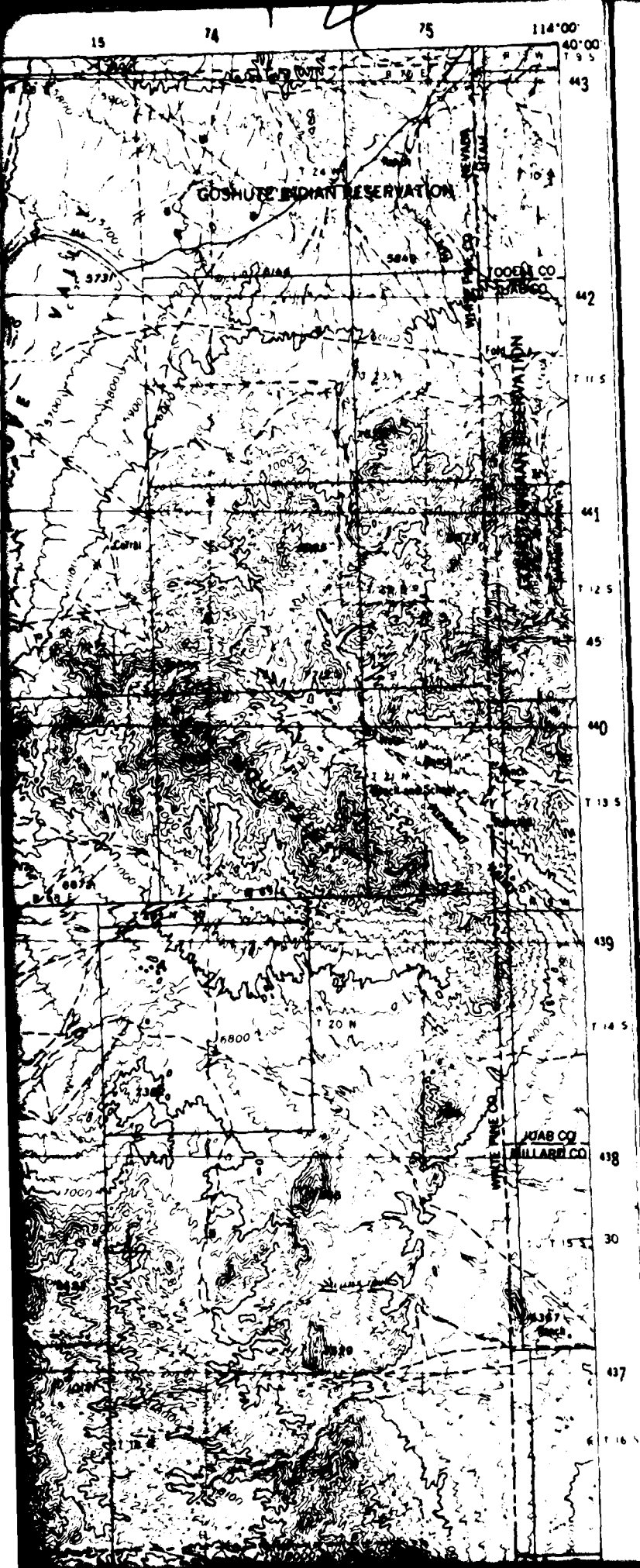
40 MI TO U.S. 40

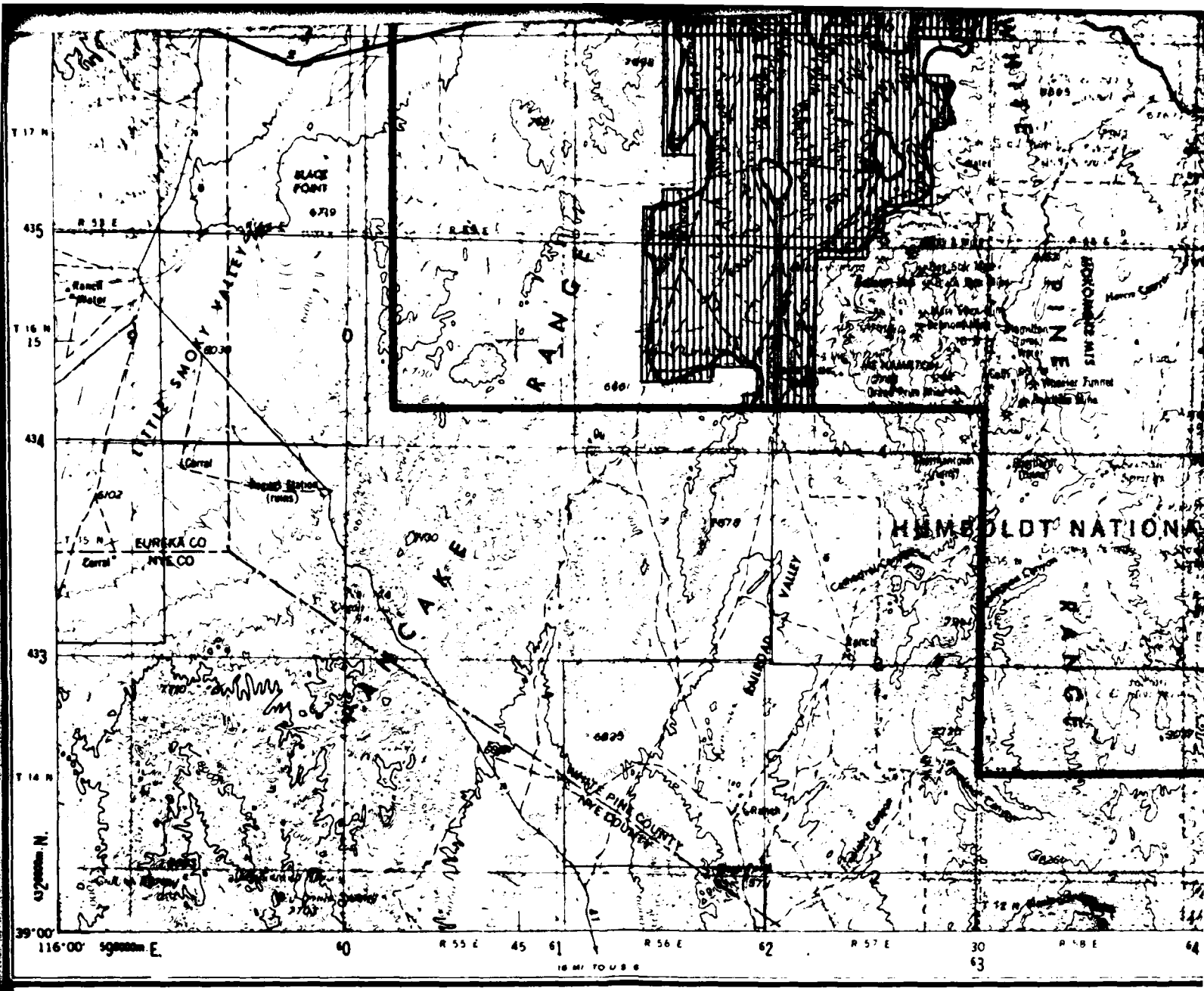
N
E

VIEW ANGLE SUMMIT



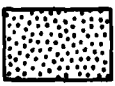


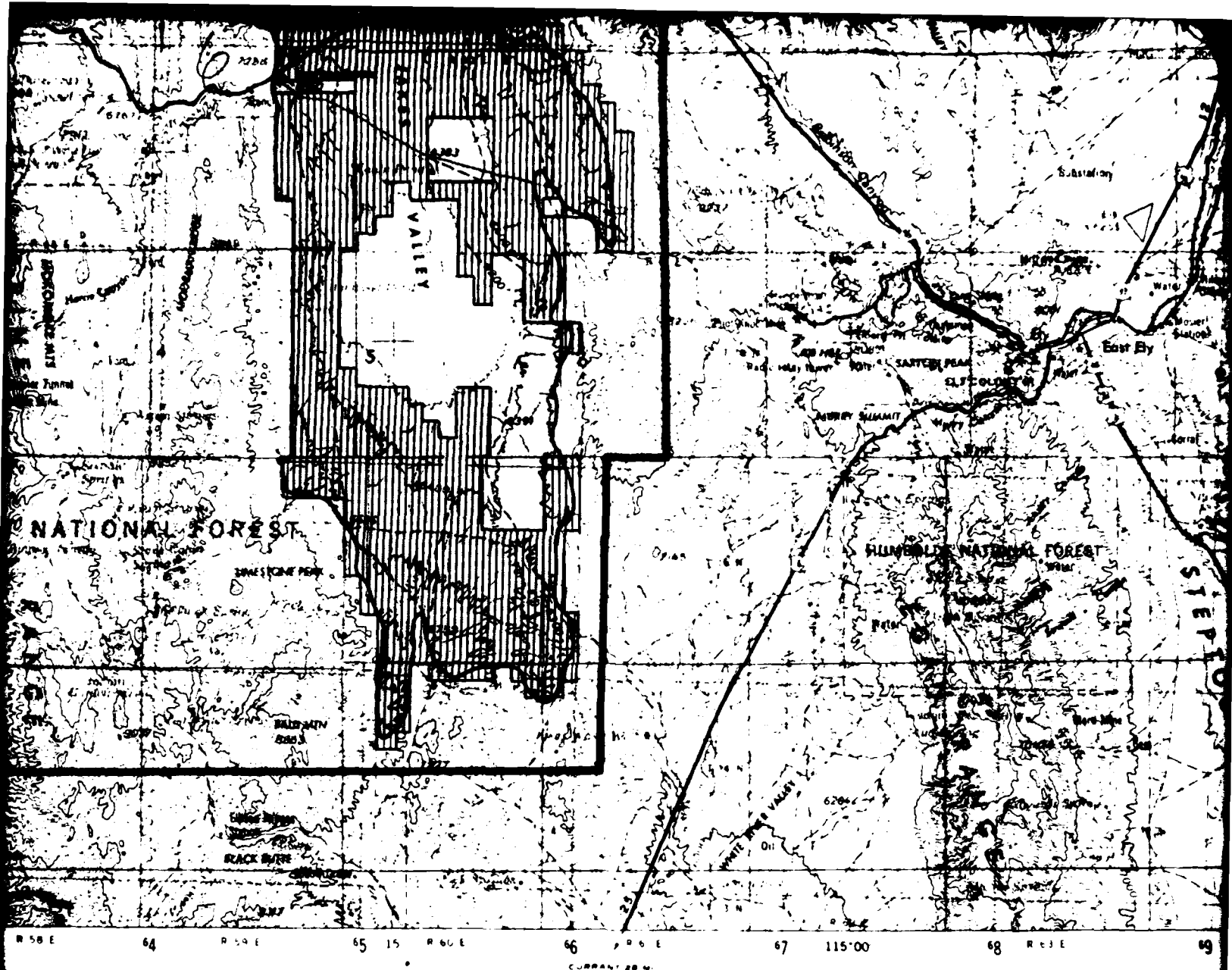




ELY 2° QUADRANGLE

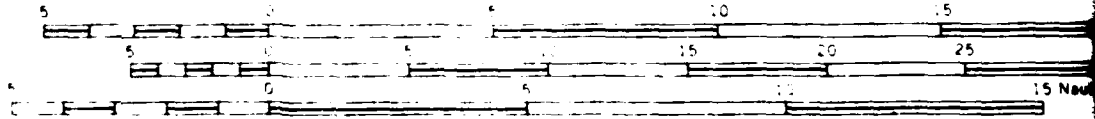
Base prepared by the U.S. Army Topographic Command, Washington, D.C.

- | | | | |
|---|--------------------|--|--|
|  | OIL AND GAS LEASES |  | MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY STUDY AREA BOUNDARY SEPTEMBER 26, 1980 |
|  | GEOTHERMAL LEASES |  | MX DEPLOYMENT AREA |



MINERAL
LEASE AREA
1980

Scale 1:250,000

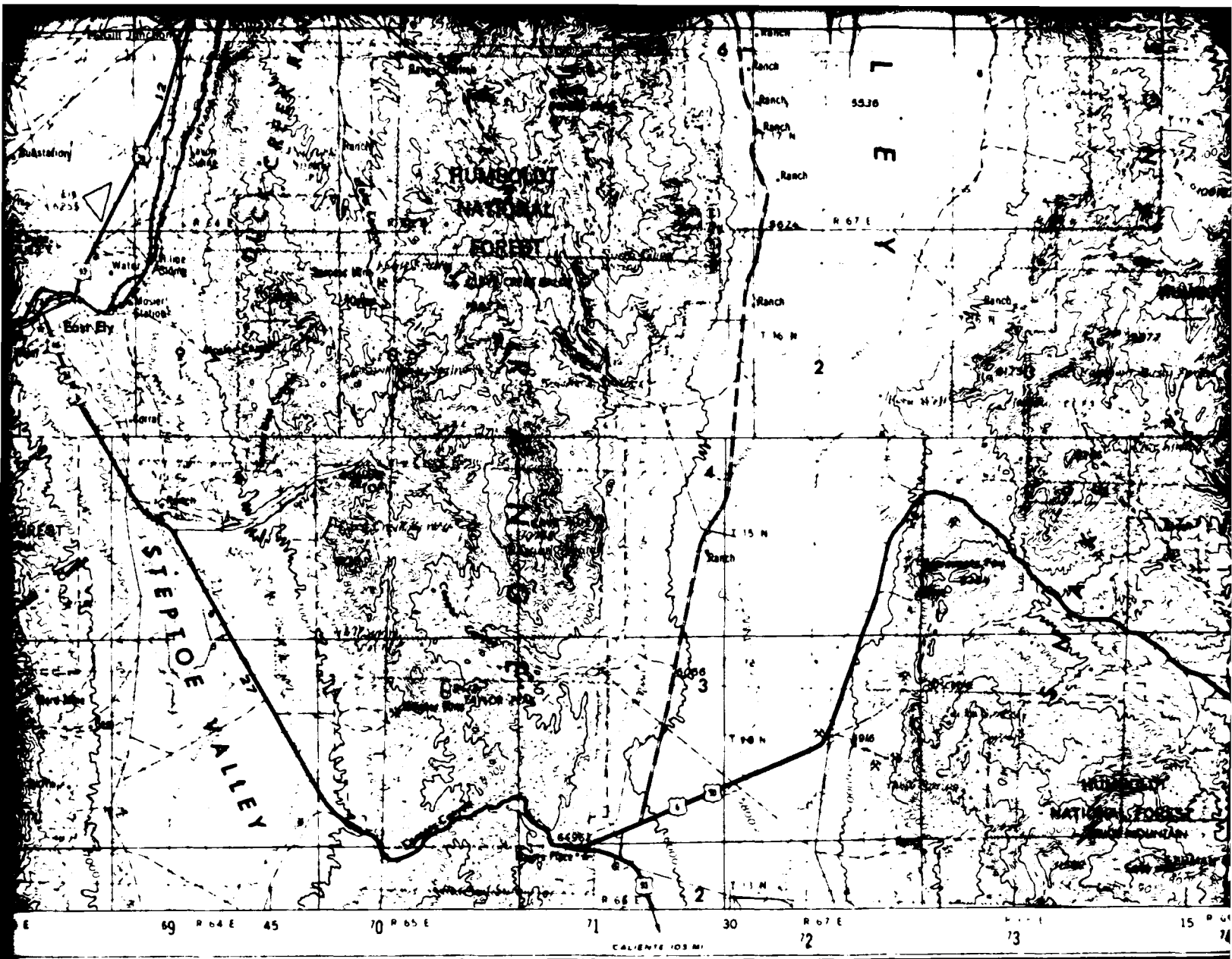


CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
TRANSVERSE MERCATOR PROJECTION

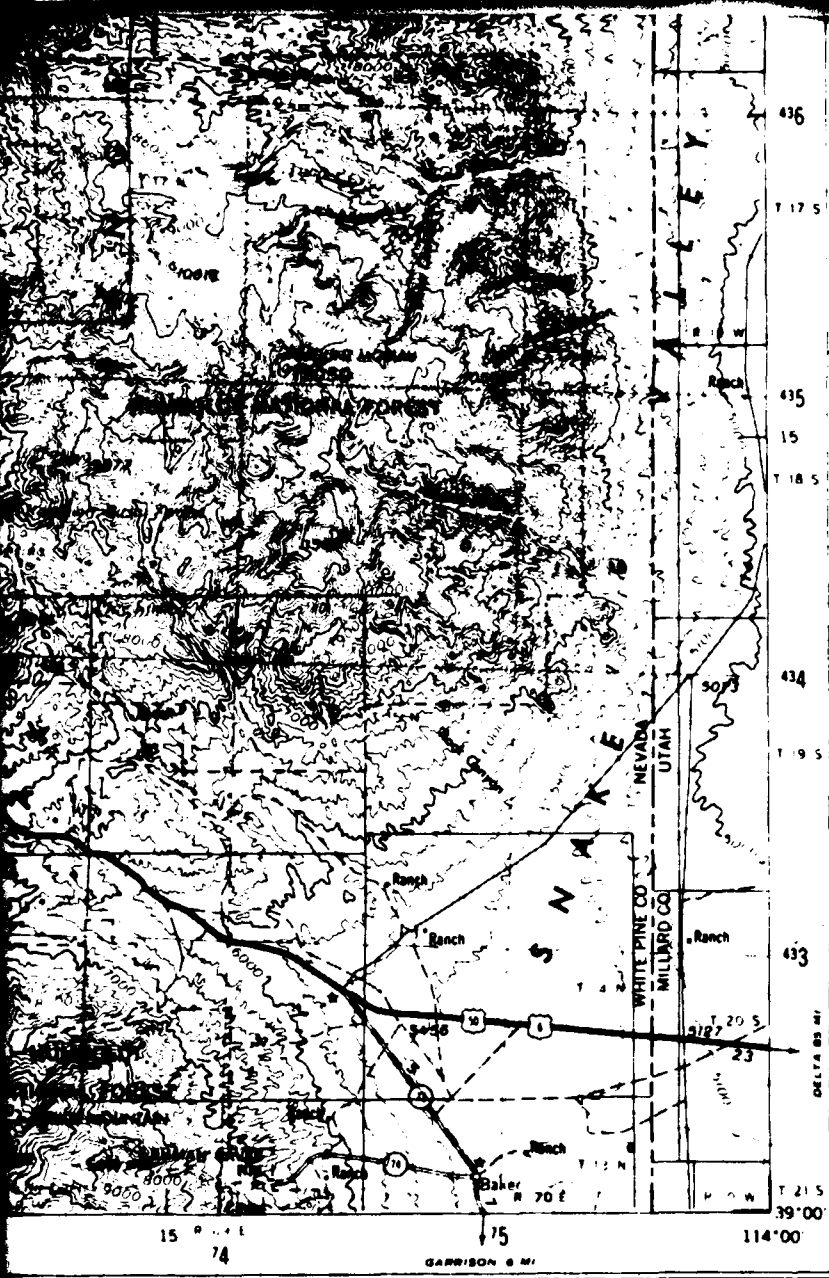
BLACK NUMBERED LINES INDICATE THE 10 000 METER UNIVERSAL TRANSVERSE MERCATOR GRID ZONE 11
1970 MAGNETIC DECLINATION FROM TRUE NORTH VARIES FROM 16M' (200 MILS) EASTERLY FOR
THE CENTER OF THE WEST EDGE TO 18' (280 MILS) EASTERLY FOR THE CENTER OF THE EAST EDGE

NOTE: REFERENCE APPENDIX A-1 FOR
DETAILED DESCRIPTION OF LEASE DATA.

DATA FROM: WOODWARD AND AIM (1980)



8



15 74 75 114°00'

GARRISON 6 M.

Ertec
Technology Corporation

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DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

LAND STATUS-FEDERAL LEASES
MAP 1 OF 4

81

DRAWING 17

12

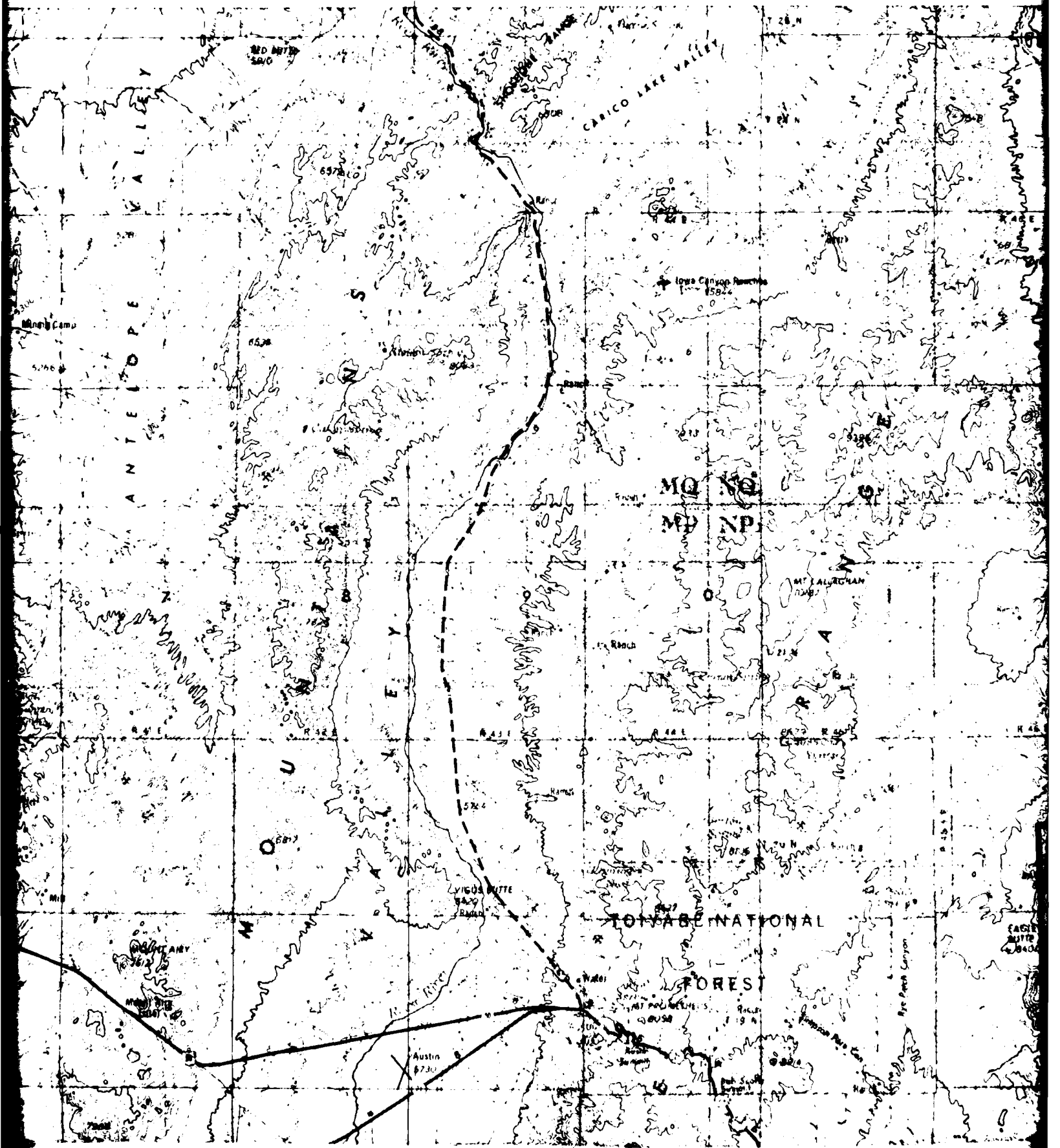
47
RAIL

48 BATTLE MOUNTAIN ARM
RAIL

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RAIL

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RAIL

51
RAIL



ANTELOPE VALLEY

CARICO LAKE VALLEY

TONAHALE NATIONAL FOREST

ANTHELES VALLEY

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MT ALBURGH
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LYGUS MITTE
6420'

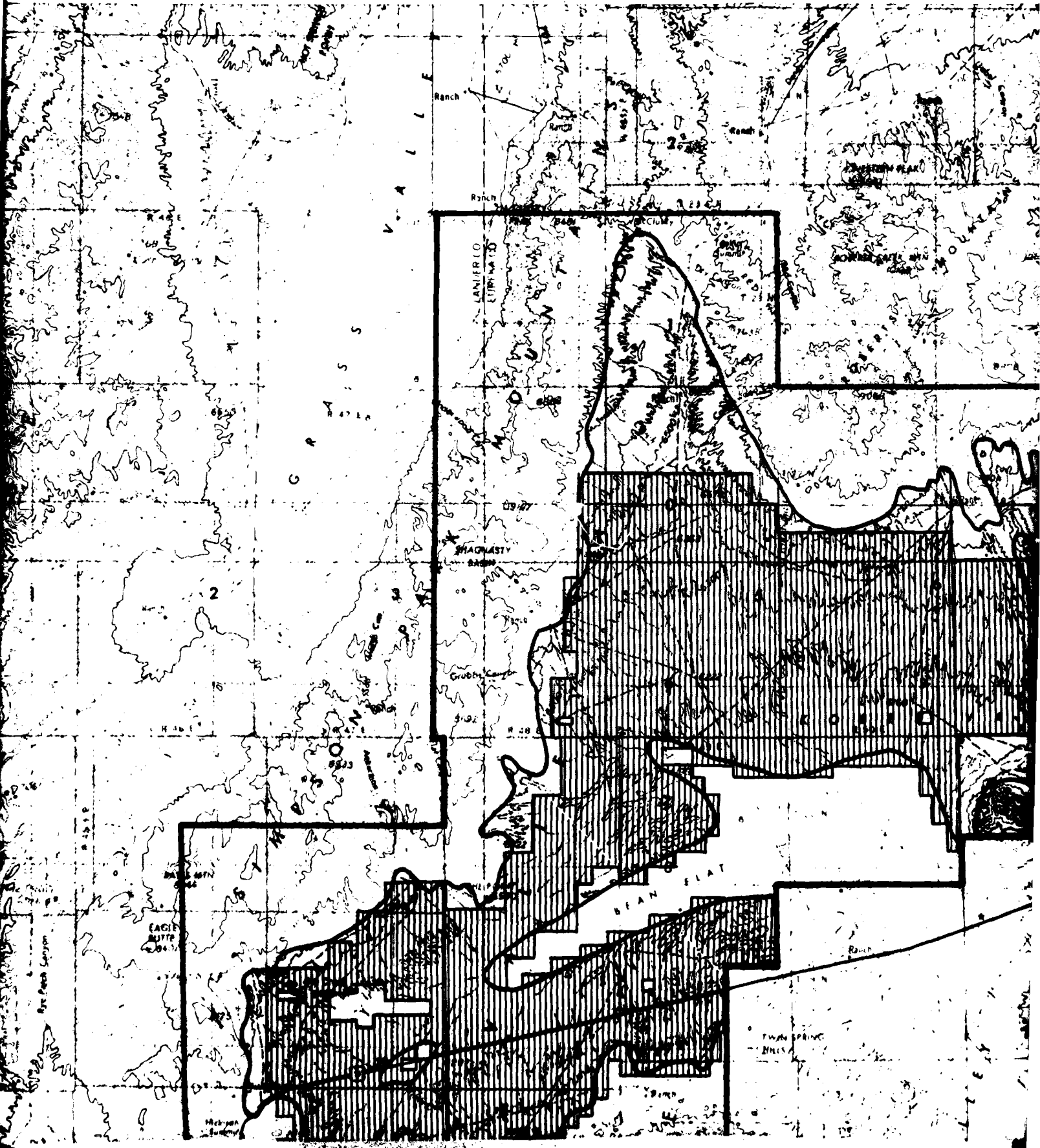
Austin
6730'

FOREST

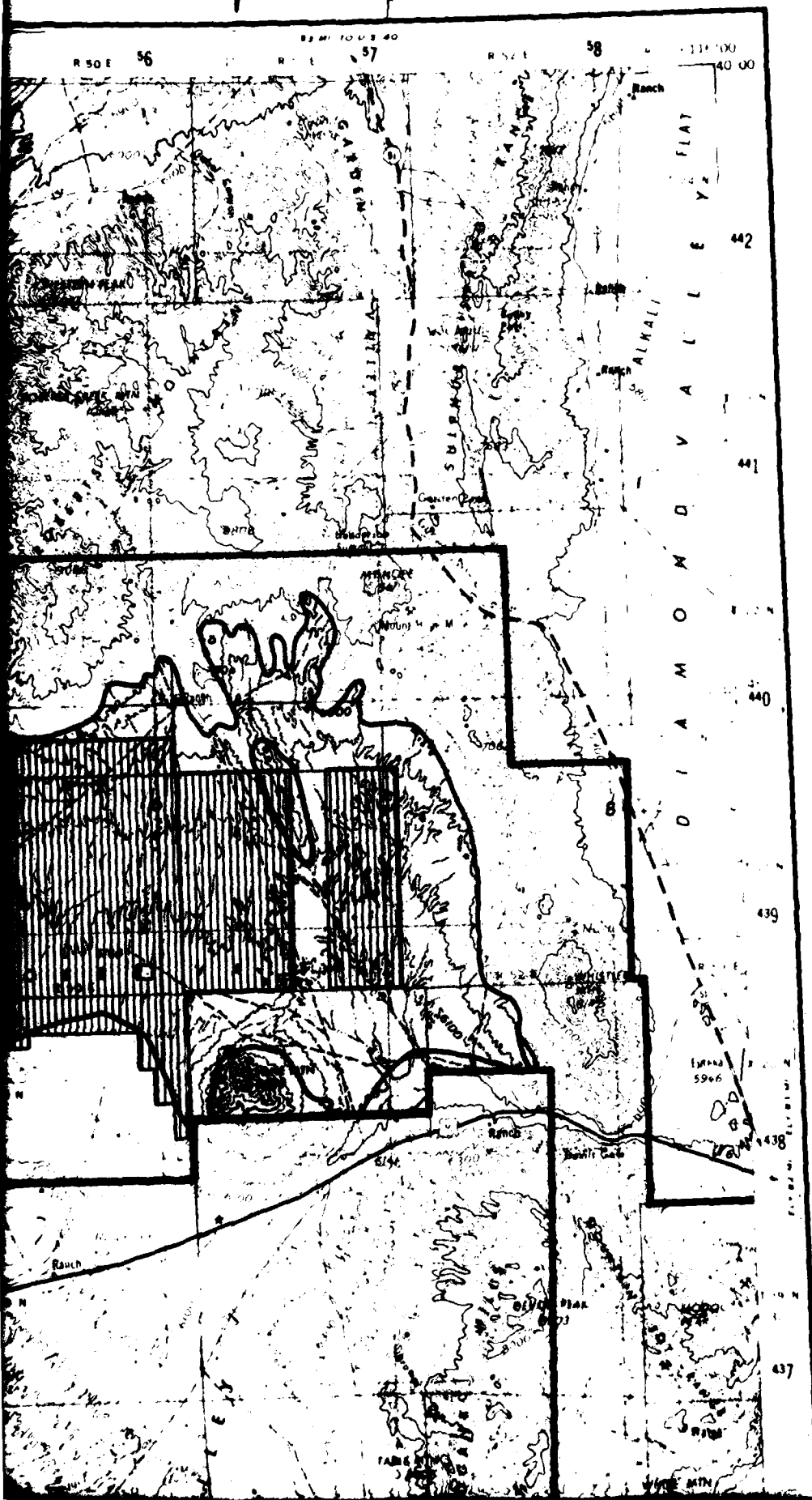
EAGLE
MITTE
6400'

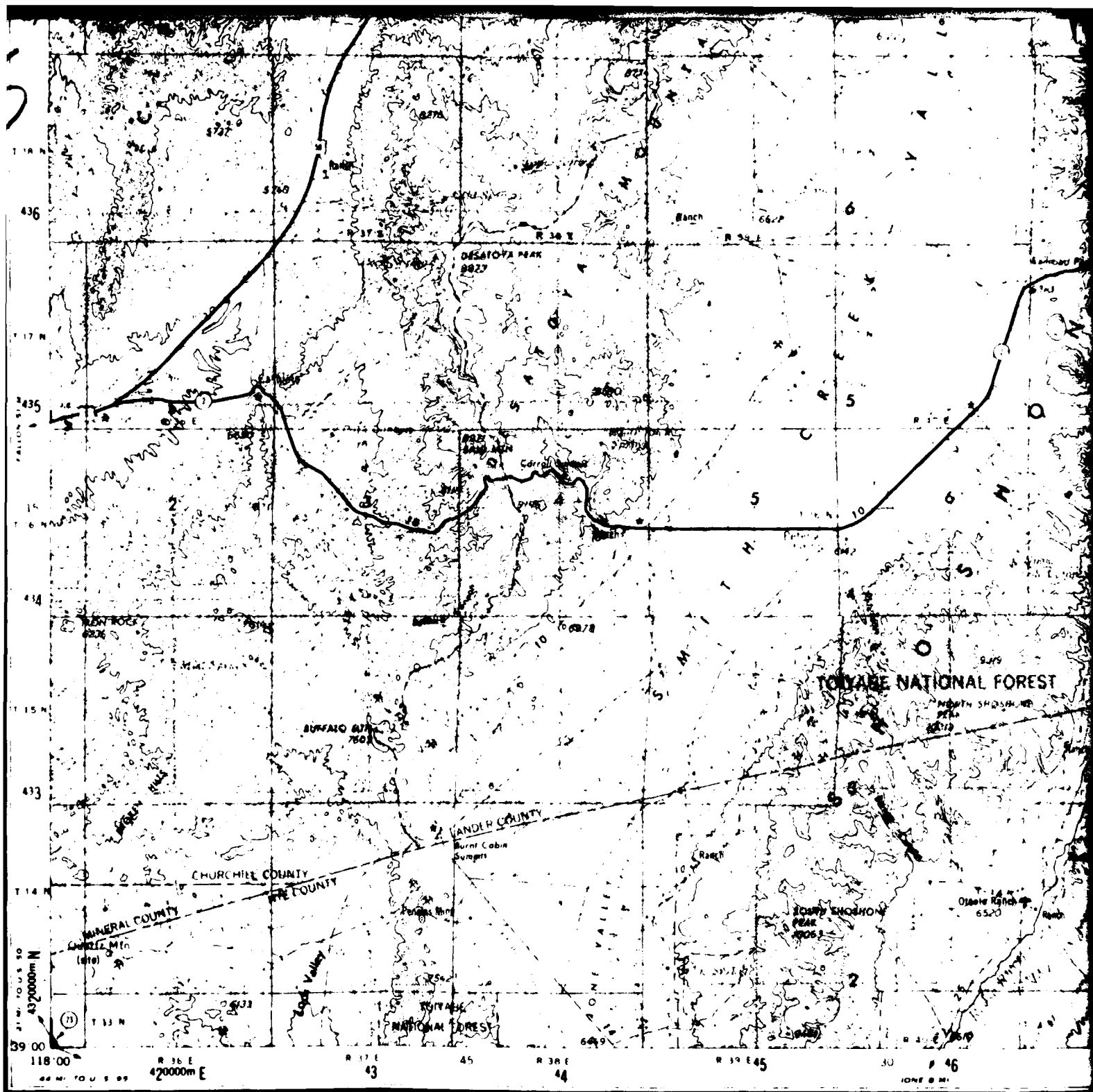
13

51 52 53 54 55 56



4



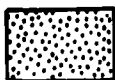


MILLETT 2° QUADRANGLE

Base prepared by the U.S. Army Topographic Command, Washington, D.C.



OIL AND GAS LEASES



GEO THERMAL LEASES

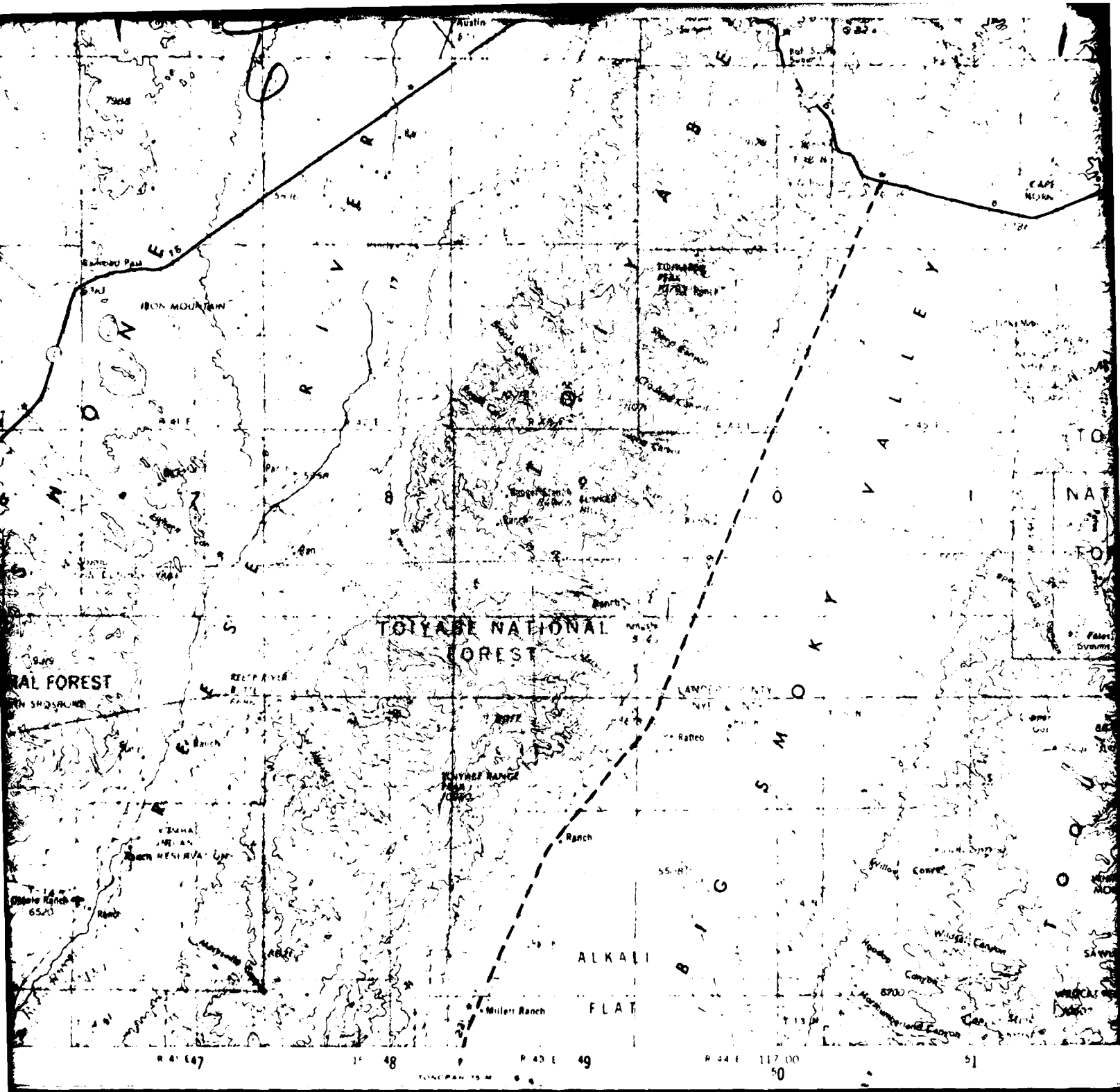


MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY STUDY AREA BOUNDARY SEPTEMBER 26, 1980



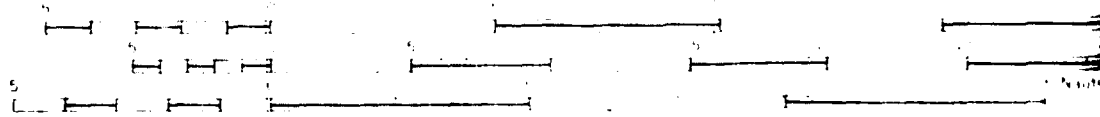
MX DEPLOYMENT AREA

NO



R 41 E 48 R 43 E 49 R 44 E 50

Scale 1:25,000



CONTOUR INTERVAL 200 FEET
 WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
 TRANSVERSE MERCATOR PROJECTION

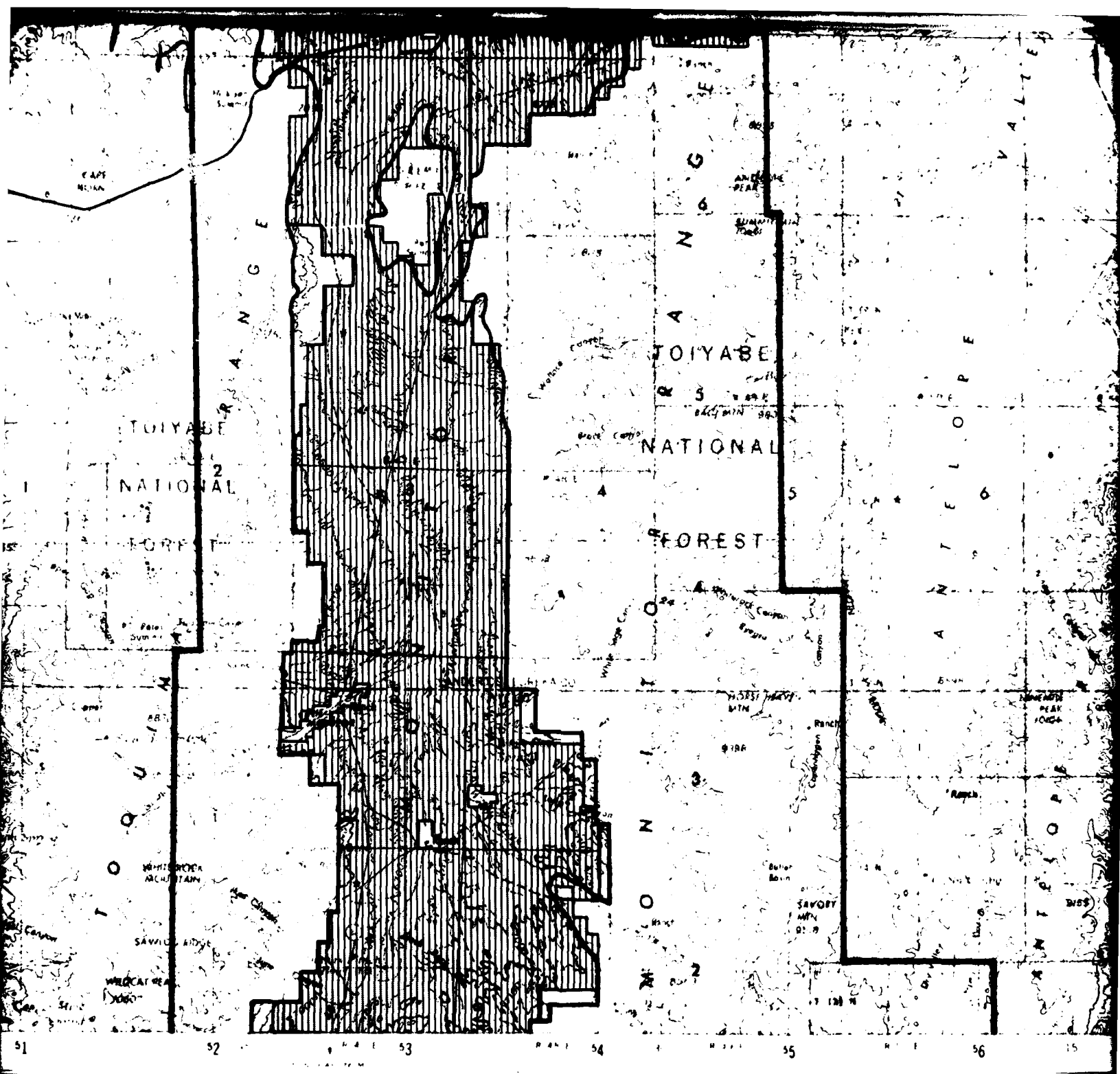
BLACK NUMBERED LINES INDICATE THE 1000 METER UNIVERSAL TRANSVERSE MERCATOR GRID ZONE 11

GENERAL AREA
 1980

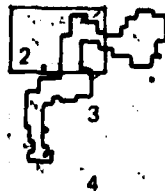
NOTE: REFERENCE APPENDIX A-1 FOR
 DETAILED DESCRIPTION OF LEASE DATA.

1975 MAGNETIC DECLINATION FROM TRUE NORTH VARIES FROM 17° 300 MILS. EASTERLY FOR THE
 CENTER OF THE WEST EDGE TO 16° 200 MILS. EASTERLY FOR THE CENTER OF THE EAST EDGE.

DATA FROM: WOODWARD

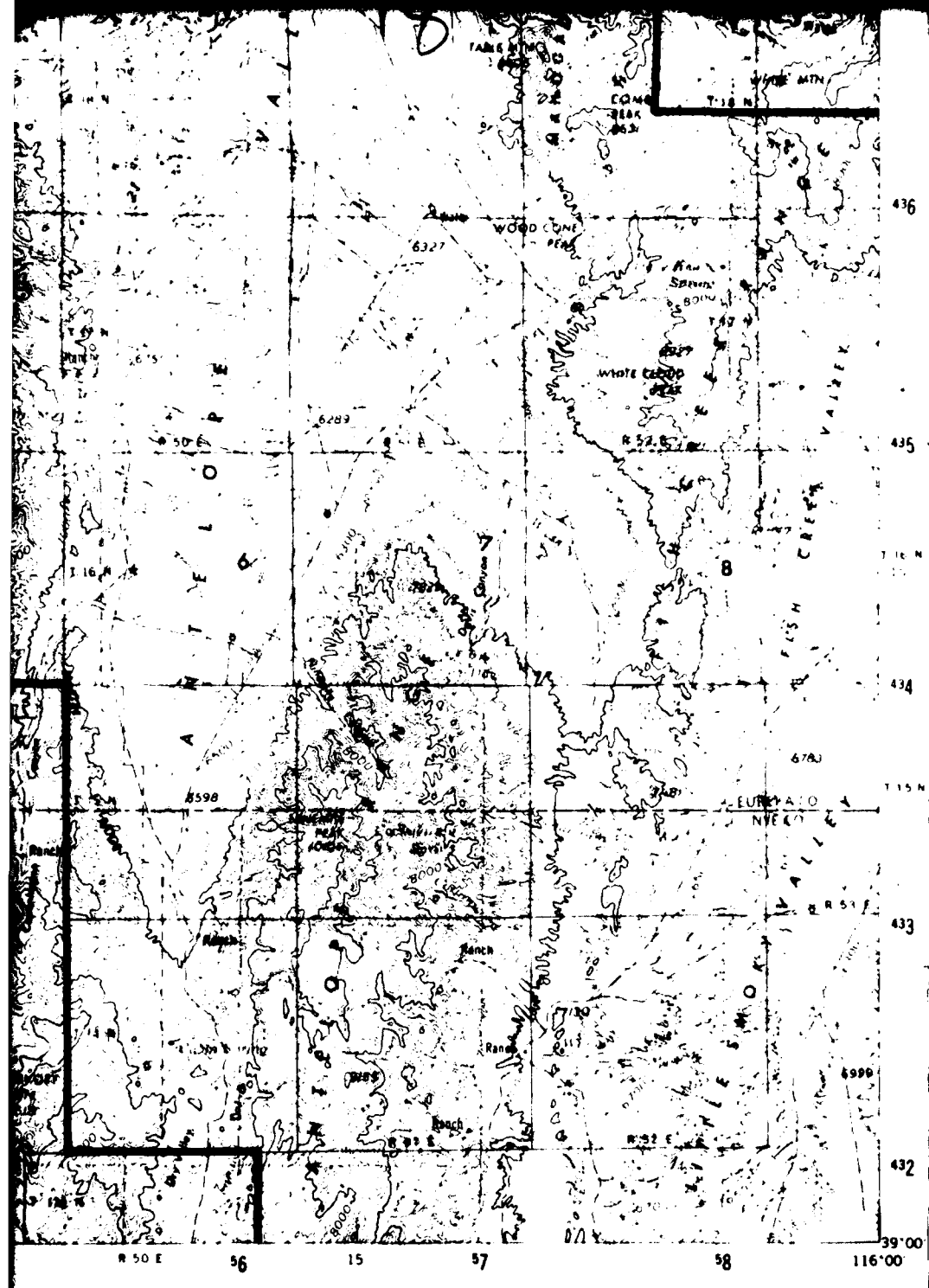


LOCATION DIAGRAM



INTERVALS
 GRID ZONE 11
 FOR THE EAST EDGE
 FROM: WOODWARD AND AIM (1980)


 The Earth Technology Corporation
LAND ST
 30 APR 81



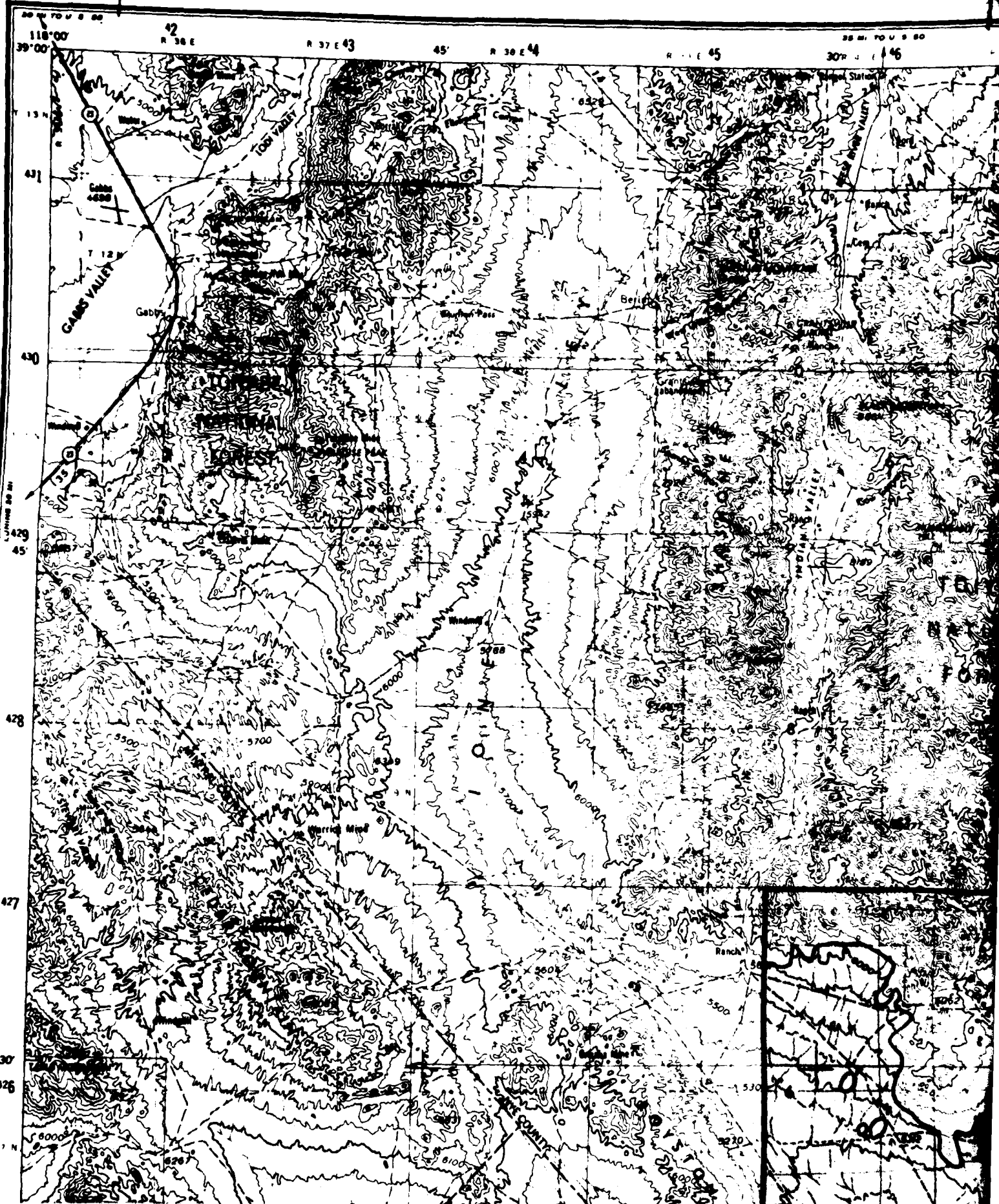
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 DEPARTMENT OF THE AIR FORCE
 BMO/AFRCE-MX

LAND STATUS-FEDERAL LEASES

MAP 2 OF 4

30 APR 81

DRAWING 17



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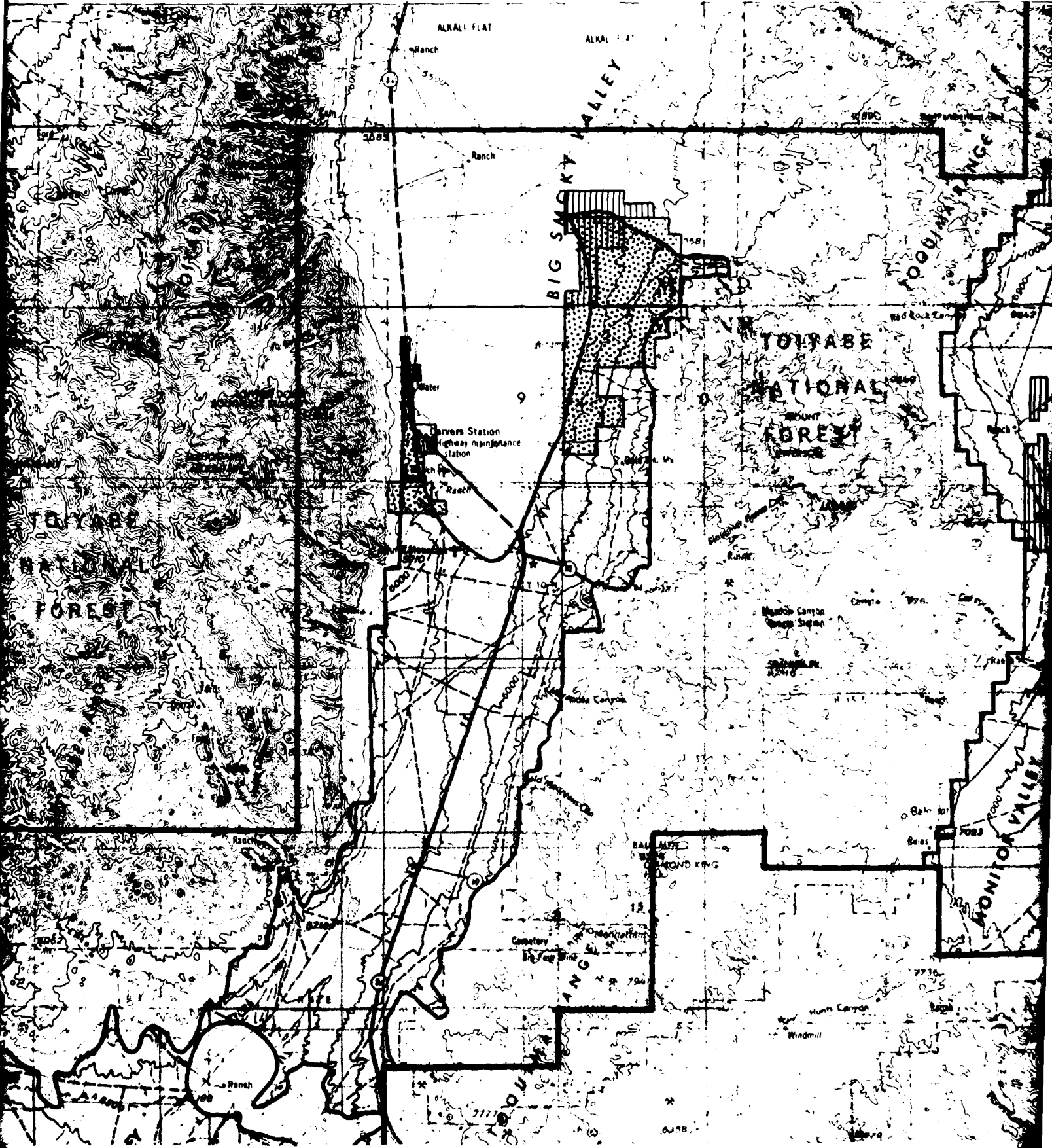
MILLETT RANCH 1 MI.

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80 MI TO U S BO

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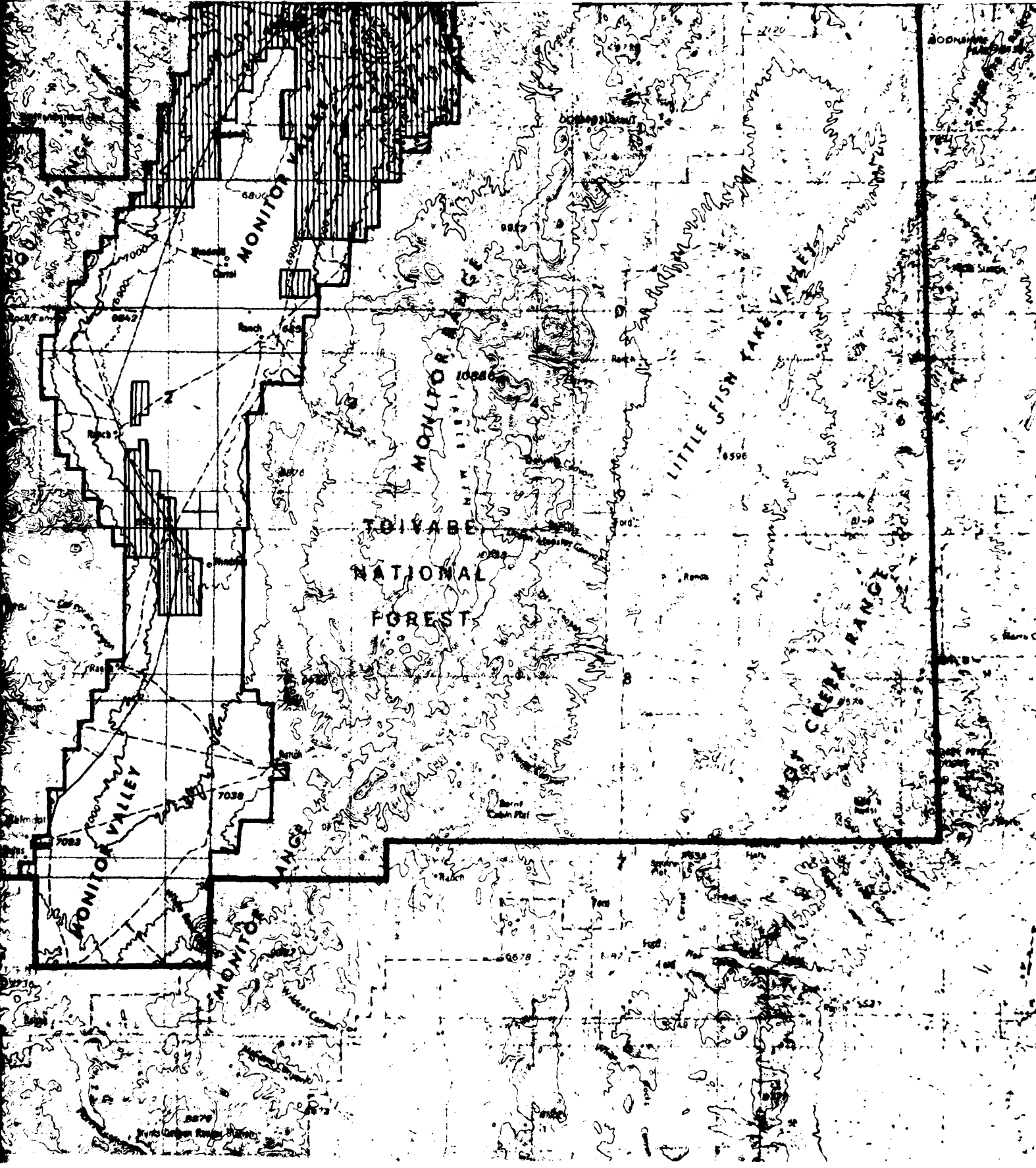
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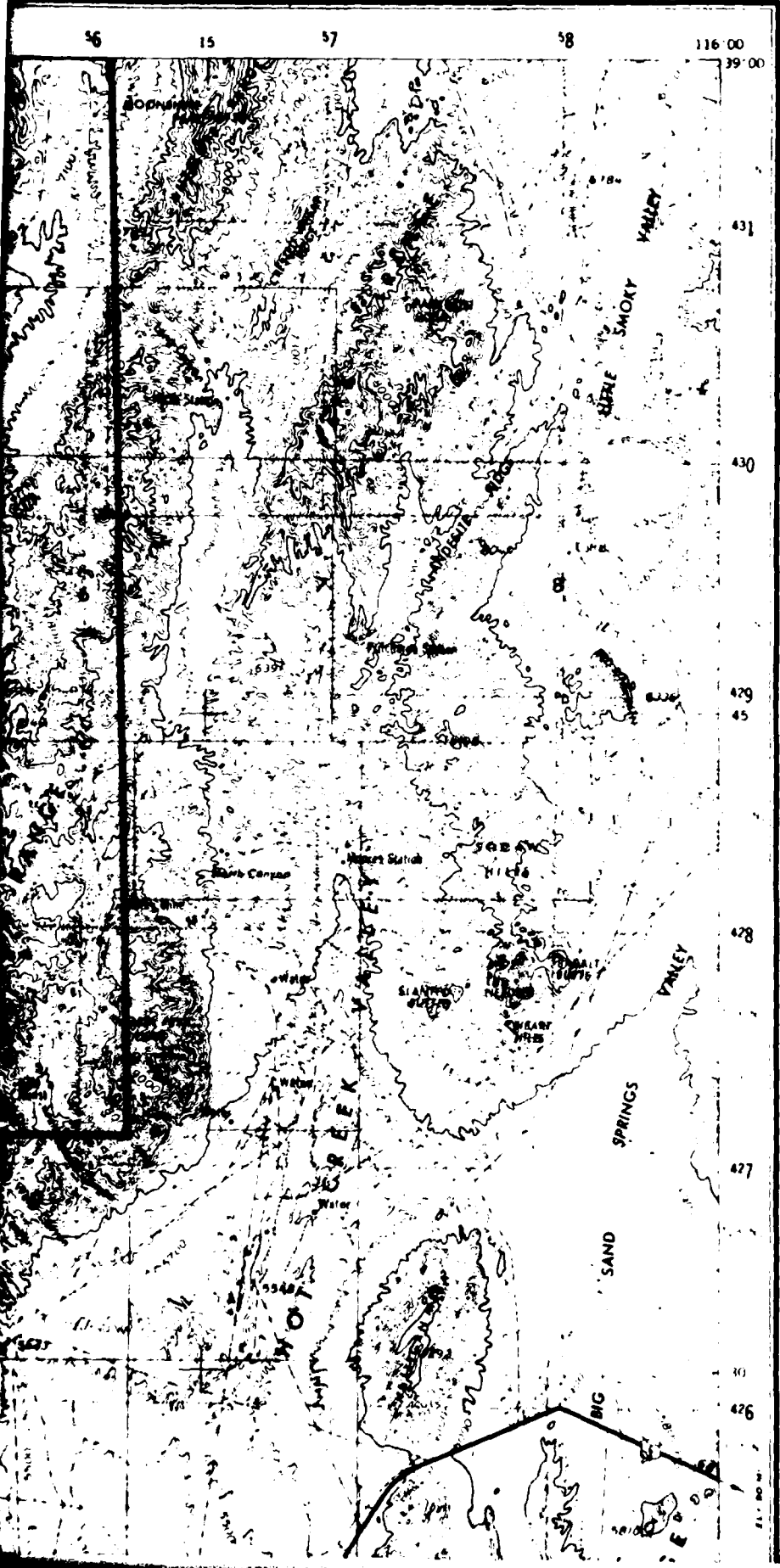
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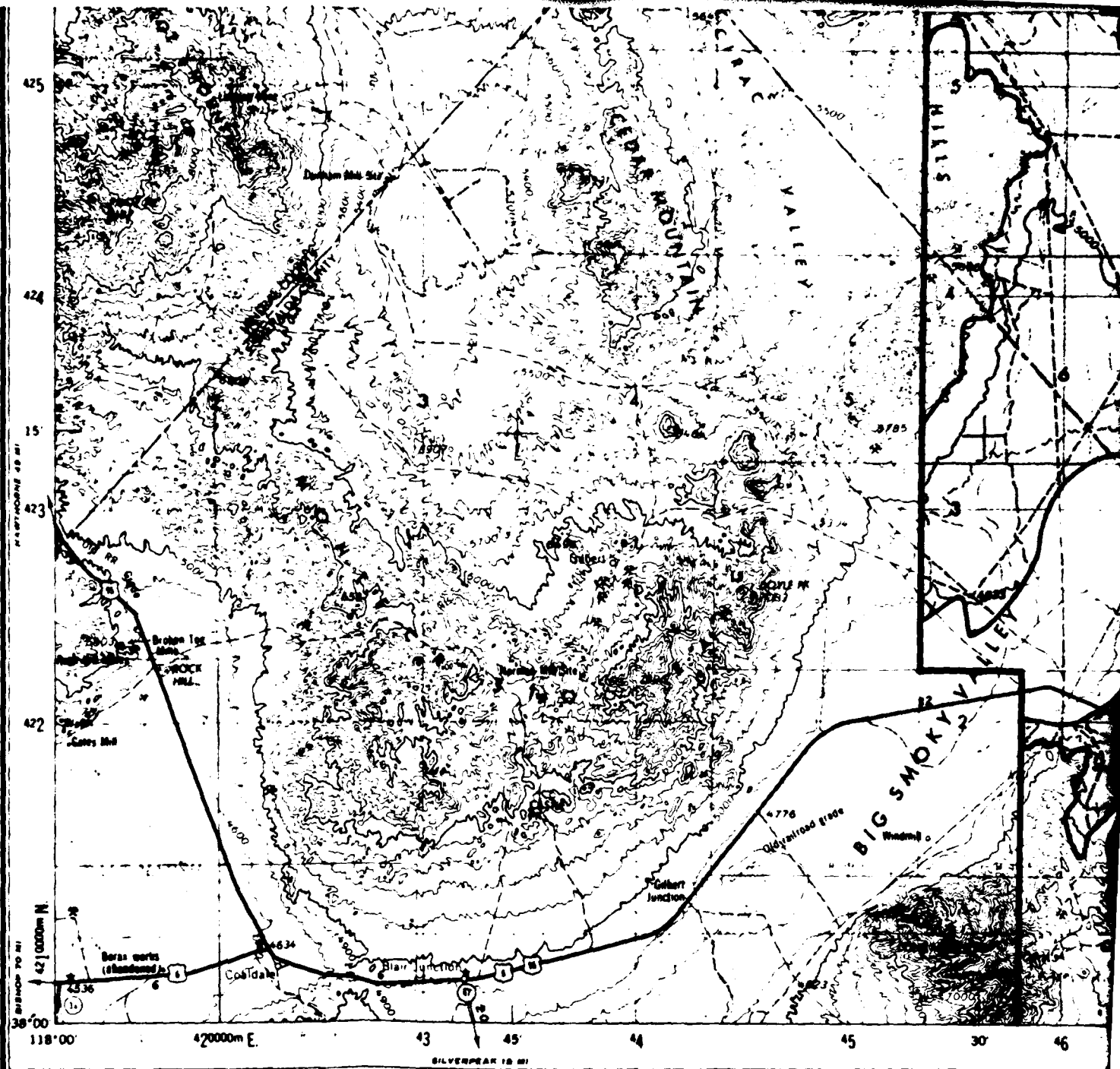
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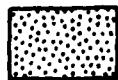


TONOPAH 2° QUADRANGLE

Base prepared by the U.S. Army Topographic Command, Washington, D.C.



OIL AND GAS LEASES



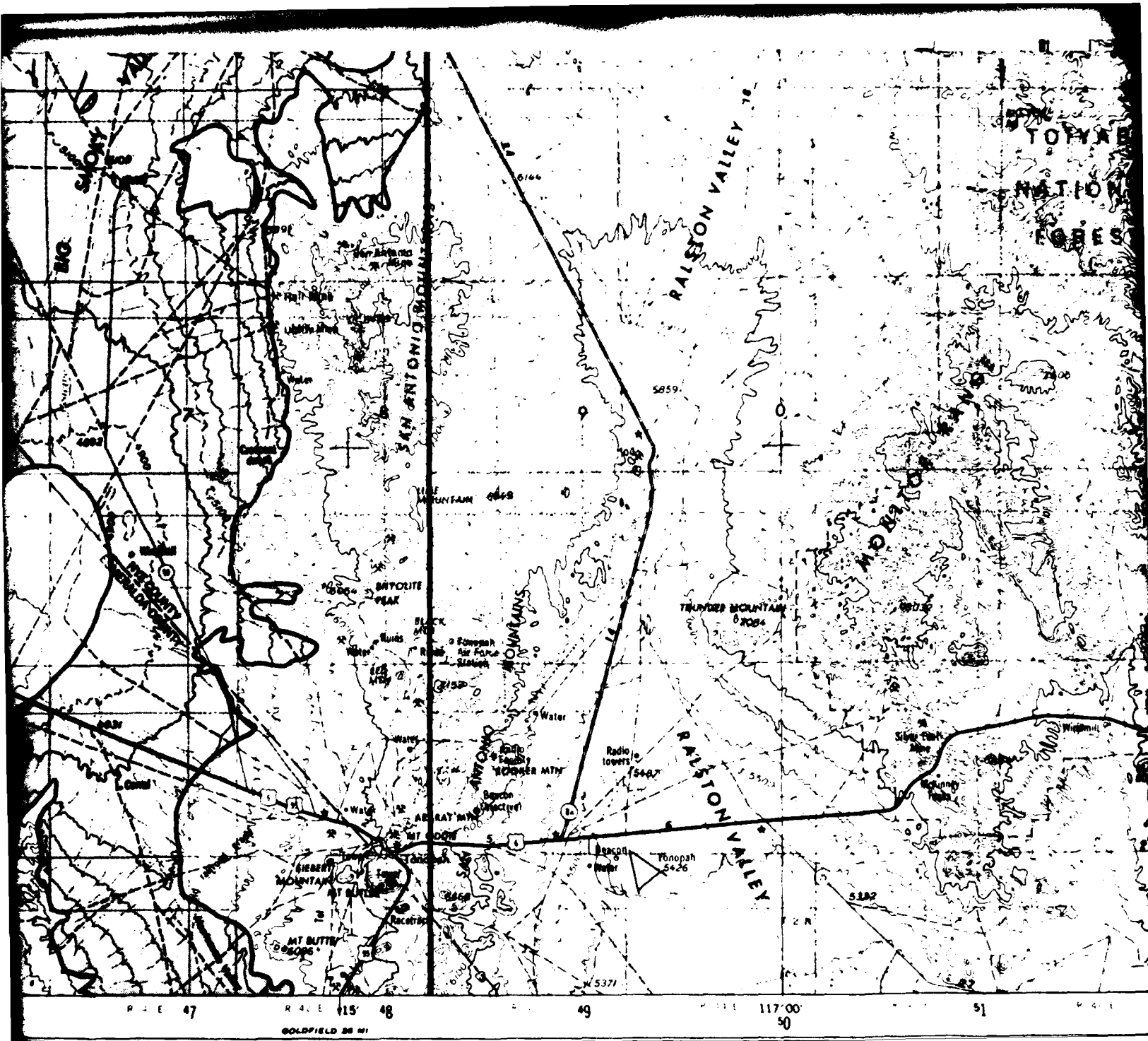
GEO THERMAL LEASES



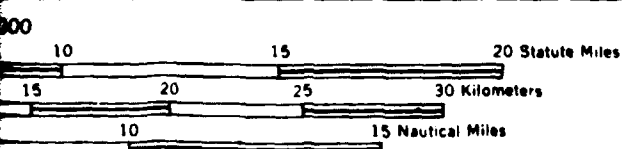
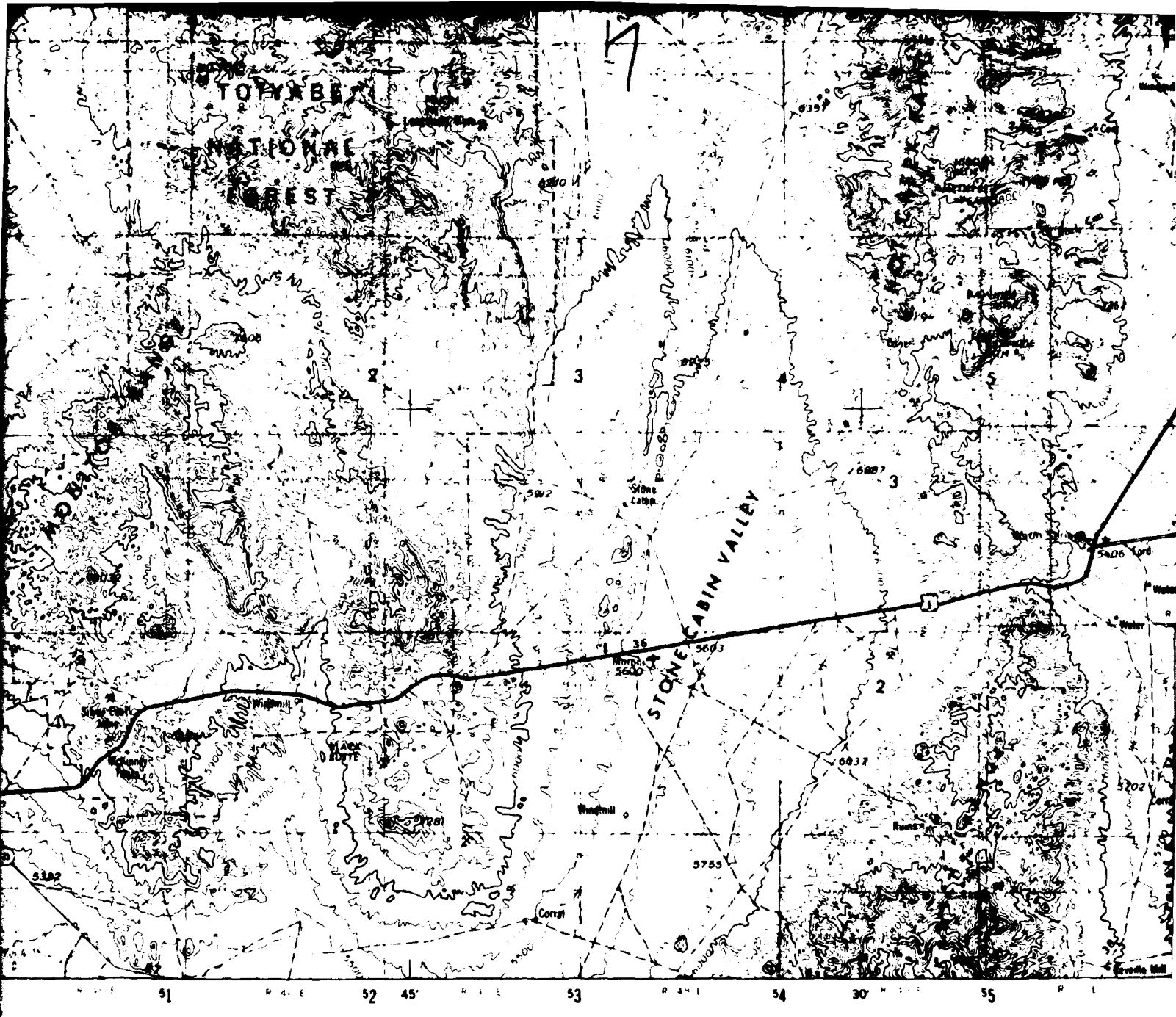
MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY STUDY AREA BOUNDARY SEPTEMBER 26, 1968



MX DEPLOYMENT AREA



R 4 E 47 R 4 E 48 R 4 E 49 R 4 E 50 R 4 E 51
117 00 117 00 50
GOLDFIELD 26 W1



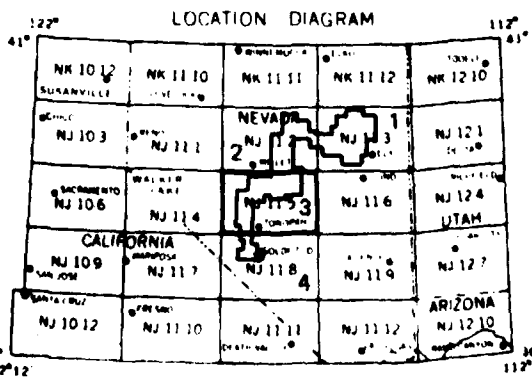
200 FEET
AT 100 FOOT INTERVALS

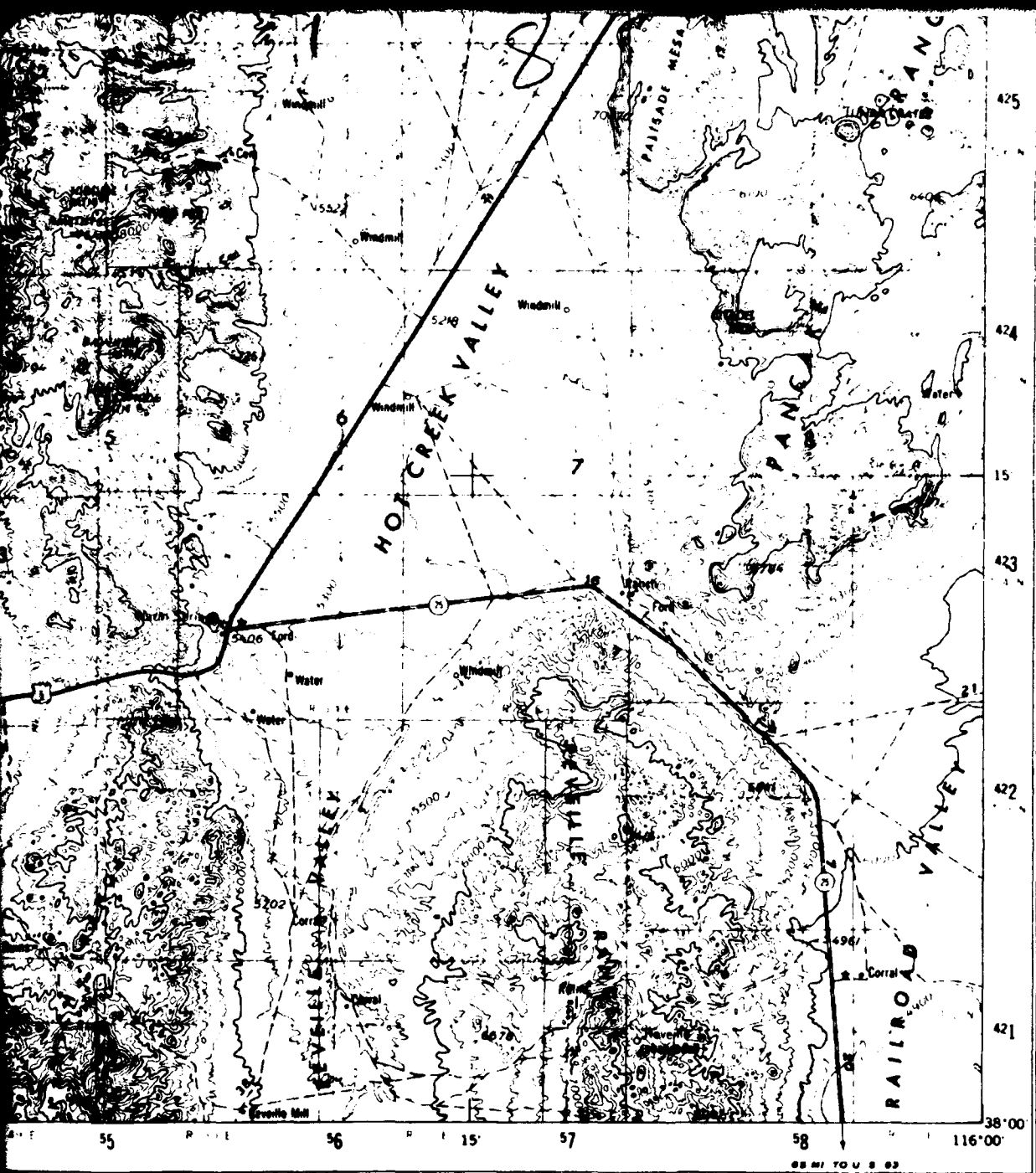
PROJECTION

UTM TRANSVERSE MERCATOR GRID, ZONE 11

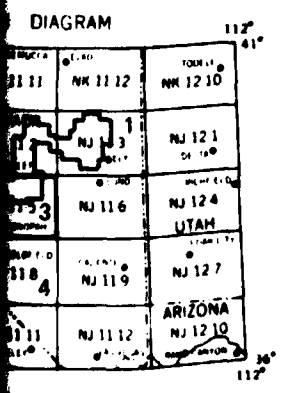
SCALE: EASTERLY FOR
CENTER OF THE EAST EDGE

MAP: WOODWARD AND AIM (1980)





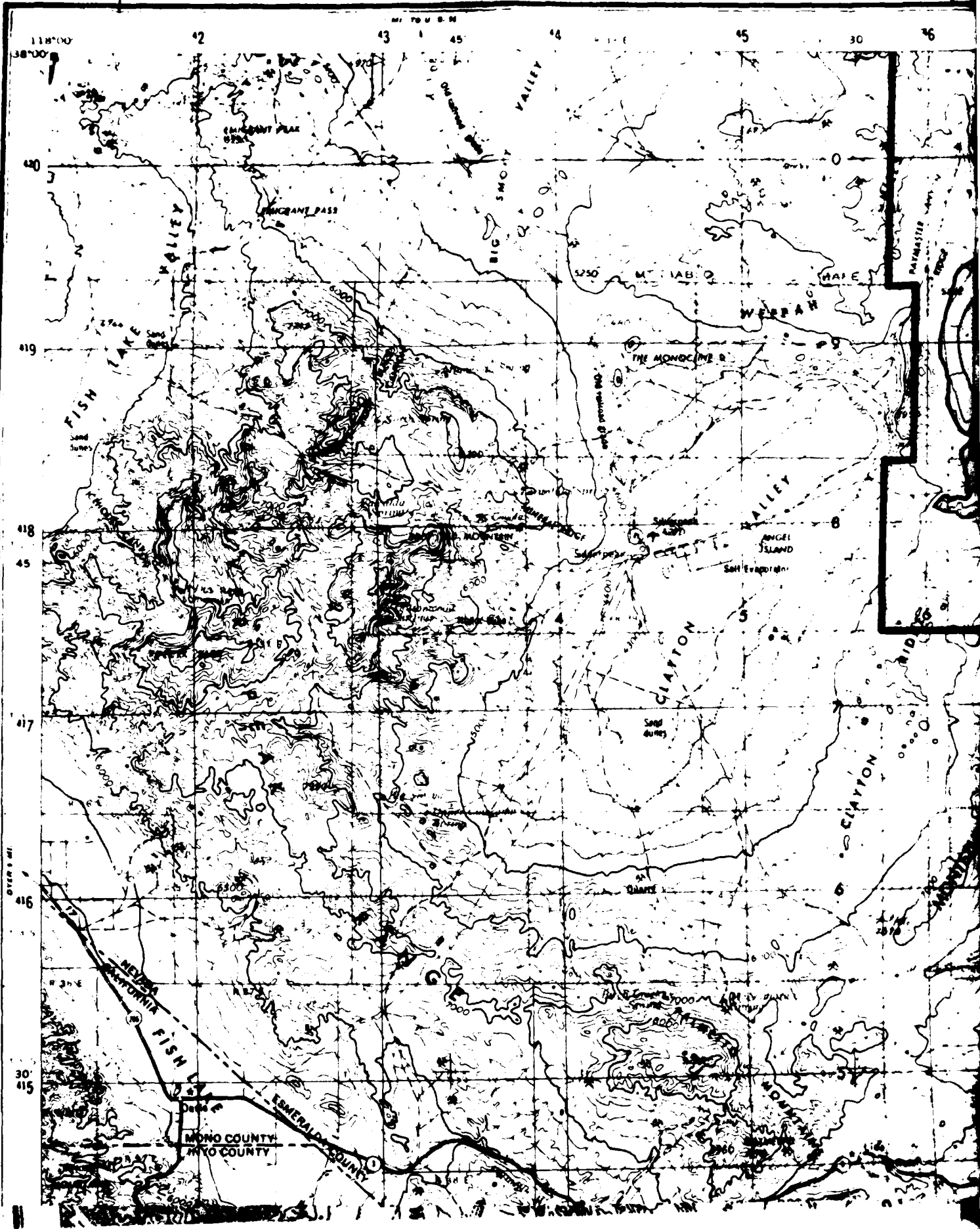
88 MI TO U S 89



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 BMO/AFRCE-MX

LAND STATUS-FEDERAL LEASES
 MAP 3 OF 4

30 APR 81 DRAWING 17



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TERRITORY

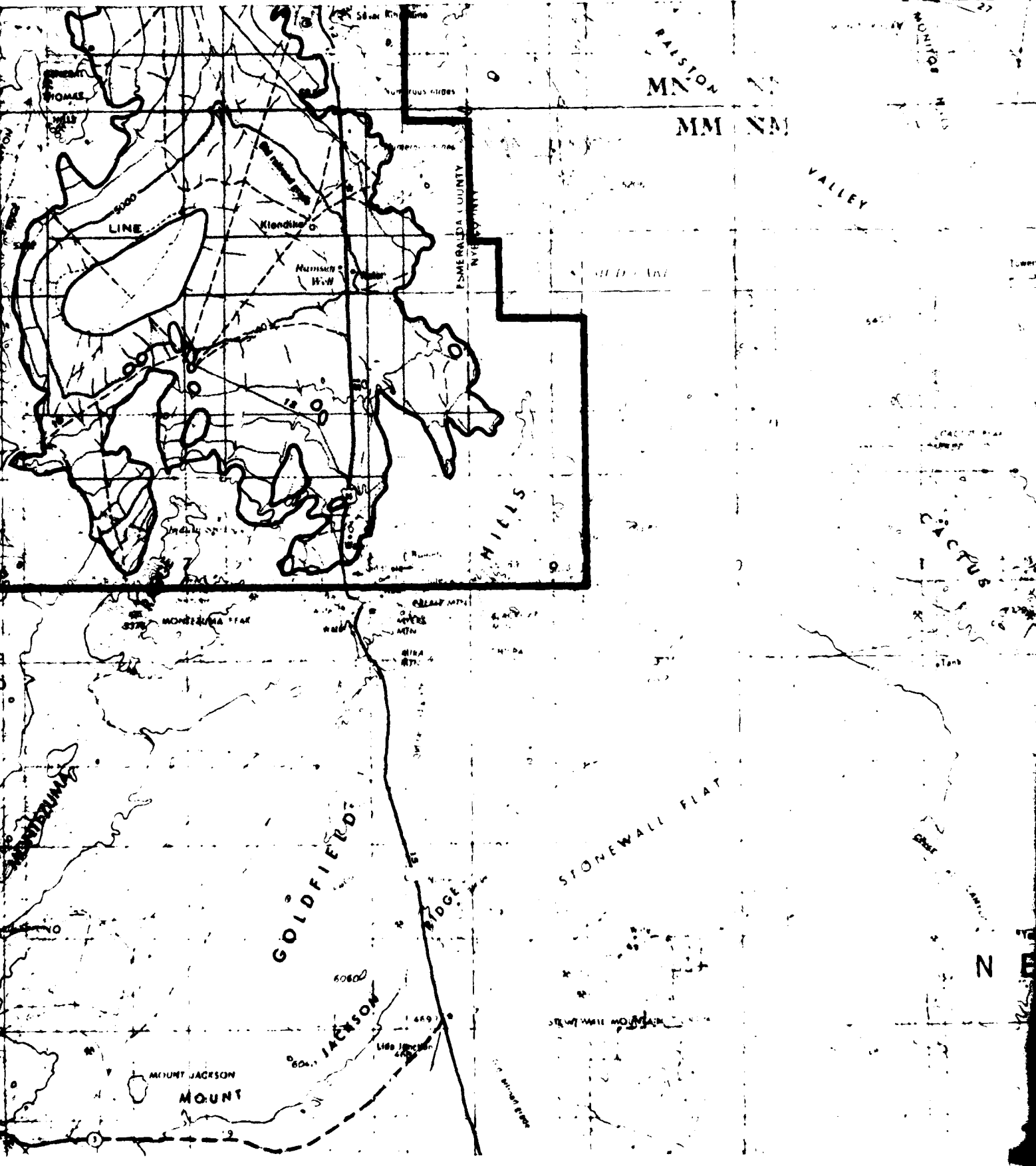
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R.F.F.

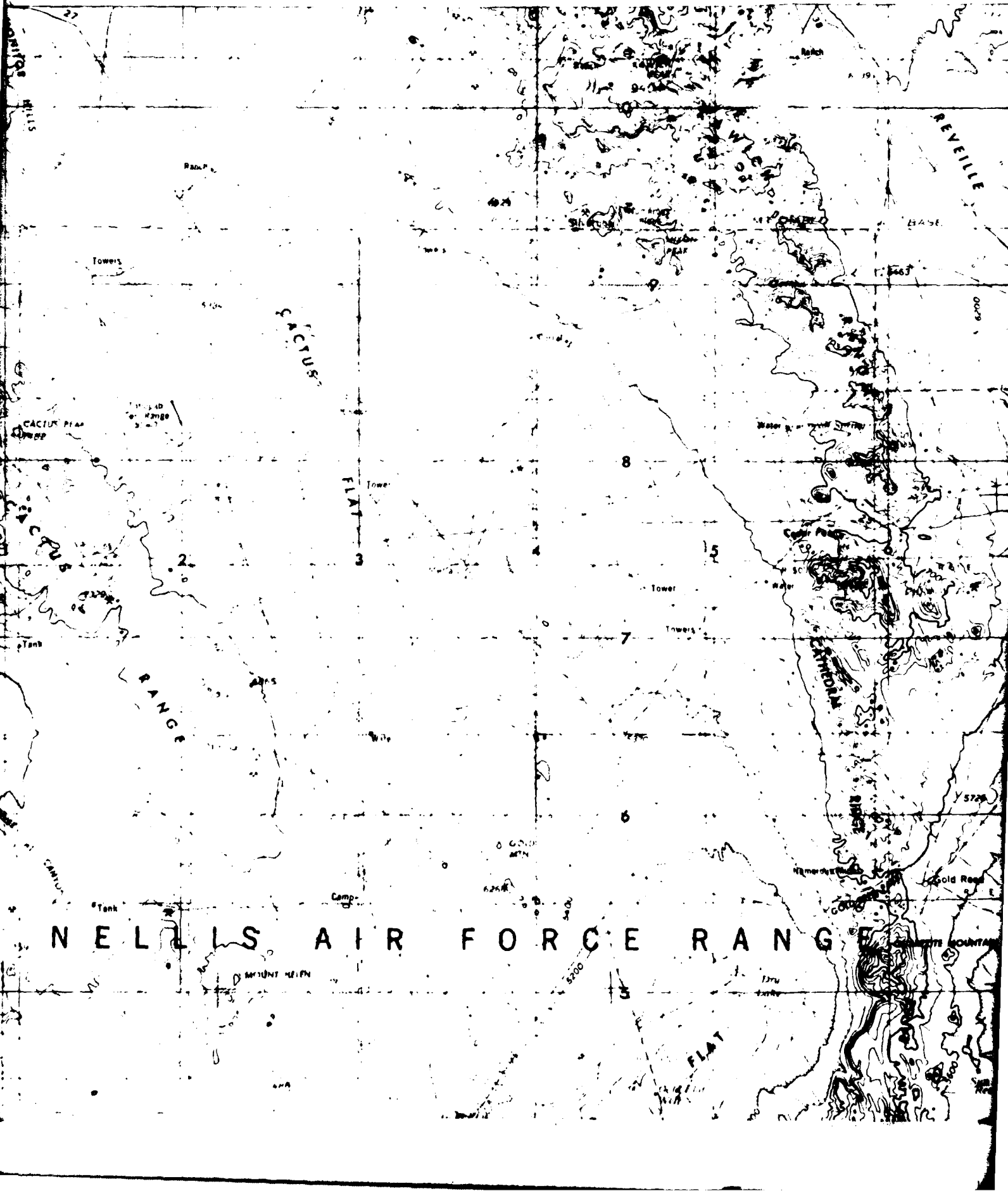
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42 45 48 51 54 57 60 63 66 69



NELNIS AIR FORCE RANGE

REVELLE

CACTUS

FLAT

RANGE

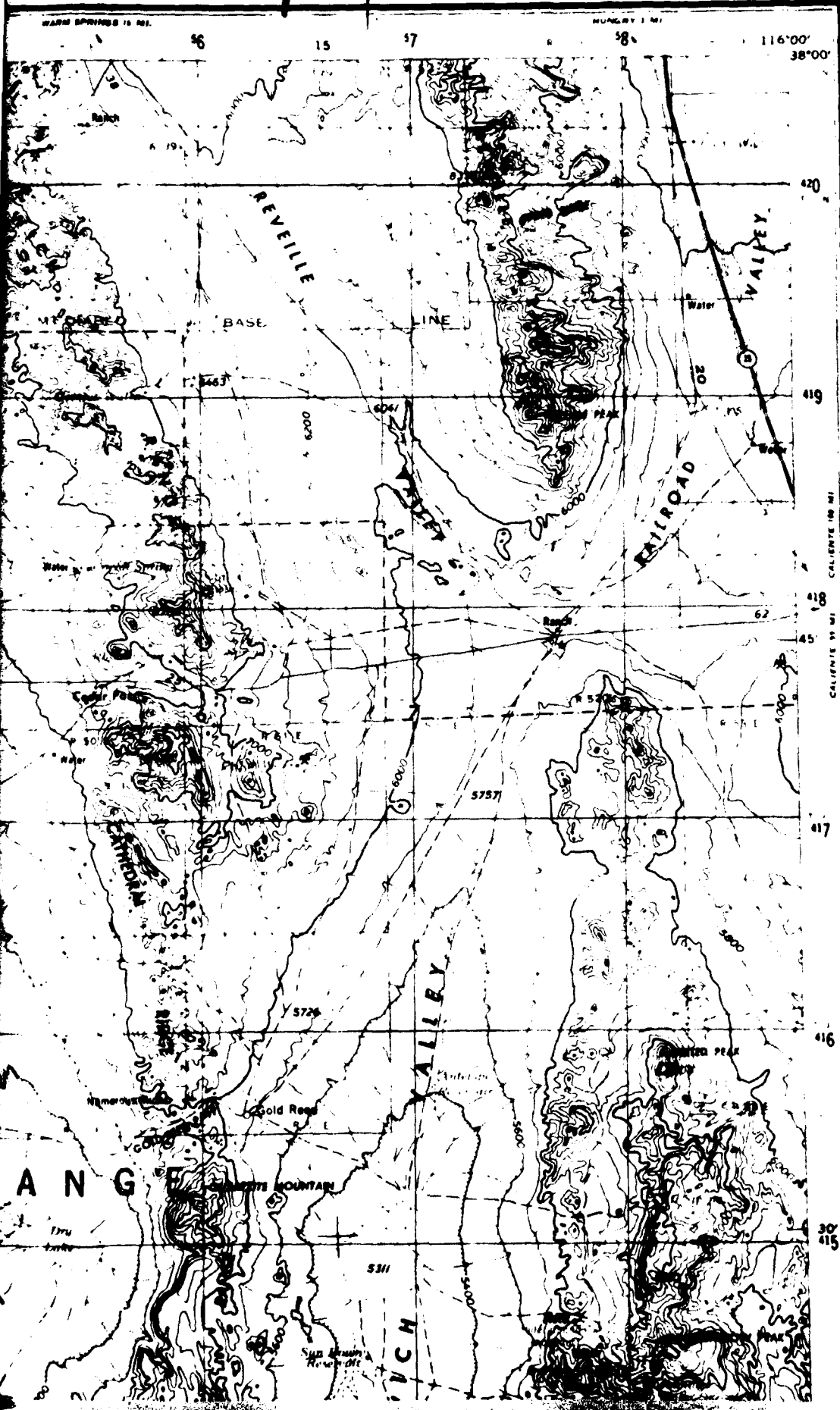
WARM SPRINGS

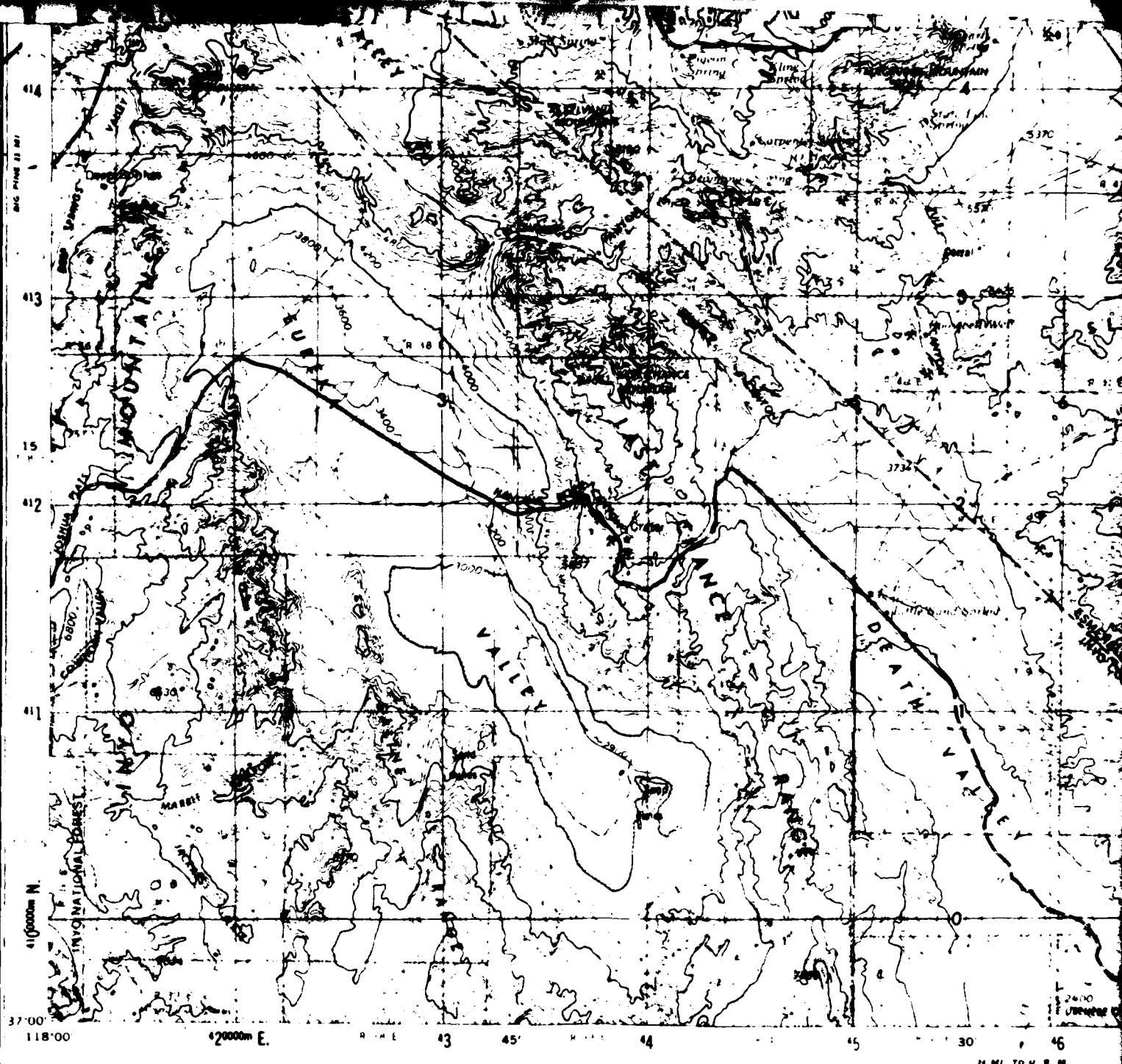
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MOUNT HELEN

GOLD REEF

14



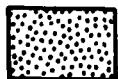


GOLDFIELD 2nd QUADRANGLE

Base prepared by the U.S. Army Topographic Command, Washington, D.C.



OIL AND GAS LEASES



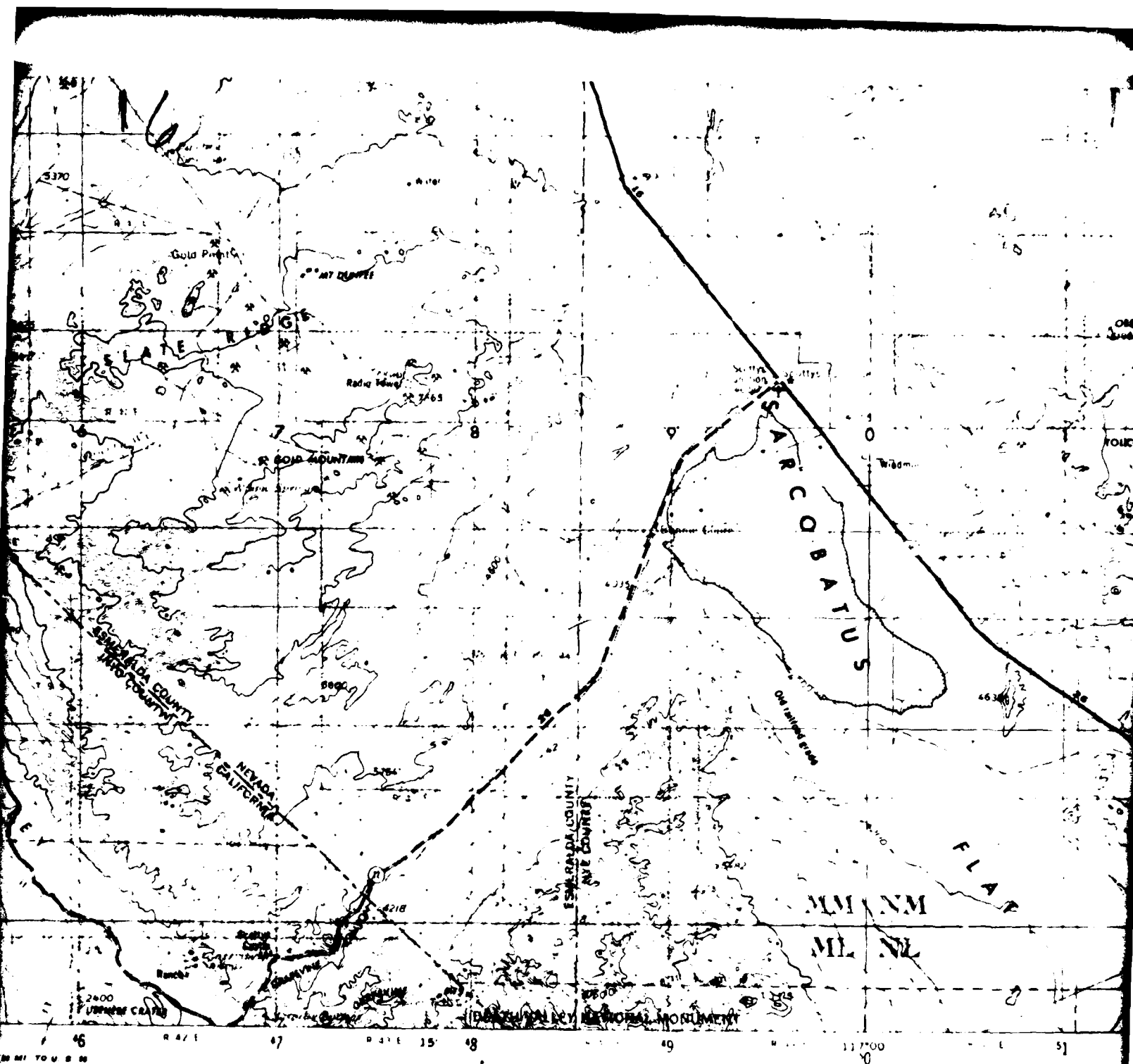
GEOTHERMAL LEASES



MX ADDITIONAL VALLEY MINERAL
RESOURCES SURVEY STUDY AREA
BOUNDARY SEPTEMBER 26, 1980



MX DEPLOYMENT AREA

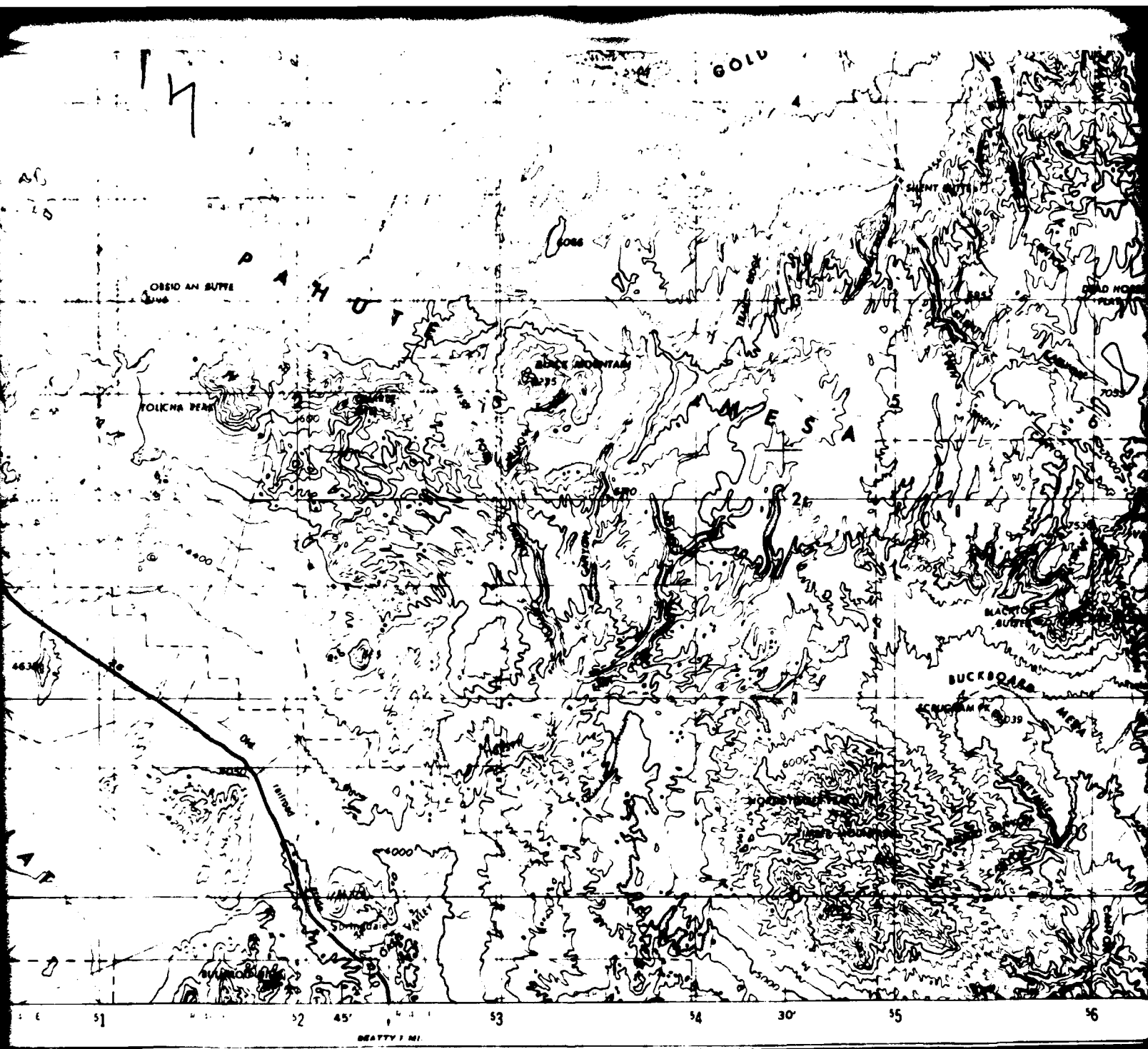


Scale 1:100,000

CONTOUR INTERVAL 20 FEET
 WITH SUPPLEMENTARY CONTOURS AT 100 FEET INTERVALS
 TRANSVERSE MERCATOR PROJECTION
 U.S. NATIONAL BUREAU OF SURVEYING
 MAGNETIC VARIATION FOR 1970 IS 10° 30' 280 MILS EAST OF TRUE IN THE ENTIRE AREA

NOTE: REFERENCE APPENDIX A-1 FOR
 DETAILED DESCRIPTION OF LEASE DATA.

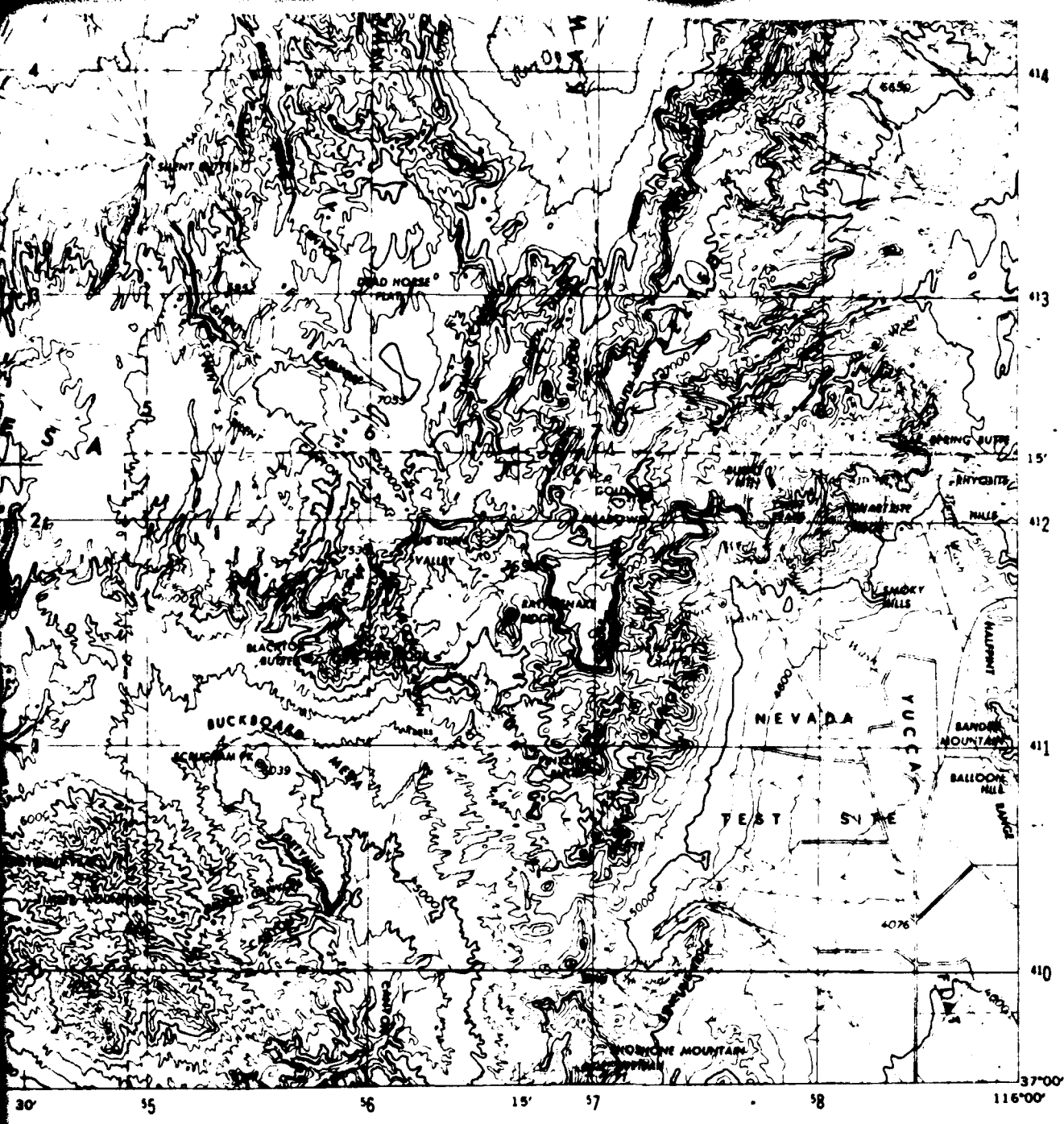
DATA FROM: WOODWARD AND A



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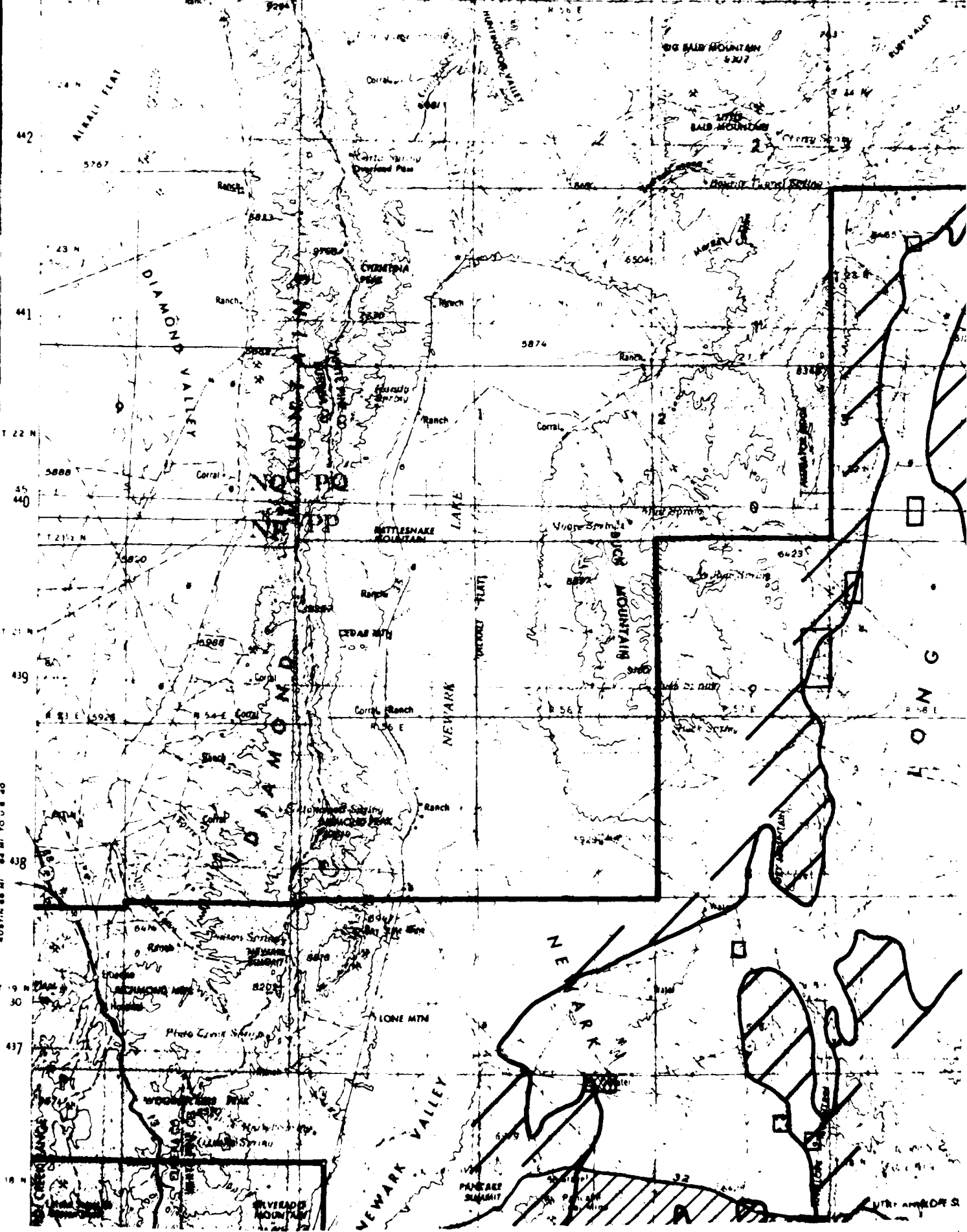


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DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

LAND STATUS-FEDERAL LEASES
MAP 4 OF 4

30 APR 81

DRAWING 17

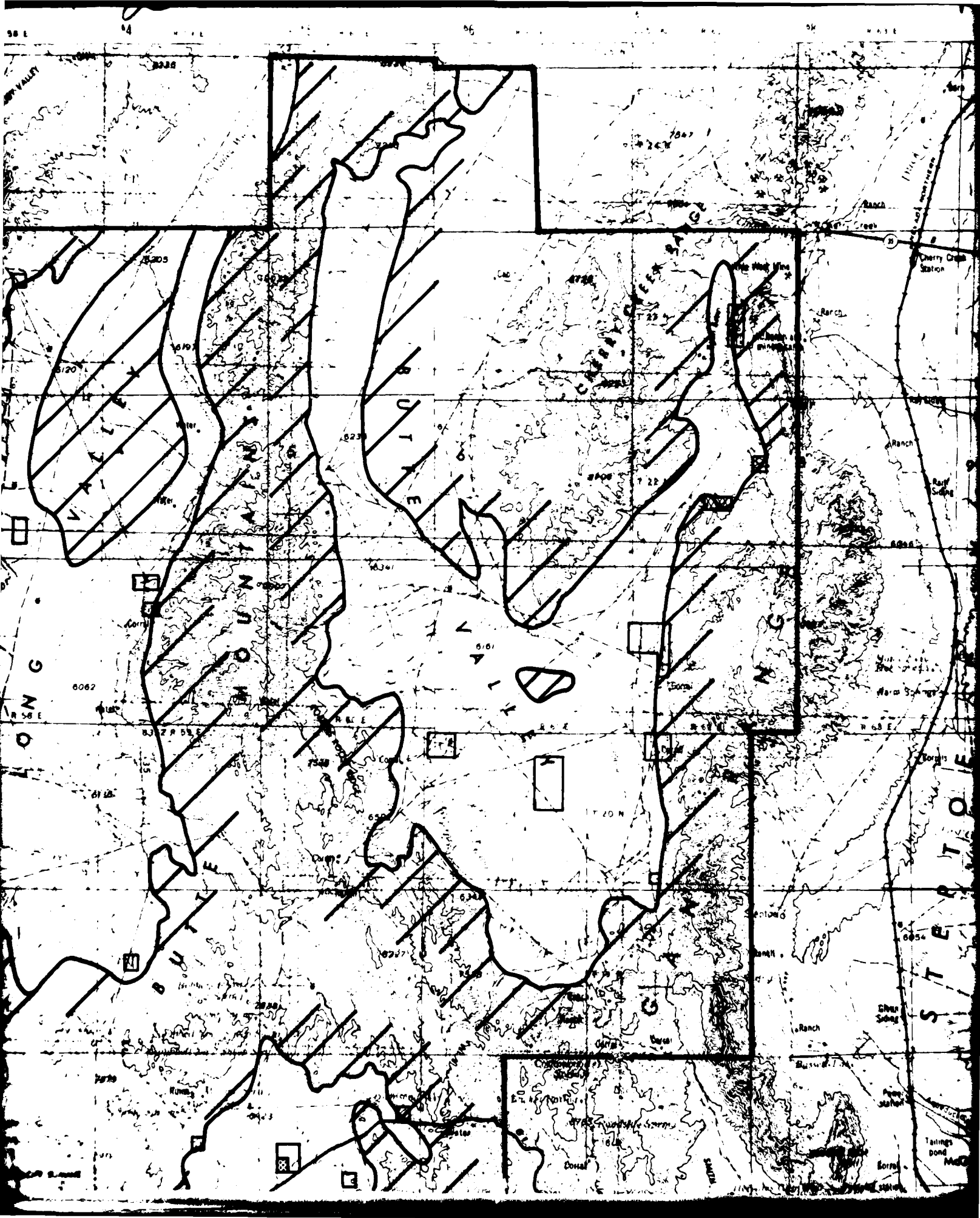


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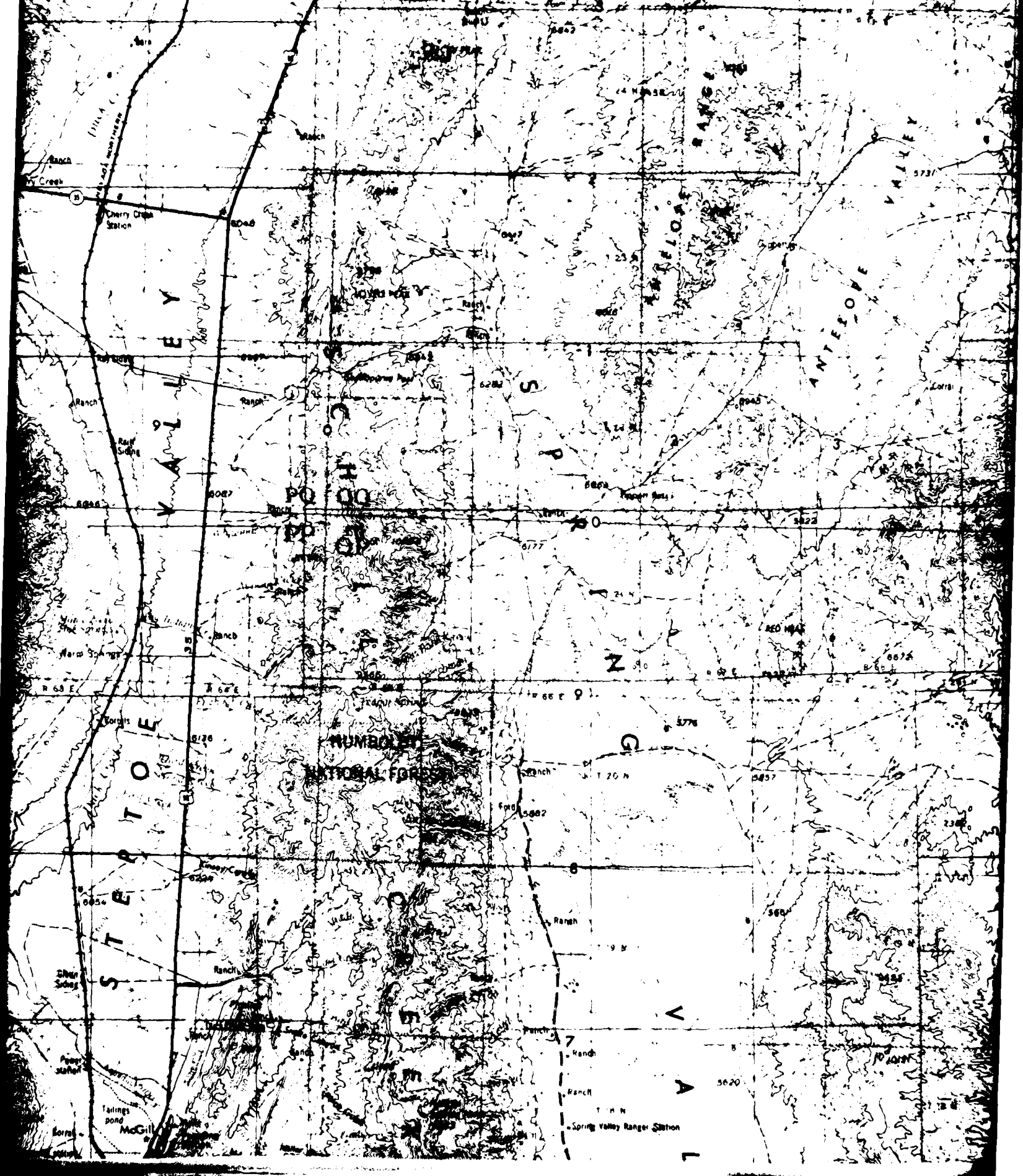
NEWARK

UTR. APPROX. S



WENDOVER 66 MI

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STERITOE VALLEY

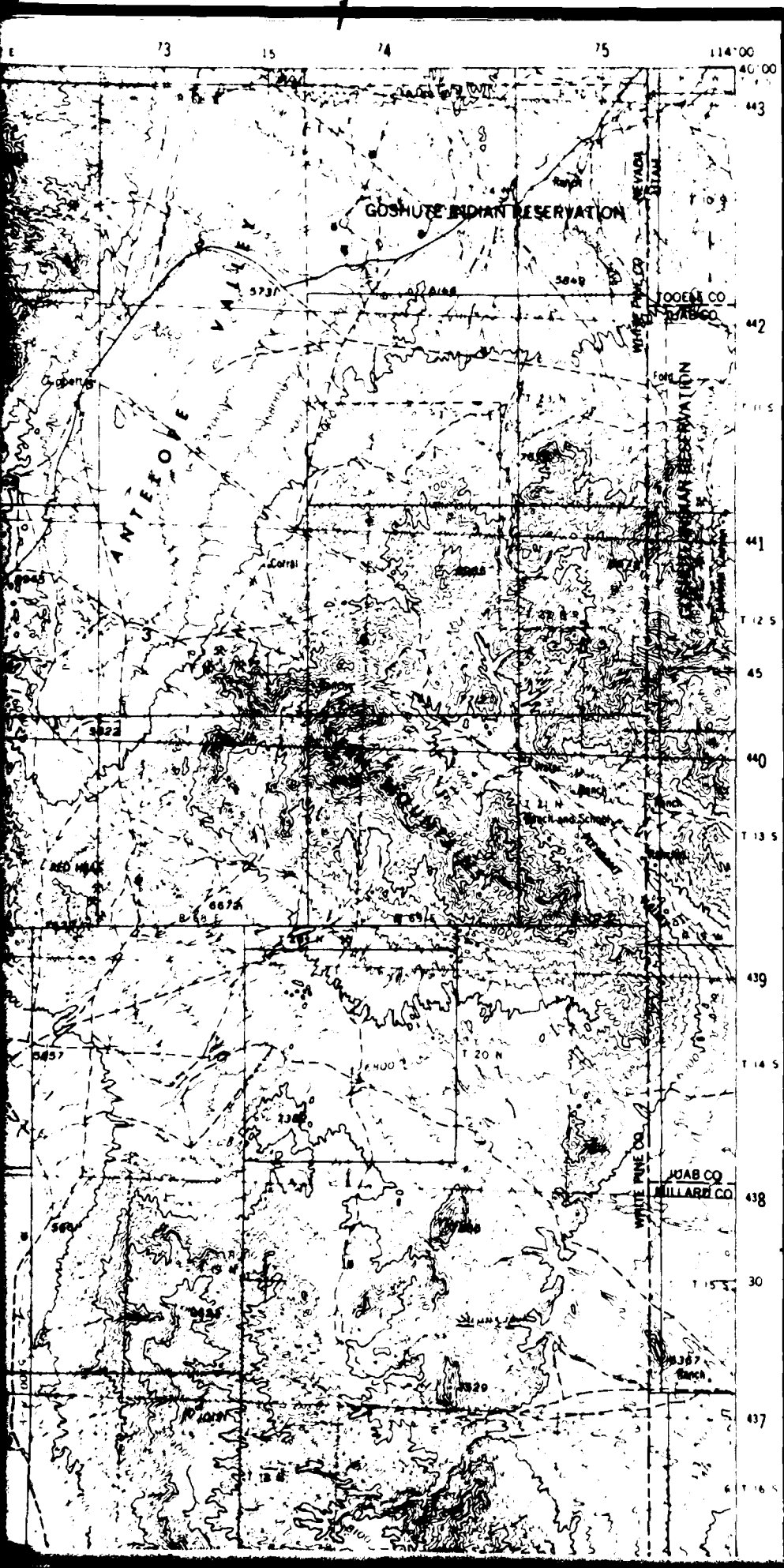
POCOON

HUMBOLDT NATIONAL FOREST

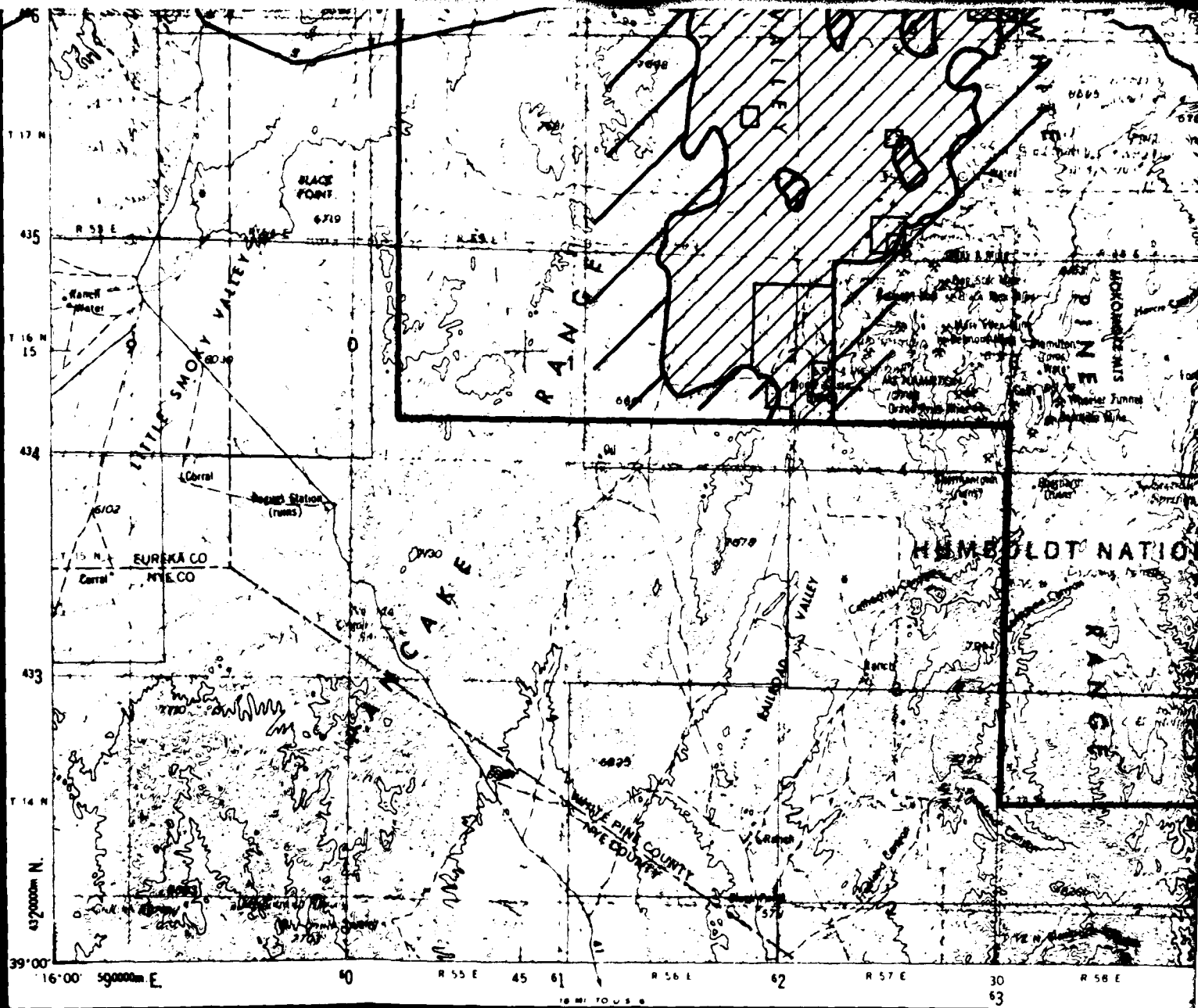
ELFLORE RANGE

ANTELOPE VALLEY

Spring Valley Ranger Station



4



ELY 2° QUADRANGLE

Base Prepared by the U.S. Army Topographic Command, Washington, D.C.

EXPLANATION



FEDERAL LEASE LAND



NON FEDERAL FEE LAND



STATE LAND



MATERIAL SITE



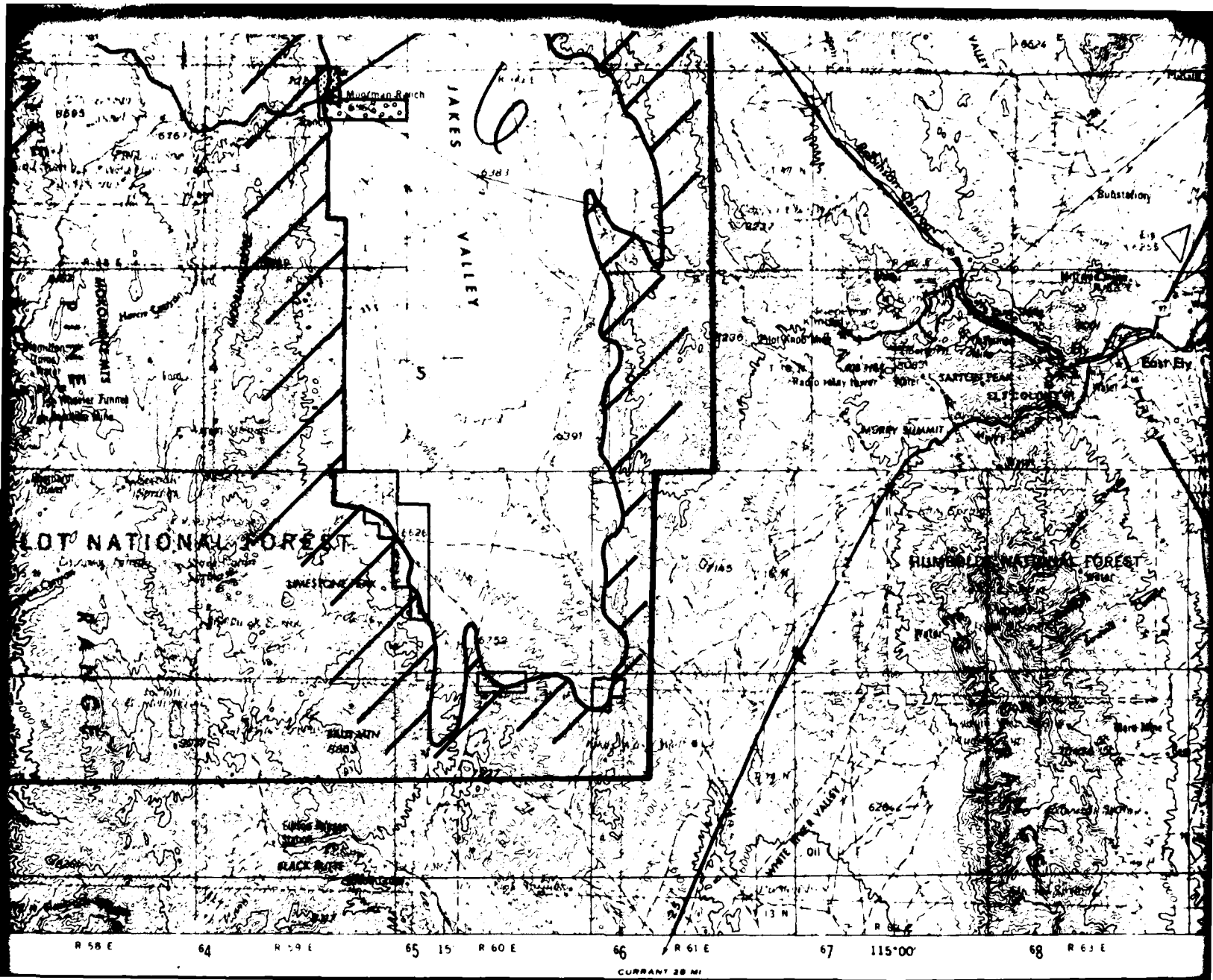
PATENTED MINING CLAIM

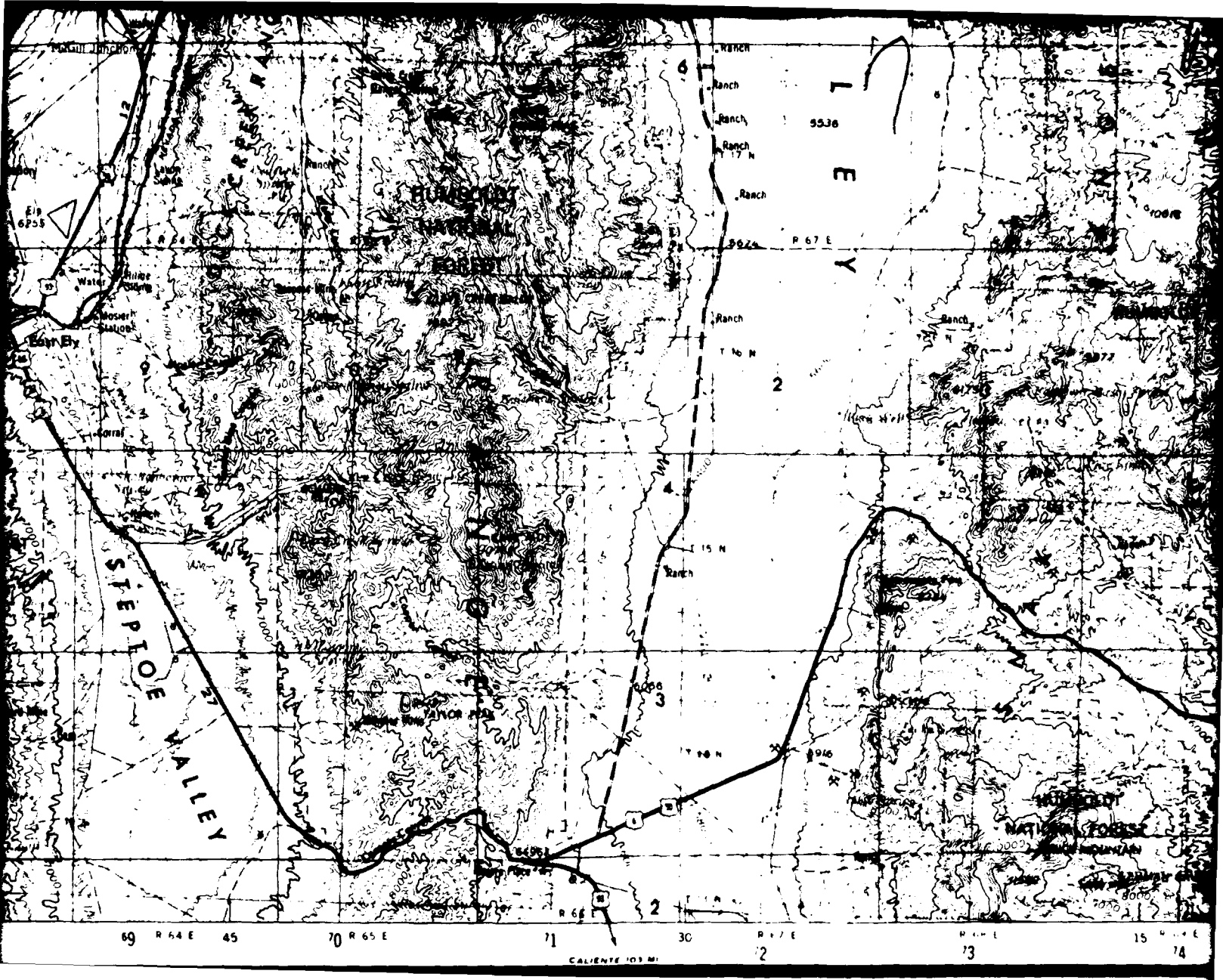


UNPATENTED MINING CLAIM

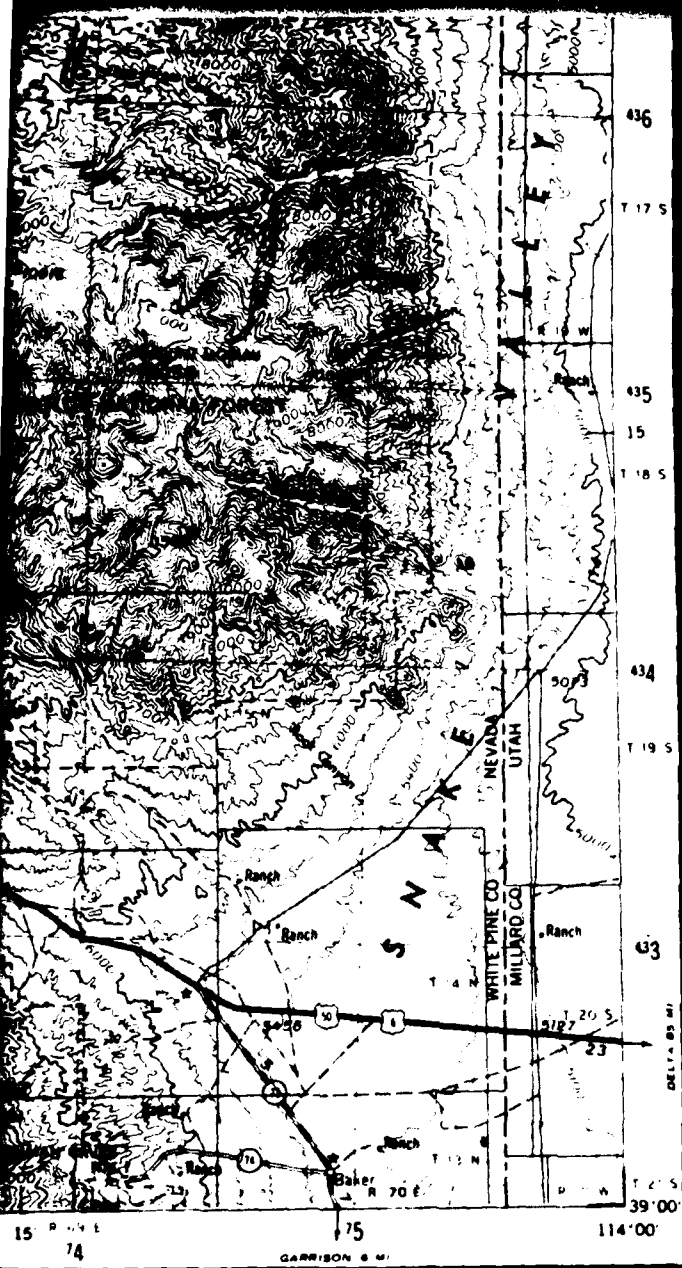


RECOMMENDED EXCLUSION





8



ONAL VALLEY MINERAL
S SURVEY STUDY AREA
Y SEPTEMBER 26, 1980

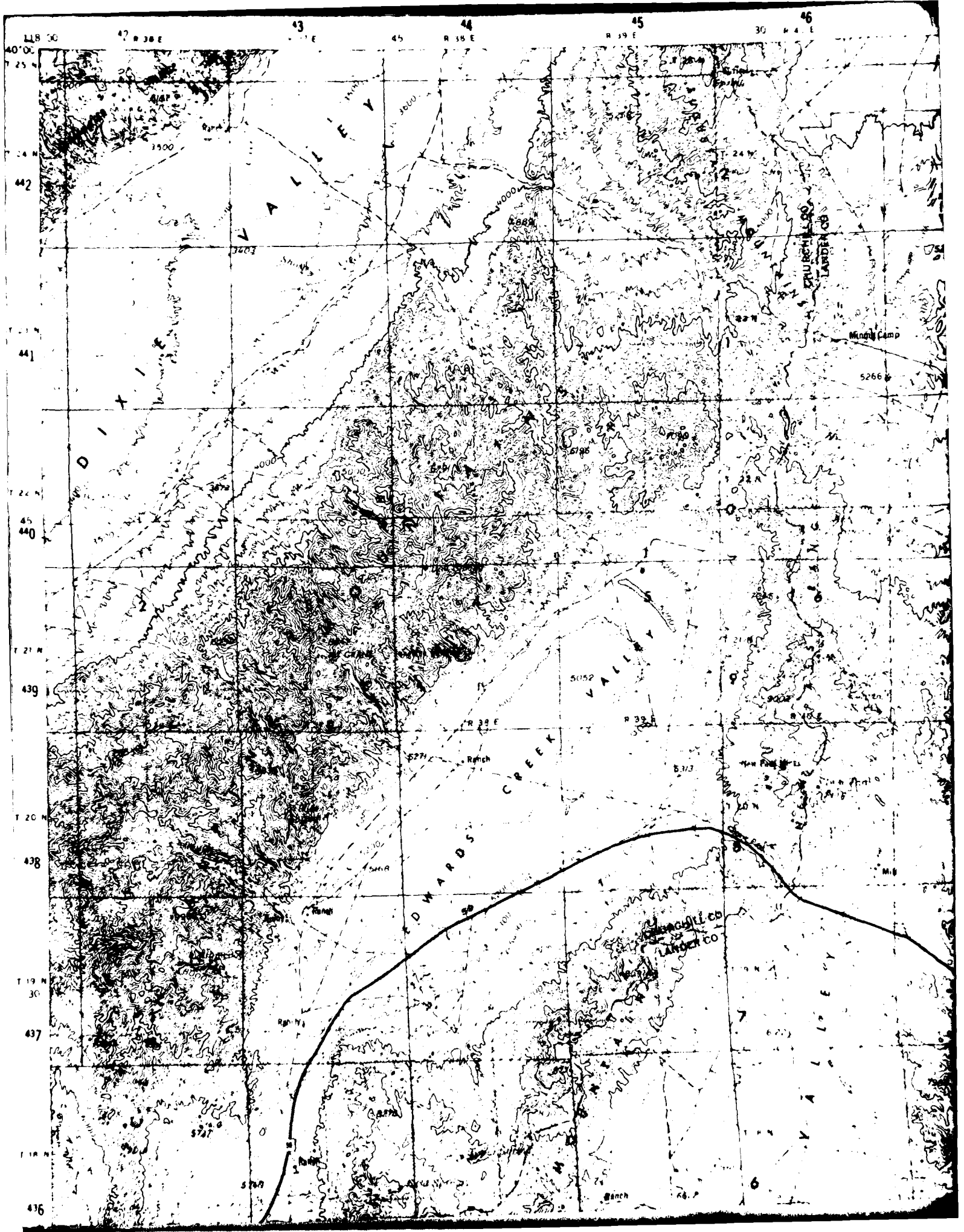
YMENT AREA

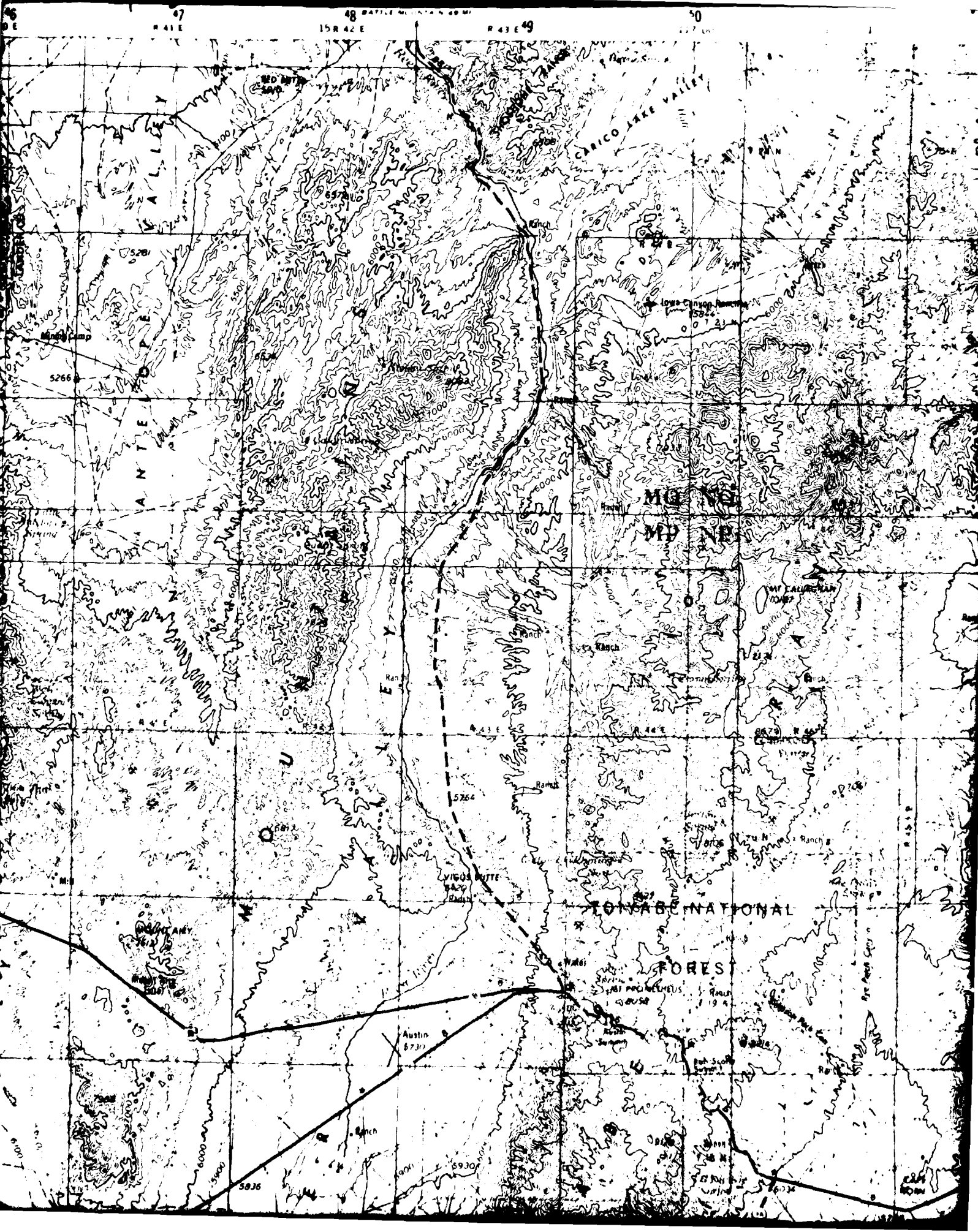


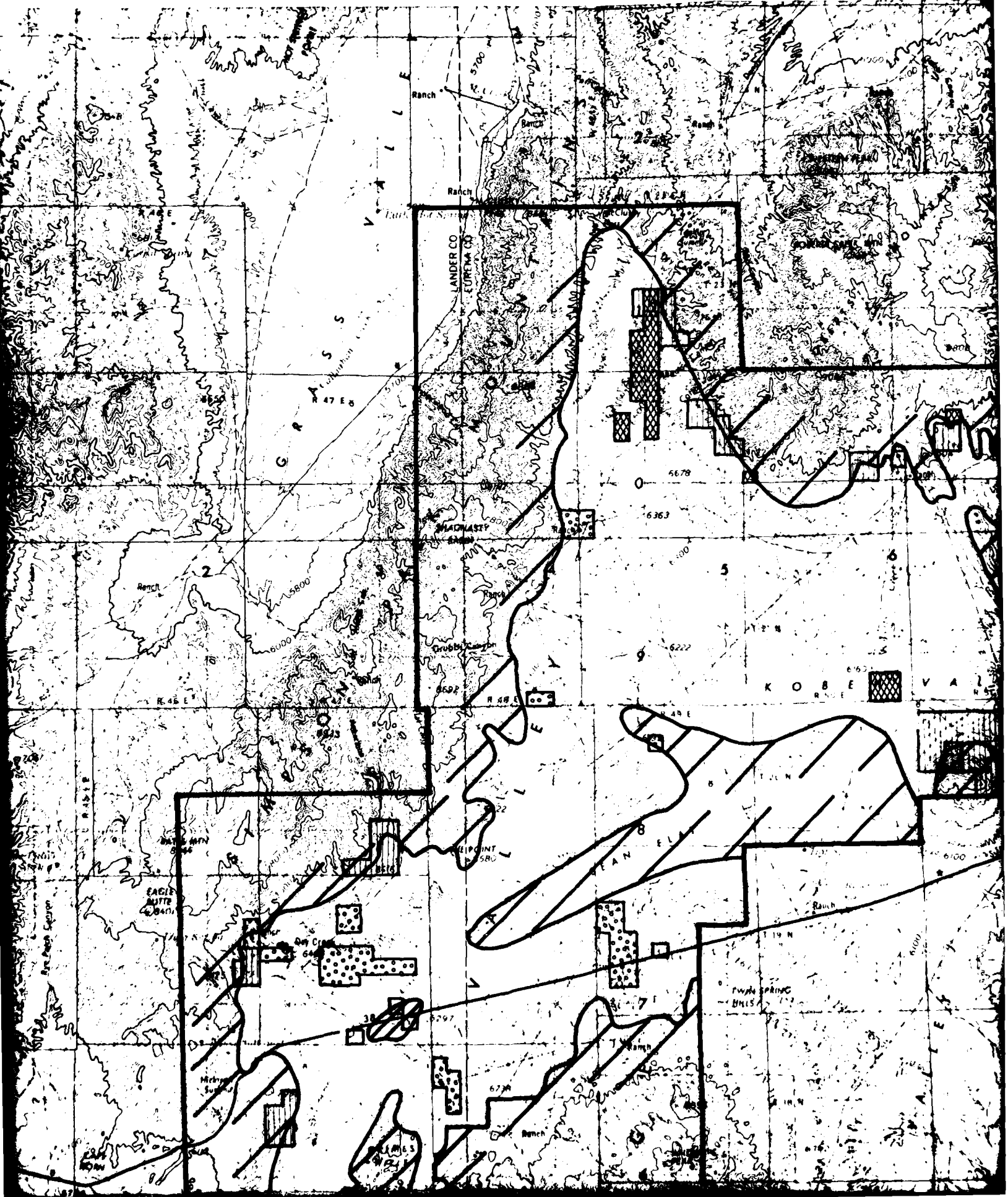
MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

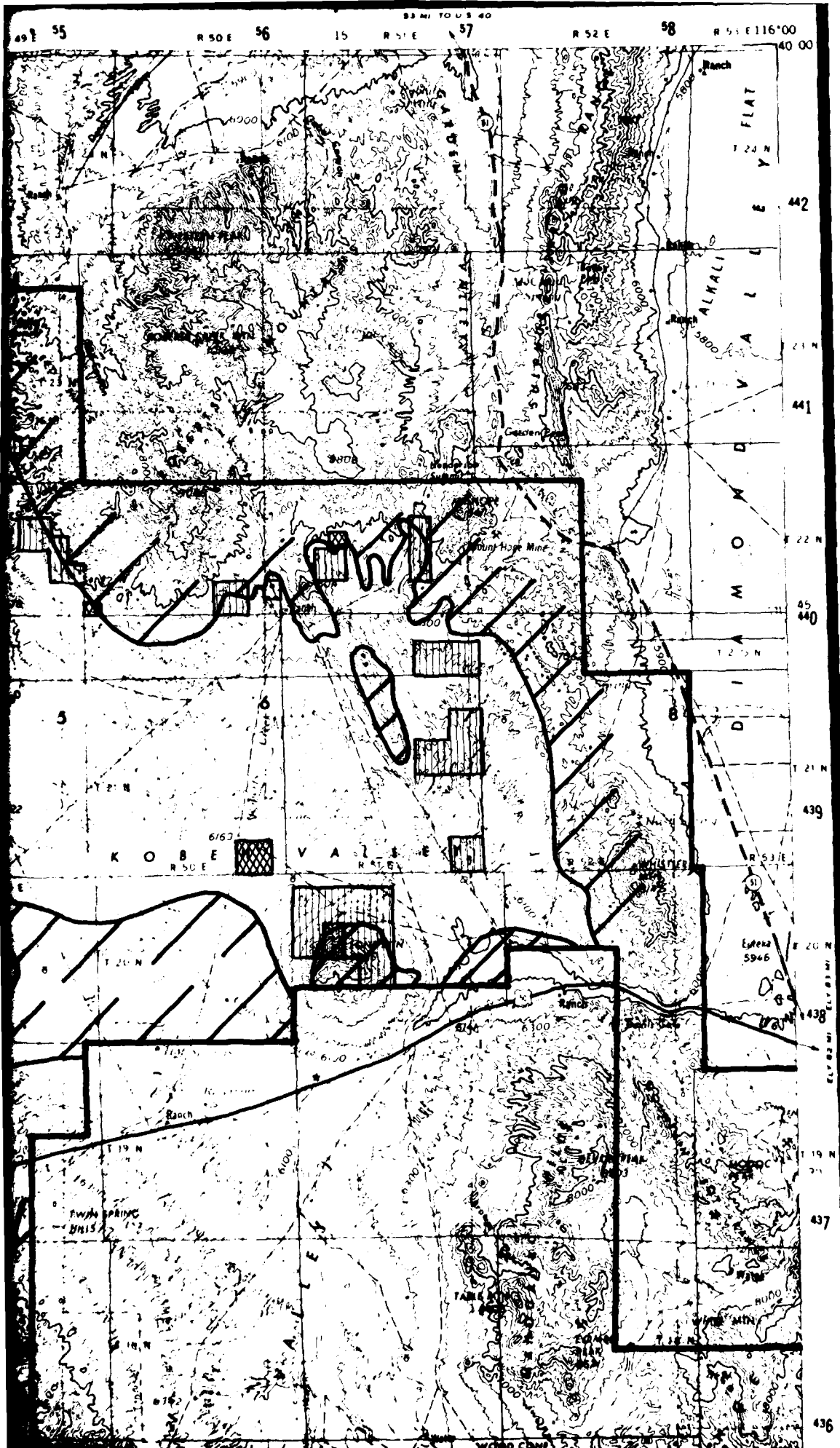
STATUS-NONFEDERAL LAND AND
PATENTED MINING CLAIMS
MAP 1 OF 4

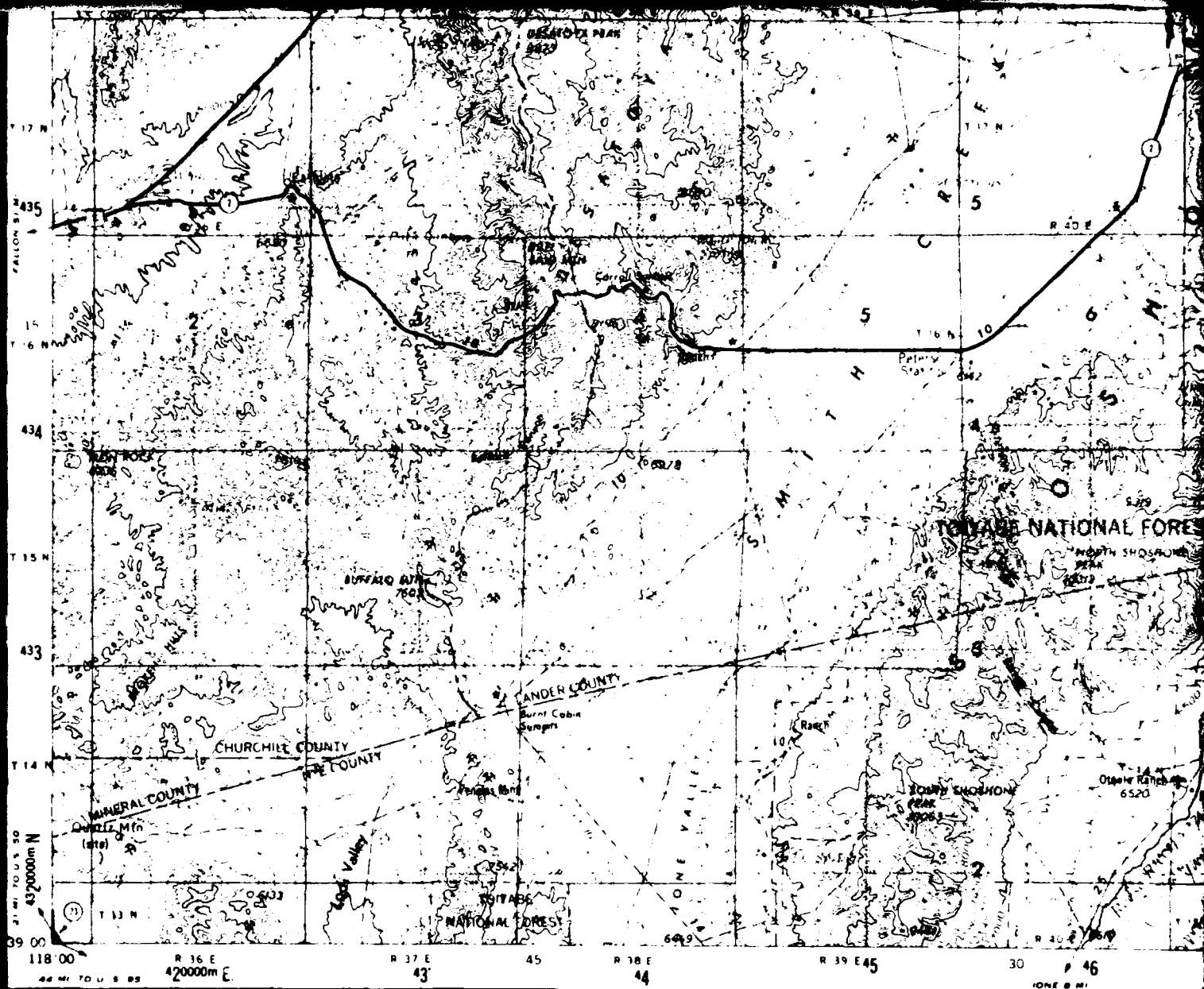
DRAWING 18







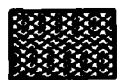




MILLETT 2° QUADRANGLE

Base Prepared by the U.S. Army Topographic Command, Washington, D.C.

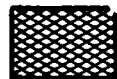
EXPLANATION



FEDERAL LEASE LAND



NON FEDERAL FEE LAND



STATE LAND



MATERIAL SITE



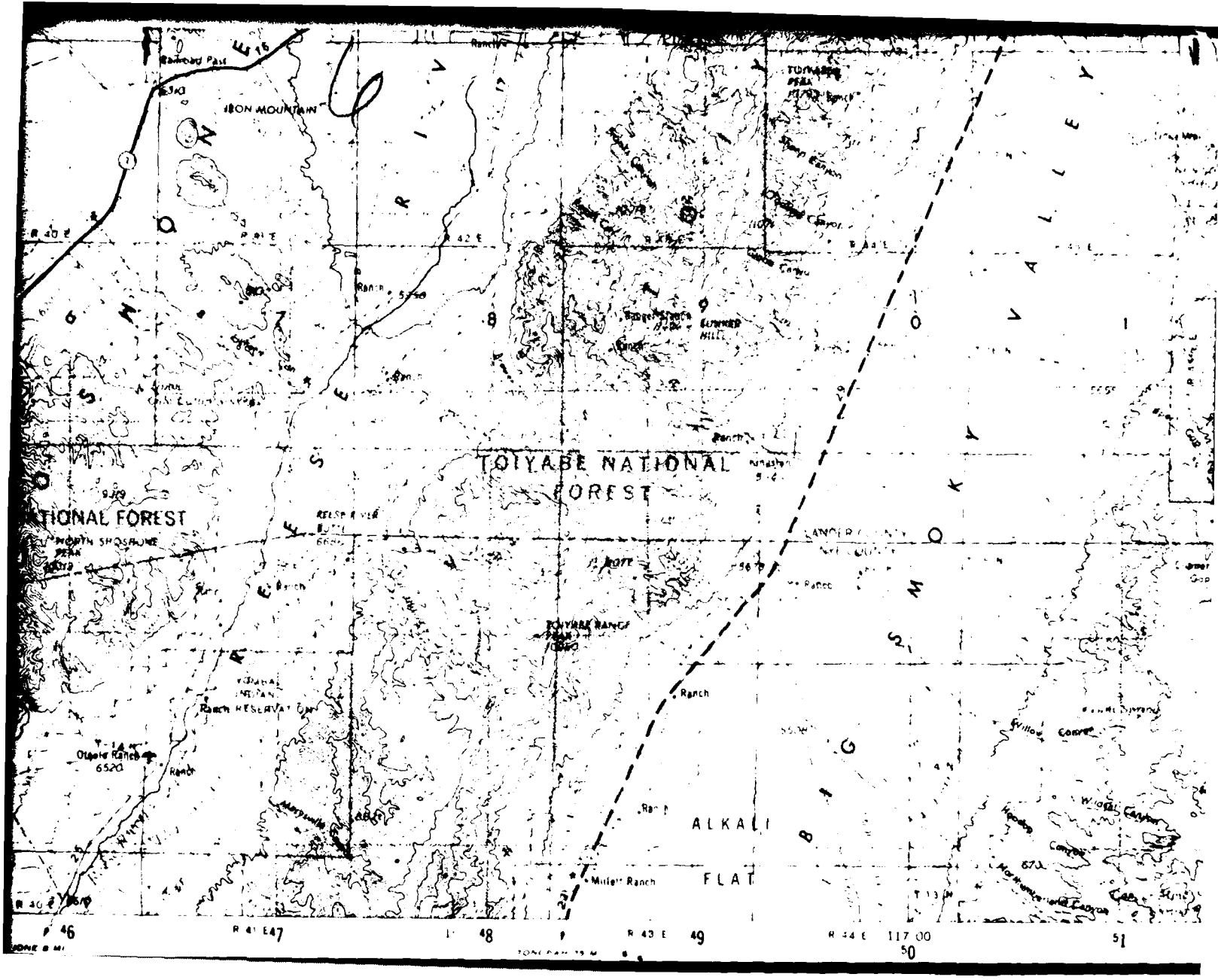
PATENTED MINING CLAIM

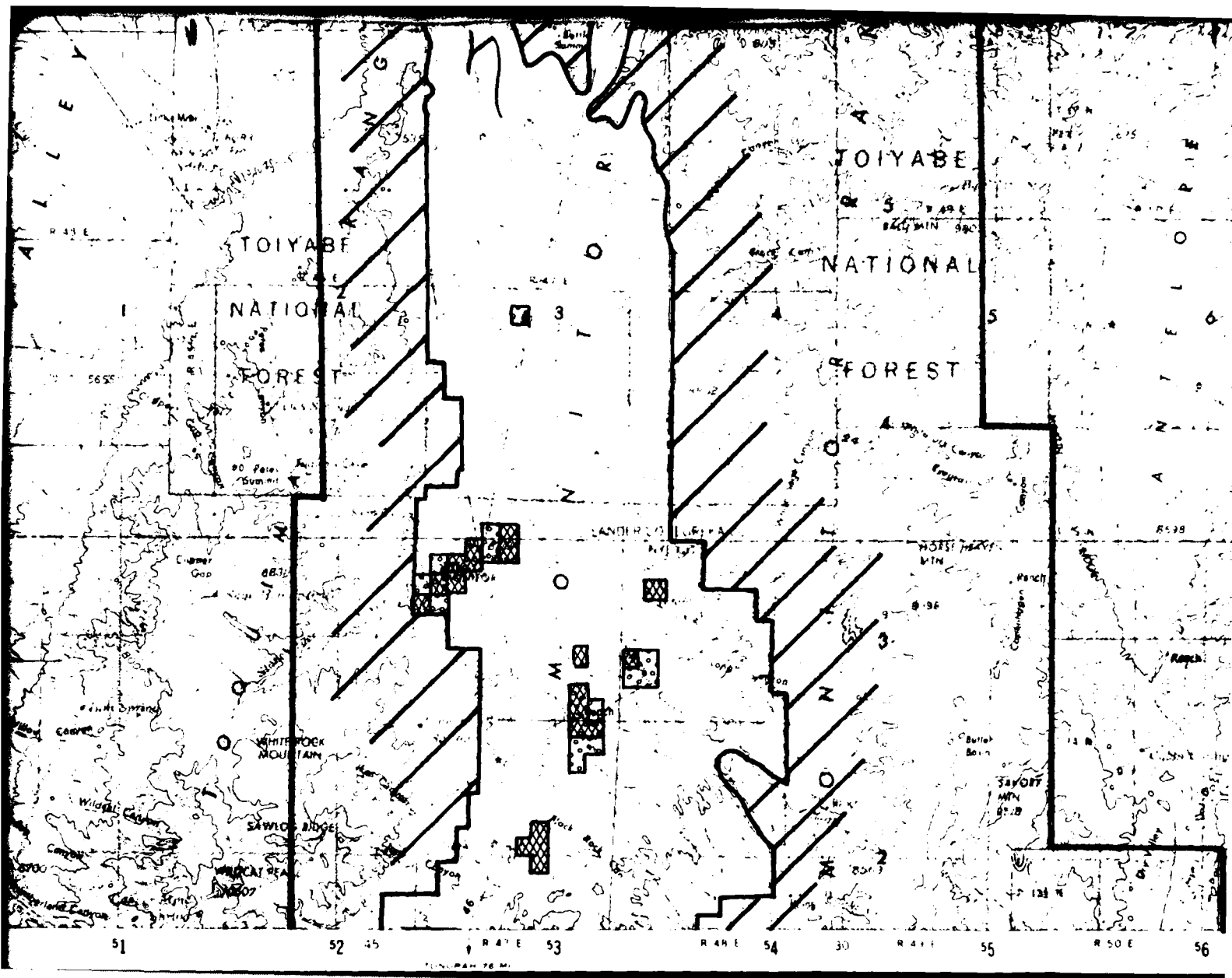


UNPATENTED MINING CLAIM



RECOMMENDED EXCLUSION





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ERTEC WESTERN INC. LONG BEACH CA

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MX SITING INVESTIGATION. MINERAL RESOURCES SURVEY, SEVEN ADDITI--ETC(U)

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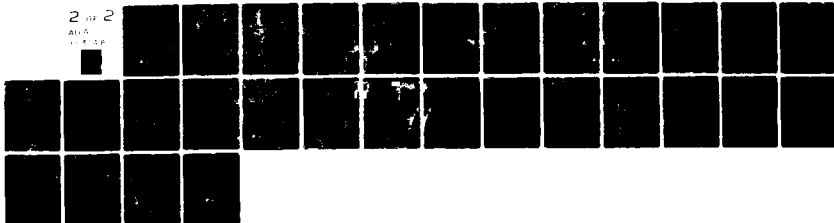
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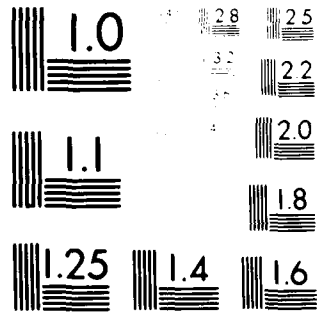
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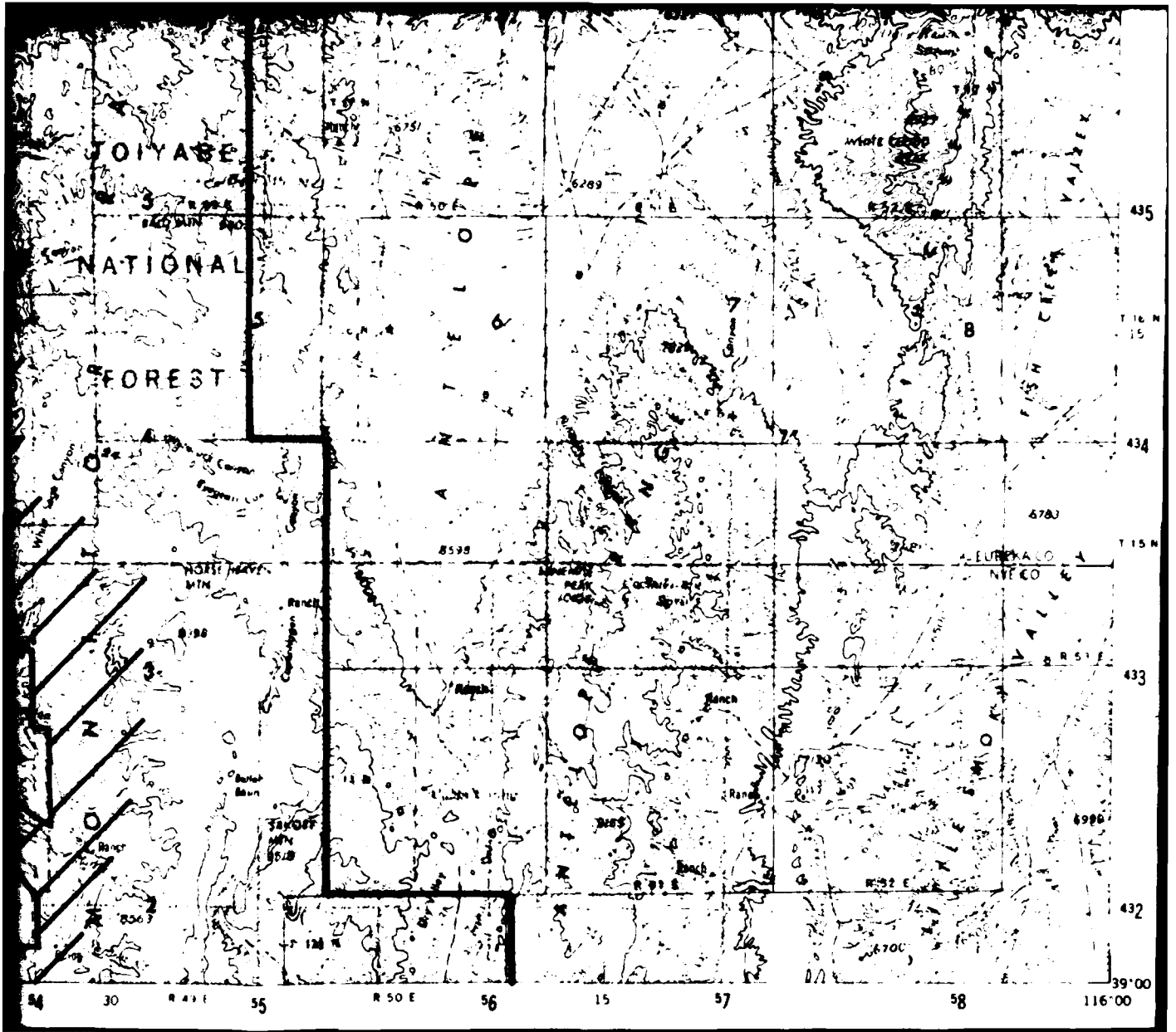
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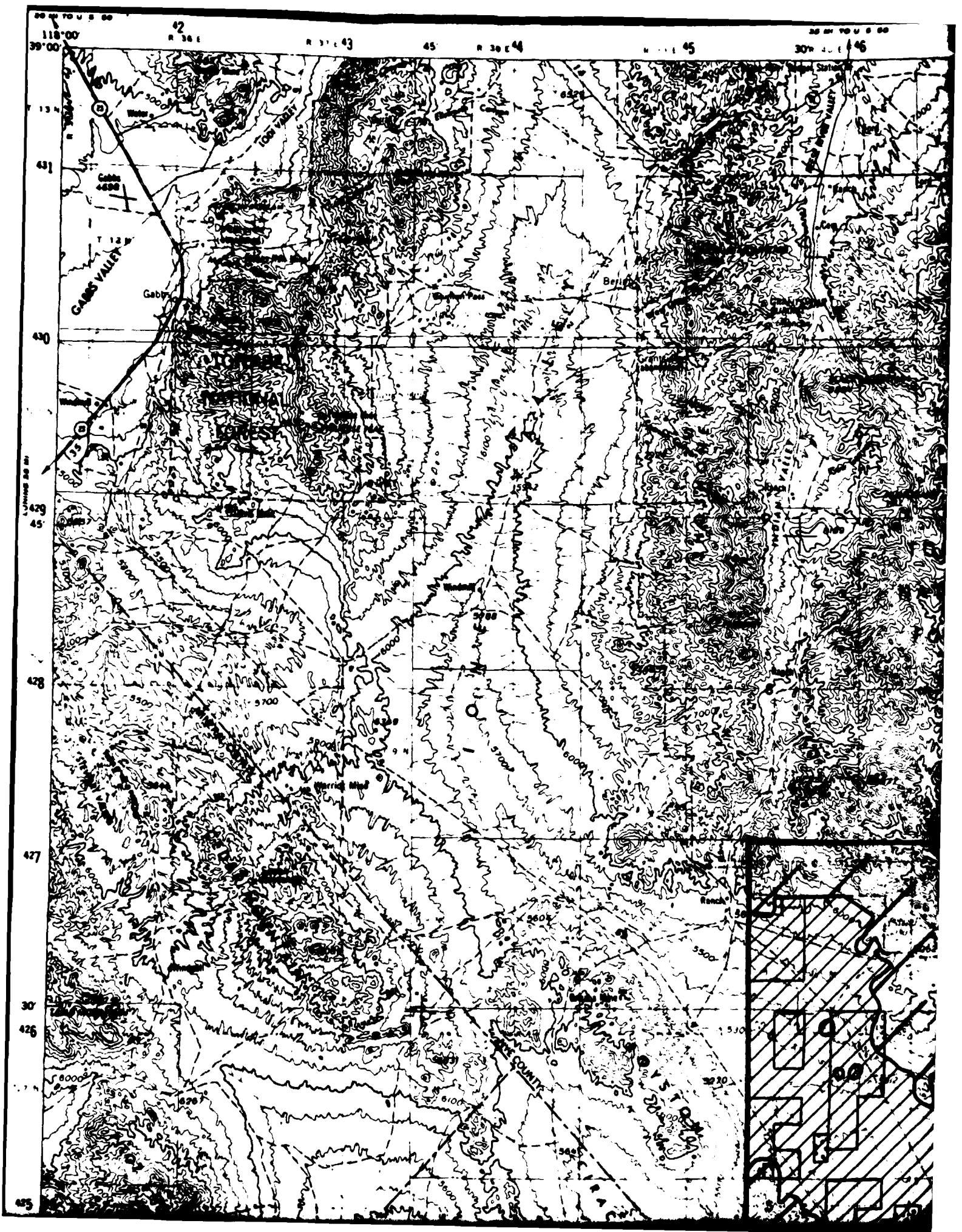
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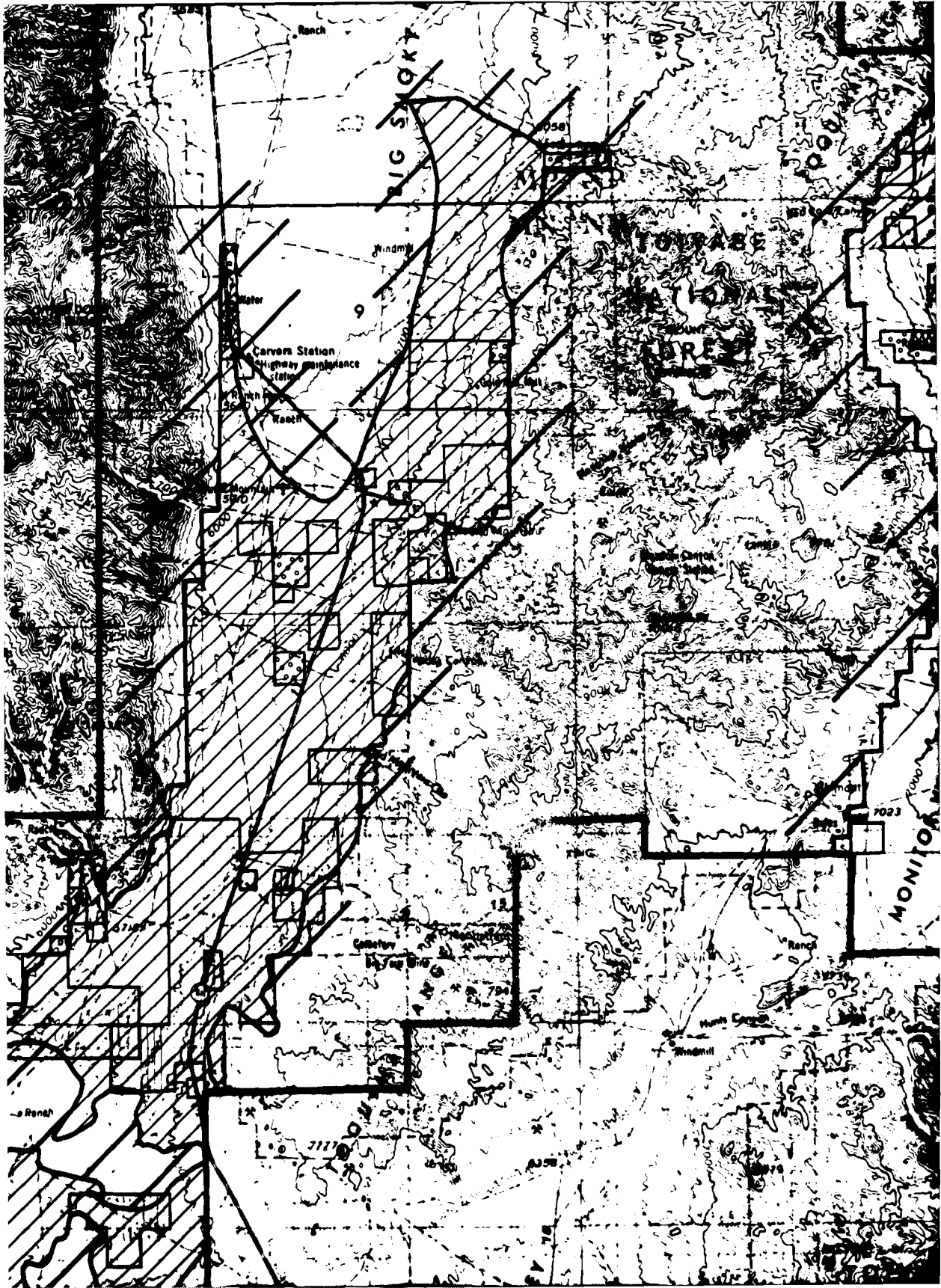




MICROCOPY RESOLUTION TEST CHART
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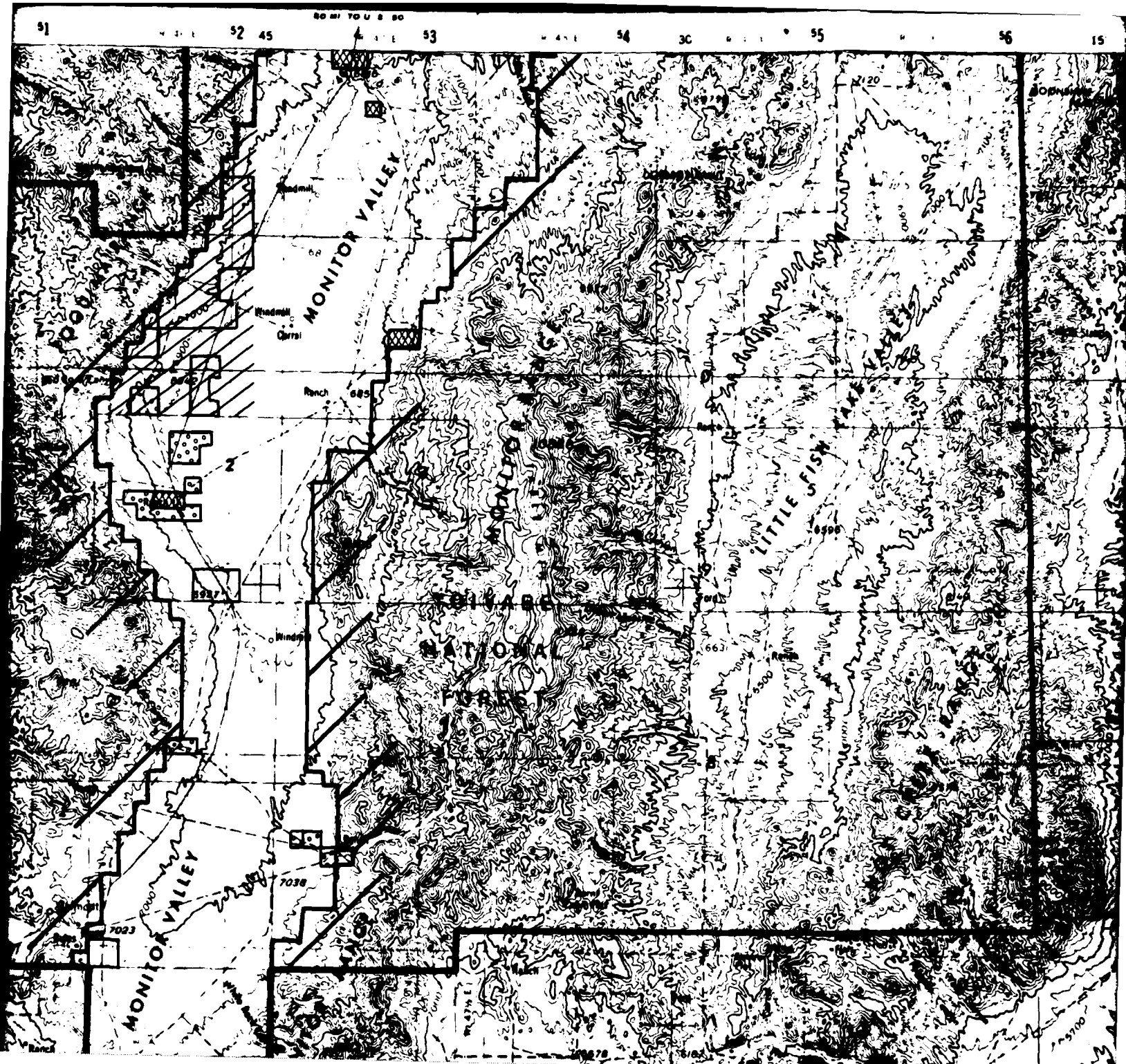
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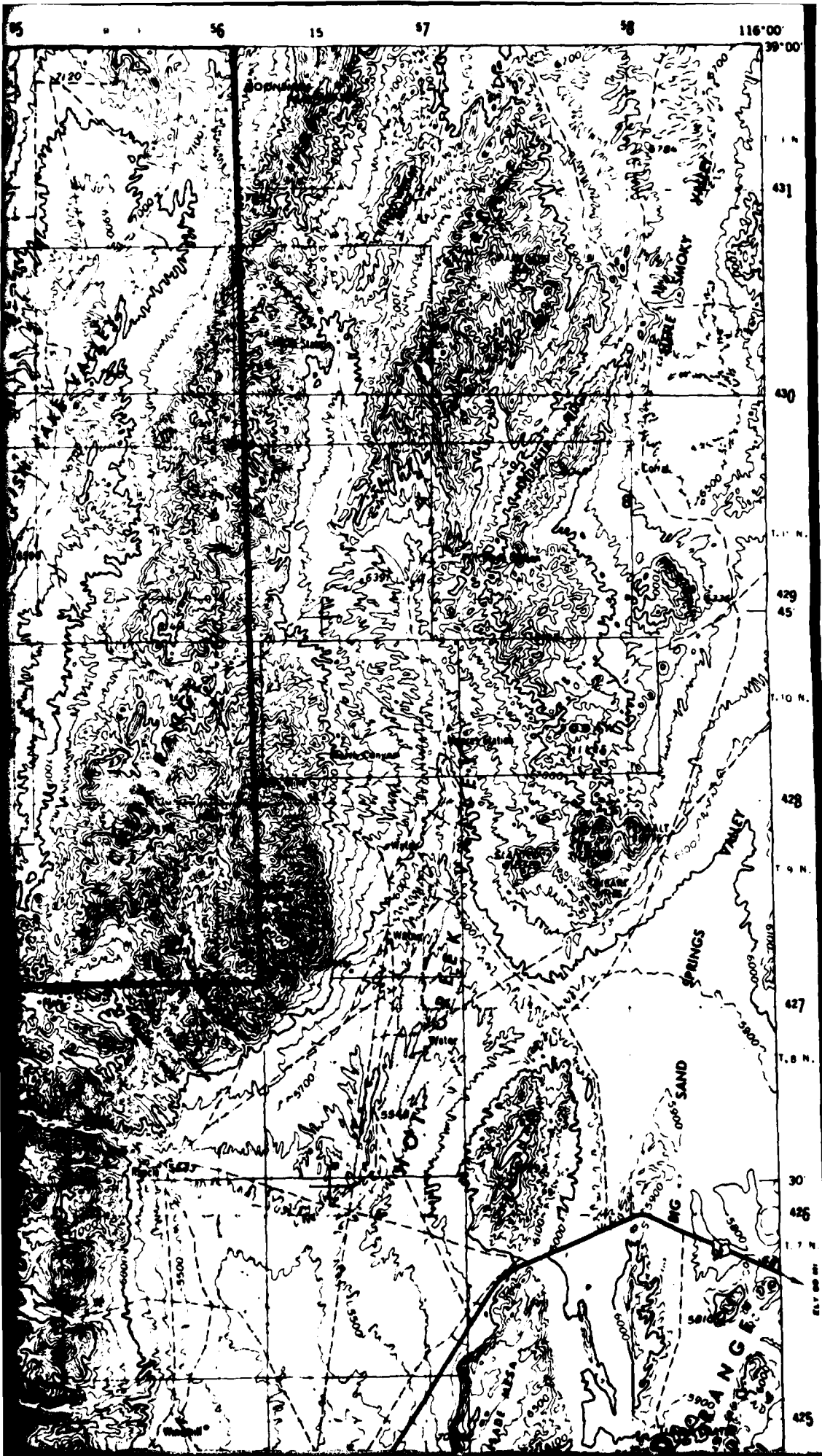
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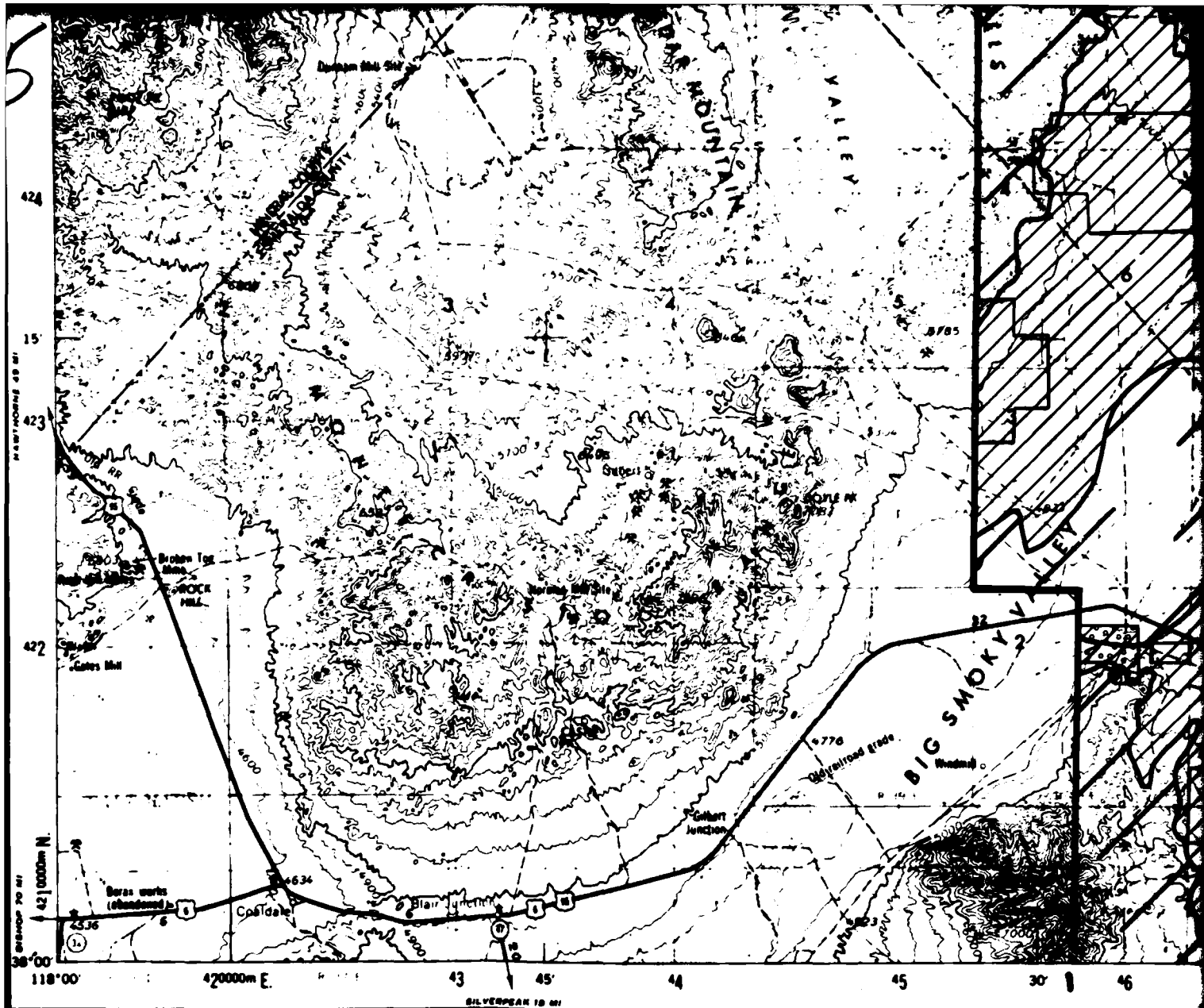
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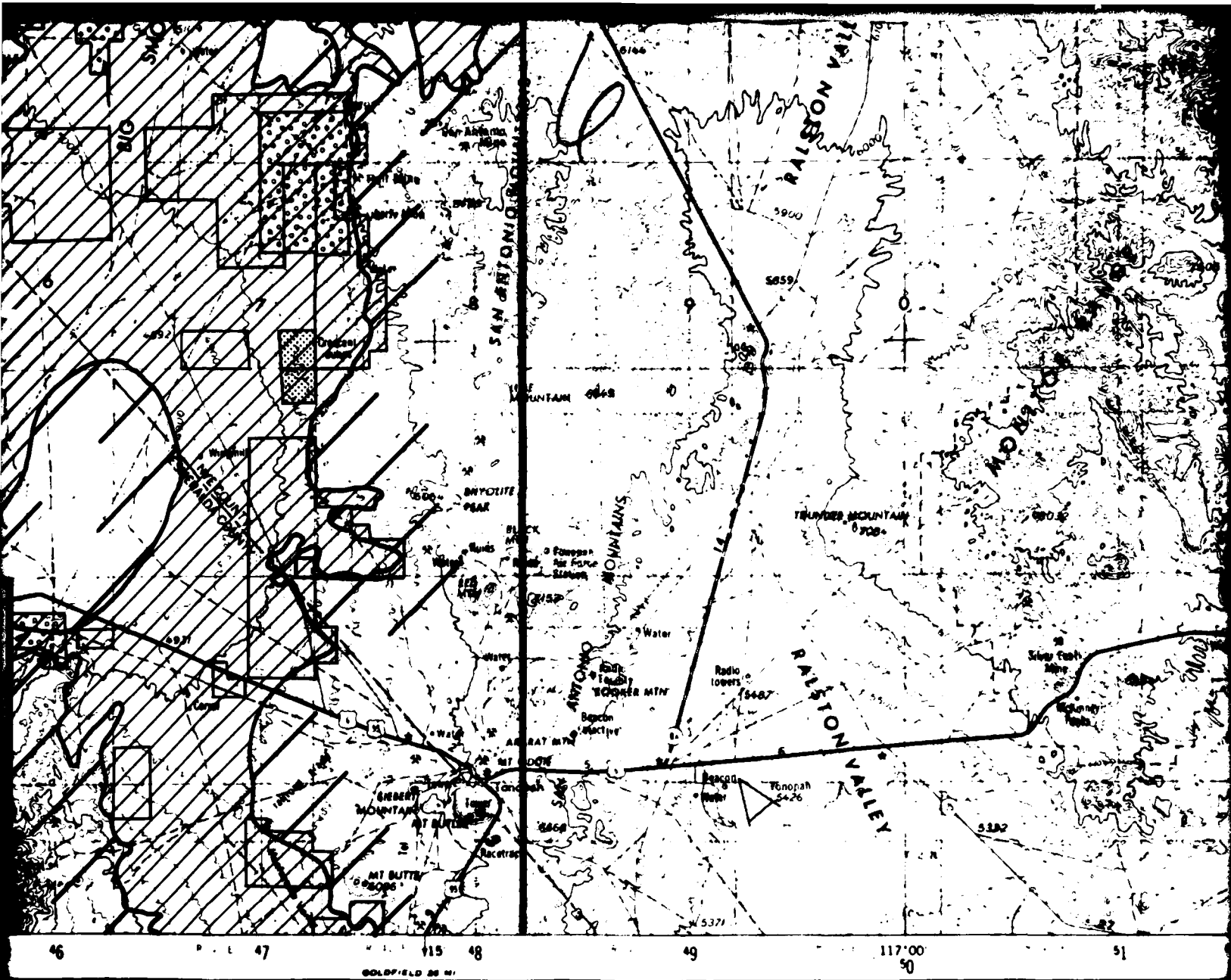
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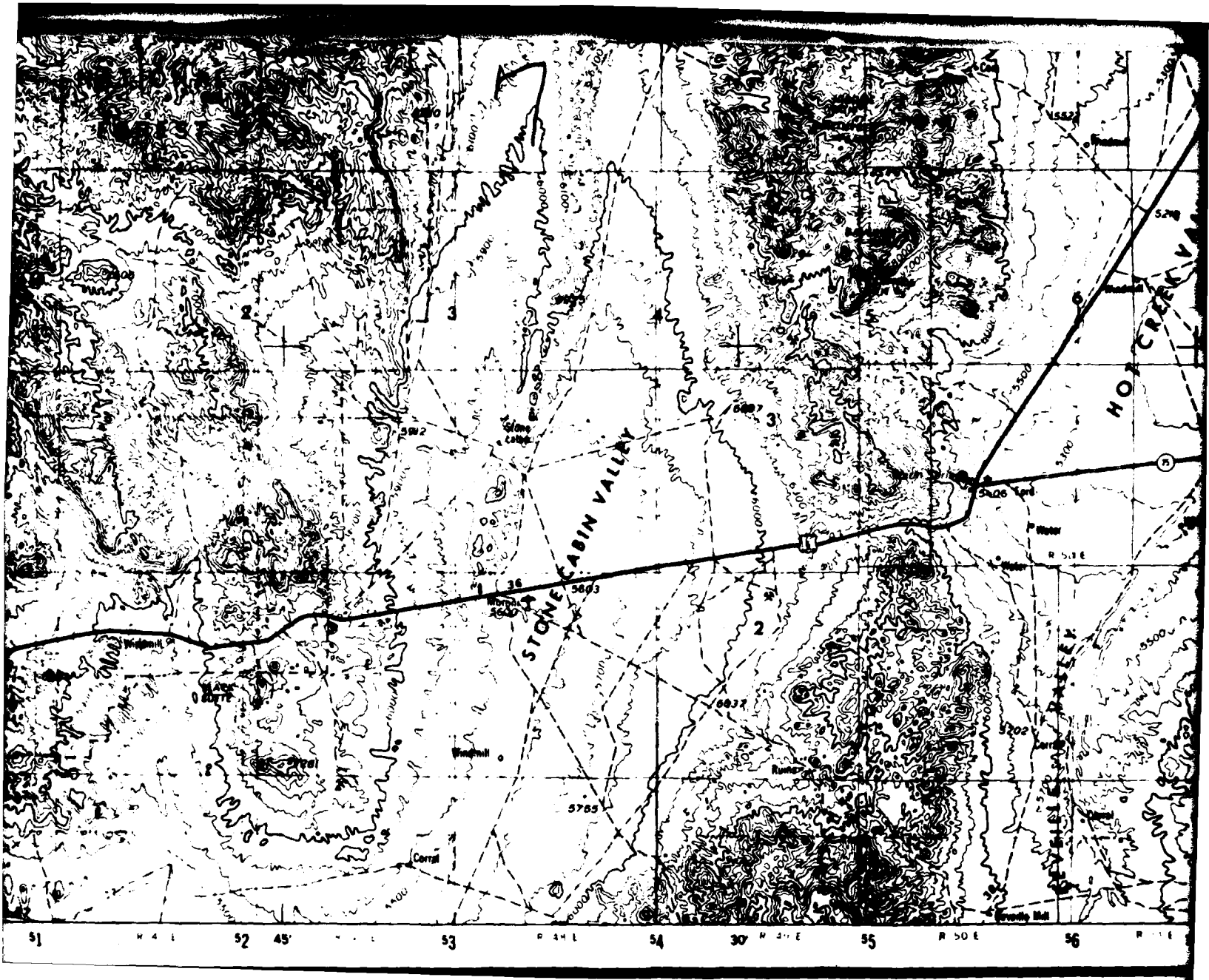
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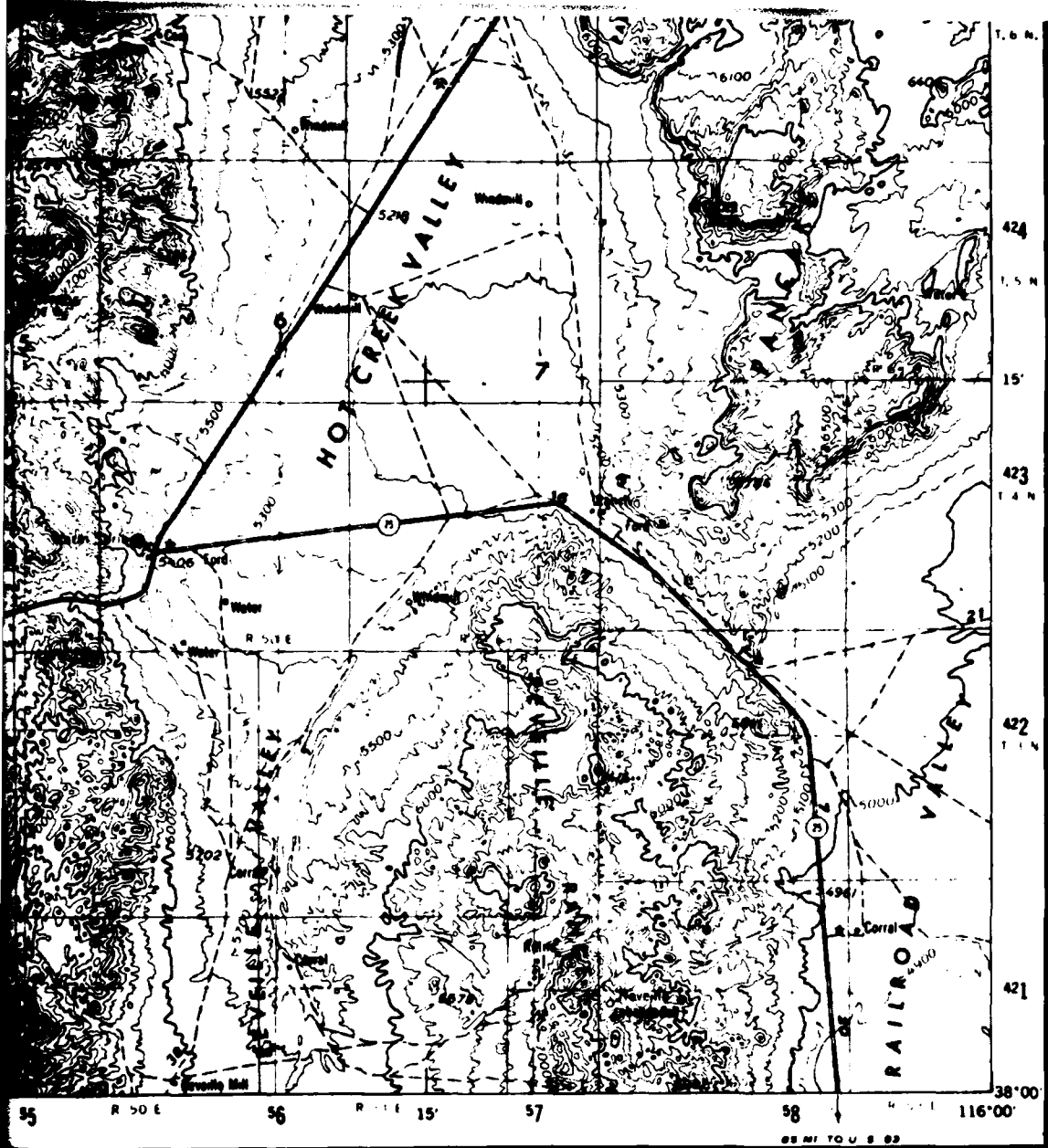









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 MX ADDITIONAL VALLEY MINERAL RESOURCES SURVEY STUDY AREA BOUNDARY SEPTEMBER 26, 1980

 MX DEPLOYMENT AREA

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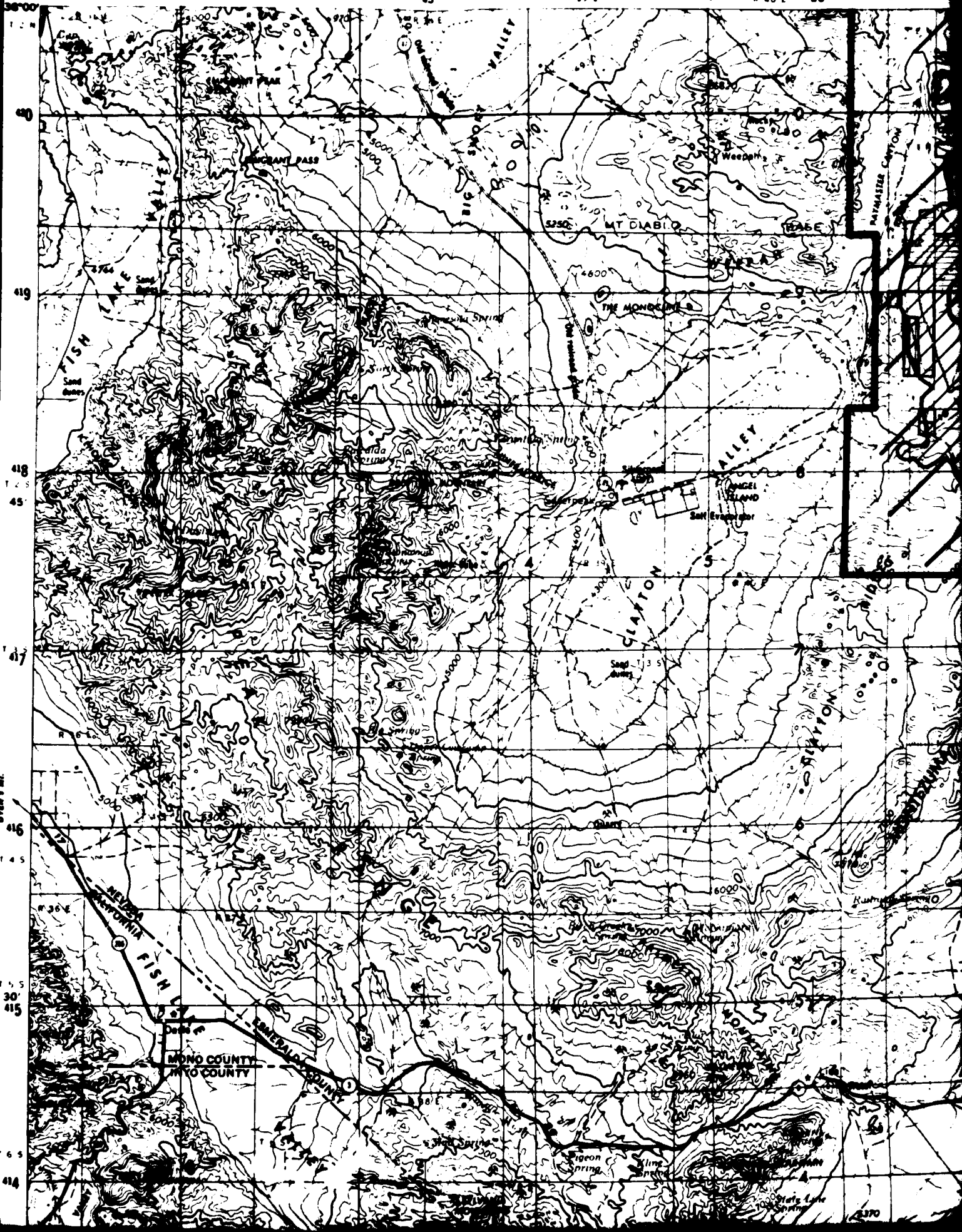
MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

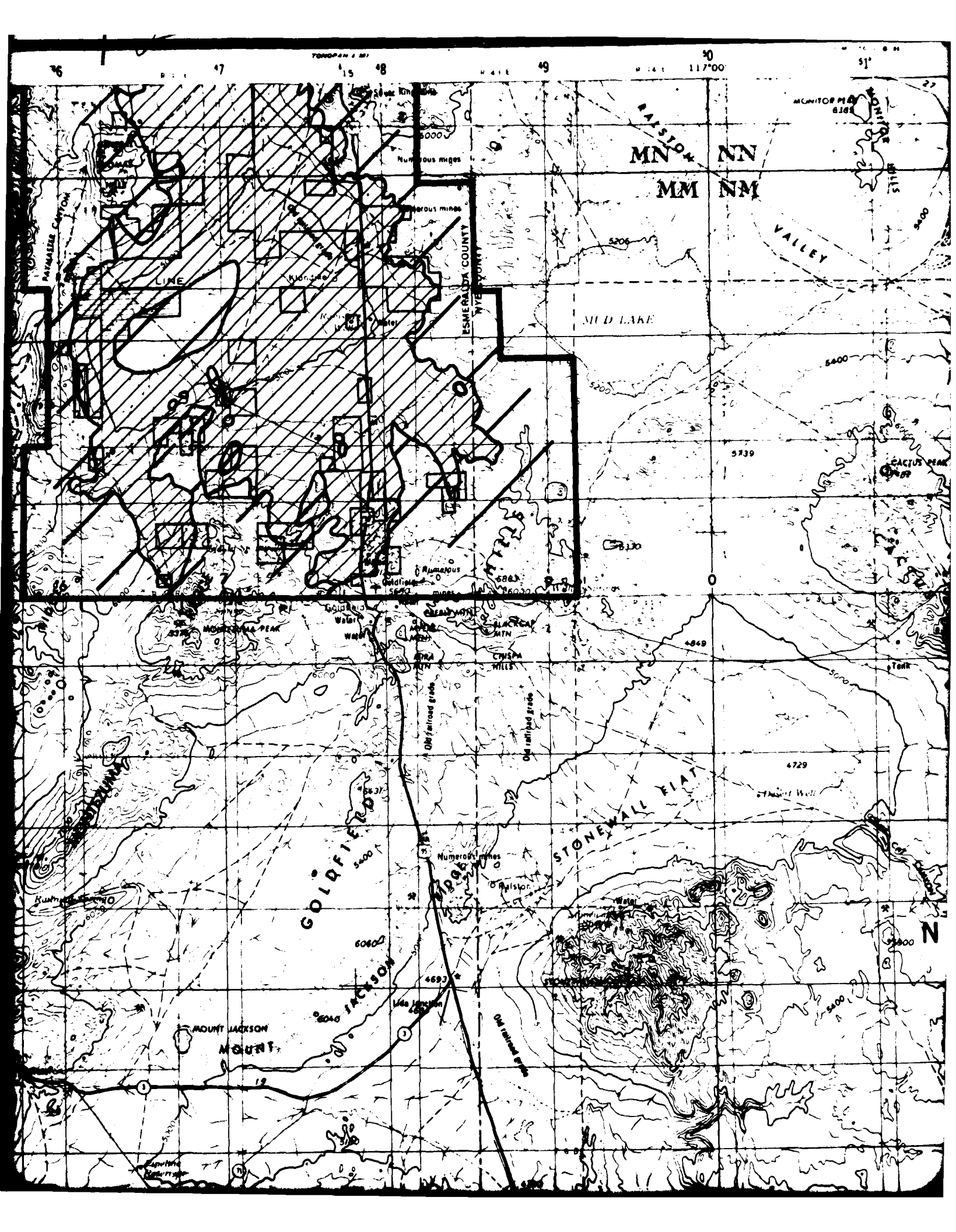
LAND STATUS-NONFEDERAL LAND AND UNPATENTED MINING CLAIMS

MAP 3 OF 4

30 APR 81

DRAWING 18





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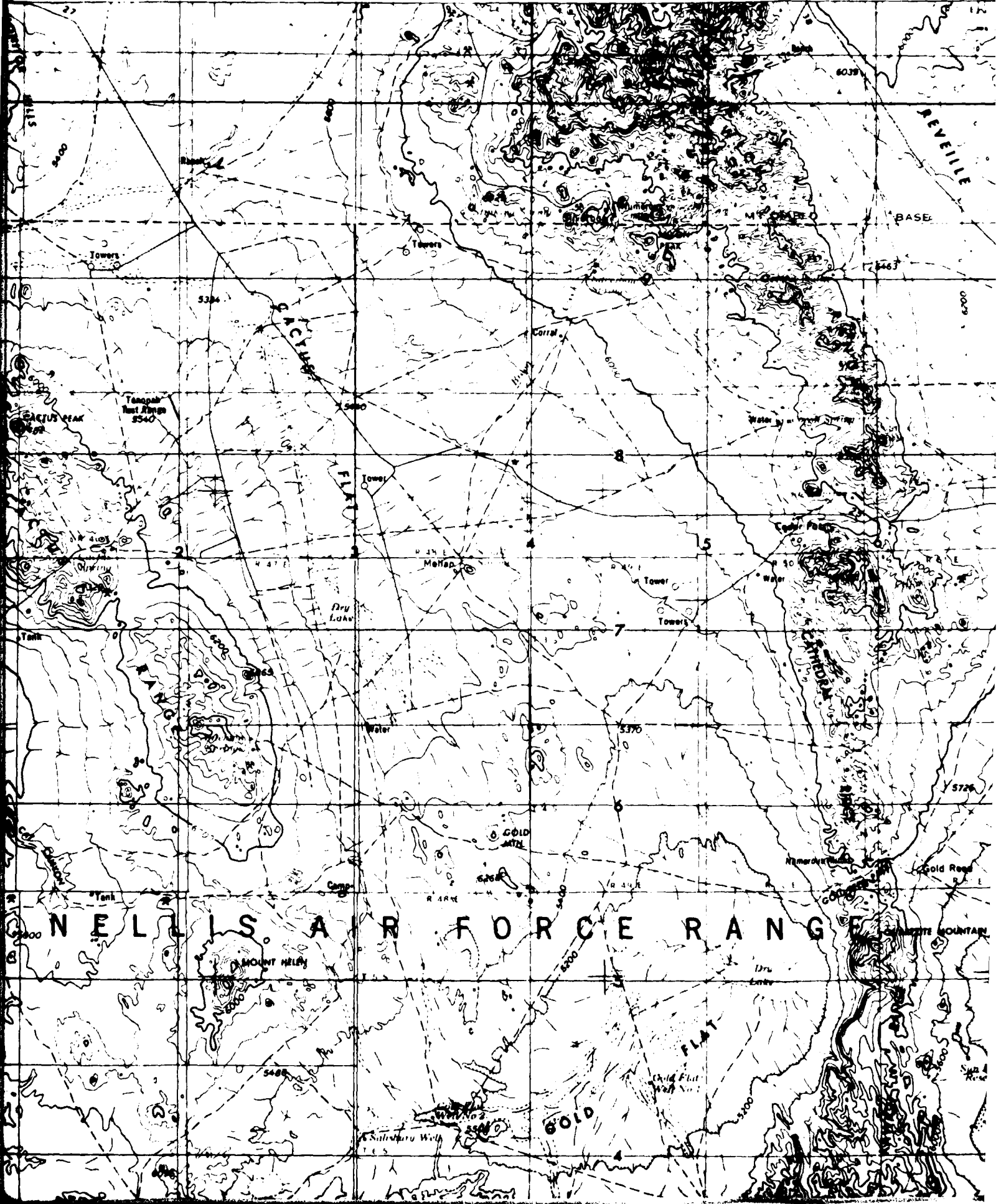
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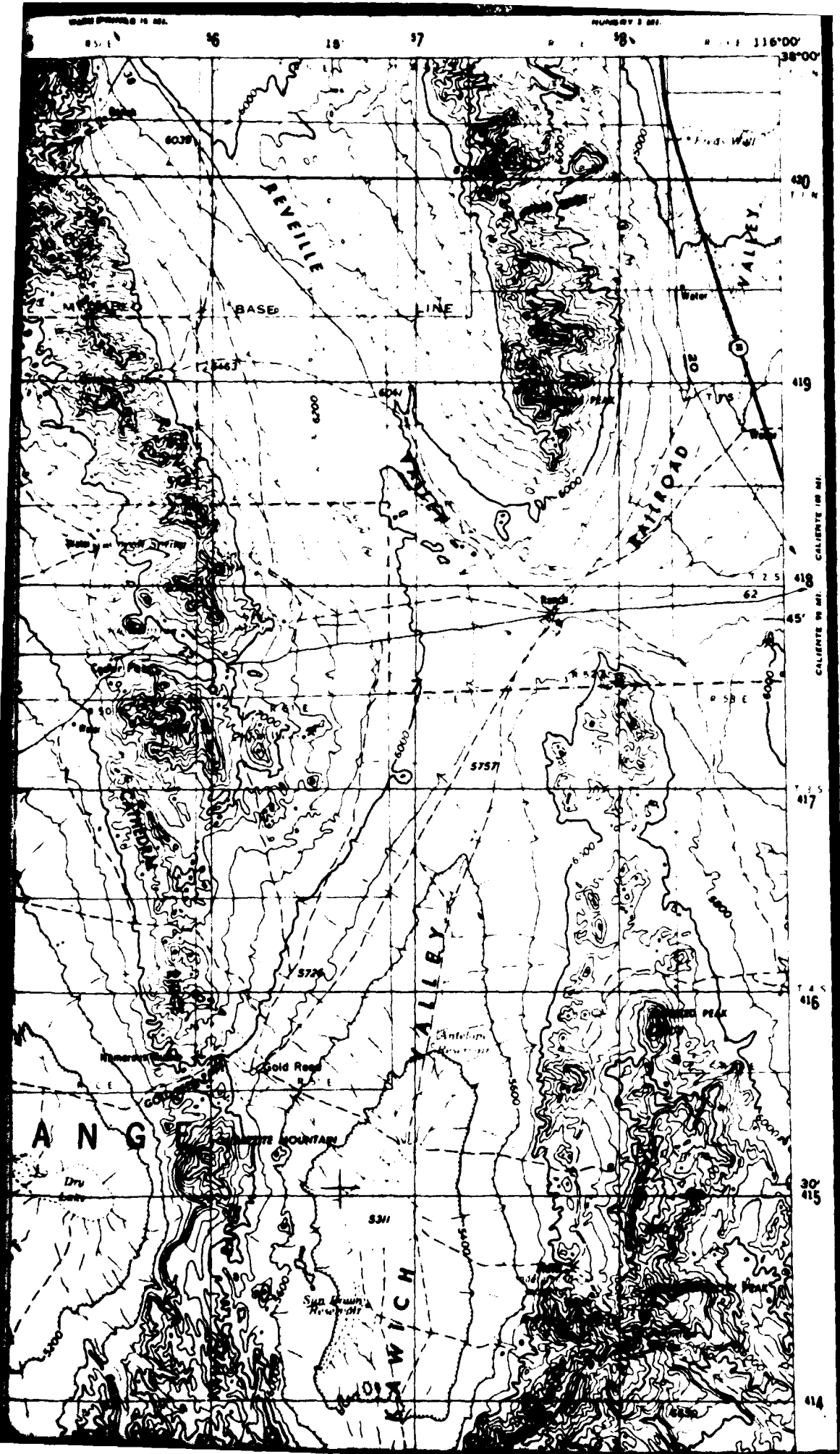
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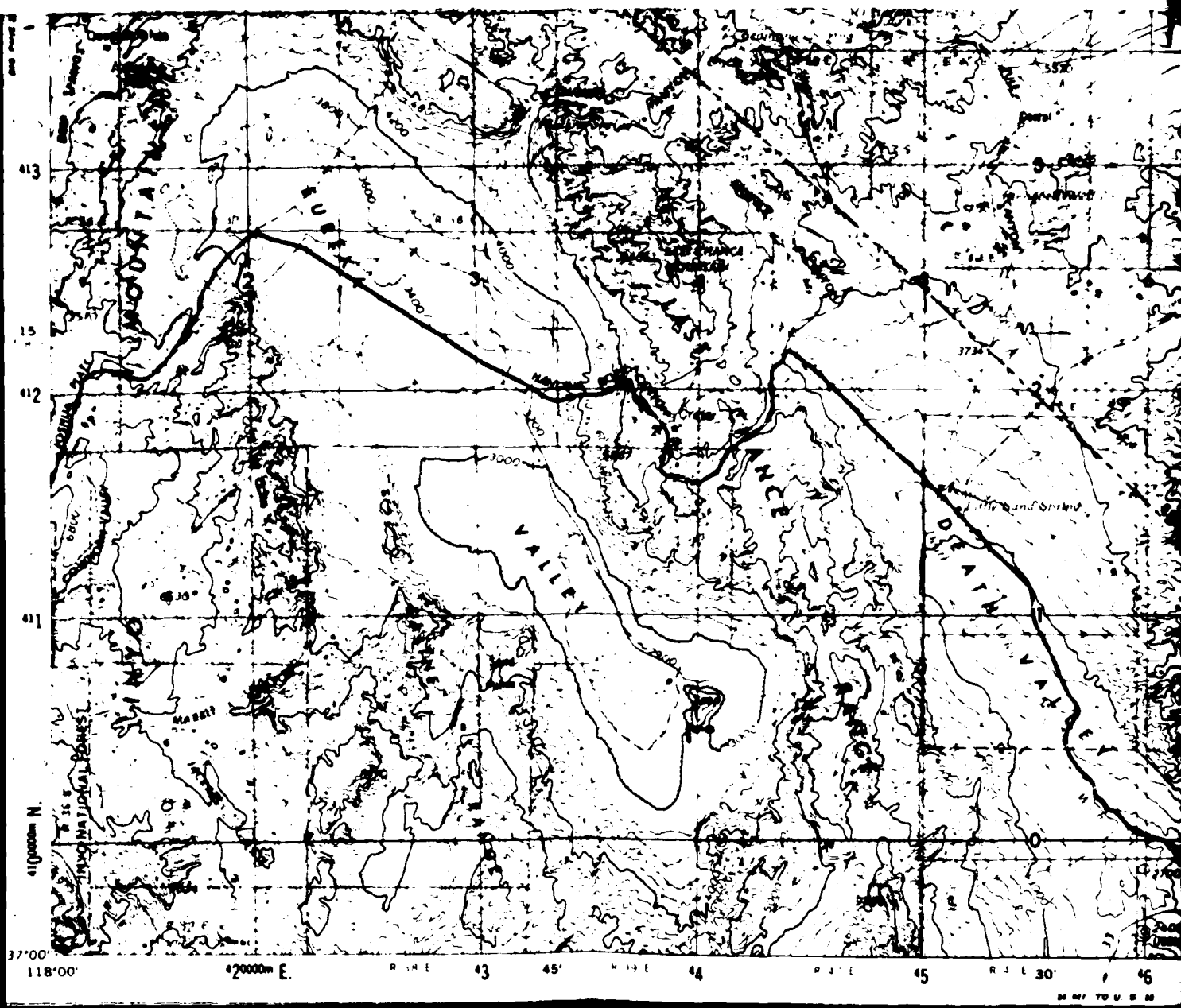
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NELLIS AIR FORCE RANGE









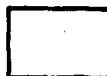
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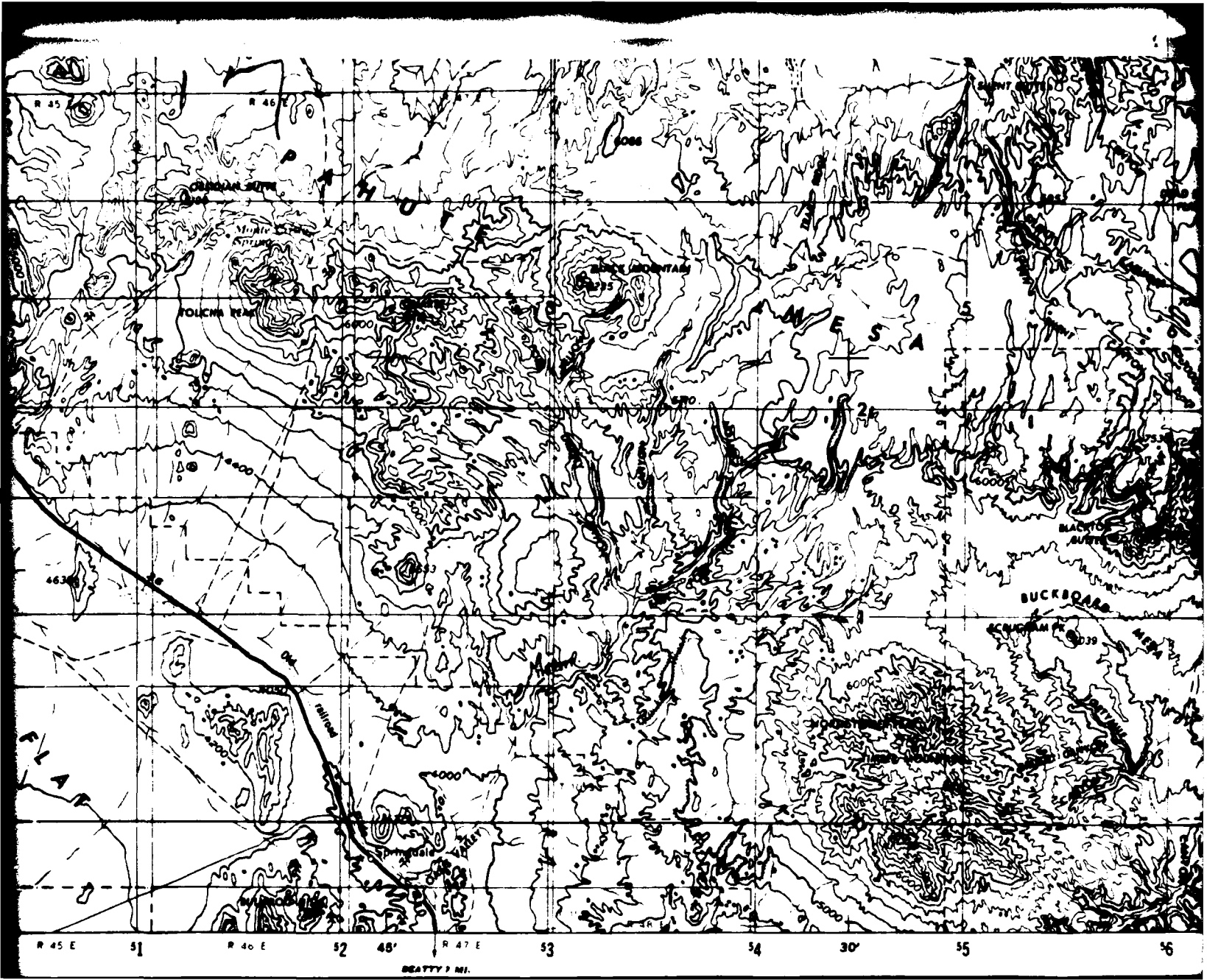


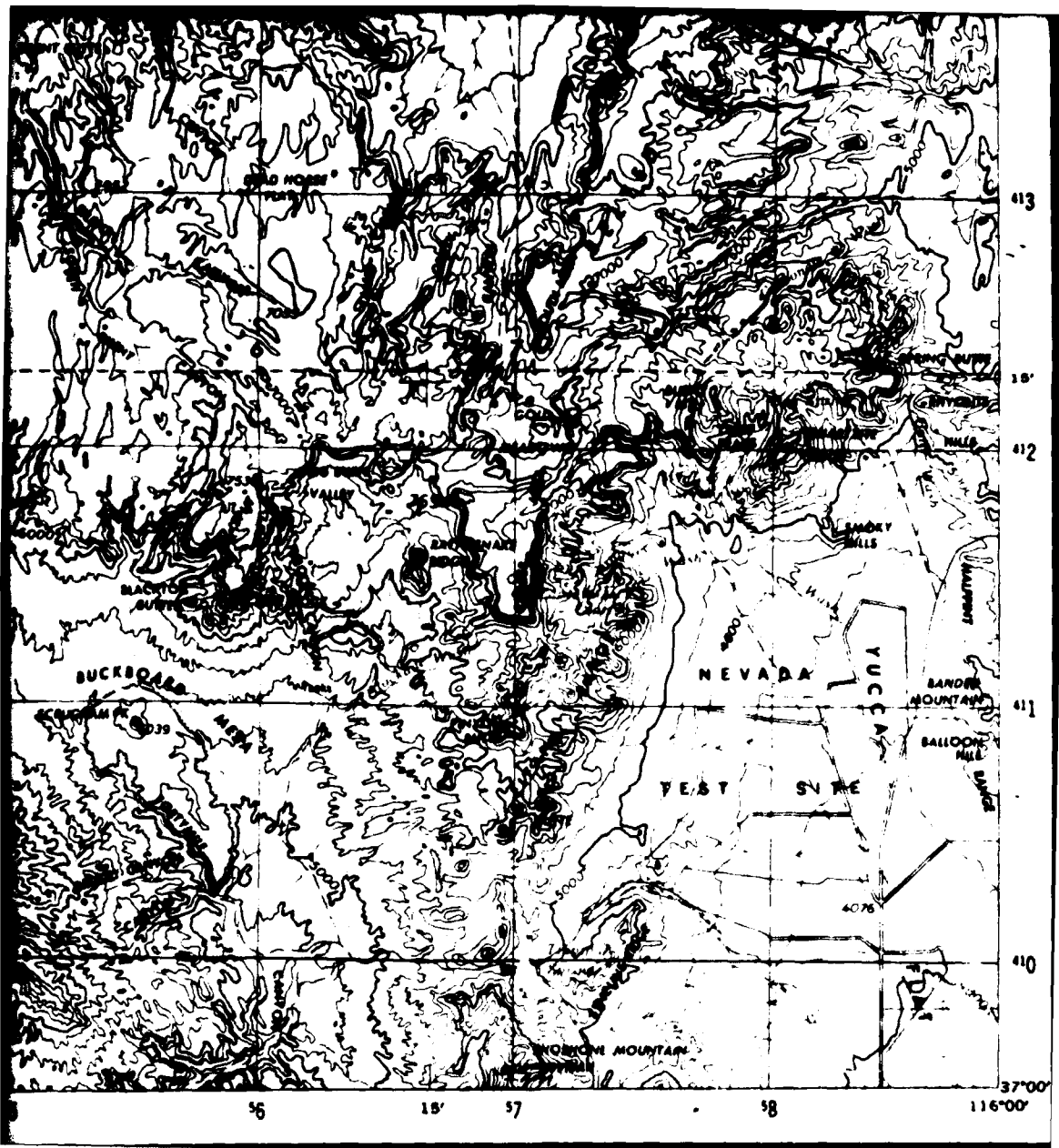
GOLDFIELD 2° QUADRANGLE

Base Prepared by the U.S. Army Topographic Command, Washington, D.C.

EXPLANATION

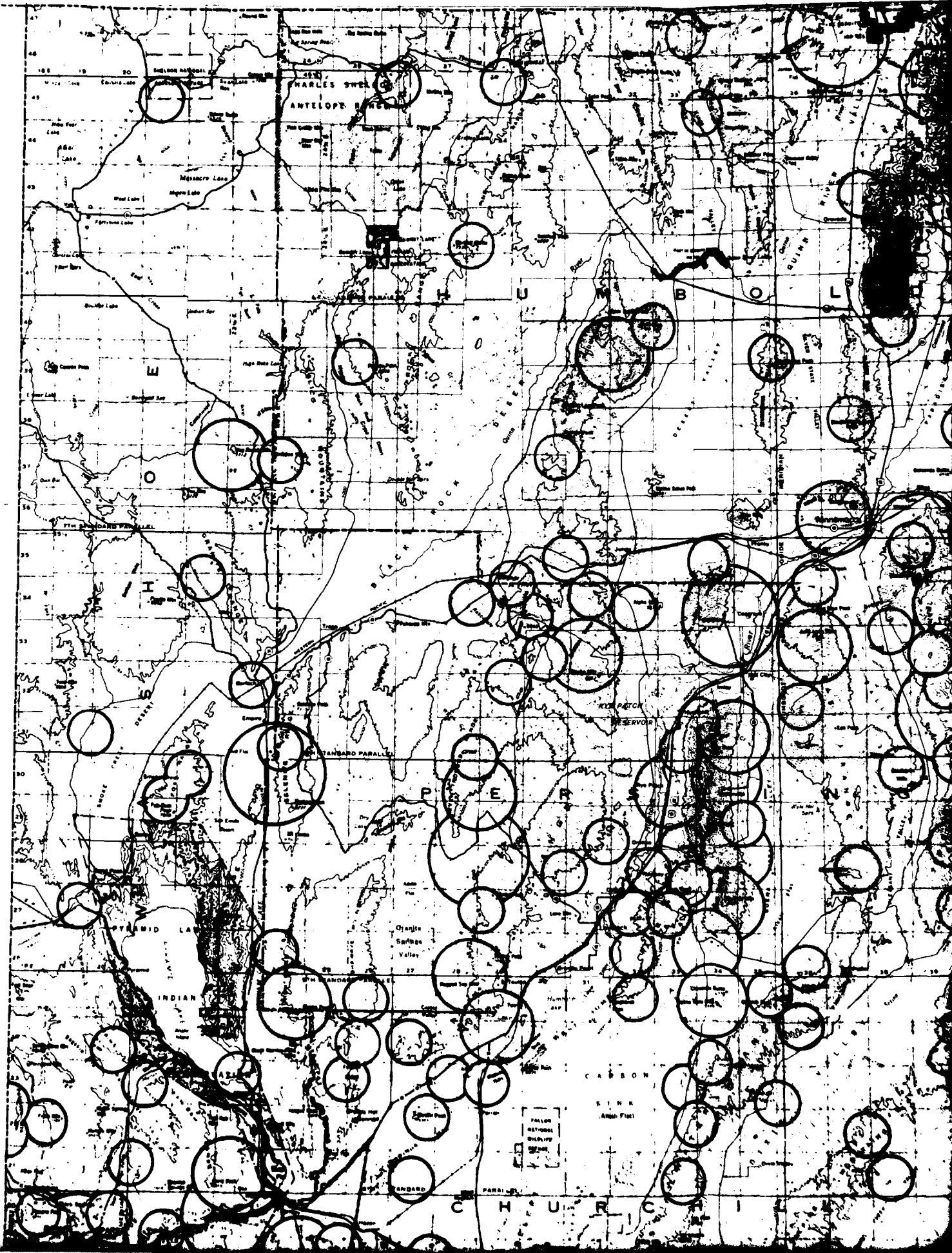
- | | | | |
|---|----------------------|---|--------------------|
|  | FEDERAL LEASE LAND |  | PATENTED MINING CL |
|  | NON FEDERAL FEE LAND |  | UNPATENTED MINING |
|  | STATE LAND |  | RECOMMENDED EXCL |
|  | MATERIAL SITE | | |





O R E G O N

C A L I F O R N I A



FRESH WATER
 SALT WATER
 SWAMP

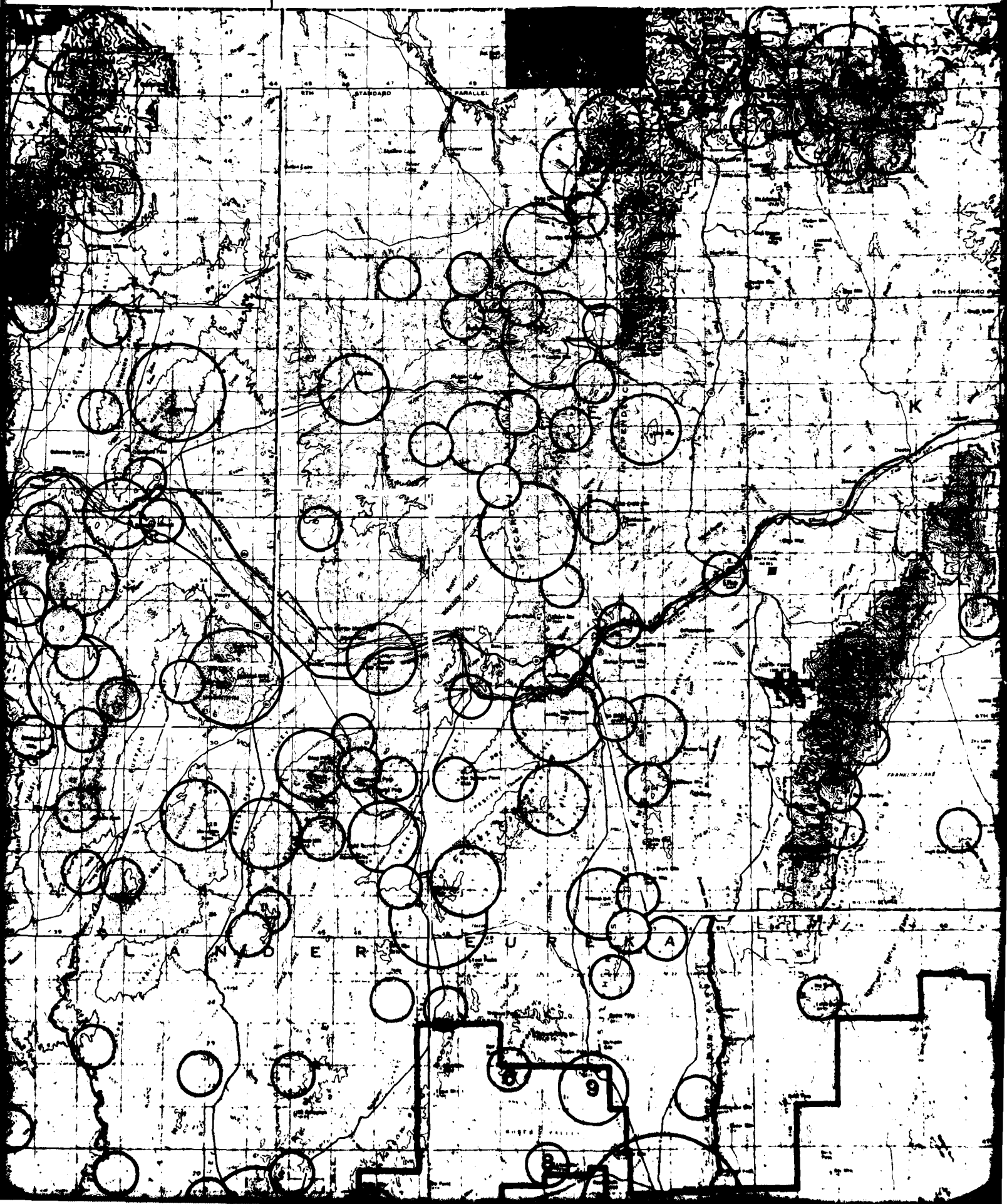
H U M B O L T R I V E R

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117

116

I D A H



LIST OF MINES

Mining District
Mine, Area, or Deposits

WHITE PINE COUNTY

1. Cherry Creek (Egan Canyon, Gold Canyon)
2. Hunter
3. Newark (Strawberry)
4. Pancake Summit
5. White Pine (Hamilton)

EUREKA COUNTY

6. Antelope
7. Eureka (Ruby Hill, Pinto, Prospect, Silverado, Secret Canyon, Spring Valley)
8. Lone Mountain
9. Mount Hope

LANDER COUNTY

10. Dry Creek (Godber)

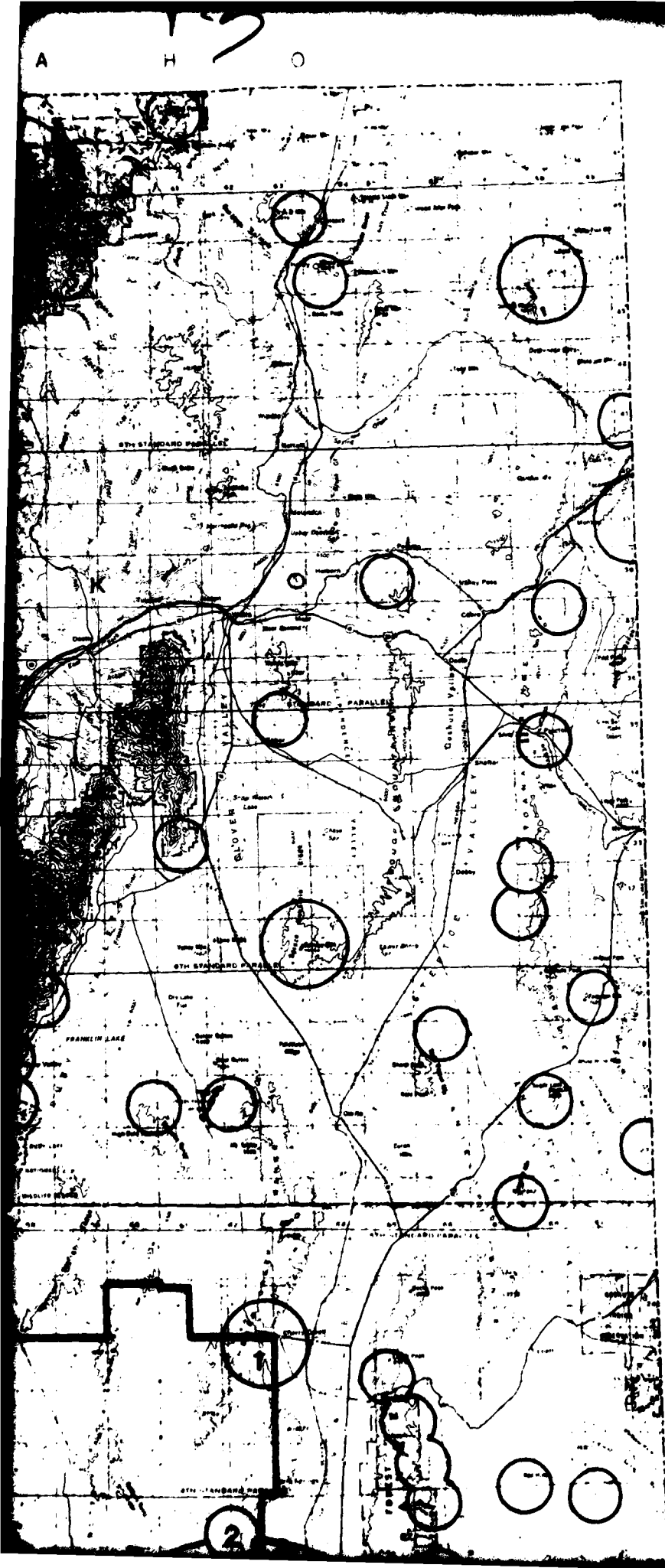
NYE COUNTY

11. Crow Springs (Royston)
12. Coiten
13. Danville
14. Gold Hill
15. Horse Canyon
16. Jett (Ledbetter Canyon)

17. Manhattan

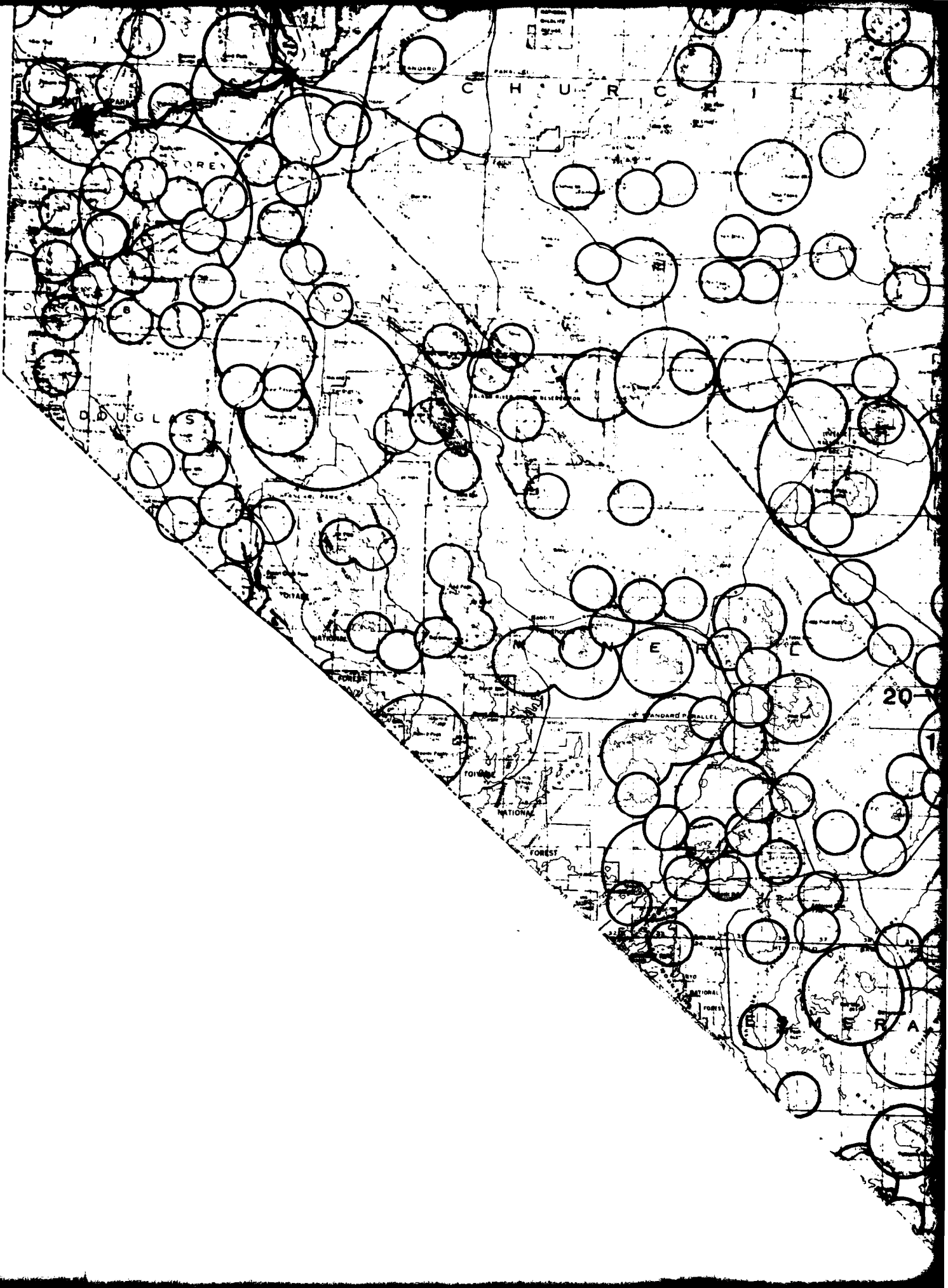
18. Northumberland

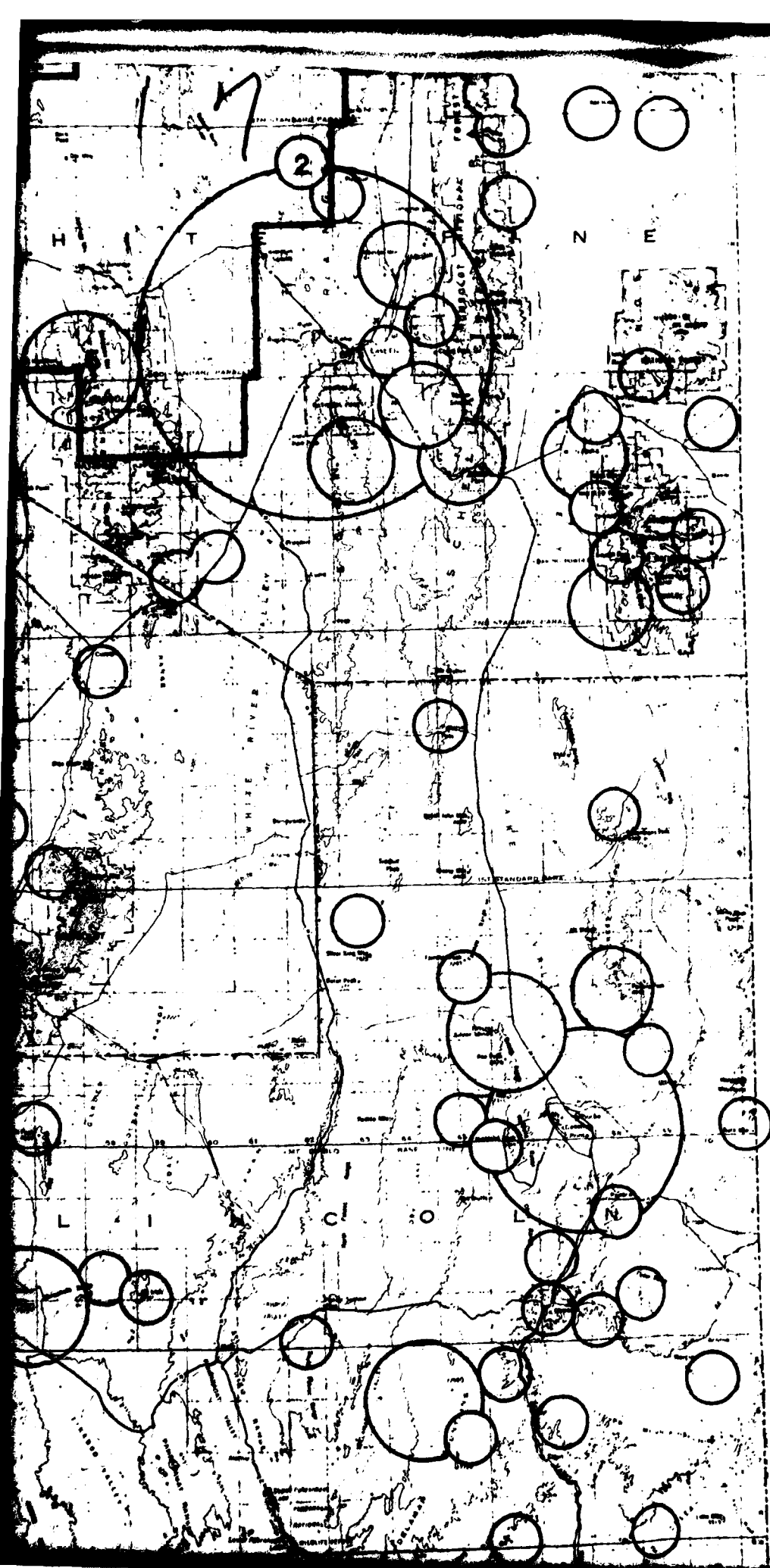
19. Round Mountain (Jefferson Canyon)



<u>Principle Commodity</u>	<u>Description (Original mining district reference number from Mardirosian, 1974a, in parentheses)</u>
Canyon)	Tungsten, gold, silver copper, lead, flourspar Tungsten - irregular pipelike bodies in brecciated and silicified limestone along NE fault zones. Gold, Silver, Copper, Lead - veins Cambrian quartzite and in quartz monzonite intrusive; Gold placer deposits in Egan Canyon (502).
	Lead, copper, silver In brecciated Devonian (?) limestone at the contact with altered granite porphyry (507).
	Silver, lead, copper, gold, tungsten Silver, lead, copper, gold - quartz veins in limestone (514). ²
	Coal N15W vein associated with siliceous iron ore, and interbedded with Mississippian (?) sedimentary rocks (516).
	Lead, silver, gold, copper, zinc, tungsten Lead, silver, gold, copper, zinc - replacement deposits along veins and bedding in Ordovician dolomite; saddle reefs in Devonian limestone below shale, associated with quartz monzonite and granodiorite intrusives (526).
	Zinc, lead, silver Replacement deposits along faults and bedding in limestone (175).
st, Valley)	Lead, gold, silver, zinc, copper, antimony Irregular and bedded replacement deposits, associated with fissures and faults in Cambrian limestone and dolomite, some disseminated deposits (181).
	Zinc, lead, silver Replacement deposits in breccia zones along intersection of NE and NW faults in Devonian Devils Gate limestone (184).
	Zinc, lead, silver, copper Replacement deposits in Permian (?) limestone near alaskite stock (189).
	Turquoise In argillized zones in shale, and dike (233).
	Turquoise Veinlets, lenses, and nodules in altered trachyte and porphyry; seams in chert along quartzite contact in the Triassic Excelsior Formation (147).
	Flourspar Vein in Tertiary rhyolite flows (361).
	Silver, lead NE and NW shear zones in Silurian (?) limestones (364).
	Gold Quartz vein in rhyolite (374).
	Mercury Shear zones in shale and leached sandy limestone (376).
	Antimony, mercury, lead silver, gold Antimony - N70E quartz veins in calcareous shale, near porphyritic latite dikes; Mercury - shear zones in shale and sandy limestone; lead, silver - NW veins in Permian sandstone; Gold - E-W shear zones in Tertiary rhyolite (379).
	Gold, silver, antimony, turquoise Gold, silver - veins in Cambrian (?) schist and limestone, in Tertiary rhyolite and andesite, and in granite intrusive; Gold placer deposits in Manhattan Gulch; Antimony - NW faults in the White Caps limestone Member of the Gold Hill Formation; Turquoise - shear zones in Ordovician shale and slate (388).
	Gold, silver, barite Gold, silver - carbonaceous and silicified shale associated with monzonite intrusive (393).
Canyon)	Gold, silver, tungsten Gold, silver - E-W quartz veins in Ordovician shaly limestone and Tertiary rhyolite porphyry; Gold placer deposits at Round Mountain, south of Egan, and Sunnyside Mine; Tungsten - veins in granite (400).

5





- 18. Northmonteerrand
- 19. Round Mountain (Jefferson Canyon)
- 20. Royston
- 21. Morey
- 22. Belmont

- 23. San Antone (Liberty, Cimarron, San Antonio Hall)

- 24. Tonopah

- ESMERALDA COUNTY
- 25. Diamondfield
- 26. Divide (Gold Mountain)
- 27. Goldfield
- 28. Klondyke

- 29. Lone Mountain (West Divide, Weep)

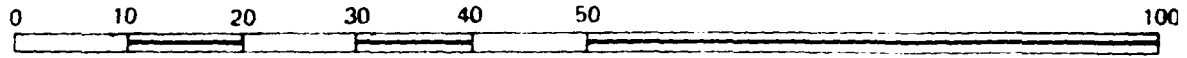
- 30. Olinghouse (White Horse)

1 8

myon)	Gold, silver, tungsten	monzonite intrusive (393). Gold, silver - E-W quartz veins in Ordovician shaly limestone and Tertiary rhyolite porphyry; Gold placer deposits at Round Mountain, and south of Fairview, and Sunnyside Mines; Tungsten - veins in granite (400).
	Silver, lead	Veins and shear zones in chert and andesite (401).
	Silver, gold, lead	E - W veins in altered porphyritic quartz latite (392) .
	Silver, gold, mercury, turquoise	Silver, gold- quartz veins and lenses in slates and limestones along the contact with siliceous granites; Gold placer deposits in Meadow, and Antone canyons. Mercury- quartz-barite veins in granite intrusive, tabular bodies in Ordovician (?) phyllites. Turquoise- at Monarchcamp, in altered and silicified shaly limestone (350).
Iron,	Silver, gold, molybdenum	Silver, gold- veins in Permian volcanics; Gold in N 60 W quartz vein in Ordovician chert, and in seams and bunches in breccia zones in Tertiary rhyolite and latite. Molybdenum- quartz veins and disseminated in quartz monzonite porphyry (402).
	Silver, gold, lead, copper, uranium	Silver, gold, lead, copper- replacement deposits along faults and minor fractures in Tertiary rhyolitic rocks and altered andesite. Uranium- Tertiary tuffaceous sediments (410).
	Gold, silver	in argillized Milltown andesite, silicified dacite (149).
	Silver, gold, lead	N:W - trending lodes along shear zones in the Tertiary Fraction Breccia (153).
	Gold, silver, copper, lead	N-S fracture system in argillized, alunited, and silicified Tertiary Milltown andesite and overlying dacite (156).
	Silver, gold, lead turquoise	Silver, gold, lead - quartz veins in Cambrian limestone, cut by thylite dike and granite intrusives; Turquoise - veinlets, seams, and breccia fillings in cherty limestone and slate (159).
Weepah)	Silver, gold, lead, copper zinc, turquoise	Silver, gold, lead, copper, zinc - replacement deposits in Precambrian and Cambrian limestone and shale, along contact with diorite porphyry and granite intrusives; Turquoise - nodules in N20 - 45E shear zones in altered calcareous shale (161).
	Gold, silver	NE fault zones in granodiorite porphyry intrusives and the Chorpagus Formation; gold placer deposits in Ollinghouse, Frank Free, and Tiger Canyons (488).

9

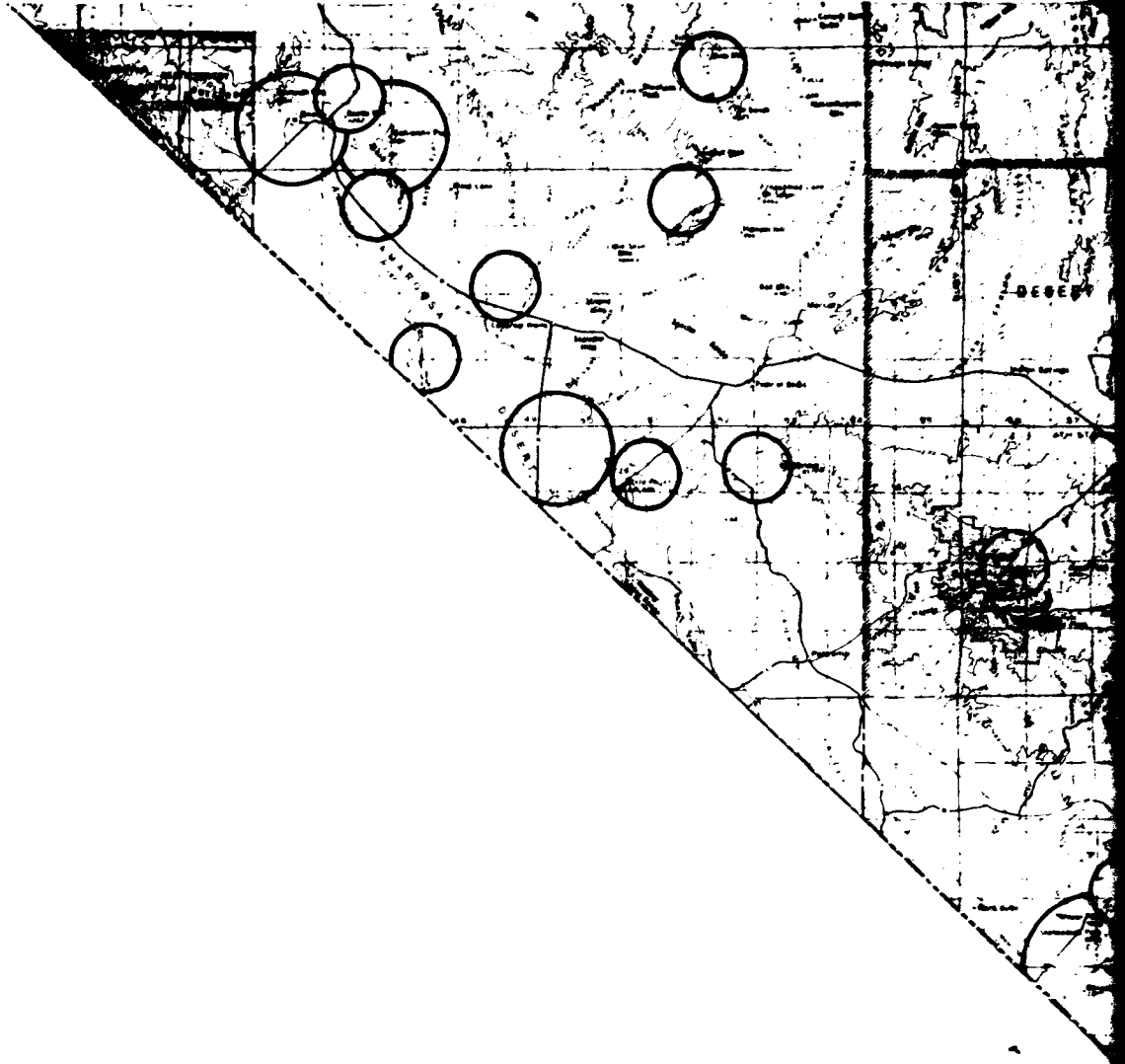
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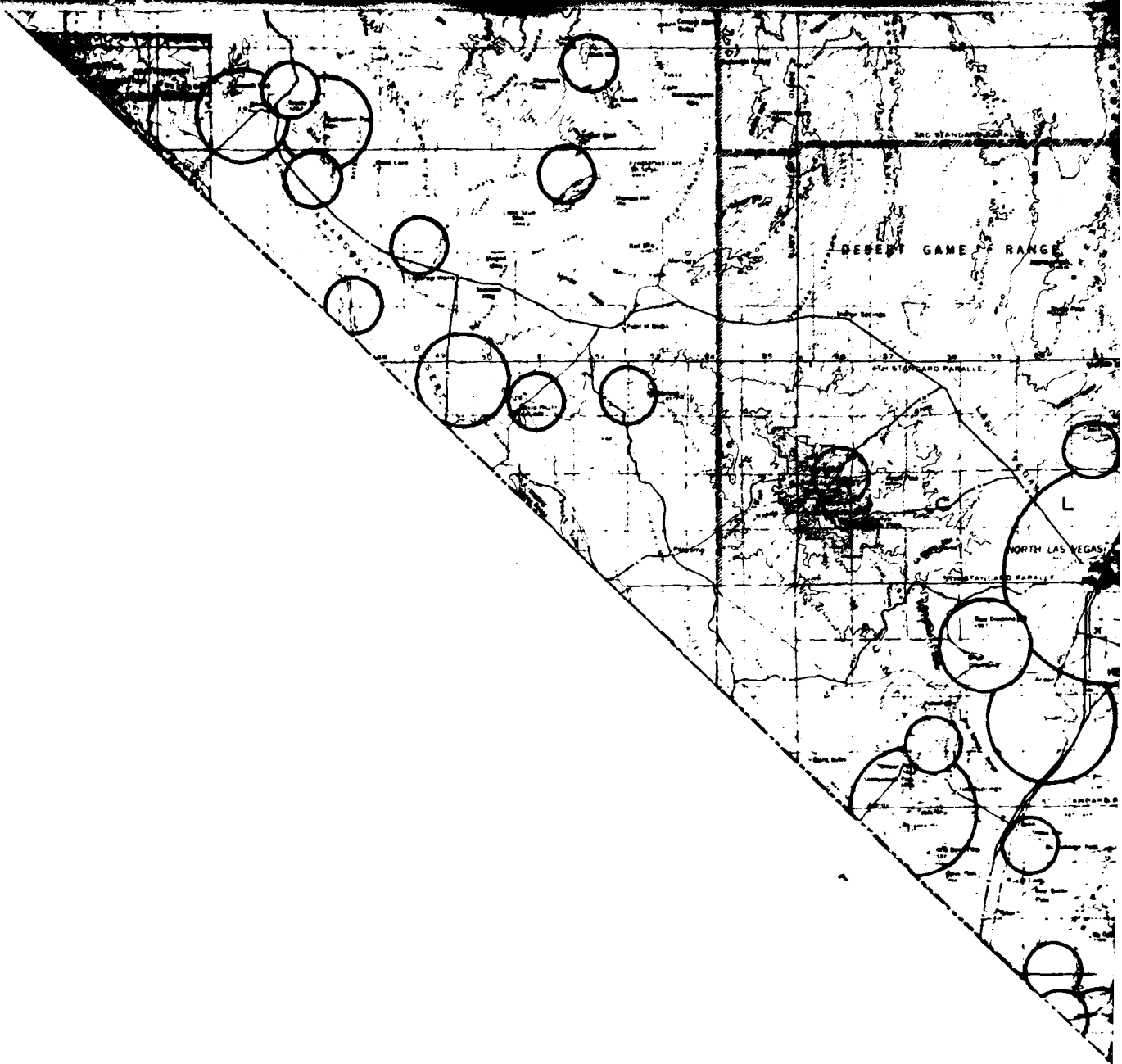
100 MILES

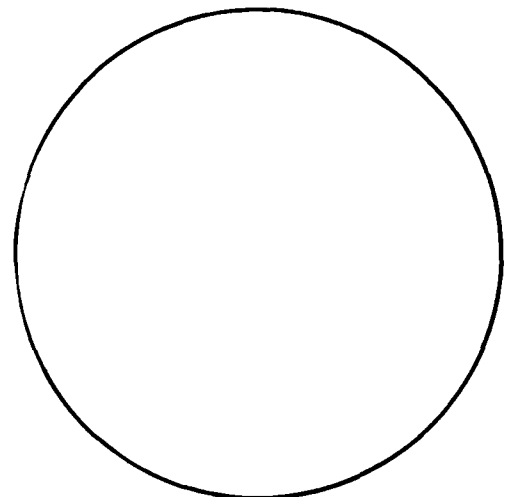
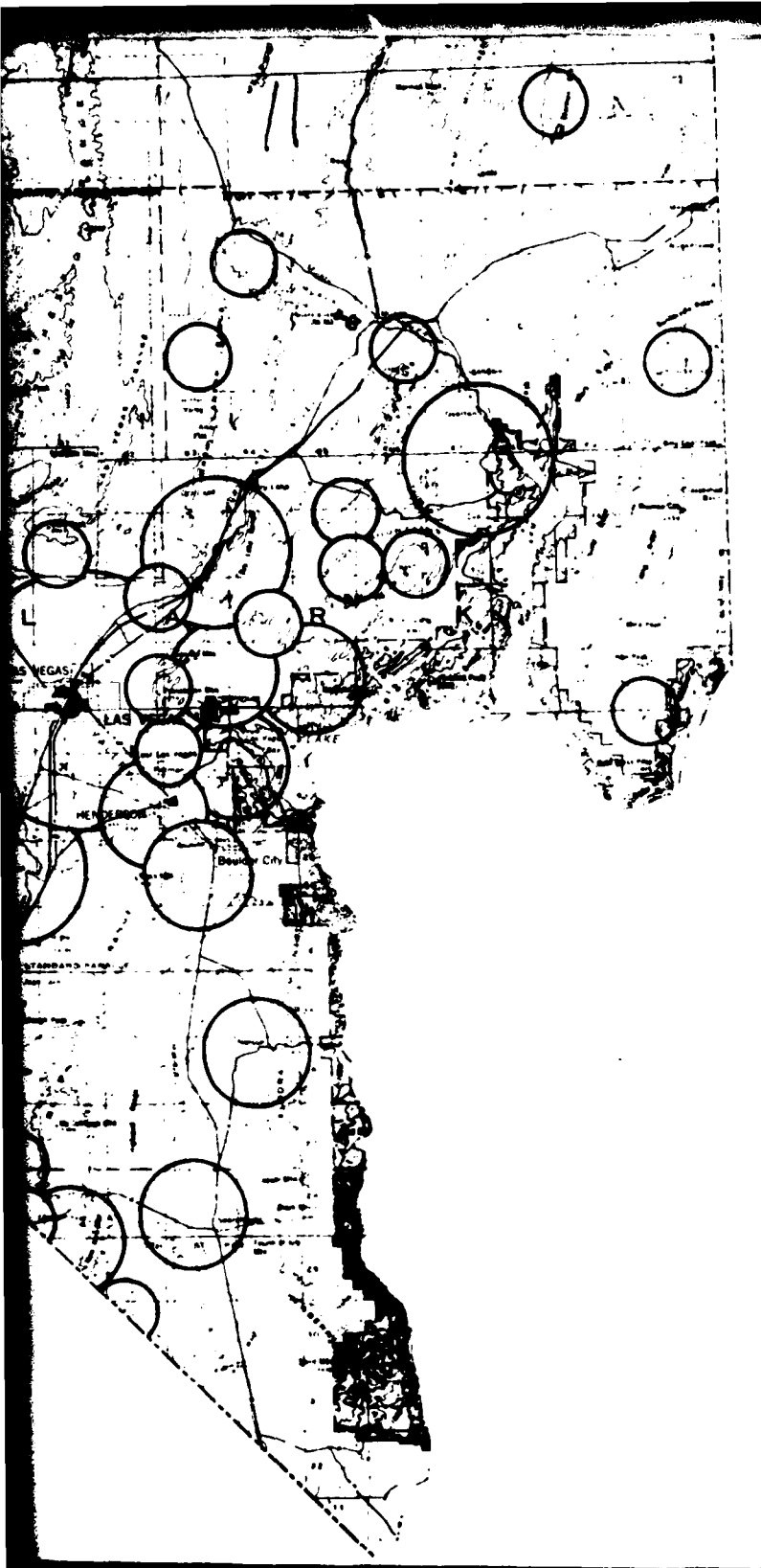
KILOMETERS



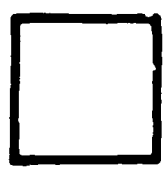
10

MILES





1 - 2 BILLION

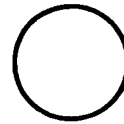
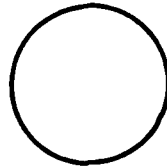
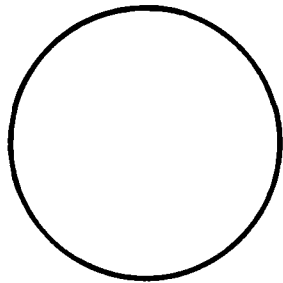
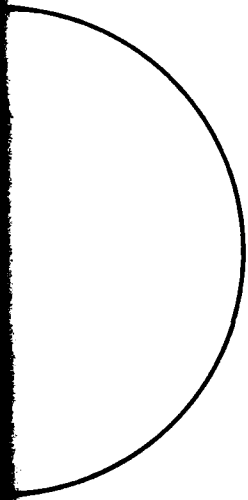


**MX ADDITION
RESOURCES
BOUNDARY!**

BASE MAP REDUCED FROM
SURVEY MAP STATE OF I

MODIFIED FROM MARDIR

CUMULATIVE PRODUCTION IN DOLLARS TO 1974



LLION

100 MILLION - 1 BILLION

10 - 100 MILLION

1 - 10 MILLION

0 - 1 MILLION

MX ADDITIONAL VALLEY MINERAL
RESOURCES SURVEY STUDY AREA
BOUNDARY SEPTEMBER 26, 1980

MAP REDUCED FROM U.S. GEOLOGIC
MAP STATE OF NEVADA

ED FROM MARDIROSIAN, 1974 a

Ertec

The Earth Technology Corporation

MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

MINING DISTRICTS OF NEVADA

30 APR 81

DRAWING 19