

STATUS OF MINERAL RESOURCE
INFORMATION
FOR
THE LUKE AIR FORCE RANGE
ARIZONA

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TABLE OF CONTENTS

| | Page |
|---|------|
| I. INTRODUCTION | 1 |
| II. GEOGRAPHICAL SETTING | 17 |
| A. <u>Climate</u> | 19 |
| B. <u>Topography</u> | 23 |
| III. A BRIEF HISTORICAL RESUME OF MINERAL RELATED ACTIVITY ON THE LUKE AIR FORCE RANGE, PRIOR TO 1941 | 28 |
| A. <u>Spanish Period</u> | 29 |
| B. <u>Mexican and American Period</u> | 32 |
| IV. MINES, PROSPECTS AND CLAIM GROUPS ON AND ADJACENT TO LAFR BY MINING DISTRICTS | 34 |
| A. <u>Fortuna Mining District</u> | 34 |
| 1. <u>Gila Mountains</u> | 34 |
| 2. <u>Tinajas Altas</u> | 36 |
| 3. <u>Vopoki Ridge and Butler Mountains</u> | 37 |
| 4. <u>Mines, Prospects, Mineral Occurrences</u> <u>or Claim Groups</u> | 37 |
| B. <u>La Posa (Wellton) Mining District</u> | 42 |
| 1. <u>The Wellton Hills</u> | 42 |
| 2. <u>Baker Peaks</u> | 45 |
| 3. <u>Copper Mountains</u> | 46 |
| 4. <u>Cabeza Prieta Mountains</u> | 46 |
| 5. <u>Tule Mountains</u> | 47 |
| 6. <u>Mines, Prospects, Mineral Occurrences</u> <u>or Claim Groups</u> | 48 |

| | Page |
|---|------|
| C. <u>Mohawk Mining District</u> | 60 |
| 1. <u>Mohawk Mountains</u> | 60 |
| 2. <u>Bryan Mountains</u> | 64 |
| 3. <u>Mines, Prospects, Mineral Occurrences</u> <u>or Claim Groups</u> | 53 |
| D. <u>Agua Dulce Mining District</u> | 71 |
| E. <u>Ajo Mining District</u> | 80 |
| F. <u>Mines, Prospects or Claim Groups Which</u> <u>Lie Within LAFR's Boundaries But Not Within</u> <u>An Organized Mining District</u> | 83 |
| G. <u>Peripheral Mining Districts</u> | 88 |
| V. SUMMARY AND CONCLUSIONS | 97 |
| APPENDIXES | |
| APPENDIX A. LIST OF ABBREVIATIONS USED IN THIS REPORT | 99 |
| APPENDIX B. NUMERICAL INDEX OF MAP REFERENCES FOR MINES, PROSPECTS OR CLAIM GROUPS ON LUKE AIR FORCE RANGE | 100 |
| APPENDIX C. ALPHABETICAL INDEX OF MINES, PROSPECTS OR CLAIM GROUPS ON LUKE AIR FORCE RANGE | 139 |
| APPENDIX D. ALPHABETICAL INDEX OF MINES, PROSPECTS OR CLAIM GROUPS ON LUKE AIR FORCE RANGE BY MINING DISTRICTS | 165 |
| BIBLIOGRAPHY | 191 |

LIST OF TABLES AND FIGURES

| TABLE | Page |
|--|------|
| I. PRODUCTION DATA FOR ARIZONA'S MAJOR COPPER PRODUCERS WHICH LIE IN CLOSE PROXIMITY TO LUKE AIR FORCE RANGE | 5 |
| II. PROVEN COPPER RESERVES IN ARIZONA | 8 |
| III. DISCOVERY AND PRODUCTION DATA FOR ARIZONA METAL MINES | 13 |
| IV. NEW METAL MINES DISCOVERED IN THE SAME GEOLOGICAL PROVINCE AS THE LUKE AIR FORCE RANGE | 14 |
| V. TEMPERATURE AND MOISTURE READINGS TINAJAS ALTAS MOUNTAINS 1905 | 21 |
| VI. MEAN MAXIMUM AND MINIMUM TEMPERATURES AND ANNUAL MEAN PRECIPITATION FOR SEVERAL ARIZONA TOWNS | 24 |
| VII. PRODUCTION LA FORTUNA MINE | 40 |
| VIII. MINES, PROSPECTS OR CLAIM GROUPS IN THE FORTUNA MINING DISTRICT WITH NO INFORMATION OTHER THAN A NAME | 43 |
| IX. UNNAMED MINES AND PROSPECTS IN THE FORTUNA MINING DISTRICT | 44 |
| X. MINES, PROSPECTS OR CLAIM GROUPS IN THE LA POSA (WELLTON) DISTRICT WITH NO INFORMATION OTHER THAN A NAME | 57 |
| XI. UNNAMED MINES AND PROSPECTS IN THE LA POSA (WELLTON) DISTRICT | 61 |
| XII. MINERAL OCCURRENCES IN THE LA POSA (WELLTON) DISTRICT | 63 |
| XIII. MINES, PROSPECTS OR CLAIM GROUPS IN THE MOHAWK DISTRICT WITH NO INFORMATION OTHER THAN A NAME | 69 |
| XIV. UNNAMED MINES AND PROSPECTS IN THE MOHAWK DISTRICT | 70 |

| | Page |
|---|------|
| XV. MINES, PROSPECTS OR CLAIM GROUPS IN THE AGUA DULCE DISTRICT WITH NO INFORMATION OTHER THAN A NAME | 75 |
| XVI. UNNAMED MINES AND PROSPECTS IN THE AGUA DULCE DISTRICT | 79 |
| XVII. MINES, PROSPECTS OR CLAIM GROUPS IN THE AJO MINING DISTRICT WHICH ARE PERIPHERIAL TO THE LUKE AIR FORCE RANGE | 81 |
| XVIII. MINES, PROSPECTS OR CLAIM GROUPS IN THE AJO MINING DISTRICT WITH NO INFORMATION OTHER THAN A NAME | 84 |
| XIX. MINES, PROSPECTS OR CLAIM GROUPS NOT WITHIN AN ORGANIZED DISTRICT WITH NO INFORMATION OTHER THAN A NAME | 89 |
| XX. UNNAMED MINES, PROSPECTS AND MINERAL OCCURRENCES NOT WITHIN AN ORGANIZED DISTRICT | 90 |
| XXI. MINES, PROSPECTS, CLAIM GROUPS, OR MINERAL OCCURRENCES LOCATED WITHIN THE DOME (GILA CITY) MINING DISTRICT | 91 |
| XXII. MINES, PROSPECTS OR CLAIM GROUPS LOCATED WITHIN THE GROWLER MINING DISTRICT | 92 |
| XXIII. MINERAL OCCURRENCES WITHIN THE GUNSIGHT (MEYER) MINING DISTRICT | 94 |
| XXIV. MINES, PROSPECTS OR CLAIM GROUPS LOCATED WITHIN THE MONTEZUMA (PUERTO BLANCO MTS.) MINING DISTRICT | 95 |

| Figure | Page |
|--|-----------|
| 1. Location Map of Luke Air Force Range | 2 |
| 2. Index to Topographic Maps for the Luke Air Force Range | 3 |
| 3. Location and Name of Arizona's Copper Producers and Copper Reserves | 7 |
| 4. Arizona's Physiographic Provinces | 18 |
| 5. Physiographic Features on Luke Air Force Range | 20 |
| 6. View of Typical Mountain Range on Luke Air Force Range | 27 |
| 7. Index Map of Mining Districts on or in Close Proximity to Luke Air Force Range | 35 |
| 8. Abandoned Bombing Target That Was Marked As A Copper Prospect on the U.S.G.S. Ajo Arizona 1:250,000 (1953) Map | 85 |
| 9. Appendix B Map References for Mines, Prospects, or Claim Groups on Luke Air Force Range, Arizona..... | In Pocket |

STATUS OF MINERAL RESOURCE
INFORMATION FOR THE LUKE AIR FORCE RANGE
ARIZONA

I. INTRODUCTION

This report was prepared for the United States Air Force under an agreement to compile and summarize available information on the geology, minerals and energy resources of the Luke Air Force Range.

The primary focus of this investigation is to compile a general inventory of mineral production and mineral resources activity on the Luke Air Force Range (LAFR).

LAFR is a wedge-shaped land area of 2,673,156 acres lying in the southwestern corner of Arizona and spanning portions of Yuma, Maricopa and Pima Counties. The LAFR complex extends east-west between the communities of Ajo and Yuma, Arizona. Its northern boundary is formed by the Gila River Valley, a main line of the Southern Pacific Railroad, and U. S. Interstate Highway 8. Limiting its southern extent is the International Boundary between the United States and Mexico. The eastern boundary is formed, in Maricopa County, by the Vekol Valley and the Papago Indian Reservation and, in Pima County, by the town of Ajo and the Organ Pipe Cactus National Monument. The Colorado River Valley forms its western boundary (Figure 1). LAFR has a maximum north-south dimension of approximately 60 miles and an east-west dimension of approximately 130 miles. The LAFR complex is shown on parts, or all, of 44 United States Geological Survey quadrangle maps (Figure 2). Included within the boundaries of LAFR are the 825,440 acres comprising the Cabeza Prieta Game Range (Figure 1). The game range is administrated by the United States Fish and Wildlife Service.

LAFR is located adjacent to one of the most productive copper mining areas in the United States. Ten mines, which are in close proximity to LAFR, accounted for approximately 38 percent of Arizona's 1975 copper production. In 1976, these same 10 mines produced approximately

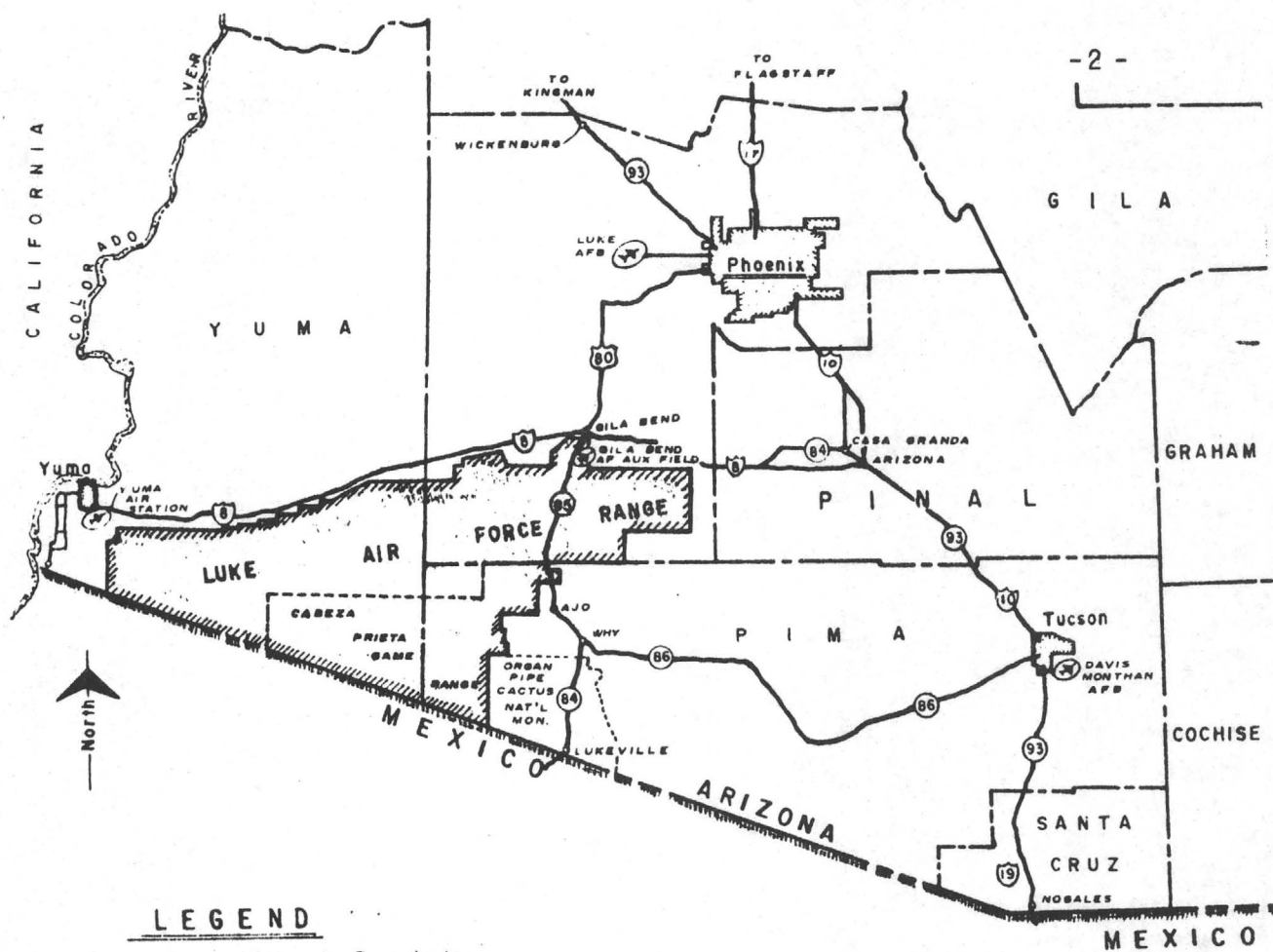


Figure 1. Location map of Luke Air Force Range

Source: U. S. Air Force (Reduced from State Highway Map)

43 percent of the States' copper. Table I lists the individual mines, the production data for 1975-1976 and how these figures relate to the States' total production.

Arizona has been the leading copper producing state for several years. The locations and names of Arizona's major copper properties, and copper reserves, are given in Figure 3. Table II lists the proven copper reserves at each of these properties. In 1974, Arizona's primary copper output accounted for 54 percent of the nation's total copper production. To maintain its distinction as the nation's largest producer of copper, the industry, in 1974, mined 178.9 million tons of copper ore which contained 1.8 billion pounds of recoverable copper. In 1975, Arizona's copper companies mined 164.5 million tons of copper ore which contained 1.6 billion pounds of recoverable copper (Miller:1976:vii). Arizona's 1976 production reflects an increase over the 1975 figures. The industry mined 186.5 million tons copper ore which contained over 2 billion pounds of recoverable copper.

Despite its proximity to major Arizona copper deposits there is little detailed published information relating to the geology, mineral or energy resources on LAFR. The reason for this is twofold: first, LAFR lies in an extremely arid, hostile and isolated area of Arizona and, because of this, prospecting for and the development of mineral resources was extremely difficult; secondly, and perhaps more important, LAFR has been withdrawn from mineral entry since 1942. The withdrawal precluded collection and dissemination of data relating to the mineral resources of the area. Since the withdrawal, mineral exploration technology and methodology has become increasingly sophisticated.

A report recently published in the Engineering and Mining Journal (Albers: 1977:71) lists 50 new U. S. metal mines discovered or brought into production in the years from 1940 through 1976. Table III lists the Arizona deposits. Many of these new deposits were found in the same geological province as LAFR (Table IV). Most of these were discovered or rediscovered and brought into production by the application of modern exploration, mining and extractive technology.

Previous geological investigations of LAFR have been primarily (1) reconnaissance studies (2) groundwater resources studies or (3) specific property examinations by mining companies or by private consultants. However, there has been no attempt to correlate or synthesize known geologic, mineral or energy resources data for LAFR.

A synthesis of previous data integrated with data recovered by utilization of new mineral exploration technology and methodology, will provide the base for the assessment of mineral potential of LAFR.

TABLE I

PRODUCTION DATA FOR ARIZONA'S MAJOR COPPER PRODUCERS
WHICH LIE IN CLOSE PROXIMITY TO LUKE AIR FORCE RANGE

| <u>Company</u> <u>Mine</u> | 1975 | | | 1976 | | |
|-------------------------------|-----------------------------|---------------------------------|-------------------------------------|-----------------------------|---------------------------------|-------------------------------------|
| | Tons Copper Ore Mined | Pounds Recoverable Copper | Pounds Recoverable Molybdenum | Tons Copper Ore Mined | Pounds Recoverable Copper | Pounds Recoverable Molybdenum |
| <u>ANAMAX:</u> | | | | | | |
| Twin Buttes | 2,307,331 | 18,306,894 | 273,228 | 8,851,000 | 133,396,000 | 1,223,000 |
| Cathode Cu | | 13,461,772 | | | 57,925,000 | |
| <u>ASARCO:</u> | | | | | | |
| Silver Bell | 2,541,900 | 28,037,459 | | 3,076,400 | 35,939,534 | |
| Precipitate Cu | | 8,496,533 | | | 8,627,066 | |
| Mission | 5,089,800 | 53,891,133 | 432,304 | 6,407,300 | 70,380,563 | 268,679 |
| San Xavier | | | | | | |
| Precipitate Cu | 1,368,600 | 19,384,305 | | 1,317,400 | 22,771,705 | |
| Sacaton | 3,606,400 | 43,835,162 | | 3,781,800 | 44,042,241 | |
| <u>CYPRUS MINES:</u> | | | | | | |
| Pima | 19,630,974 | 154,541,515 | 1,814,263 | 19,554,407 | 154,986,103 | 1,906,318 |
| <u>DUVAL:</u> | | | | | | |
| Esperanza | 5,490,362 | 24,914,864 | 3,194,830 | 5,486,238 | 28,623,378 | 2,986,930 |
| Precipitate Cu | | 3,960,323 | | | 6,412,177 | |
| Sierrita | 31,430,788 | 186,727,062 | 13,286,923 | 34,022,842 | 202,927,887 | 17,608,678 |
| <u>HECLA MINING COMPANY:</u> | | | | | | |
| Lakeshore Mine | | | | | | |
| Sulfide Ore | | | | 1,209,340 | 18,426,880 | |
| Oxide Ore | | | | 1,410,228 | 28,407,483 | |

TABLE I (Continued)

PRODUCTION DATA FOR ARIZONA'S MAJOR COPPER PRODUCERS
WHICH LIE IN CLOSE PROXIMITY TO LUKE AIR FORCE RANGE

| <u>Company</u> <u>Mine</u> | 1975 | | | 1976 | | |
|---|--|--|--|--|--|--|
| | <u>Tons</u> <u>Copper Ore</u> <u>Mined</u> | <u>Pounds</u> <u>Recoverable</u> <u>Copper</u> | <u>Pounds</u> <u>Recoverable</u> <u>Molybdenum</u> | <u>Tons</u> <u>Copper Ore</u> <u>Mined</u> | <u>Pounds</u> <u>Recoverable</u> <u>Copper</u> | <u>Pounds</u> <u>Recoverable</u> <u>Molybdenum</u> |
| <u>PHELPS DODGE:</u> New Cornelia Branch | 7,270,059 | 66,045,992 | | 9,481,855 | 100,399,483 | |
| Source: Miller: 1976: 43-46 | | | | | | |

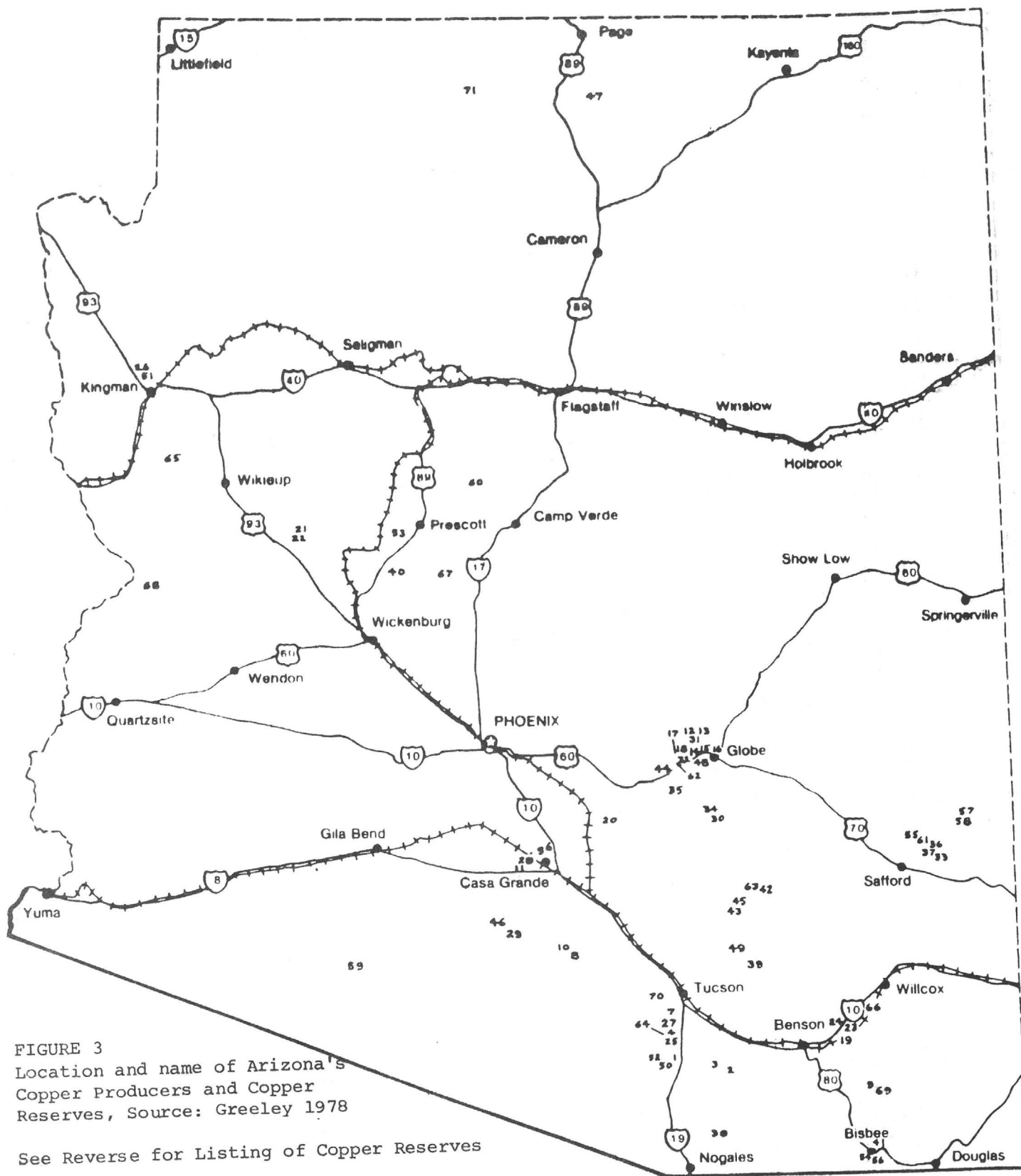


FIGURE 3
Location and name of Arizona's
Copper Producers and Copper
Reserves, Source: Greeley 1978

See Reverse for Listing of Copper Reserves

* COPPER RESERVES OF ARIZONA

ANAMAX MINING CO.

1. Twin Buttes
2. Helvetia
3. Peach Elgin

ASARCO INC.

4. Mission
5. Sacaton
6. Sacaton East
7. San Xavier
8. Silver Bell

AZTEC MINING CO.

9. Aztec (Mame)

BS & K MINING CO.

10. Atlas

CASA GRANDE COPPER CO.

11. Casa Grande

CITIES SERVICE CO.

12. Cactus
13. Copper Cities
14. Miami
15. Miami East
16. Old Dominion
17. Pinto Valley
18. Red Hill

CRANE CO.

19. Dagoon

CONTINENTAL OIL CO.

20. Poston Butte

CYPRUS MINES CORP.

21. Bagdad
22. Bruce
23. I-10
24. Johnson

CYPRUS PIMA MINING CO.

25. Pima

EL PASO CO.

26. Emerald Isle

EISENHOWER MINING CO.

27. Palo Verde

FREEPORT MINERALS CO.

28. Santa Cruz

HECLA MINING CO.

29. Lakeshore

INSPIRATION CONSOLIDATED
COPPER CO.

30. Christmas
31. Inspiration Area
Mines
32. OX Hide
33. Sanchez

KENNECOTT COPPER CORP.

34. Chilito
35. Ray
36. Safford
37. Safford Extension

KERR-MCGEE CORP.

38. Red Mountain

KEYSTONE MINERALS INC.

39. Korn Kob

MCALISTER FUEL CO.

40. Zonia

MULTIPLE OWNERS

41. Bisbee North

NEWMONT MINING CORP.

42. Copper Creek
43. Kalamazoo
44. Magma (Superior)
45. San Manuel
46. Vekol Hills

NAVAJO TRIBE (?)

47. White Mesa

OCCIDENTAL PETROLEUM CO.

48. Van Dyke

ORACLE RIDGE MINING
PARTNERS

49. Oracle Ridge

PENNZOIL CO.
(DUVAL CORP.)

50. Esperanza
51. Mineral Park
52. Sierrita

PHELPS DODGE CORP.

53. Copper Basin
54. Copper Queen
55. Dos Pobres
56. Lavender
57. Metcalf
58. Morenci

PHELPS DODGE cont.

59. New Cornelia
60. United Verde

PRODUCERS MINERALS CORP.

61. San Juan

RANCHERS EXPLORATION &
DEVELOPMENT CO.

62. Bluebird
63. Old Reliable

V. B. SMITH ESTATE

64. Dynamite

STANDARD METALS CORP.

65. Antler

STRONG & HARRIS

66. Strong & Harris

SUPERIOR OIL

67. Pine Flats

UNDETERMINED

68. Mineral Hill

UNION OIL

69. Turquoise

UNITED STATES
GOVERNMENT

70. Park Hill

UNITED STATES
GOVERNMENT & U. S.
METALS CORP.

71. Apex

*Ownership data is based on best source available to the Department and is subject to revision or change.

TABLE II
PROVEN COPPER RESERVES IN ARIZONA 1/

| COMPANY | DEPOSIT | MAJOR MINERAL TYPE | MILLIONS OF TONS | AVERAGE CU CONTENT (%) | REMARKS |
|------------------------|-------------------|--------------------|------------------|------------------------|--|
| ANAMAX MINING CO. | Twin Buttes | Sulfide | 329 | 0.67 | With 0.3% Mo; cutoff @ 0.2% Cu |
| | " | " | 300 | 0.80 | Pub. 1973; "outside current mine plans"; cutoff @ 0.4% Cu |
| | " | Oxide | 57 | 1.10 | Cutoff @ 0.6 Cu |
| | " | " | 28 | 0.49 | Pub. 1973; cutoff @ 0.4% Cu |
| | Helvetia | Sulfide | 320 | 0.64 | Pub. 1973; cutoff @ 0.3% Cu |
| | " | Oxide | 20 | 0.55 | Pub. 1973; acid soluble Cu; cutoff @ 0.3% acid soluble Cu |
| | Peach Elgin | Mixed | 23 | 0.75 | Pub. 1973; cutoff @ 0.4% Cu |
| ASARCO INC. | Mission | Sulfide | 104.455 | 0.73 | Excludes contribution of 31.5M tons to Eisenhower Mining Co. |
| | Sacaton (OP) | " | 21.140 | 0.70 | |
| | Sacaton East (UG) | " | 14.898 | 1.25 | |
| | San Xavier | " | 166.902 | 0.52 | |
| | " | Oxide | 1.050 | 1.48 | |
| | Silver Bell | Sulfide | 26.059 | 0.66 | |
| | " | Oxide | | | |
| AZTEC MINING CORP. | Aztec | Oxide | 2 | 1.00 | Unpublished est. |
| BS & K MINING CO. | Atlas | Mixed | | | |
| CASA GRANDE COPPER CO. | Casa Grande | Mixed | 350 | 1.00 | |

TABLE II (Continued)
PROVEN COPPER RESERVES IN ARIZONA 1/

| COMPANY | DEPOSIT | MAJOR MINERAL TYPE | MILLIONS OF TONS | AVERAGE CU CONTENT (%) | REMARKS |
|--|------------------------|-----------------------|---------------------|---------------------------|---|
| CITIES SERVICE CO. | Cactus | Oxide | 20 | 0.70 | Unpublished est. |
| | Copper Cities | " | | 0.50 | Pub. 1976 |
| | Miami | " | | | |
| | Miami East | Mixed (?) | 55 | 1.95 | Pub. 1973 |
| | Old Dominion | Sulfide | | | |
| | Pinto Valley | " | 350 | 0.44 | Pub. 1972 "recoverable Cu" |
| CRANE CO. CONTINENTAL OIL CO. CYPRUS MINES CORP. | Red Hill | Mixed | | | |
| | Dragoon | Mixed | | | |
| | Poston Butte | Mixed | 500 | 0.50 | Pub. 1972 |
| | Bagdad | Sulfide | 290 | 0.49 | |
| | " | Oxide | 21 | 0.35 | Acid soluble Cu |
| | " | " | 95 | 0.22 | Stockpile; acid solubles Cu after prior leaching |
| | Bruce | Sulfide | 0.1276 | 3.73 | Pub. 1976; with 12.8% |
| | I-10 | Mixed | 100 | 0.52 | Unpublished est.; with 0.02% Mo |
| | Johnson | Oxide | 9.9 | 0.50 | Acid soluble Cu |
| | Johnson | Mixed | 10 | 0.60 | Pub. 1974 |
| CYPRUS PIMA MINING CO. EL PASO CO. | Pima | Sulfide | 146 | 0.48 | |
| | Emerald Isle | Oxide | 1.5 | 0.40 | Pub. 1977; 3Mt @0.1% Cu |
| EISENHOWER MINING CO. | Palo Verde (Anamax) | Sulfide | 125 | 0.61 | |
| | Palo Verde (ASARCO) | Sulfide | 31.5 | 0.70 | |
| FREEPORT MINERALS CO. | Santa Cruz | Sulfide | | | |

TABLE II (Continued)
PROVEN COPPER RESERVES IN ARIZONA 1/

| COMPANY | DEPOSIT | MAJOR MINERAL TYPE | MILLIONS OF TONS | AVERAGE CU CONTENT (%) | REMARKS |
|--|------------------------|--------------------|------------------|------------------------|---|
| HECLA MINING CO. | Lakeshore | Sulfide (dissem) | 241 | 0.70 | Pub. 1969 |
| | " | " (tactite) | 23.6 | 1.69 | " |
| | " | Oxide | 207 | 0.71 | " |
| INSPIRATION CONSOLIDATED COPPER COMPANY | Christmas | Sulfide | 33.413 | 0.905 | Pub. 1977; "recoverable Cu" |
| | " | Oxide | | | |
| | Inspiration Area Mines | Mixed | 180.136 | 0.481 | " " |
| | Ox Hide | Oxide | 31.328 | 0.147 | " " |
| | Sanchez | " | 79.362 | 0.180 | " " |
| | Chilito | Sulfide | | | |
| KENNECOTT COPPER CORP. | Ray | Mixed | 650 | 0.80 | Reported 1977 |
| | Safford | " | 2,000 | 0.41 | " |
| | Safford Ext. | | | | |
| | Red Mountain | Sulfide | | 0.71 | Pub. 1970; 100Mt. possible |
| KEYSTONE MINERALS INC. | Korn Kob | Oxide | 8 | 0.50 | Pub. 1973 |
| MCALESTER FUEL CO. | Zonia | Oxide | 1 | 0.53 | Unpublished est. |
| MULTIPLE OWNERS | Bisbee-North | Mixed (?) | 20 | 0.80 | " |
| NEWMONT MINING CORP. | Copper Creek | Sulfide | | | |
| | Kalamazoo | " | | | |
| | Magma | " | 9.8 | 4.80 | Reported 1978 |
| | San Manuel | " | 474 | 0.67 | |
| | " | Mixed | 130 | 0.70 | Pub. 1969 |
| | Vekol Hills | Sulfide | 105 | 0.56 | Pub. 1978; minable by open pit; with 0.014% Mo; 16Mt oxide Cu |
| | | | | | |

TABLE II (Continued)
PROVEN COPPER RESERVES IN ARIZONA 1/

| COMPANY | DEPOSIT | MAJOR MINERAL TYPE | MILLIONS OF TONS | AVERAGE CU CONTENT (%) | REMARKS |
|---|--------------|-----------------------|---------------------|---------------------------|--|
| NAVAJO TRIBE (?) | White Mesa | Oxide | 2 | 0.75 | Pub. 1955 |
| OCCIDENTAL PETROLEUM CO. | Van Dyke | Oxide | 100 | 0.50 | Pub. 1977 |
| ORACLE RIDGE MINING PARTNERS | Oracle Ridge | Mixed (?) | 11 | 2.25 | Reported 1977; with 0.5 oz Ag/Ton (pub. 1975) |
| PENZOIL CO. (Duval Corp.) | Esperanza | Sulfide | 21.850 | 0.42 | With 0.022% Mo |
| | " | Oxide | | | |
| | Mineral Park | Sulfide | 49.541 | 0.30 | With 0.36% Mo |
| | " | Oxide | | | |
| | Sierrita | Sulfide | 459.842 | 0.32 | With 0.033% Mo |
| PHELPS DODGE CORP. | Copper Basin | Sulfide | 175 | 0.55 | Pub. 1973; minable by open pit; with 0.02% Mo |
| | Copper Queen | Mixed | | | |
| | Dos Pobres | Sulfide | 400 | 0.72 | Pub. 1977 |
| | Lavender | " | | | |
| | Metcalf | " | 415.970 | 0.77 | Pub. 1975 |
| | Morenci | " | 662.462 | 0.80 | " |
| | New Cornelia | " | 126.623 | 0.63 | " |
| | United Verde | " | | | |
| | " | Oxide | | | |
| PRODUCERS MINERALS CORP. | San Juan | Oxide | 20 | 0.50 | Unpublished est. |
| RANCHERS EXPLORATION & DEVELOPMENT CO. | Bluebird | Oxide | 75 | 0.52 | Pub. 1971 |
| | Old Reliable | " | 4 | 0.74 | " |

TABLE II (Continued)
PROVEN COPPER RESERVES IN ARIZONA 1/

| COMPANY | DEPOSIT | MAJOR MINERAL TYPE | MILLIONS OF TONS | AVERAGE CU CONTENT (%) | REMARKS |
|--|-----------------|-----------------------|---------------------|---------------------------|------------------------------------|
| V. B. SMITH ESTATE | Dynamite | Sulfide | | | |
| STANDARD METALS CORP. | Antler | Sulfide | 5.1 | | With Zn values |
| STRONG & HARRIS | Strong & Harris | Mixed | 60 | 0.60 | Unpublished est.; with 0.70% Zn |
| SUPERIOR OIL | Pine Flats | Sulfide | 12 | 0.50 | Unpublished est. |
| UNDETERMINED | Mineral Hill | Mixed | | | |
| UNION OIL | Turquoise | Oxide | 10 | 0.50 | Pub. 1970 |
| UNITED STATES GOVERNMENT | Park Hill | Mixed (?) | 30 | 0.45 | Unpublished est. |
| UNITED STATES GOVERNMENT AND U.S. METALS CORP. | Apex | Mixed (?) | | | |

Source: Company Annual Reports, Form 10-K's, and Prospectus; Professional Publications. Source: (Greeley:1978:83-87)

1/ Reserves are given with a grade of average total copper content as of December 31, 1977, unless stated otherwise under "Remarks". As used in this table, reserves generally mean those estimated quantities of ore which under presently and reasonably foreseen technical and economic conditions may be profitably mined and sold or processed for the extraction of their constituent values.

TABLE III
DISCOVERY AND PRODUCTION DATA FOR ARIZONA METAL MINES
1940 through 1977

| Property | Metal (s) or mineral (s) produced | Date of discovery or rediscovery | Date of first production | Method of discovery | Type of operation 1/ | Size of operation |
|--|---|---|--------------------------------|--|-------------------------|----------------------------|
| Lakeshore, Arizona..... | Cu | 1968 | 1975 | Geologic inference | U | Over 3 million tpy |
| Mineral Park, Arizona..... | Cu | 1959 | 1964 | Geochemical anomaly | P | Over 3 million tpy |
| Pima, Arizona (Mission)..... | Cu, Ag | 1951 | 1957 | Geologic inference | P | Over 3 million tpy |
| Pinto Valley, Arizona..... | Cu | 1971 | 1975 | Geologic inference | P | 1 million to 3 million tpy |
| Twin Buttes, Arizona..... | Cu, Ag | 1957 | 1968 | Geologic inference | P | Over 3 million tpy |
| Lower OxHide, Arizona..... | Cu | 1967 | 1976 | Geologic inference | P | Over 3 million tpy |
| San Xavier, Arizona..... | Cu | 1955 | 1969 | Combination of geologic inference and other anomaly(ies) | P | 500,000 to 1 million tpy |
| Esperanza, Arizona..... | Cu, Mo | 1955 | 1959 | Geologic inference | P | Over 3 million tpy |
| San Manuel, Arizona..... | Cu, Mo, Zn, Ag | 1943 | 1956 | Geologic inference | U | Over 3 million tpy |
| Sierrita, Arizona..... | Cu, Mo | 1960 | 1973 | Conventional prospecting | P | Over 3 million tpy |
| Copper Cities, Arizona..... | Cu | 1943 | 1954 | Geologic inference | P | Over 3 million tpy |
| | | | | Geochemical anomaly | P | 1 million to 3 million tpy |
| Sacaton, Arizona..... | Cu | 1961 | 1975 | Geologic inference | P | |
| <u>Partial list of new deposits discovered but not yet in production</u> | | | | | | |
| Copper Creek, Arizona..... | Cu | 1966 | ---- | Geologic inference | | |
| Halvetia, Arizona..... | Cu | 1970 | ---- | Combination of geologic inference and other anomaly(ies) | | |
| Kalamazoo, Arizona..... | Cu | 1965 | ---- | Geologic inference | | |
| Poston Butte, Arizona..... | Cu | 1970 | ---- | Geologic inference | | |
| Red Mountain, Arizona..... | Cu | 1970 | ---- | Geologic inference | | |
| Safford (Kennecott), Arizona... | Cu | 1955 | ---- | Geologic inference | | |
| Safford (Phelps Dodge), Arizona | Cu | 1957 | ---- | Geologic inference | | |
| Vekol, Arizona..... | Cu | 1965 | ---- | Geophysical anomaly | | |
| Casa Grande Copper Deposit..... | Cu | 1977(?) | ---- | Combination of geologic inference & other anomaly(ies) | | |

Source: Albers, 1977

1/ P- Open pit; U - Underground

TABLE IV

NEW METAL MINES DISCOVERED IN THE SAME
GEOLOGICAL PROVINCE AS THE LUKE AIR FORCE RANGE

1940 Through 1977

| <u>Property</u> | <u>Date of discovery or rediscovery</u> |
|--------------------------|---|
| Lakeshore, Arizona | 1968 |
| Pima, Arizona (Mission)? | 1951 |
| Twin Buttes, Arizona | 1957 |
| San Xavier, Arizona | 1955 |
| Esperanza, Arizona | 1955 |
| San Manuel, Arizona | 1943 |
| Sacaton, Arizona | 1961 |

Partial list of new deposits discovered but not yet in production

| | |
|----------------------------|------|
| Kalamazoo, Arizona | 1965 |
| Poston Butte, Arizona | 1970 |
| Vekol, Arizona | 1965 |
| Casa Grande Copper deposit | |

Source: Albers, 1977

Present Investigation

This investigation is the first step in the assessment of mineral resources and the delineation of areas with promising mineral potential. The report summarizes published and unpublished information relative to geology, mineral resources activity, development and production of minerals on LAFR. Data in the report was obtained from many sources including literature research, governmental agencies, the private sector, and individuals.

The primary focus of this investigation is to compile a general inventory of mineral production and mineral resources activity on LAFR. Parameters include: (1) compiling a brief historical profile about the movement of people through LAFR (2) outlining the difficulties and problems encountered while living, working, and traveling in the area. These factors are related to the discovery, development and production of mineral resources on LAFR and (3) compiling available published and unpublished data on geology, mineral and energy resources on public and non-public land adjacent to LAFR's exterior boundaries.

Investigations limited to paper reconnaissance (literature research) have some inherent limitations: (1) the data is spotty (2) the data is generally inadequate for determining the total resources of an area and (3) the data can be biased, for example, undeveloped areas can be overlooked. Another limiting factor for this study was the scarcity of published and unpublished mineral resources data about LAFR. The reason for this is twofold: first, the military use of LAFR - training air crews to accomplish wartime missions, makes working difficult at best; and secondly, because LAFR is withdrawn from mineral entry, there has been no economic incentive to develop data on mineral resources in the area.

Four appendices were added to the end of this report for the convenience of the reader. Appendix A is a list of abbreviations used in this report. Appendix B is a numerical index of map reference for mines, prospects or claim groups on LAFR. Each entry in Appendix B contains the following information: (1) legal description (2) county name (3) quadrangle name (4) property name or mineral occurrence (5) map symbol (6) data sources and remarks (7) mining district and (8) the page or table number where the property is discussed in the text. Appendix C is an alphabetical index of mines, prospects or claim groups in LAFR. Appendix D is an alphabetical index of mines, prospects or claim groups on LAFR by mining districts.

This report could not have been written without the help of many fine persons in the military government and private sectors. I hereby gratefully acknowledge the many courtesies extended by the personnel of Luke Air Force Base, the United States Bureau of Mines, the

United States Geological Survey, the United States Army Corps of Engineers, and all other individuals who contributed to this report.

II. GEOGRAPHICAL SETTING

Arizona exhibits spectacular physiographic contrasts as implied by its spread of altitude from approximately 100 feet at Yuma to over 12,000 feet above mean sea level in the San Francisco Mountains, north of Flagstaff. Physiographically, its area lies within two major provinces of the southwestern United States: (1) the Colorado Plateau Province and (2) the Basin and Range Province (Fenneman: 1931) which contains two regional subdivisions: the Mountain Region and the Desert Region. A Transition Zone separates the Plateau from the Basin and Range Province (Figure 4).

The Colorado Plateau Province is composed of several individually named plateaus, together with valleys, buttes and cliffy mesas. Its general surface is surmounted in several localities by high volcanic mountains and is deeply incised by canyons of the Colorado River system. Except for canyons and valleys, the region as a whole lies above 5,000 feet, much of it exceeds 6,000 feet and some areas attain more than 9,000 feet in altitude (Wilson:1962:96-97). This Province is characterized by slopes, valleys and badlands. Broad alluvial areas, which are common in other provinces, are uncommon here.

A Transition Zone lies between the two major physiographic provinces. This zone has been referred to as the Central Highlands Province (Arizona Bureau of Mines: 1969) and as the Central Section (Sellers and Hill:1974). Referring to it as the Central Highland Province, Wilson (1962) identified within it two units--the Transition Zone and the Mountain Region. (In this report Wilson's (1962) terminology is followed). The Transition Zone lies in a diagonally shaped strip which extends from mideastern Mohave County, southeasterly across the state to Greenlee County (Figure 4). It is roughly paralleled by the Mountain Region, although between Phoenix and Florence the Mountain Region turns sharply southward as shown in Figure 4.

The Basin and Range Province is characterized by numerous mountain ranges which rise abruptly from broad, plain-like valleys or basins. The mountain masses rise from a few hundred feet to more than 10,000 feet above mean sea level and measure from a few miles to 100 miles in length by less than a mile to more than 20 miles in breadth. Because of the influence of aridity or erosive processes, their topography becomes progressively sharper and rugged southwest and westward (Wilson:1962:90). These mountain ranges tend to be parallel and occur in groups consisting of fault blocks that have been tilted. As the fault blocks were tilted, erosion created sediments that filled the valleys or troughs between blocks thus creating the present basins.

LAFR is located in the Desert Region of the Basin and Range Province

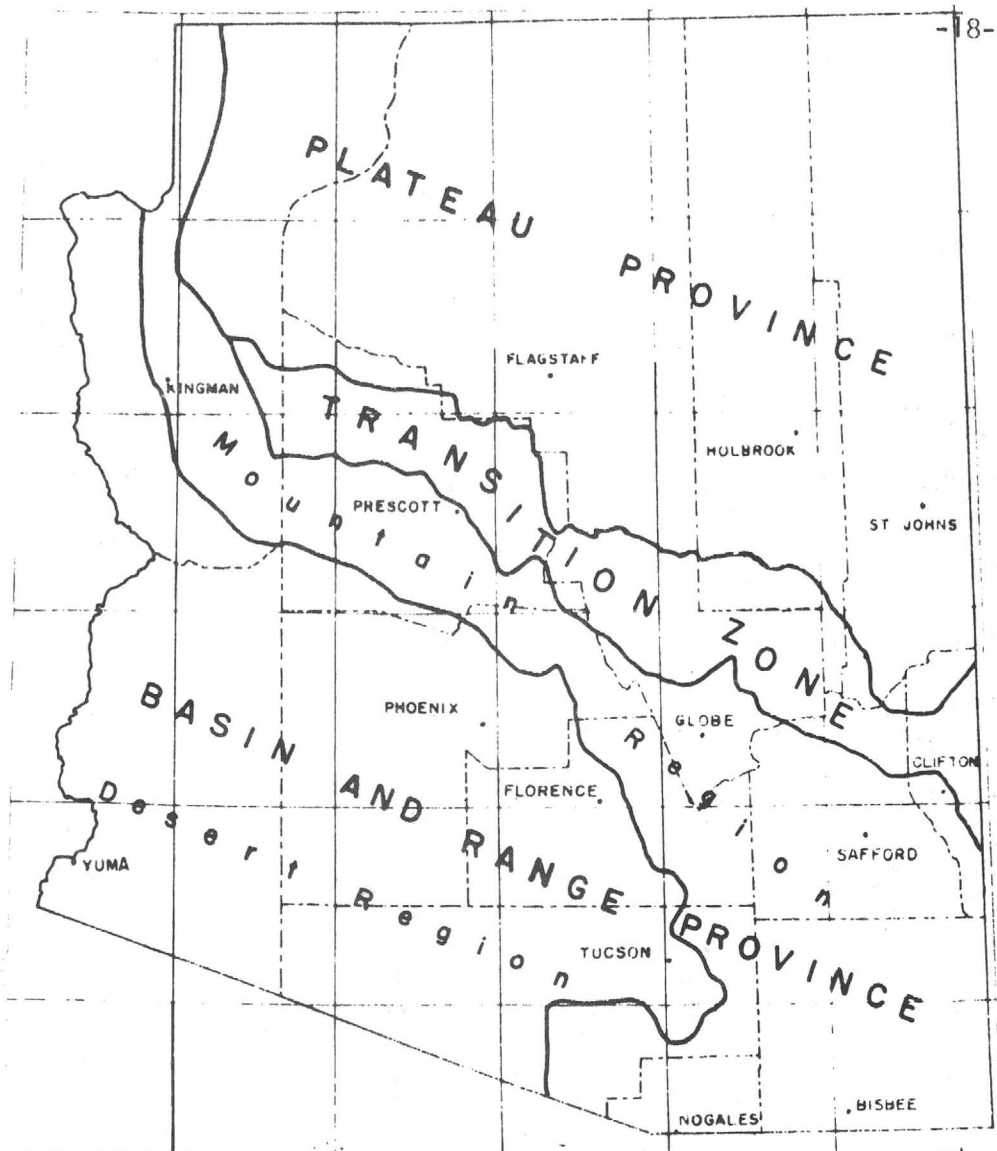


Figure 4 - Arizona's Physiographic Provinces

Source: Arizona Bureau of Mines

which is representative of the Sonoran desert. The Sonoran Desert constitutes one of North America's most pronounced deserts. The climate is characterized by intense heat in summer, sharp chill in winter and long periods of aridity separated by violent storms. The Sonoran Desert, east of Yuma, is characterized by generally elongated, low, rugged mountains separated by much more extensive desert plain. Many of the mountains trend about north-northwest (N. 20° - 40°W; Olmsted:1973:H19) (Figure 5).

Climate

There are many accounts in the literature about the waterless, hostile, isolated and uninhabitable environs of LAFR. These accounts include: descriptions of human suffering and loss of life because of thirst, specifically, McGee (1906) and Hornady (1908), difficulties in traversing the area (Sykes:1927, Bryon:1925, Ives:1964, Hornady:1908, Lumholtz:1912) to list a few, and difficulties (Smith:1956) encountered while living and working in a dry camp. Only after reading some of these accounts does climatological data have full impact. Statements like "... and in the sun-heated canyons of the Cabeza Prieta it is not unlikely that summer daytime temperatures occasionally exceed 130°" (U. S. Fish and Wildlife Service:1974) are related to the human circumstance by these articles.

Five communities---Ajo, Gila Bend, Wellton, Mohawk and Yuma---lie on or near LAFR's boundary. The climate and climatological data for these cities are indicative of the climate for the 2.7 million acres comprising LAFR. Little climatological data from LAFR itself is available. One such record (McGee:1906) taken at Tinajas Altas gives average temperature and moisture recordings over a 100 day period and day-by-day readings for a shorter time. The information is summarized in Table V.

The town of Ajo lies on the eastern boundary of LAFR, approximately half way between Gila Bend and the International Boundary (Figure 5). Summer temperatures at Ajo usually rise above the 100 degree mark during the afternoon hours, whereas, temperatures during the coldest part of the year normally rise into the middle or high sixties in the afternoon and usually stay above freezing at night (Sellers and Hill:1974:58). Precipitation at Ajo is controlled by summer dominated storms which produce more than half of the normal yearly supply of rainfall. This rainfall is usually from thunderstorms which are associated with deep currents of moisture moving over southern Arizona from the Gulf of Mexico. Precipitation in the form of snow flurries sometimes occur during January or February but it is rare and the flakes usually melt as soon as they reach the ground (Sellers and Hill:1974:58).

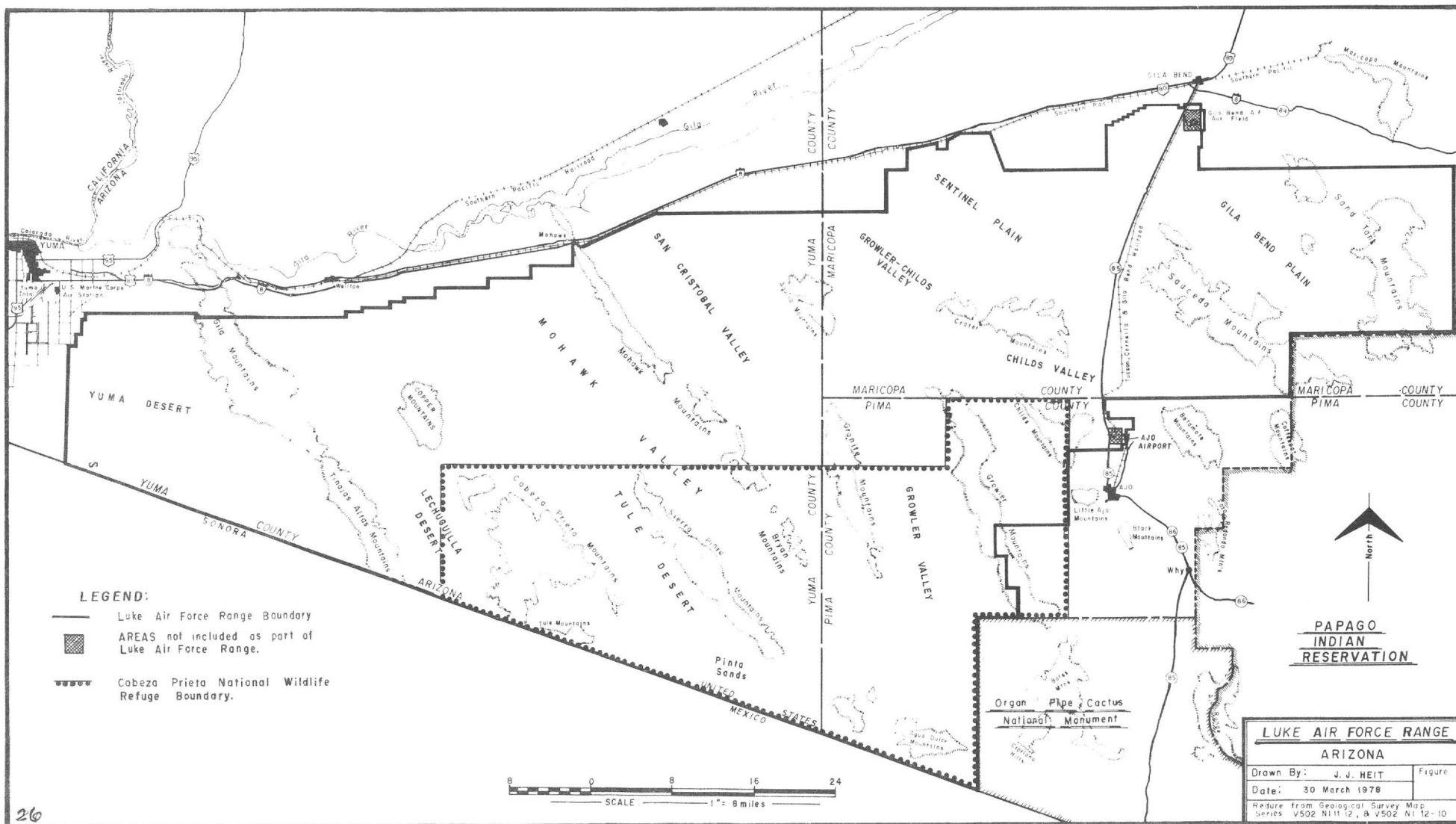


TABLE V

TEMPERATURE AND MOISTURE READINGS
TINAJAS ALTAS MOUNTAINS
1905

| DATES | TEMPERATURE | | | | | | MOISTURE | | | | |
|-----------------------|-------------------------------|---------|-------|------|--------------|----------|----------|-----------|----------------------|---------------|----------------------------------|
| | SELF-REGISTERING THERMOMETERS | | | | PSYCHROMETER | | HUMIDITY | | | Rain (in.) | Cloudiness (tenths of sky) |
| | Maxium | Minimum | Range | Mean | Dry bulb | Wet bulb | Depres'n | Dew point | Relative Humidity | | |
| August 14. 8 p.m..... | 99°1 | 85°1 | 14°0 | 92°1 | 91°0 | 65°0 | 26°0 | 48°0 | 23.0% | 0 | 0.1- |
| August 15. 8 a.m..... | 91.8 | 76.8 | 13 | 85.3 | 90.5 | 62.5 | 28 | 41 | 18 | 0 | .1- |
| 8 p.m..... | 98.9 | 90.9 | 8 | 94.9 | 92 | 66.5 | 25.5 | 51 | 25 | 0 | .1- |
| August 16. 8 a.m..... | 92 | 81 | 11 | 86.5 | 86 | 69 | 17 | 60 | 42 | 0 | .2- |
| 8 p.m..... | 99.5 | 85 | 14.5 | 92.2 | 91.5 | 71.5 | 20 | 61.5 | 38 | 0 | .1- |
| August 17. 8 a.m..... | 94 | 79.7 | 14.3 | 86.8 | 93 | 68 | 25 | 54 | 26.5 | 0 | .1- |
| 8 p.m..... | 103.2 | 93.2 | 10 | 98.2 | 95 | 69 | 26 | 54 | 25.5 | 0 | .1- |
| August 18. 8 a.m..... | 95 | 83 | 12 | 89 | 87 | 76 | 11 | 72 | 60.5 | 0 | .1- |
| 8 p.m..... | 96 | 86.6 | 9.4 | 91.3 | 88.5 | 73 | 15.5 | 66 | 48 | 0 | .8- |
| August 19. 8 a.m..... | 88.5 | 80.5 | 8 | 84.5 | 87 | 74 | 13 | 69 | 54.5 | 0 | .1- |
| 8 p.m..... | 98.4 | 85.4 | 13 | 91.9 | 90 | 73 | 17 | 65 | 44 | 0 | .0- |
| August 20. 8 a.m..... | 90 | 81 | 9 | 85.5 | 87.5 | 73 | 14.5 | 66.5 | 50 | 0 | .1- |
| 8 p.m..... | 99.1 | 87.3 | 11.8 | 93.2 | 89 | 71.5 | 17.5 | 63 | 42.5 | 0 | .1- |
| August 21. 8 a.m..... | 89.9 | 78.4 | 11.5 | 84.2 | 88 | 74 | 14 | 68 | 52 | 0 | .6- |
| 8 p.m..... | 91 | 87 | 4 | 89 | 90 | 71 | 19 | 62 | 39 | 0 | .6- |

TABLE V

TEMPERATURE AND MOISTURE READINGS
TINAJUAS ALTAS MOUNTAINS
1905 (CONT.)

| DATES | TEMPERATURE | | | | | | MOISTURE | | | | |
|------------------------|-------------------------------|---------|-------|------|--------------|----------|----------|-----------|----------------------|---------------|----------------------------------|
| | SELF-REGISTERING THERMOMETERS | | | | PSYCHROMETER | | HUMIDITY | | | Rain (in.) | Cloudiness (tenths of sky) |
| | Maxium | Minimum | Range | Mean | Dry bulb | Wet bulb | Depres'n | Dew point | Relative Humidity | | |
| August 22. 8 a.m..... | 92.1 | 81 | 11.1 | 86.7 | 91 | 69 | 22 | 57 | 32.5 | 0 | .2- |
| 8 p.m..... | 100 | 90 | 10 | 95 | 91 | 71 | 20 | 61 | 37.5 | 0 | .7- |
| August 23. 8 a.m..... | 91.8 | 82.1 | 9.7 | 86.9 | 91 | 69 | 22 | 57 | 32.5 | 0 | .2- |
| Means, August 14-23... | 95 | 84.2 | 10.8 | 89.6 | 89.9 | 70.3 | 19.6 | 59.8 | 38.4 | 0 | .2- |
| Average August 1-28... | 101.8 | 81.7 | 20.1 | 91.7 | 92.3 | 69.7 | 22.6 | 56 | 32.9 | .004 | .12- |
| Average 100-day period | 99.3 | 77 | 22.3 | 88.2 | 88.9 | 64.5 | | 46.5 | 27.1 | .0012 | .067- |

SOURCE: MC GEE, 1906

Gila Bend is located on the northeastern boundary of LAFR (Figure 5). Heat and dryness dominates the climate at Gila Bend; readings of 90 degrees or higher have been reported in all months. It is a rare day between mid-May through mid-September that the afternoon temperature is less than 100 degrees. A temperature of 123 degrees was recorded in 1936 and temperatures over 115 degrees were recorded in 1936, 1950, 1951, and 1972 (Sellers and Hill:1974:232).

The small settlement of Mohawk is located on LAFR's northern boundary at a pass in the Mohawk Mountains (Figure 5, P. 20). The climate at Mohawk truly reflects the hot and dry conditions characteristic of the Sonoran Desert. Temperatures from October to mid-May are quite pleasant; whereas, for the remainder of the year it is almost unbearably hot (Sellers and Hill:1974:330). In midsummer, average daily temperatures are above 90 degrees with afternoon highs rising to between 105 and 110 degrees. Temperatures of 120 degrees or higher have been recorded in July, August and September (Sellers and Hill:1974:330). Sellers and Hill (1974:330) report that "rainfall amounts at Mohawk are trivial" and "only in August and December is the normal expectancy for more than one half of an inch".

Sellers and Hill (1974:548) state that "Wellton has one of the driest climates to be found in Arizona" and that "in most years total precipitation amounts to less than four inches". Wellton is also unusually hot during the summer with average daily temperatures in July exceeding ninety degrees. Daily temperatures vary from the middle seventies in early morning to well over 100 degrees in early afternoon, and readings over 110 degrees are quite common (Sellers and Hill:1974:548). Wellton lies on the northern boundary of LAFR and to the west of Mohawk (Figure 5, P. 20).

Yuma is located at the northwest end of LAFR (Figure 5, P. 20) and 5 miles northeast of the Yuma Valley Climatological Station. Yuma has been labeled the "driest major city in the United States" (Sellers and Hill 1974:588). This is reflected in its mean annual precipitation which is only slightly over 2½ inches. The driest months are May and June, with measurable rainfall occurring at Yuma Valley in only three Junes during 42 years. All of these amounts, except one in 1949, were less than one tenth of an inch. Yuma's summer temperatures are high, however, they are not as high as places to the north and east, and temperatures above 120 degrees have never been recorded (Sellers and Hill:1974:588).

Table VI shows the mean, maximum and annual mean precipitation for towns discussed in this section.

Topography

According to the widely adopted physiographic classification of Fenneman,

TABLE VI

Mean Maximum and Minimum Temperatures and Annual Mean Precipitation for Several Arizona Towns

| Station Name | Mean Years | January Daily Mean Maximum | January Daily Mean Minimum | July Daily Mean Maximum | July Daily Mean Minimum | Annual Mean Precipitation |
|------------------------|------------|-------------------------------|-------------------------------|----------------------------|----------------------------|------------------------------|
| Ajo | 1941-1970 | 64.1°F | 40.9°F | 103.2°F | 78.4°F | 8.95" |
| Gila Bend | 1941-1970 | 67.8°F | 37.5°F | 109.1°F | 77.1°F | 5.76" |
| Dateland | 1952-1968 | 68.5°F | 36.5°F | 109.0°F | 79.4°F | 3.03" |
| Mohawk | 1941-1951 | 69.1°F | 41.9°F | 110.9°F | 80.5°F | 4.42" |
| Tacna 3 NE | 1969-1970 | 68.4°F | 31.5°F | 106.8°F | 75.9°F | 3.84" |
| Wellton | 1941-1970 | 68.0°F | 34.5°F | 105.8°F | 75.8°F | 3.78" |
| Yuma Citrus Station | 1941-1970 | 67.9°F | 38.1°F | 106.3°F | 75.2°F | 2.77" |
| Yuma | 1948-1970 | 63.6°F | 39.1°F | 106.5°F | 75.3°F | 2.99" |

Source: Sellers and Hill, 1974.

(1931, 1946), almost all of LAFR lies within the Sonoran Desert section of the Basin and Range province. The exception to this is the Yuma Desert (See Figure 5, P. 20) which lies within the Salton Trough section of the Basin and Range province. LAFR's topography reflects this and typifies that of the Basin and Range physiographic province of the western and southwestern United States and northern Mexico.

Topographic features which are exhibited through the range are the products of erosion and sedimentation of the desert acting upon bedrock. The bedrock structure is dominated by faulting and is heterogenous both horizontally and in altitude (Gilluly: 1946:60). The surface forms of LAFR can be classified into three general groups: (1) the mountains, commonly rugged and steep-sided, with either bare rock at the surface or a thin cover of talus, (2) the pediments, also termed mountain pediments (Bryan: 1925:93), smooth carved rock plains that generally border the mountains and are strewn with a thin but discontinuous mantle of gravel, and (3) the bajadas (plains), smoothly rounded alluvial aprons that slope forward into the axes of the valleys. Of these features, the mountains and pediments are chiefly carved by erosion; the bajadas are chiefly depositional (Gilluly: 1946:60).

Mountain ranges in the area are arranged more or less parallel, again, indicative of the Basin and Range province. These mountain ranges are separated by broad basins or valleys which generally trend northwest-southeast. The valleys generally decrease in elevation northward toward the Gila River and westward toward the Colorado River. Valley elevations within LAFR are approximately 1,600 feet at the Gila Bend plain between the Sand Tank and Saucedo Mountains and continuously decrease westward to approximately 100 feet at the Yuma Desert.

Mountain Ranges

There are some 23 mountain ranges within the confines of the LAFR complex. The more massive mountains, the Sand Tanks and the Saucedas, also are the highest with peaks from 3,482 to 4,084 feet. Consequently, they receive more rainfall than the surrounding plains and the more arid portions of the western ranges. Other mountain ranges vary in elevation from 1,000 feet to over 2,000 feet above the valley floors.

Desert climatic conditions, for example the violent torrential down-pours common to summer storms, produce two general mountain types -- the Sierra and the Mesa. The Mesa type mountains are composed primarily of bedded volcanics, appearing as gently inclined or relatively flat, massive blocks cut by younger canyons (Simons: 1966:134). The Sierra types are composed largely or entirely of crystalline granite and metamorphic rocks. They present a jagged appearance, are sharply crested and serrated, maturely dissected and usually have a high peak near the center. Some of the mountains within LAFR are bounded by pediments but all are flanked by large bajadas of coalescing alluvial fans.

The Sierra type mountains provide, by far, the most spectacular and beautiful scenery, not only on LAFR but in the desert southwest. When observing these mountains one is impressed by their sheer, stark ruggedness. They seem to rise straight up from the valley floors as if there were no transition between the level plains and the steep mountains faces (Figure 6). As one early traveler so aptly observed:

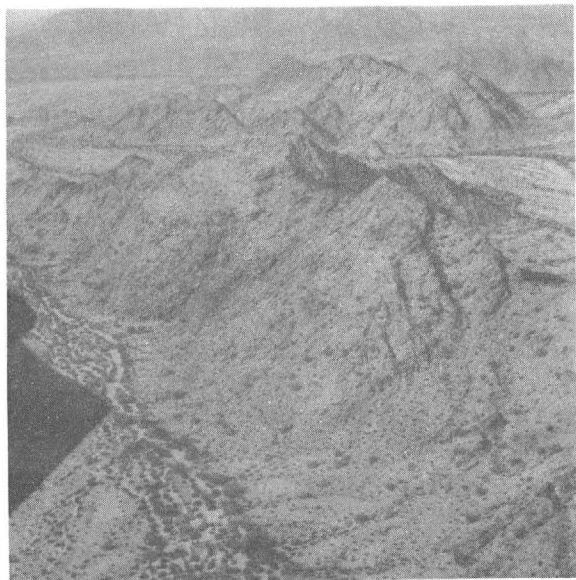
The mountain alongside our trip, excepting one range in Mexico southeast of Sonoita, called Cababi, were rather low, none of them running up as high as 4,000 feet. But what of that? Give a two thousand foot mountain a steep face, and a seriated top, and like a climbing woman with a small income, it can put up quite an imposing outside appearance (Hornaday:1908:38-39).

Valleys

The mountains are flanked by bajadas made up of coalescing alluvial fans which slope gently into the axis of valleys. The valleys are actually alluvium filled basins which are primarily the work of structural deformation and not that of stream erosion as is generally the case in humid regions. Stream erosion affects sleeted rock types in the mountains and is probably modifying the valley floors but it is clear that the dominate result of stream action is aggradation. Most valleys through LAFR are prolonged in the general direction of the mountains and in the direction of what are presumed to be major fault lines (See Figure 5, P.20).

Generally, valley drainage is well integrated with the smaller ephemeral streams from the surrounding mountains flowing into a main stream at the axis of the valley. Most of the valleys ultimately drain to the sea. Many drain northward into the Gila River then westward to the Colorado River and finally southward to the Gulf of California. Others drain southward to the Sonoita River which reaches south of the Pinacate Mountains. The southern portion of the Tule Desert, however, does not have external drainage. It drains into an ephemeral lake or playa known as Los Playas (Bryan:1925:201).

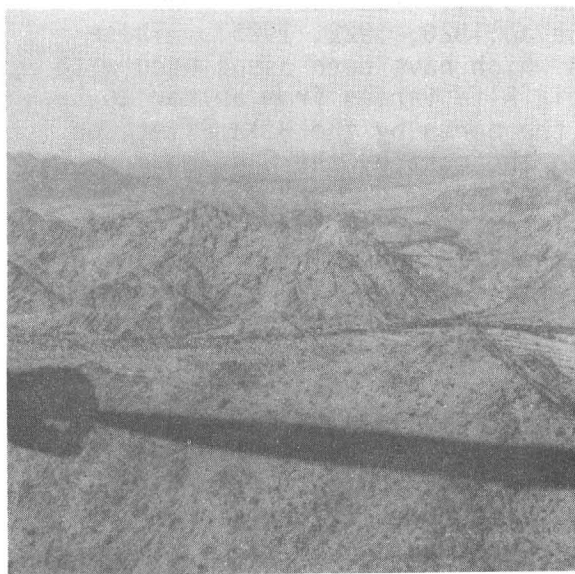
Varied types of secondary topographic features are exposed within the valleys. They include: (1) alluvial fans and bajadas, (2) pediments, (3) sand dunes, (4) terraces, (5) playas, (6) adobe flats, and (7) isolated outcrops. Alluvial fans are the most common of these features and encompass over 50% of the area within the valleys. These fans flank the mountain ranges extending toward the center of the basin. The youngest fans coalesce to form broad, gently sloping alluvial surfaces. Pediments, which are gently sloping rock surfaces, are common in the eastern portion of LAFR and along the Copper and Agua Dulce Mountains. The Mohawk and Fortuna dunes and the Pinta Sands are the most significant accumulations of semi-stabilized wind-blown sand within LAFR. Rock exposures, in addition to pediments, low lying hills and isolated outcrops lie within the basins.



Western slope of the Mohawk Mountains.
Looking eastward



Western slopes of the Mohawk Mountains
with position of the Mohawk Valley in
foreground. Looking eastward



Mohawk Mountains

Figure 6: View of typical mountain range on Luke Air Force Range.

III. A BRIEF HISTORICAL RESUME OF MINERAL RELATED ACTIVITY ON THE LUKE AIR FORCE RANGE, PRIOR TO 1941

This section is designed to give a brief historical perspective on the movement of people through the land now referred to as LAFR. The primary focus will be on the movement and activities of people as it relates to the development of mineral resources prior to 1941. After 1941 the area was withdrawn from mineral entry by Presidential Proclamation and all development of mineral resources ceased. However, this study uncovered evidence that mineral resources activities did take place after 1941. In one case, the claims were declared invalid and in the other case, this author feels that some prospecting work is still being conducted.

The area of Arizona lying south of the Gila River and between the Santa Cruz River in the east and the Colorado River on the west has been referred to by many different names. One early Spanish Chronicler who wrote about the area called it the "Tierra Incognita" (unknown country) (Manje:1954). Most of the early Spanish explorers referred to the areas as the "Pimeria Alta". Other writers have called the area the "Rim of Christendon" (Bolton:1936, Dunne:1955), "Papagueria" (Fontana et al:1962) and the "Papago Country" (Bryan:1920, 1922, 1925). These are just a few of the authors and names which have been associated with the area. The description of the Pimeria Alta varies from author to author but in general it is bounded on the north by the Gila River, on the south by Rio del Altar in Mexico, on the east by the San Pedro River and on the west by the Colorado River.

The LAFR complex lies in the most arid, hostile and uninhabited section of the Pimeria Alta. The movements of people through it were severely limited by the location and availability of water. Consequently, the routes traveled by both prehistoric and historic peoples were determined by the location of the natural rock tanks or "tenajas". This remained a limiting factor even after the automobile came into general use but was alleviated by the large mining camp at Ajo where a Permanent water supply was established. Bryan (1925), Sykes (1927) and Smith (1956), documents the rigors of early automobile travel within LAFR. Smith (1956) and Bryan (1925) give one the idea of just how lonely and isolated the area was in the past:

The road from Ajo to Yuma by the Camino del Diablo (devil's road) is probably the most difficult and dangerous route in the Papago Country. The region west of the Growler Mountains, east of the bluffs of Colorado River, and south of the Southern Pacific Railroad, an area 60 miles wide on the east and 20 miles wide on the west and nearly 100 miles long, has only one permanent inhabitant, who is the care-

taker at the Fortuna mine. (Bryan:1925:413)

To travel the area ill-equipped, without sufficient knowledge of the Tenajas or to wander too far from known water supplies could mean a horrible death; a death by thirst as described by McGee (1906). Wayfarers traveling the Camino del Diablo during the 1840's gold rush to California soon discovered the perils of desert travel. Many started the journey across the desert and were never heard from again. Bryan's sketch (1925:132) map of the Tenajas Altas indicating location and number of graves bears mute testimony to the hazards of desert travel. Hornaday (1908:19) relates a tragic incident involving a group of Japanese trying to cross the desert where only one person out of a large party survives. It was within the context of this formidable and waterless region that prospecting and development of mineral resources were conducted on LAFR.

The first people to exploit the mineral resources of LAFR were, of course, the prehistoric aboriginal population. There is little known about the archaeology or cultural resources of LAFR, thus, there is very little scientific knowledge or evidence on the extent of the prehistoric people's mineral resources exploitation of the area. There is some indication that prehistoric people were quarrying copper for pigment at Ajo; however, the information is sketchy at best and because of the extent of present day mining any direct evidence has since been lost.

Spanish Period

Father Eusebio Francisco Kino was probably the first European to visit and describe the Range area. In 1697, Father Kino, in the company of Captain Mange and a small body of soldiers, left Quiburi on the San Pedro River to traverse the Papaqueria. After several days of travel they reached San Marcel del Sonoitag (Sonoita) and then, after a trip west into the Pinacate Mountains they returned to Kino's home mission at Dolores by way of Coborca (Bryan:1925:9). It was from this trip that Kino gathered information for further "entradas" into the area.

During 1699 Kino made two trips into the Range area. The first trip was made with Captain Mange, Father Adamo Gilg, servants and pack animals. The destination of this trip was the lower Gila. This group of intrepid explorers set out from Dolores (which is in present day Sonora) on February 7, 1699. After several days they reached the Sonoita River and from there traveled southward to Sonoita. Once leaving Sonoita, they traveled west to the Tenajas Altas Mountains and, staying to the east side of the Gilas, reached the Gila River 15 or 20 miles above its mouth (Bryan:1925:10). This established the route which is known today as the Camino del Diablo. Kino's second trip did not penetrate as far into the Range complex.

Between 1700 and 1702 Kino traversed the Range area at least three more times. The trip of 1702 was his last into the Pimeria Alta. He died in

1711 and was buried in Magdalena, Sonora. Following Kino's death there was little or no missionary effort expended in the Pimeria Alta for the next 20 years. With this in mind, it is doubtful that any Europeans reached the Range area between 1711 and the 1740's.

Kino's journals show no evidence of mining on the Range complex. The only record to appear in his journals is the following brief statement:

In these new nations and new lands there are many good veins and mineral lands bearing gold and silver; and in the neighborhood and even in light of these new missions and new conversions some very good new mining camps of very rich silver ore are now being established (Bolton:1919:266).

Here Kino probably was referring to some of the silver deposits in Santa Rita Mountains. The discovery of these deposits could have occurred at about this time.

Father Jacobo Sedelmayer, writing in the 1740's, describes the following episode regarding minerals:

It does not follow that there are no mines along the Gila and Colorado simply because none have yet been observed. There are not wanting hopes and probabilities which become current in 1697. That year Captain Mates Mange was in the company of Father Eusebio Francisco Kino at San Xavier del Bac which is forty leagues from the Gila. The Indians there informed the Captain that there was a rock of metal off to the west which seemed rich in metal (sic). In 1699, during another journey to the Gila, the Captain passed some hills on which there were frequent outcroppings of metal-stained rock. On that same journey and still close to the Gila where the heathen Yumas live, he passed some hills where there was gravel of green, yellow, and other colors (conceivably the oxide copper exposures at Ajo). About seventeen or eighteen leagues above the confluence of the Gila and the Colorado they came upon a rib of metal ore which yielded silver after it was melted and refined and drawn from the caldron (this activity could have taken place on the Range area) (Dunne:1955:38).

Sedelmayer was the next Padre to make extensive trips through the Range

area. He also wrote about "great slabs of pure copper" as follows:

In recent years not very far from the new trail which I discovered leading to the Cocomaricopa tribe great slabs of pure copper have been seen. Some of this copper I saw and held in my hands. We do not know whether this is a sign that gold is here too. (Dunne:1955:39).

A description of native copper appears at least once more in the literature. The description is given by Father Joseph Och sometime between 1756 and 1759 and is as follows:

A day and a half journey toward the northwest from my mission of San Ignacio (this mission lies south of Nogales, Sonora close to the head waters of the Rio Magdalena) occurred a wonder of nature in copper (which also contained some gold)....Several hundred hundredweights of the finest copper were found scattered about on top of the ground in a field in the form of chocolate-colored stones. These weighed from a quarter to half a hundredweight and were of such purity that in smelting them, only small quantities of impurities were found. (Treutlein:1965:150-151).

While the description of these locations are vague at best, Sedelmayer and Och could be describing the copper deposits at Ajo.

At several places in the literature the date of 1750 is given for pure copper being mined at Ajo (Chapman:1962:13), (Tuck:1955:2), (Parsons:1933). This author could find no direct documentary evidence to support this assertion, however, with more data the statements cited above would tend to support this claim. While there is no direct documentary to disprove the claim, there is considerable secondary evidence to argue against such an early date. It is not within the range of this report to go into the evidence against mining at Ajo early as 1750, but suffice it to say, that such early dates are subject to question.

The evidence indicates that during the Jesuit period, which ended in 1767, there was no active mining conducted on the Range area. As Jacobo Sedelmayer wrote "We can say, however, that no precious metals have thus far been discovered. Indeed, who would discover them? Not the Indians, for they have neither concept, nor evaluation, nor use of silver. Not the Spaniards and people of education, since they have not yet entered, populated or cultivated those lands"(Dunne:1955:36).

After the Jesuit expulsion in 1767, a new era of expansion and development in the Pimeria Alta was started under the tutelage of Franciscan missionaries. Little is known of events on the Range area during the Franciscan period. Several people traveled through the area during that time and in 1780 the Spanish attempted to establish a mission, presidio and colony on the Colorado near the mouth of the Gila, but there is little information regarding minerals.

The Yumans revolted in July, 1781 killing the priests and most of the settlers, thereby ending Spanish attempt to settle on the Colorado. This is but one example of confrontation between the Spanish and the indigenous peoples. In fact, it was not until 1886 when General George Crook finally subdued the Apache that over three centuries of constant hostility between the indigenous peoples and the white men ceased. There were quiescent periods prior to 1886 and it was during these times that missions were prosperous, stock ranches were developed, and mining activities were conducted. One such period was from the 1790's to the 1820's in the Pimeria Alta; however, at no time during Spanish control of the Pimeria Alta was mining ever extensively practiced in what is now Arizona.

Mexican and
American Period

Spanish dominance over the Tierra Incognita ended in 1823 with the establishment of the republic of Mexico. It was about this time that the

Apaches picked up their weapons and returned to their traditional life style. Thus, again a climate of hostility lay over the papaguera which lasted until the late 1800's.

The most important event, in terms of mineral development on LAFR, during Mexican control was the 1849 discovery of Gold in California. The subsequent overland immigration to California via the Camino del Diablo focused the attention of the outside world on the massive copper deposit at Ajo. As Blake (1859:10) stated "immigrants frequently brought in masses of rich ore which they had picked up along the road. These specimens were chiefly native copper, very pure, invested with a crust of red oxoide (sic) of copper and of green carbonate, the whole yielding by assay about 90 percent of copper". The development of the ore body at Ajo, although sporadic, continued from that era and is still mined today.

The Gadsden Purchase of 1853 brought to a close the Mexican dominance over most of the Pimeria Alta. An interesting side note here is that between 1853 and 1855 (the completion of the boundary survey) it was not known if the Ajo copper deposits would lie in Mexican territory or the United States. During the dilemma a small group of American miners occupied the mines at Ajo. Several residents of Sonora claimed the mines were within Mexican territory and:

In the month of March, 1855, a Mexican company of cavalry was sent from the district of Alta from Ures, the capital of Sonora at that time,

to dispossess the Americans of weapons, to disarm them and take them to Ures as prisoners.

The next major mining camp and mining district on LAER was established

here, new and permanent residents of the area.

IV. MINES, PROSPECTS AND CLAIM GROUPS ON AND ADJACENT TO LAFR BY MINING DISTRICTS

In this section mines, prospects and claim groups are discussed in terms of mining districts. There are 10 mining districts adjacent to or on the 2.7 million acres which comprise the LAFR complex. One group of mines and prospects were not considered to lie within a named mining district. The districts discussed in the section of the report are as follows: (1) Agua Dulce District (2) Ajo District (3) Dome (Gila City) District (4) Fortuna District (5) Growler District (6) Gunsight District (7) La Posa (Welton) District (8) Mohawk District (9) Montezuma (Puerto Blanco Mts.) District and (10) Vekol (Casa Grande) District.

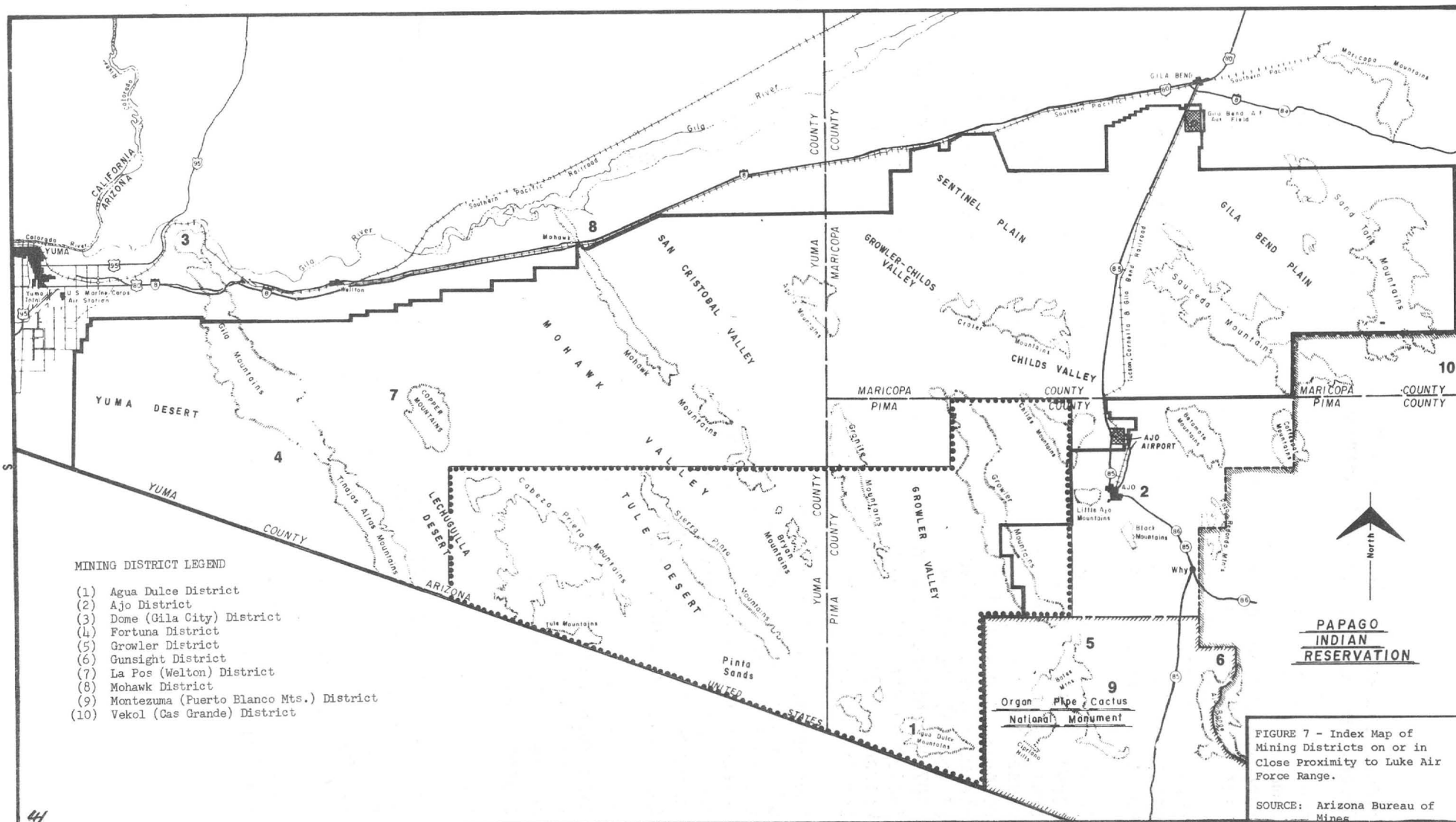
Mineral deposits or mineral occurrences rarely occur singly; on the contrary they tend to cluster in certain localities. In general when such a mineralized area is discovered and locations have been made, a miners' meeting is called, regulations are adopted, the limit of the district is defined and a name is given to the area (Hill:1912:5). Boundaries for mining districts are vague, uncertain and generally cannot be determined. Many times the name of that district does not correspond with locality, at many places, little attention has been given to legal districts, districts have been subdivided or districts may even have more than one name. However, even with these problems the "Mining District" is an important concept in mining and is used when discussing properties within a geographical area.

Fortuna Mining District

In general, the Fortuna District covers the central portion of the Gila Mountains (Keith:1978:39) which lies at the extreme western end of LAFR (Figure 7). The name of the district is derived from the Fortuna mine which is the most important mine within LAFR's boundaries in terms of production. This district lies south of an arbitrary boundary from the Dome district which covers the northern end of the Gila Mountains (Keith:1978:39). The Fortuna District has only one major economic mineral deposit, that at the Fortuna gold-quartz vein deposit, which produced some 2.6 million dollars of gold. Other small gold-bearing veins and pegmatites have been prospected with little results. Mica and scheelite also have been reported within the district.

Gila Mountains

The Gila Mountains are reasonably straight and elongated. They trend north-northwest, and are about 27 miles long by 2-7 miles wide. Southward, well within LAFR, the mountains divide into two ridges about five miles apart. The eastern



ridge becomes the Tinajas Altas Mountains and the western ridge (Vopki Ridge) becomes the Butler Mountains.

The Gila Mountains exhibit some of the most rugged topography in the Yuma area. They are rugged, angular and sharply serrated with deeply furrowed canyons on both sides. The highest crest rises about 2,000 feet above the plain, but there is no marked crest line, the highest points of one side not being easily recognized on the other side (Bryan:1925:189). An elevated dissected pediment is evident along the mountain slopes and another break in slope occurs at the base of the mountains (Keith:1978:40).

Early notes on the geology of the Gila Mountains are furnished by Blake (1897, 1899, 1901, 1904) who visited the Fortuna mine and gives a general description of the geology. Bryan (1925:78, 189 and Pl. IX) discusses the geology of the Gila Mountains and includes a geologic reconnaissance map of the area. Wilson (1933:181-210 and Pl. I) presents the most comprehensive information on the geology and mineral resources of the Gila Mountains published to date. Olmsted, Loeltz and Irelan (1973) published the most recent geologic information on the Yuma area including the Gila Mountains. Geologic maps of the area include: (1) Wilson (1960), (2) Arizona Bureau of Mines (1962), (3) Olmstead, Loeltz and Irelan (1973), and (4) Bryan (1925).

That portion of the mountain which lies within LAFR is chiefly composed of pre-Tertiary crystalline rocks which include gneiss, schist and granitic rocks. Within the gneiss are weakly metamorphosed sedimentary rock, volcanic rock and crystalline limestone, located primarily at the northern end of the mountains. There are also a variety of dike rocks (Olmsted, Loeltz and Irelan:1973:Pl.3). The northernmost section of the range is mainly composed of Tertiary nonmarine sedimentary rocks.

This study uncovered 22 prospects, mines or mineral occurrences in the Gila Mountains. In terms of significant past mineral production, only two of these are important: the Dome (Gila City) placer and which lies to the north of LAFR and the Fortuna mine, which lies within LAFR's boundaries.

Tinajas Altas The Tinajas Altas (High Tanks) Mountains lie to the south and in line with the Gila Mountains. They are separated from the Gilas by a low alluvium-filled gap known as Cipriano Pass. The mountains, except for Raven Butte, are composed "entirely of buff-weathering, light-gray granite--the same as that in the Butler Mountains and the southern Gila Mountains (Olmsted, Loeltz and Irelan:1973:H22)".

Past prospecting activities in the Tinajas Alta Mountains uncovered nothing of economic significance. There are a few quartz veins locally

stained with copper which received some attention from prospectors (Wilson:1933:178). This study located only two claim groups in the Mountains. The important aspect of the Tinajas Altas Mountains are the rock tanks which have historically been a major source of year round water.

Bryan (1925:132-134) describes the access to the tanks coupled with a sketch map showing several graves at the base of the tanks--a memorial to past travelers who made it that far through a hostile desert but were unable to reach the High Tanks.

Vopoki Ridge and
Butler Mountains

The Vopoki Ridge is an extension of the Gila Mountains. It is separated from the main mountain mass by a plane nearly three miles wide. The ridge runs southward for nearly six miles and is from 1/2 to 2 miles wide, but narrows to a thin point at the southern extremity. The uniqueness of this ridge lies not in its past mineral production, its geological significance, its supply of water depended upon by travelers in the area, but that the ridge was unmapped until Wilson mapped it in 1930.

The Butler Mountains lie approximately one mile south of Vopoki Ridge and they extend southeast for about 7 1/2 miles. Like the Vopoki Ridge, the mountains remained unmapped until 1930. As Wilson explained it, "later maps have perpetuated this omission, because no one engaged in systematic mapping ever traversed this area" (Wilson:1931:221).

Mines, Prospects,
Mineral Occurrences
or Claim Groups

There were 17 mines, prospects, mineral occurrences or claim groups noted in the Fortuna Mining District. The Fortuna Mine (from which the district takes its name) was by far the most important in terms of production and available information. Also shown are six unnamed prospects.

Fortuna Mine Area

The Fortuna mine area is Number 16 on the base map and includes the mine and the general area around the mine. The Fortuna Gold Mine lies at the western foot of the Gila Mountains, at an elevation of about 775 feet above sea level. The Fortuna vein was discovered between 1892 and 1895 by Messrs. Charles Thomas, William Holbert and two other prospectors (Wilson:1933:189). Gold was known to occur in the Gilas prior to the discovery of the Fortuna vein, but the vein was overlooked by many skilled prospectors for half a century. (T10S, R20W, Sec. 16, 17, 20, 21 (p)).

There are many stories as to how the vein was found, but one story goes like this:

In 1892 the gold-placer fields of California were

drawing prospectors and fortune hunters across the arid deserts of Arizona. One of the noted stopping places of the caravans was the camp of Gila, about 30 miles southeast of Yuma, on the Mexican border. One evening there drifted into this camp Bill Holbert and his partner (Charles Thomas, supposedly). They turned their pack burros loose, and the animals strayed up on the foothills of the west slope of the Gila Mountains. Even before this, the fortune seekers had discovered gold on the east slope. The precious metal, however, had never been found on the west slope of the mountains. This did not deter the burros that had wandered away from Holbert from going after the green cactus in the shoulder of the hill. Toward evening, so the story goes, Holbert went after the burros. He picked up a piece of rock to throw at the animals, and was on the point of hurling it at the leader when his trained eye caught the glint of gold in the rock. Investigation showed that the ground was literally spotted with gold-bearing rock. (Engineering and Mining Journal:1912:372)

However the Fortuna Mine was found, it is not only the most famous, but also the most productive mine within the boundaries of LAFR. The mine and mill, at their peak, employed 80 to 100 men who lived in the "flourishing" town of La Fortuna. Blake (1898:25) described La Fortuna as follows:

This camp has been built up entirely by the merit of the vein or mine, and is sustained by that mine alone, for there are no other claims or mines being worked to any extent in that region. The camp consists of the usual motley assemblage of improvised houses, tents, and adobes, grouped irregularly around the mill of the company. We drove to the hotel, kept by a Chinaman, where we got most excellent meals, with good ice water, such as it was, somewhat saline to the taste, and as I afterwards found, capable of eating holes in wrought and cast iron.

Ore from the surface and to a depth of about 150 feet proved quite good and netted the owners \$284,600 for their first four months labor. By 1898 the mine was in full production; a two-compartment incline had been deepened to 350 feet and the vein was developed at 100-foot intervals. In 1899, a 100-ton cyanide plant was constructed to treat accumulated mill tailings because it was estimated that the mill was recovering

only about 75 percent of the gold value. This and other factors contributed to the highest production year in terms of value; in 1900 the production was \$467,700 from ore and tailings. After that, production value from the mine continually declined despite efforts to find more high grade ore.

From 1901 to 1904, when the mine closed down, the only production was from mining pillars above the 800 foot level. Table VII gives the mine's production figures from September, 1896, to December, 1904, which represents bullion sent to the Selly smelter (Wilson:1933:190).

The Fortuna mine remained dormant until 1913 when the property was acquired by Fortuna Mines Corporation, who repaired the shafts and made a small production from mining pillars. This was coupled with an underground exploration program which did not succeed and the project was abandoned in 1914 (Wilson:1933:190). Table VII reflects the estimated production value from the Fortuna Mines Corporation project. The last reported production from the mine was in 1926 when Elan Mining Company purchased the property, patented additional claims and produced some 16,000 dollars.

Between 1926 and 1942, when the area was closed to mineral entry, several attempts were made by various companies and individuals to find the faulted vein or to develop new ore. These projects included both diamond drilling programs and underground development work. No definite or detailed record of these attempts could be found; it is, however, assumed that these attempts met with little or no success. The property is currently leased by the U. S. Government.

Map reference:16; see Appendix B for additional references and information.

Blue Butte The Blue Butte property is four miles southeast
Copper Prospect of the Fortuna mine, at a fork in a rugged
 westward - trending canyon. The granite in
this vicinity is extensively sheeted by several systems of jointing
of which the most prominent dips steeply and strikes N15W, S40W and
S40E (Wilson:1933:201). Wilson also reports that a quartz vein up to
six inches thick, strikes NE, dips 35°SE and is traceable for more than
200 feet. The vein contains a few inclusions of biotite. The quartz
which normally is coarse grained, vitreous, and white, has been ex-
tensively stained by copper. The vein material contains masses of
malachite, azurite, and chalcocite. For three or four inches from the
vein, the feldspar of the wall rock are stained with copper and thin
fractures extending out from the veins are lined with malachite and
hematite for distances up to one foot (Wilson:1933:201). The type or
extent of the working at the property is unknown.

Map reference:15; see Appendix B for additional references and information.

TABLE VII

PRODUCTION LA FORTUNA MINE

| Date | Price silver | Ounces silver | Ounces gold | Total value | Remarks |
|--------------------|--------------|---------------|-------------|-------------|---|
| 1896 | \$0.68 | 1,208.41 | 14,872.08 | \$ 308,224 | June to December, La Fortuna Mining & Milling Co. |
| 1897 | 0.60 | 1,283.09 | 15,789.92 | 361,522 | La Fortuna Mining & Milling Co. |
| 1898 | 0.59 | 1,563.48 | 15,976.13 | 331,121 | La Fortuna Mining & Milling Co. |
| 1899 | 0.60 | 1,595.12 | 21,078.75 | 440,770 | La Fortuna Mining & Milling Co. |
| 1900 | 0.62 | 1,447.40 | 22,596.58 | 467,960 | La Fortuna Mining & Milling Co. |
| 1901 | 0.60 | 783.35 | 11,994.46 | 248,411 | La Fortuna Mining & Milling Co. |
| 1902 | 0.53 | 662.09 | 9,576.94 | 198,319 | La Fortuna Mining & Milling Co. |
| 1903 | 0.54 | 603.88 | 6,730.95 | 139,820 | La Fortuna Mining & Milling Co. |
| 1904 | 0.58 | 1,032.59 | 4,414.69 | 91,840 | |
| Total 1896-1904 | | 10,179.41 | 123,030.50 | \$2,587,987 | |
| 1913-1914 | | | 435.00 | 9,000 | Fortuna Mines Corporation (est.) |
| 1926 | | | 774.00 | 16,000 | Elan Mining Company (est.) |
| Total 1896-1926 | | | 124,239.00 | \$2,612,987 | |

Source: Data Compiled by J. B. Terry
 From Arizona Bureau of Mines Bulletin 134

Golden Dream
Group

The Golden Dream Group (T10S, R20W, Sec. 24 (p)), lies in rugged peaks which rise from 500 to 700 feet above intervening saddles and to more than 2,000 feet above the adjacent plains. The property consists of several quartz veins which are exposed in the area and they strike from a few degrees of east to N.20°W., and dips from 15° to nearly vertical. The veins vary in width from less than eight inches to about one foot wide and can be traced for just a few feet up to above ½ mile.

Wilson (1933:199-200) reported that all of the veins contained iron oxide and in some places there was a little gold visible. At that time, the workings consisted of a few shallow prospect holes and some trenches which cut the veins. There is no record of any production from the property.

Map reference:12; see Appendix B for additional references and information.

Pool Mica

Wilson (1933:202) describes this property as located "1 1/2 miles west-southwestward from the divide 2 1/4 miles east of the Fortuna mine". (T10S, R20W, Sec. 22 (p)). Mica occurs within pegmatite dikes that cut the schist in the central section of the Gila Mountains. The Pool Mica deposit occurs in a dike that is approximately 30 feet wide, dips 75° and can be traced for over 1,500 feet. Small amounts of mica can be found throughout the dike, however, most of the mica is concentrated in three layers each about four feet thick.

Development at the property consists of: (1) an adit about 15 feet long, (2) an open cut approximately 20 feet deep and 10 feet wide, and (3) five smaller trenches and open cuts. Wilson (1933:202) measured an 18 foot section through the tunnel and reported that the "mica exposed throughout this section forms thin books that generally are less than one inch across". Mr. Maitland, co-owner of the property in 1942, reported to the Arizona Department of Mineral Resources "one R.R. (railroad) car of crude ore was shipped to Los Angeles by a promoter, but no real production". The record shows no other production for this property. This property has also been referred to as the Montgomery mine, however, the exact location is unknown.

Map reference:14 and 18; see Appendix B for additional references and information.

D & J Mining Co.

This property lies in the northern part of the Gila Mountains peripheral to LAFR. (T8S, R21W, Sec. 15, 22). Dale (1959:30) examined small deposits of scheelite in epidote-garnet zones. Dale reported "sparse scheelite occurs in epidote and in a fracture through gneiss and marble" and that "the largest mineralized zone observed was on the order of 20 feet long and

10 inches wide, although epidote in zones up to 100 feet long was observed." The only reported production from the area is 125 pounds of tungsten concentrate shipped by D and J Mining Co., but it is not known exactly where the ore came from.

Map reference:8; see Appendix B for additional information and references.

Mines, Prospects or
Claim Groups with no
Available Information

There are 5 properties for which no information other than the location could be found.
See Table VIII for details.

Unnamed Mine
Prospects and
Mineral Occurrences

Five unnamed prospects or shaft symbols were found by this study. See Table IX for details.
One occurrence of beryllium is reported in the district; this is shown as map reference:147;

Appendix B.

La Posa (Wellton) Mining District

The La Posa or Wellton mining district extends over an arbitrary area including the Wellton Hills, Copper Mountains, Cabeza Prieta Mountains and the Tule Mountains. (Figure 7 p. 34). The name La Posa "probably is a corruption of the Spanish word 'Pozo' meaning Well, and the name 'Wellton' comes from the small settlement on the railroad where several wells were sunk for water" (Keith:1978:54).

The first prospecting activities in the district probably took place in the late 1800's and the focus of that activity was undoubtedly around the Wellton Hills and the Copper Mountains. However, there was only small production in the district through 1941, when the area was withdrawn from mineral entry. Most of this production was prior to 1900 and in the 1930's (Keith:1978:56). The La Posa district, like other mining districts on LAFR, has not been closely examined for indications of economic mineral deposits.

Keith (1978:56) reported that the total estimated and recorded production from the mines in the district through 1974 would be some "415 tons of ore containing 153 ounces of gold, 300 ounces of silver, and 8 tons of copper." Also, about 28 ounces of gold and 8 ounces of silver were produced from placers in 1910 and 1914. Combining the placer and lode production the total value of the district's mineral production would be about \$8,000 (Keith:1978:56). The La Posa district, like other mining districts on LAFR, has not been closely examined for indications of economic mineral deposits and the district appears to have interesting geological and mineralogical features that should be studied (Keith:1978:56).

The Wellton Hills

The Wellton Hills lie at the north end of the Lechuguilla Desert east of the Gila and Tenajas Altas Mountains and about six miles south of Wellton. This isolated

TABLE VIII

MINES, PROSPECTS OR CLAIM GROUPS IN THE FORTUNA MINING
DISTRICT WITH NO INFORMATION OTHER THAN A NAME

| Map No. | Legal Description | Property Name | Data Sources |
|------------|---|---|--|
| 9 | T9S, R20W, Sec. 17, & 18 | Big Dutchman or Spear - Kent (?) | See Appendix B for additional references |
| 19 | T10S, R20W, Sec. 4 (p) | Red Top | See Appendix B for additional references |
| 156 | T12S, R18W, Sec. 15 (p) | Old Smokey | See Appendix B for additional references |
| 155 | T13S, R17W, Sec. 17 18, 19, 20, & 21 (p) | Crescent No. 1 & 2 Golden King Barragone Star | Sample data on file USBM Denver office See Appendix B for additional references |
| 17 | T10S, R20W, Sec. 26, 27, 34, & 35 (p) | Bertie, Barbara, BeeHive, White Rock Honey Comb, Sugar Loaf, Pool Mill Site, Waterhole, No. 1-2 Hillside, Little Gem, Red Rock, Red Top, Arizona | See Appendix B for additional references |

TABLE IX

UNNAMED MINES AND PROSPECTS IN THE FORTUNA
MINING DISTRICT

| Map No. | Legal Description | Data Sources |
|------------|--------------------------|------------------------------------|
| 4 | T9S, R20W, Sec. 7 | See Appendix B for additional data |
| 10 | T9S, R20W, Sec. 10 | See Appendix B for additional data |
| 11 | T9S, R20W, Sec. 15 | See Appendix B for additional data |
| 13 | T9S, R20W, Sec. 22, & 27 | See Appendix B for additional data |
| 27 | T10S, R19W, Sec. 17 (p) | See Appendix B for additional data |

group of irregular, scattered, steepwalled and rugged hills and buttes cover a six square mile area and are surrounded and divided by flat alluvium-covered pediments. Generally, the hills rise to about 2,000 feet above sea level or from 50 to 500 feet above the valley floor.

Bryan (1925:78, 196-197) provided the first geologic description of the Wellton Hills. He noted that the area appeared to be the remnants of a complexly faulted, elevated area of crystalline rocks including granite, granite gneiss and schist. Keith (1978:55) reports Bryan also mentioned "Tertiary lavas not subsequently noted in the area." Wilson (1933:172, Pl.1 and 1960) contributes the only other geologic information on the Wellton Hills. Wilson (1933:172) describes the geology as follows:

The Wellton Hills are made up of gneiss and minor amounts of schist, cut by scattered dikes of granite porphyry and pegmatite. This gneiss, aside from a pronounced banding of its constituent minerals has much the texture of a fine-grained biotite granite... The schist occurs only as small masses included with the gneiss. It is prevailingly dark gray, well laminated, and fine grained. Its major constituents are quartz and biotite, either aggregated or in bands. Feldspathic phases are rare in this rock.

Some veins in the Wellton Hills are marked with copper stain which extends for a short distance into the wall rock. In places this copper-stained gneiss carries visible specks of free gold (Wilson:1933:173). According to Wilson (1933:173), the copper-staining and the visible free gold combined with easy access led to active prospecting throughout the area, but very little ore was even developed.

Baker Peaks

The Baker Peaks form an irregular group of hills two miles in diameter at the edge of the Gila River Valley and lie approximately seven miles southeast of Wellton. They consist of three prominent conical peaks which, because of height and isolation, are visible for many miles in all directions (Bryan:1925:197). According to Keith (1978:54), this group of peaks were named after a stage driver.

Bryan (125:78, 197 and 205-206) supplied the first geological description of the Baker Peaks. He noted that the "Peaks are composed of granitoid rocks of the crystalline complex and are characterized by a strong westward-dipping sheeting." Also that the area around the Baker tanks was a "series of arkose sandstone and conglomerate." Wilson (1933:169-170 and 1960) provides the only other geologic information published on the Baker Peaks. There are no known mineral deposits in the Baker Peaks, but as Wilson states (1933:170) the arkosic sandstone could be used for building stone.

Copper Mountains

The Copper Mountains lie almost due south of the Baker Peaks and extend southeastward for some 13 miles. The mountains are about four miles wide and the highest peaks, which rise about 2,000 feet above the plains, occur near the widest part.

Bryan (1925:78, 190), Wilson (1933:164-165 and 1960), and Darton (1925) published the only geologic information available on the Copper Mountains. Keith (1978:54-56) summarized this information and the following has been abstracted from his work. Bryan reported that the Copper Mountains were composed of granite and granitoid rocks of a crystalline complex. He considered the complex as pre-Tertiary and probably Precambrian. The 1924 Geologic Map of Arizona shows Copper Mountains as mostly Precambrian granite. Wilson (1933) in his more detailed study and mapping of southern Yuma County describes the northern part of the Mountains to include Precambrian to Mesozoic gneiss and pegmatites and indurated Tertiary conglomerate. Large irregular bodies of aplite and pegmatite intrudes the gneiss and many stringers and veins of copper-stained quartz were noted. The southern half of the Copper Mountains are composed of granite.

There are several areas where mineralization occurs within these mountains. Many of the quartz veins which are exposed near the surface are copper and iron stained. These veins commonly contain irregular bunches of chrysocolla, iron oxide and limonite, together with minor amounts of malachite, gypsum and jarosite (Wilson:1933:166). There are several mines and prospects located in the mountains. The property with the most underground workings is the Betty Lee or Arizona Consolidated property. The workings, here, consist of a shaft 700 feet deep and with about 2,000 feet of workings on seven levels (Wilson:1933:166).

Cabeza Prieta Mountains

The Cabeza Prieta Mountains lie between the Copper and Tule Mountains. They are a sprawling, irregular mass approximately 20 miles long by 10 miles wide. The range divides the Lechuguilla and Tule Deserts, also most of the Cabeza Prieta's lie within the boundaries of the Cabeza Prieta game range. The Mountains are representative of both the sierra and mesa type classifications. The sierra type ridges trend generally northwest and rise steeply to a maximum of 1,500 feet above the valley floors at Cabeza Prieta or "Black Head" Peak.

Bryan (1925:78, 190-191) supplies the earliest discussions on the geology of the Cabeza Prieta Mountains, whereas, Wilson (1933:162-163) provides the most detailed geologic information. Simmons (1965:29-30 and 1966:152) presents an additional discussion on the geology of the Cabeza Prietas. The Mountains are composed of both crystalline complex rocks and overlying lavas and sediments. This varied composition accounts for the sierra type ridge and peaks as well as the tilted,

dissected mesa and buttes.

The Cabeza Prieta basal complex consists of Mesoizoic gneiss, schist and granite. Dikes, especially at the northern end of the range, containing aplite and schist cut both the granite and schist. Flows of Quaternary basalt up to 1,000 feet thick which caps many of the peaks are present (Simmons:1965:30). Two small buttes of basalt dip under the Lechuguilla Desert to the west of the Cabeza Prietas (Darton, 1925). After the deposition of the lavas, extensive and complicated faulting raised the Cabeza Prieta Mountains to their present height and produced complex structures within the Mountains (Bryan:1925 and Wilson:1933).

Reported mineralization in the Cabeza Prieta Mountains generally lies in areas where aplite and pegmatite cut the granite. Many of these areas are marked by copper and iron stains derived from chrysocolla, malachite, and limonite which occurs in narrow fractures and small cavities (Wilson:1933:163).

Tule Mountains

The Tule Mountains lie south of the Cabeza Prietas and divide the Lechuguilla and Tule Deserts. These mountains consist of a series of west-northwestward trending ridges which have been dissected by many v-shaped canyons. The main mountain mass lies in Sonora, Mexico, and is called the Sierra de Tuseral, only about four miles of the mountains extend into the U.S. This portion of the mountains presumably take their name from Tule Tank which is near their northern end in the Cabeza Prieta Mountains.

Some ridges rise to 1200 feet above the plains in Arizona and 12,000 feet in Mexico. They are unusually rugged, jagged and steep. The incredible ruggedness of mountains in the area is described as follows by early workers:

The Sierra del Tule, the Sierra Lechuguilla, and the Sierra de los Tenajas Altas present to the eye much the same general appearance ...They are bare, desolate, rough, and jagged to an unusual degree, and so steep that in many places it is impossible to climb to the summit, while in most places it is both arduous and dangerous; and when the jagged, knife-like crest is finally reached, it often proves to be so narrow that it is impossible either to walk along it or set up an instrument there...The scaling of a new ridge or peak sometimes occupied an entire day. (International Boundary Commission:1898:20, 120)

Bryan (1925:78, 191) gives the first geologic description of the Tule Mountains, Wilson (1933:160-161, 1960) provides the most complete discussion, and Simmons (1965:30 and 1966:154) supplies the latest published information. The mountains are composed of schist, gneiss and granite, intruded by dikes of aplite and pegmatite, overlain by west-dipping Quaternary basalt in the north, up to 500 feet in thickness (Simmons:1965:30). Conglomerates found in the north by Bryan (1925:191) are composed of lava and arkosic fragments. There is evidence of postvolcanic faulting similar to that in the Cabeza Prieta Mountains.

Little mineralization has been reported in the Tule Mountains, however, some fissure zones in the schist show minor amounts of copper.

Mines, Prospects,
Mineral Occurrences
or Claim Groups

Sixty-one mines, prospects, mineral occurrences or claim groups were noted in the La Posa (Wellton) mining district. Twelve unnamed mines or prospect groups were found. On the remaining mines, prospects or claim groups, data was obtained from unpublished sources, i.e., Department of Mineral Resources file data, USBM sample and claim data, U. S. Army Corps of Engineers and private individuals. For 21 mine prospects or claim groups there is no information other than the name.

Double Eagle or
Gold Leaf Mine

The Double Eagle property lies in the southern end of the Wellton Hills (T.10S., R.18W., Sec. 22), near the west bank of Coyote Wash. Wilson (1933:173-174) reported on the property in 1933 and the following information has been abstracted from that report.

At the property the gneiss, which strikes westward and dips at a low angle southward, has been broken by several faults. The most prominent of these faults strikes westward, dips 75°N, and is accompanied by a brecciated zone, six feet across, that locally shows abundant sericitic alteration and marked staining by iron and copper.

Development work at the property consists of a shaft approximately 100 feet deep and a short adit on the main vein. Northwest several hundred feet, a fifty-foot tunnel was driven along a somewhat similar zone that strikes N.70°W and dips 30°NE. Keith (1978:160) reports that the mine was worked intermittently from the late 1880's to the early 1930's and produced some 50 or more tons of ore, averaging about 1.6 oz. gold per ton, 0.8 oz. silver per ton and 0.3% copper.

Map reference:20; see Appendix B for additional references and information.

McMahan Prospect

The McMahan prospect is located in the southern Wellton Hills (T.10S., R18W., Sec. 15) about 3/4

of a mile north of the Double Eagle shaft and on the west side of Coyote Wash. Wilson (1933:175-176) visited the property and the following information has been abstracted from his report.

In the immediate vicinity of the McMahan property, the gneiss has been faulted sufficiently to show considerable variation in strike and dip. One fault zone, striking southeastward, is from two to three feet wide in places and contains an irregular quartz vein, less than a foot thick, with strongly sericitized walls. At the time Wilson was writing the only development work at the property consisted of a sixty-foot inclined shaft at the above described zone.

The only reported mineralization consisted of: (1) some heavily iron-stained crystalline quartz which is locally banded by narrow veinlets of gray and brown calcite, (2) vugs lined with quartz and filled with iron oxides, (3) copper-stained silica and sericite, and (4) a small quantity of wulfenite seen on the dump. There is no recorded production for this prospect.

Map reference:21; see Appendix B for additional references and information.

Donaldson Claim

The Donaldson Claim is located in the northeastern end of the Wellton Hills (T.10S., R.18W., Sec. 11) about 1 3/4 miles southeast of the Poorman property and 1/4 mile west of the Wellton-Tule Well road. In the area of the Donaldson claim the gneiss is rather sheared and schistose and dips generally eastward (Wilson:1933:175).

A prominent quartz vein, up to fifteen feet thick, cuts across a low saddle in the area; this is where the development work is located. In 1931 this consisted of several short tunnels. The only mineralization reported by Wilson was at the vein walls where abundant sericite, minor chlorite and sparse copper stains were visible. No production has been reported from this property.

Map reference:22; See Appendix B for additional references and information.

Wellton Hills Mine (Draghi or Frazier)

The Wellton Hills Mine is one mile from the southwestern end of the Wellton Hills (T.10S., R.18W., Sec.20) and 3/4 mile north of Wellton Tinjas Altas road. Wilson (1933:174-175) noted that the fine-grained, banded, biotite gneiss, striking northwest, dipping 40°SW, is cut by a few narrow aplitic dikes. Also in the same area is a prominent fault zone marked by a maximum of about eight feet of breccia and gouge striking N.35°W., dipping 10° to 40°E. and containing irregular quartz vein. In 1931 two adits, vertically about fifty feet apart, were driven along this zone.

Keith (1978:161) reports that mineralization here, consists of spotty gold with silver and minor oxidized copper mineralization in an irregular quartz vein. This mine was sporadically worked by tunnel operations over many years with the major production occurring in the mid-1930's. Production amounted to some 350 tons of ore averaging about 0.54 oz. gold per ton and about 0.2 oz. silver per ton.

Map reference:23; see Appendix B for additional references and information.

Northern Prospect Wilson (1933:176) reported a few shallow cuts in the western slope of a spur that lies one mile south of Sec.32, T.9S., R.18W. This would place the Northern Prospect in the northwestern section of the Wellton Hills, somewhere in T.10S., R.18W., Sec. 4 or 5. Wilson reported that in this area the gneiss strikes nearly west, dips 30° toward the north and is cut by several aplitic dikes. He also reported that a narrow white quartz vein near one of these dikes contains bunches of brown calcite together with hematite and in places considerable copper stain is visible. There is no recorded production from this property.

Map reference:24; see Appendix B for additional references and information.

Poorman Mine (Desert Dwarf, Eaton, Svenson, Hindman) This property is located in the northeastern end of the Wellton Hills (T.10S., R.18W., Sec.2). At this property Wilson (1933:174) described the gneiss as rather massive, intruded by a few narrow aplitic dikes. He noted that there has been a considerable amount of faulting in the area and "a 1 1/2 foot vein, made up about equal proportions of quartz, gouge and breccia, occupies a nearly vertical fault zone that strikes N.56W. In places, the quartz is banded and streaked by brown and black iron oxide."

Development work at the property as reported by Wilson (1933:174) included three shafts which, according to a local informant, were 50, 100 and 230 feet deep with the deepest one having about 90 feet of tunnels on the 100 foot level. Mineralization at the property as reported by Keith (1978:160) consists of "spotty pockets of gold in banded and iron-streaked quartz, gouge, and breccia in a fault zone cutting massive Mesozoic gneiss." The mine was worked sporadically from 1897 through 1940 and production amounted to approximately 100 tons of ore averaging about 0.25 oz. per ton of gold, and about 0.1 oz. per ton of silver.

Map reference:25 and 79; see Appendix B for additional references and information.

Shirley Mae Prospect

This property lies in the southwestern end of the Wellton Hills (T.10S., R.18W., Sec.22) some 1 1/4 miles east of the Wellton Hills mine (Draghi).

Wilson's (1933:176) description of the geology development at this prospect is as follows:

In this locality, fine-grained, banded, biotite gneiss strikes southeastward and dips 65° N. When visited in May, 1931, the workings on the Shirley Mae claim consisted of a sixty-foot tunnel extending southeastward along a fault zone that was strongly sericitized for a width of about three feet.

There is no reported production from this property.

Map reference:26; see Appendix B for additional references and information.

Wanamaker Prospect Wilson (1933:174) places this property at the southeastern base of the Wellton Hills (T.10S., R.18W., Sec.16) immediately west of the Wellton-Tinajas road at a point seven miles from Wellton. The following information on the geology, development and mineralization has been abstracted from Wilson (1933:174).

The Wanamaker prospect is in the pediments where a relatively fissile gneiss strikes about N. 60° W. and dips 45° E., and has been disturbed by minor faulting. Also, present are several aplitic dikes from a few inches to more than one foot across, along with two narrow quartz veins. These quartz veins have been prospected by several shallow workings. The longer of these veins, which is less than one foot wide, strikes and dips with the prevailing lamination of the gneiss. This vein is somewhat stained with iron oxide and, locally, it contains bunches of brown calcite and vugs lined with quartz crystals. A small amount of copper staining is also visible in this vein. There has been no recorded production from this property.

Map reference:29; see Appendix B for additional information and references.

Welltonia Prospect The Welltonia prospect is located on a slope of the hill (T.10S., R.18W., Sec.16) about 1/4 mile southwest from the Wanamaker workings. The following data relating to geology, development and mineralization was abstracted from Wilson (1933:176). This prospect is located in an area of a medium-grained, banded, biotite gneiss which contains some fine-grained, apparently, sedimentary schist, which strikes W 35° E and dips nearly 90° . A thirty-foot shaft was sunk on a narrow zone that contains a few quartz stringers. This quartz contains small bunches of brown to black iron oxide and the adjacent schist shows considerable iron staining and sericitic alteration. There has been no recorded production from this prospect.

Map reference:32; see Appendix B for additional information and references.

Stemwinder Group
of Mines

This property is located about 10 miles in a south-easterly direction from Wellton (T.12S., R.16W., Sec. 4 and 5 (p) in the Cabeza Prieta Mountains.

All the data regarding this property was abstracted from an Arizona Department of Mineral Resources data file.

In the area is a granitic porphyry within which the ore occurs in fissure veins, having a width from two feet to five feet and a length of three thousand to five thousand feet. An open trench runs along a vein for a distance of about 125 feet. The ore in the trench averages four feet in width, is well-defined between good walls and is in a very clean quartz. Nine samples were taken from this property. The data is on file at the Department of Mineral Resources, Phoenix office.

There is no record of any production from this property.

Map reference:37; see Appendix B for additional information and references.

Frisco, Betty Lee and
Ella J. Mines
(Arizona Consolidated
Mining Co., Swenson,
Coppie and McIntosh,
Linden)

This mine is located approximately 19 miles south of Wellton (T.11S., R.17W., Sec. 2) in the Copper Mountains. Wilson (1933:166) reported on this property and the following information is abstracted from his work.

The mine workings are at an elevation of 1,300 feet above sea level located in the bottom of a steep-sided, northeastward-trending canyon. Here a quartz vein up to four feet wide in places occupies a fissure that strikes S52°E, dips nearly 90° and is traceable on both sides of the canyon. This vein contains bunches of admixed sericite and, in places, masses of hard hematite, up to several inches across. These are veined and coated with massive chrysocolla and subordinate crystalline malachite. In places, a few thin veinlets of crystalline calcite cut the quartz. The copper stain fades out into the vein walls which are lined with abundant dark mica and are considerably silicified and sericitized.

Keith (1978:160) reported that this property was worked sporadically by shaft and tunnel operations in the 1920's and 1930's. Production from this mine was small and amounted to some 145 tons of ore averaging about 2% copper, 0.3 oz. gold per ton and 1.4 oz. silver per ton.

These claims are currently under lease to the U. S. Government.

Map reference:39; see Appendix B for additional references and information.

Old Soak Prospect

This prospect is located in a granite ridge on the last flank of the Copper Mountains. The engineer who visited the property in 1939 gave the following directions on how to reach the property--"Yuma County, 13 1/2 miles south of Ralph's Mill, on H/W 80 near Wellton." The claims are currently under lease to the U. S. Government, and the Army Corp of Engineers map locates the property in T.10S., R.17W., Sec.25.

The following information has been abstracted from the Arizona Department of Mineral Resources data file. This prospect lies in granite which has been cut by a shear zone with parallel shearing planes dipping northeast. There is a series of veins which range from 6 to 18 inches wide. The veins carry copper, gold and silver values. In 1939, 1,960 pounds of ore were shipped to Hawley and Hawley. Assay values were (1) gold, \$8.99; (2) silver, \$0.38; and (3) copper, 9.24%. Development work at the property consists of a 10 foot incline shaft sunk on the vein.

Map reference: 41; see Appendix B for additional information and references.

Baker Peak Barite

The Baker Peak Barite prospect is located about 10 miles east-southeast of Wellton (T.9S., R.17W., Sec.22) in the Baker Peaks. The only information found on this prospect was from the U. S. Bureau of Mines card file and is as follows: classification: known deposit.

General Information: It is reported that a large barite deposit here is being investigated by the Arizona Barite Company.

Map reference: 42; see Appendix B for additional reference and information.

Venegas Prospect

The Venegas prospect is located in the Tule Mountains (T.14S., R.15W., Sec.23 and 26 (p)) near the U. S. - Mexico boundary. Wilson (1933:161) reported on this property and the following information is abstracted from his report. At the Venegas prospect, the schist strikes southeast, dips steeply northeast and is intruded by dikes of aplite and pegmatite. The mineralized zone outcrops along the crest of a southeastward trending ridge some 500 feet above the plane and is marked by a belt several feet wide, of coarse-grained sericite, stained yellow and brown by limonite. In places, small bunches of gypsum and calcite, surrounded by layers of brochantite, are present. When Wilson was there, workings at the property consisted of several surface cuts, a shallow shaft, and a few short tunnels.

A report by the U. S. Bureau of Sport Fisheries and Wildlife on the Venegas prospect gave this information:

Unpatented mining claims. Several prospect

holes, one tunnel. Mostly caved in. Gypsum, calcite, and copper minerals of interest. Four valid and four invalid claims under the mine 'Santa Clara Nos. 1-8'. Leased by Federal Government.

Map reference:52 and 176; see Appendix B for additional information and references.

Dart and Kart Prospect (See Dan Drifts Mine) Map reference:56; see Appendix B for additional references and information.

Dan Drifts Mine (Dart and Kart, Banjo and Tillie Pat) This property is located in the southeast Cabeza Prieta Mountains in T.13S., R.14W., Sec.35. A U. S. Bureau of Sport Fisheries and Wildlife report affords the only information known about this property. The following information is from that report:

Two series of claims in area. Concrete slab remnants of cabin. Assorted junk. No shafts of (sic) tunnels known. Four valid claims leased by Federal Government: The Dart, Kart, Banjo and Tillie Pat.

Map reference:57; see Appendix B for additional references and information.

Santa Clara Group This prospect is located in the southwest portion of the Tule Mountains (T.14S., R.14W., Sec.22, 25, and 26 (p)) 45 miles southeast of Wellton and 1/2 mile north of the U. S. - Mexico boundry.

The following information was abstracted from the Arizona Department of Mineral Resources data file dated 1919. Development work at this property consists of several shallow pits, an inclined shaft approximately 53 feet deep. Mineralization showing in the bottom of the shaft, in a cross-cut, consists of bunches of barren pyrite and chalcopyrite scattered through the altered diorite footwall rock. The general average of this ore showing is quite low and probably does not exceed one to one-half percent copper.

Map reference:60; see Appendix B for additional references and information.

Long Lost Mine This prospect is located in the north Cabeza Prieta Mountains in T.12S., R.15W., Sec.19. Little information is available on this prospect; all that is known is from a U. S. Bureau of Sport Fisheries and Wildlife Report and is as

follows: "Prospect staked in 1929. Invalid claim."

Map reference:131; see Appendix B for additional reference and information.

Silver Star Mine The Silver Star Mine is located in the north Cabeza Prieta Mountains in T.12S., R.15W., Sec.18. All that is known about it was published in a U. S. Bureau of Sport Fisheries and Wildlife report and is as follows: "Unpatented mining. Invalid. Copper mineral of interest."

Map reference:132; see Appendix B for additional references and information.

Chicago Prospect The Chicago Prospect lies in the northern Copper Mountains (T.10S., R.17W., Sec.23) at the western foot of a gneiss spur about two miles north of the Betty Lee Mine. The following information is abstracted from Wilson (1933:167). This prospect consists of some shallow workings made on quartz veins in gneiss. These veins show some limonite and copper stain, but have not been found to carry much gold.

Map reference:40; see Appendix B for additional references and information.

McMillan Mine This prospect is located on the northwest flank of the Cabeza Prieta Mountains (T.12S., R.16W., Sec.9, 10, 15, and 16 (p), 25.5 miles southeast of Wellton on the road between Wellton and Tule Tank.

The McMillan prospect was first reported on by Wilson (1933:163). He reported "several shallow workings have followed narrow fissure zones that occur in or adjacent to such dikes and show the same type of mineralization." Granger and Raup (1962:A-48; A-49) visited the property and the following information is abstracted from their report. The mineralization is in a fracture zone that strikes N.34°W. and dips 68°SW in biotite granite. This zone is traceable for 210 feet up a 30° slope and along the crest of a ridge. Adjacent to the fracture zone is a quartz-feldspar pegmatite dike that roughly parallels the zone on the hangingwall side.

Development at the property consists of two short adits, an open-cut, and a shallow shaft. The two short adits have been driven into the fracture zone. The lower adit is about 10 feet long, and 90 feet up the slope the upper adit is about 20 feet long. The open-cut, which is 110 feet above the upper adit and near the top of the slope is only 5 feet long.

The fracture zone, where exposed in the lower adit, is stained along

the cracks by copper and iron minerals and there are seams of malachite and chrysocolla along major fractures. Chrysocolla and malachite occur in a similar way at the upper adit and in the open-cut, but in these exposures the copper and iron stains are stronger than in the lower opening. A short distance northwest of the adits, the 50 foot shaft does not seem to be in the fracture zone, even though it is in a highly fractured and iron-stained granite whose longer fractures are coated with secondary copper minerals.

Radioactivity is as much as five times the background count at some places in the mine workings and on the dumps. Also a stockpile of copper-stained material, presumably mined from ore of the adits, gave readings of nearly 0.5 mr per hour on a scintillation meter. However, a selected sample of this material only contained 0.034 percent uranium and 7.69 percent copper.

Map reference:36; see Appendix B for additional references and information.

Smith Mine (Last Chance and Copper Coin, Pedstel and Everhandy, Smith Bannard)

The Smith property lies along the western foot of the Copper Mountains (T.11S., R.17W., Sec.10 (p)) about eighteen miles from Wellton. Wilson (1933:167) reported on the Smith property and the following information was taken from that report.

At the Smith mine the granite is extensively jointed and contains a few small pegmatite dikes. A brecciated zone, up to three feet wide, strikes S33°E, dips 60°E and on the surface is traceable northward from the alluvium for about 100 feet. This zone contains brecciated, coarse-grained, vitreous, grayish quartz, irregular bunches of chrysocolla, copper pitch and hematite. Abundant, large masses of brown, black and yellow iron hydroxides, together with some gypsum and jarosite are visible. The zone as a whole is marked by iron-stained fractures. Development work, short drifts and shallow winzes on this zone have cut several small pockets of quartz displaying finely divided gold.

Keith (1978:160) reports that the property was worked sporadically in the 1920's and 1930's, producing some 30 tons of ore averaging about 7% copper, 0.4 oz. gold per ton and 0.1 oz. silver per ton.

Map reference:28; see Appendix B for additional references and information.

Mines, Prospects or Claim Groups with no Available Information

There are 21 claims, prospects or mines within the district for which there is little data other than the name and location. For the available information see Table X.

TABLE X

MINES, PROSPECTS OR CLAIM GROUPS IN THE LA POSA (WELTON) DISTRICT
WITH NO INFORMATION OTHER THAN A NAME

| Map No. | Legal Description | Property Name | Data Sources |
|-------------|---|---|---|
| 40 | T11S, R17W, Sec.23 | Chicago | See Appendix B for additional references |
| 45 | T10S, R17W, NE 1/4 Sec. 26 | Guiding star | See Appendix B for additional references |
| 59 & 169 | T14S, R14W, Sec. 28 (p) | Thanksgiving Mine | See Appendix B for additional references |
| 130 | T13S, R15W, Sec.4 (p) | Golden Brown | See Appendix B for additional references |
| 158 | T12S, R16W, Sec.5 4,8,9 (p) | Copper Hill Area | USBM sample data on file in the Denver office See Appendix B for additional references |
| 159 | T12S, R16W, Sec.14 (p) | Black Mountains | See Appendix B for additional references |
| 160 | T12S, R15W, Sec.17, 18,20,21,22, & 28 (p) | La Bamba, Merry Christmas, Copper Hill, Silver Star Mine, Gold Eagle, Golden Pheasant, Golden Drina | See Appendix B for additional references |

MINES, PROSPECTS OR CLAIM GROUPS IN THE LA POSA (WELTON) DISTRICT
WITH NO INFORMATION OTHER THAN A NAME (CONT.)

| Map No. | Legal Description | Property Name | Data Sources |
|------------|--|---|--|
| 161 | T12S, R15W, Sec. 31,&32 T12S, R16W, Sec. 25,&36 | Cabrison, Black Head, Cabeza Prieta No. 1 & 2, Comstock Princess, Vampire Mine | See Appendix B for additional data |
| 162 | T13S, R16W, Sec. 14 (p) | Eda | See Appendix B for additional data |
| 163 | T13S, R15W, Sec. 6 (p) | Long Joe No. 1 | See Appendix B for additional data |
| 164 | T13S, R15W, Sec. 9 (p) | Rising Sun | See Appendix B for additional data |
| 167 | T13S, R14W, Sec. 25, 26,27,33,34,35,&36 | Halo Group 1-9 | See Appendix B for additional data USBM Sample data on file in the Denver office |
| 171 | T14S, R14W, Sec. 8 (p) | Copper World | See Appendix B for additional data |
| 173 | T14S, R14W, Sec. 12 (p) | Last Chance | See Appendix B for additional data |

MINES, PROSPECTS OR CLAIM GROUPS IN THE LA POSA (WELTON) DISTRICT
WITH NO INFORMATION OTHER THAN A NAME (CONT.)

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---|---|--|
| 174 | T14S, R13W, Sec.7 (p) | High Graden Gold Johnny, Leona, Mary | See Appendix B for additional data |
| 175 | T14S, R14W, Sec.30 (p) | Gloria De Ora 1-8 | See Appendix B for additional data |
| 177 | T14S, R15W, Sec.22 (p) | Emma Jean 1 & 2 Tule 1 & 2 | See Appendix B for additional data |
| 178 | T13S, R17W, Sec.35 (p) | Dolores | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 179 | T14S, R15W, Sec.14, 15,23,&24 (p) | Copper Head No. 2 | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 180 | T14S, R15W, Sec.11, 12,&13 T14S, R14W, Sec.7 (p) | Black Prince | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 181 | T14S, R15W, Sec.10 (p) | Santa Clara 1-5 | See Appendix B for additional data |

Unnamed Prospects
and Mineral
Occurrences

There were 12 unnamed mines or prospects found in this district by the study.

See table XI for the available information on the 12 unnamed prospects. Table XII gives the data on 4 reported mineral occurrences in this district.

Mohawk Mining District

For the purpose of this report the Mohawk Mining District covers: (1) the Mohawk Mountains; (2) the Bryan Mountains; (3) the Sierra Pintas; and (4) the Aztec Hills (Figure 7 P34).

Prospecting activities in the district started as early as the late 1800's, but most of the mining in the district was done early in the 1900's (Keith:1978:59). Lead, silver, barite, copper, gold and molybdenum have been prospected in the district, however, the mineralization generally occurs in lensing fissure veins containing quartz, calcite, local barite and fluorite, iron oxides, breccia, and gouge (Keith:1978:59).

Mining within the district has been sporadic coupled with a correspondingly small amount of recorded production. Total production amounts to approximately 60 or more tons of ore containing about 21,346 ounces of silver, 11 tons of lead, 1 ton of copper and 7 ounces of gold (Keith:1978:59). Keith (1978:59) also reports that about 18 cars of picked barite ore was shipped in 1929-1930. He also reports that "it is said that a small line quarry was operated at the northern end of the range prior to 1911, using a small bed of marble within the gneiss."

Mohawk Mountains

The Mohawk Mountains are a long, narrow, tapering range, extending southeastward from the Gila River for about 29 miles and vary in width from 1/2 to 3 miles. On early maps these mountains were called the Big Horn Mountains. The mountains rise some 2,000 feet above sea level or 1,500 feet above the adjacent plains. They are marked by a sharp, jagged and broken crest, with deep, rugged canyons and steep, rough slopes. Another aspect of these mountains are the narrow dissected pediments with detached remnant-like hills fringing the mountain flanks and wind-blown sand which mantles the pediments.

Bryan (1925:78, 193) was the first to map and describe the Mohawks. He depicted them as Precambrian to Mesozoic granite and similar coarse-grained crystalline rocks with massive jointing. An early Geologic Map of Arizona (1924) shows Precambrian schist in the north-central portion with granite at the north and south ends of the range. Later,

TABLE XI

UNNAMED MINES AND PROSPECTS IN THE LA POSA (WELTON) DISTRICT

| Map No. | Legal Description | Data Sources |
|---------|------------------------|---|
| 30 | T10S, R18W, Sec. 8 | See Appendix B for additional information |
| 31 | T10S, R18W, Sec. 14 | See Appendix B for additional information |
| 34 | T11S, R17W, Sec. 9 (p) | See Appendix B for additional information |
| 35 | T11S, R17W, Sec.4,5(p) | See Appendix B for additional information |
| 38 | T12S, R16W, Sec.36 (p) | See Appendix B for additional information |
| 43 | T11, R17W, Sec. 2 | <p>Wilson (1933: 167); Visited these prospects and the following has been abstracted from his report. These prospects are located on a granite-walled canyon about one mile south-east of the Betty Lee Mine, several of the prospects follow narrow quartz veins that are mineralogically similar to the Betty Lee Vein.</p> <p>See Appendix B for additional information.</p> |
| 44 | T9S, R17W, Sec.35 | <p>Wilson (1933: 177-168) also visited this area and following is abstracted from his report. These shafts lie about six miles north of the Betty Lee mine in the gneiss, immediately east of a sharp bend in the road. At this point a shallow shaft has been sunk on a steeply eastward-dipping pegmatite dike that has a width of about four feet and is cut by irregular veins of vitreous translucent, white quartz.</p> |

UNNAMED MINES AND PROSPECTS IN THE LA POSA (WELTON) DISTRICT (CONT.)

| Map No. | Legal Description | Data Sources |
|---------|--|--|
| | | <p>This quartz is broken by many fractures, some of which are lined with chrysocolla and iron oxide. In places it contains irregularly rounded kernals up to an inch in diameter, of chalcocite.</p> <p>See Appendix B for additional information.</p> |
| 58 | T14S, R14W, Sec. 7,18 (p) | See Appendix B for additional information. |
| 165 | T135, R15W, Sec. 11 (p) | See Appendix B for additional information. |
| 172 | T14S, R14W, Sec. 3,4,9 10 & 11 (p) | <p>See Appendix B for additional information.</p> <p>USBM Sample data on file in the Denver office.</p> |
| 170 | T14S, R14W, Sec. 7,18 (p) | <p>USBM Sample data on file in the Denver office.</p> <p>See Appendix B for additional information.</p> |
| 157 | T11S, R17W, Sec. 3,4, 5,8,9 & 10 (p) | <p>USBM Sample data on file in the Denver office.</p> <p>See Appendix B for additional information.</p> |

TABLE XII

MINERAL OCCURRENCES IN THE LAPOSA (WELTON) DISTRICT

| Map No. | Legal Description | Mineral Name | Data Sources |
|---------|--|--------------|--|
| 33 | T19S, R18W, NW $\frac{1}{4}$, Sec. 24 | Gypsum | See Appendix B for additional references |
| 143 | T9S, R17W, Sec. 5 (P) | Bentonite | See Appendix B for additional references |
| 148 | T10S, R18W, Sec. 14 (P) | Molybdenum | See Appendix B for additional references |
| 149 | T12S, R16W, Sec 16 (P) | Uranium | See Appendix B for additional references |

and more detailed work conducted by Wilson (1933:148-154) indicated Precambrian to Mesozoic schist, Gneiss and granite intruded by dikes of granity porphyry, aplite and pegmatite. He also shows steeply-dipping, Tertiary, unmetamorphosed conglomerate, sandstone and shale capping the northern end of the mountains. The 1969 Geologic Map of Arizona, utilizing reconnaissance mapping done by Wilson for the Geologic Map of Yuma County, shows the schist, gneiss and granitic intrusions as Mesozoic and the sediments at the north end as Laramide.

Bryan Mountains

The Bryan Mountains lie at the southern end of the Mohawk Mountains and extend southeastward for approximately 18 miles. Bryan (1925:193) was the first to report on these mountains, however, they are not shown in his geologic map. In his description of the mountains Bryan refers to them as "an unnamed range" or the "so-called Mohawk Range" and continues by saying that they are "composed of similar granite rock" and have "similar topographic forms" as the Mohawk Mountains.

In a more detailed study conducted by Wilson (1933:55-156) he named the mountains and provided more geologic information about the mountains.

Mines, Prospects, Mineral Occurrences or Claim Groups

Twenty mines, prospects, or claim groups were recorded by this study in the Mohawk Mining District. Of these, published information was available for only 8 properties; 8 unnamed prospects were found. On the remaining mines, prospects or claim groups data was obtained from unpublished sources, i.e. Department of Mineral Resources file data, U.S.B.M. sample and claim data, U.S. Army Corps of Engineers and private individuals.

Red Cross (Norton) Mine (Norton, Zappia)

The Red Cross Mine is at the eastern foot of the Mohawk Mountains, (T9S., R.14W., Sec.2) about 5½ miles from Mohawk. Wilson (1933:158) visited the mine and the following information is abstracted from his report. At the property a hill rises about 150 feet above the dissected pediment and is made up of schist that has been locally displaced by faulting and has a prevailing strike of N25°E. and dips 20°SE. The schist has been cut by an irregular dike of white, fine-grained granite porphyry that has a maximum width of three feet and shows many small spots of iron stain.

The Red Cross vein lies in a curving fault zone which, near its northwestern end, strikes N65°W and dips from 60° to 80°SW. The richest portion of this vein was limited to the northwestern 150 feet. From there, the vein passes beneath surface gravels. The unmined remnants of this section of the vein contain limonite, breccia and gouge. It is also cut by veinlets of malachite, chrysocolla and calcite containing

irregular bodies of gypsum and copper-stained, crystalline calcite. The vein is traceable for several hundred feet farther east as a silicified, iron-stained brecciated zone up to three feet wide.

Keith (1978:163) reported the mineralization at the Red Cross Mine as follows:

Spotty, high-grade, argentiferous lead mineralization with veinlets of oxidized copper and calcite in a lensing quartz vein with limonite, breccia, and gouge, in a fault zone in Mesozoic schist. Iron oxides, and irregular bodies of gypsum and copper-stained calcite. Strong sericitization and silicification of wall rocks.

Keith also reported that this property was worked by shaft and open cut operations and that the mine was worked sporadically from about 1910 to 1941. He reported the production from the mine as "some 60 tons of ore" averaging about 300 ounces silver per ton, 8 percent lead with minor copper and gold.

Map reference 46; see Appendix B for additional references and information.

Tavasci or Victoria Prospect (Clara, Susie & Betty) The Tavasci or Victoria property lies on the western slope of the Mohawk Mountains (T.9S., R.14W., Secs. 9 and 10) about six miles south of Mohawk. Wilson (1933:153) also visited this property and the following information is abstracted from that report.

At this prospect, coarse-grained biotite schist strikes southeast, dips 30° NE and is cut by a few dikes of aplite and pegmatite. Development at the property consists of a tunnel more than 300 feet long, driven eastward along a steeply southward-dipping fault zone. A vein up to ten or more feet wide, of limonite, breccia and scattered bunches of quartz lie within this zone. The quartziferous portion of this vein carry some gold values.

Map reference 47; see Appendix B for additional references and information.

Renner Barite The Renner Barite property lies approximately two miles northwest of Mohawk (T.8S., R.15W., Secs. 11, 12, 13, and 14). This property lies to the north of the LAFR and just outside the boundary. Wilson (1933:152-153) visited this property and the following information is abstracted from his report.

In the area of this property, low, rounded hills of dark-gray, granitic gneiss rise above the gravel-manteled pediment at the western base of the

Mohawk Mountains. The gneiss is cut by a few narrow, branching dikes of granite porphyry, many thin brown veins of ankerite, and a few veins of barite.

The principal barite vein occurs within a fault zone that strikes N70°W and dips 80°SW. The vein, which is traceable for several thousand feet, is generally less than two feet wide, however, one section of the vein reaches a thickness of about seven feet wide. Development at the property, as reported by Stewart and Pfister (1960:88), consists of an open-cut 40 feet long to a maximum depth of 30 feet with an underground stope extending 25 feet to the east.

Keith (1978:163) reported that the mineralization at this property consisted of:

Lensing masses of barite crystals with minor fluorite, within crystalline calcite, in a fault zone bordered by irregular layers of chlorite and calcite. Minor silver values in calcite. Wall rock is Mesozoic granite gneiss.

Keith also reported that "some 18 carloads of barite" was shipped from the property between "1929 and 1930."

Map reference 49; see Appendix B for additional information and references.

Ruby Prospect The Ruby prospect is about four miles north of Mohawk (T.8S., R.15W., Sec. 1 and 12) near the eastern end of the Mohawk Mountains. This property also lies outside of LAFR's boundaries. Wilson (1933:153) visited this prospect and the following information has been abstracted from his report.

At this prospect a group of eastward-trending arroyos have cut through a detrital mantle and exposed a pediment of granitic gneiss. Here the gneiss is laminated with the lamination striking northwestward and dipping about 45°E.

When Wilson was at the prospect, the only development consisted of a shaft sunk through the gravel into the gneiss. There is no record of any production from this property.

Map reference 50; see Appendix B for additional information and references.

Mohawk Lime Quarry This quarry lies a short distance northwest of Mohawk (T.8S., R.15W., Sec. 14) close to the Renner Barite property. This quarry lies to the north of LAFR's boundaries. Wilson (1933:154) discusses this quarry and the following information is abstracted from his discussion.

This old lime quarry had two small adobe furnaces and was operated for a short time period around 1911. The lime was shipped to King of Arizona mine for use at its cyanide plant. No record of the amount of lime shipped from this quarry could be found.

The topography and geology is similar to that at the Renner Barite mine. However, the quarry is located in an area where a lenticular mass of fine-grained, arkosic, biotite schist in the gneiss contains a bed of white to gray banded marble that strikes east, dips 30°W and is about six feet thick. Near the hangingwall, the bed contains lenticular veinlets of quartz and manganiferous calcite.

Map reference 51; see Appendix B for additional information and references.

Unnamed Prospect This unnamed prospect lies about 100 feet
Bryan Mountains above the plain on the eastern side of the
 Bryan Mountains (T.10S., R.12W., Sec.29)
about 1½ miles from the northwestern end of the mountain. Wilson
(1933:156) described this prospect and the following discussion is
abstracted from his description.

Principal mineralization in the Bryan Mountains consists of copper and iron stains in pegmatite dikes and in narrow veins of glassy quartz. These veins locally contain crystalline epidote with blebs of magnetite and their walls show strong sericitization. In the northeastern section of the mountains where this prospect is located these veins are relatively plentiful.

Development at this prospect consists of an irregular, inclined shaft that was sunk about 75 feet on a vein that strikes northwest and dips 40°SE. This vein consists of shattered, locally vuggy, glassy quartz, together with minor amounts of brown, ferruginous calcite. Malachite and hematite are present in some fractures and irregular cavities, but the copper stain becomes noticeably less at depths of fifteen feet or more. Many smaller quartz veins which cut the granite of this vicinity in various directions locally show mineralization of similar character.

Map reference 140; see Appendix B for additional information and references.

Lord Will #2 This prospect lies on the eastern slopes of
 the Bryan Mountains (T.11S., R.12W., Secs. 23
and 24 (p)) slightly south of the mid-section of the range. This was
one of three properties visited on a one day helicopter reconnaissance
of LAFR. Approximately one hour was spent at this prospect and the
following, rather sketchy, information was obtained at that time.

The Bryan Mountains, at this point, are composed of Mesozoic granite and the slopes rise between 30° - 40° from the valley floor. Here,

two pegmatite dikes cut the granite. One is approximately 100 feet above the valley floor and the other about 100 feet above that. The dikes are parallel, striking S20°E and dipping 45°W. The upper dike is traceable for several hundred feet in both directions from where an adit was driven into the dike. The lower dike is much smaller and can be traced only for about 200 feet to the north from where a short adit was driven into this dike. This dike is only about two feet wide at its widest point; whereas, the upper dike varies in width from four to six feet.

Development on this prospect consists of two adits, a short incline winze and several small trenches cutting the upper dike. The adit and winze are on the upper dike. The adit was driven approximately 15 feet into the vein; an incline winze was then started which is about 25 feet deep. The lower workings consist of a shallow adit about eight feet deep driven into the south end of the lower dike. Copper-stained quartz was visible on the dumps of both workings; samples were taken from the upper workings.

An old location notice was found at the upper adit listing the names Don, Phil and John Childs and dated August 4, 1965. This location notice had an original date of May, 1952, but the original name had been erased and the Child's name written in with the new date. It is the opinion of this author that recent work was conducted at these claims. Several bits of evidence indicated this, for example, the ladder into the incline shaft showed signs of recent repair and there was what appeared to be a fresh pile of ore at the upper workings and around an abandoned cabin in the flats.

Map reference 65; see Appendix B for additional information and references.

Mines, Prospects or
Claim Groups with no
Available Information

There are three prospects or claim groups in the district for which there is little information available other than the name and location. See Table XIII for additional information.

Unnamed Mines and
Prospects

Eight unnamed prospects were found in this district. Their location and map references are shown in Table XIV.

Mineral Occurrences

The Arizona Bureau of Mines "map of known non-metallic mineral occurrences of Arizona" shows an occurrence of jasper on LAFR located in T.17S., R.12W., Sec. 35 (p), map reference 144. The Bureau's "map of known metallic mineral occurrences (excluding base and precious metals) in Arizona" locates two occurrences on LAFR: (1) Molybdenum (T.10S., R.13W., Sec. 8 (p)), map reference 150; and (2) Molybdenum (T.11S., R.12W., Sec. 23 (p)), map reference 151.

TABLE XIII

MINES, PROSPECTS OR CLAIM GROUPS IN THE MOHAWK DISTRICT
WITH NO INFORMATION OTHER THAN A NAME

| Map No. | Legal Description | Property Name | Data Sources |
|---------|-------------------------------|--|--|
| 48 | T 9S, R14W, Sec.18 | Mica Flower | See Appendix B for additional references |
| 166 | T11S, R14W, Sec. 36 | Morning #1 & 2 Phoenix #1 & 2 | See Appendix B for additional references |
| 168 | T13S, R12W, Sec.21, 28 (p) | Senator, Dixie, Ben Franklin, Antelope, High Peak, IBEX, Black Stallion, Butte, Good Hope | See Appendix B for additional references |

TABLE XIV

UNNAMED MINES AND PROSPECTS IN THE MOHAWK DISTRICT

| Map No. | Legal Description | Data Sources |
|---------|-------------------------------|------------------------------------|
| 53 | T11S, R14W, Sec. 36 (p) | See Appendix B for additional data |
| 54 | T11S, R14W, Sec. 31,36 (p) | See Appendix B for additional data |
| 55 | T13S, R12W, Sec. 28 (p) | See Appendix B for additional data |
| 61 | T10S, R13W, Sec. 8 | See Appendix B for additional data |
| 62 | T10S, R13W, Sec. 15 | See Appendix B for additional data |
| 63 | T7S, R12W, Sec. 25 | See Appendix B for additional data |
| 64 | T11S, R12W, Sec.14 (p) | See Appendix B for additional data |
| 140 | T10S, R12W, Sec.29 | See Appendix B for additional data |

Agua Dulce Mining District

The Agua Dulce mining district, lying in the extreme southwestern portion of Pima County, covers the Agua Dulce Mountains and the O'Neil Hills. (Figure 7 P. 34) The district takes its name from the Agua Dulce Mountains whose name comes from a small spring or water seep located in the area.

Prospecting activities in the district probably started in the early to middle 1800's with the major activities in the late 1800's and early 1900's. Keith (1974:7) reported that several gold and copper prospects were worked in weathered and oxidized, quartz-fissure veins or along basaltic dikes. However, except for minor values near the surface, only one, the Papago Mine, warranted more extensive development. Ore from this property accounts for all the recorded production from the district and that was only "a few tons of hand-picked gold-silver-copper ore" (Keith:1974:7).

Detailed studies of the geology and possible mineralization within the district are lacking. An early study by Bryan (1925:194, 198) discusses the geology of both the Agua Dulce Mountains and O'Neil Hills. Wilson conducted a more detailed study of the area while working on a map of the Geology of Arizona. Simmons (1965:26-27, 1966:135) discusses the geology of the Cabeza Prieta Game Range within which the district lies. A U. S. Bureau of Sport Fisheries and Wildlife report discusses the minerals and mines or prospects on the Cabeza Prieta Game Range.

Many of these mines or prospects are in the Agua Dulce Mining District. Keith's (1974:82) report describes the geology, type of operation and production of the district as follows:

Weak and spotty copper-silver mineralization, sometimes with gold values enriched at the surface, along fissures a basic dikes cutting Mesozoic granite and gneiss. Several small, shallow prospect pits and shafts. Very minor production. Most work done was at Papago mine.

Mines, Prospects, Mineral Occurrences or Claim Groups

Forty-four mines, prospects, mineral occurrences or claim groups were recorded in the Agua Dulce district by this study. Of these, published data is available for only seven prospects.

Only one mineral occurrence, other than base and precious metals, was noted. Three of the prospects are unnamed; whereas, little is known about the rest except the names and locations.

Rasmussen Prospect

This prospect is located in the southeast section of the O'Neil Hills (T.15S., R.11W.,

Sec. 26 (p)). The best information available on this property is from a Bureau of Sport Fisheries and Wildlife report is as follows:

Several shafts and prospect holes less than 20 feet deep. Two concrete floor slabs. No buildings. Gold mineral of interest. Prospected about 1950. Assorted junk.

Simmons (1965:Table 2) has little to add except that the property was "prospected by Rasmussen around 1950."

Map reference 67; see Appendix B for additional information and references.

Legal Tender Mine (also called Papago Mine) This property lies in the northwest Agua Dulce Mountains (T.15S., R.10W., Sec. 26 (p)) south-east of Papago Well. This claim was patented in 1920. Refer to Mineral Survey 3445 (a copy of which is on file at the Department of Mineral Resources, Phoenix office).

Information from a Bureau of Sport Fisheries and Wildlife report is as follows:

Gold mineral of interest. Several shafts, drifts, and tunnels. Patented in 1920. A rather extensive operation. Rock lined road and ramp leading up to mine. Assorted junk. No remaining buildup. Leased by Federal Government.

An Army Corps of Engineers report on the property reads as follows:

The patented claim Legal Tender (Mineral Survey No. 3445) situated in Section 26, Township 15 South, Range 10 West, G & SRM, is owned by the Papago Mining Company (Tract No. 1000) Frank M. Jones, Vice President, 158 West Avenue Thirty, Los Angeles, California. Mine development is limited in extent and did not delimit any ore reserves.

Production from the mine, as reported by Keith (1974:7), consisted of a few tons of handpicked gold-silver-copper. Uranium mineralization was reported in close proximity to the mine but no other information is available.

Map reference 68; see Appendix B for additional information and references.

Ajo Mining Claim This claim lies on the northeastern flank of the Agua Dulce Mountains (T.15S., R.9W., Sec.32 (p)).

Mr. T. J. Jones, owner of the prospect, reported that the property was worked between 1915 and 1920 and the ore was carried to Papago Well where it was processed by an arresta (personal communication). According to Mr. Jones, the prior owner, Mr. Malone made the mine pay for "wages and mining" by shipping his ore to Papago Well. However, as reported by Mr. Jones, "Mr. Malone was a barber, not a miner, and he did quite a lot of useless work." Development at the property, as reported by Jones, consisted of one 400 foot adit.

These claims are under lease to the Federal Government.

Map reference 70; see Appendix B for additional reference and information.

Showers of Platinum Prospect This prospect is located in the valley floor on the northeastern side of the Agua Dulce's (T.15S., R.9W., Secs. 16 and 21 (p)). A

Bureau of Sport Fisheries and Wildlife report has the only available information on this claim and is as follows: "Valid mining claim leased by Federal Government."

Map reference 72; see Appendix A for additional reference and information.

Merry Widow Claim (also known as Rick's Mine, Sheep View #5, and Stone Walls Mine) This property lies to the south-southwest of Agua Dulce Spring on a southwest slope of the Agua Dulce Mountains (T.16S., R.9W., Sec. 23 (p)). There is very little information on this property, what is known is contained in two reports, (1) a report by the Bureau of Sport Fisheries and Wildlife and (2) a report by Simmons (1965:Table 2) the following information is taken from these reports:

Also called Sheep View #5 and may also be known as "Stone Walls Mines". Claim invalid under these names. May also be known as "Merry Widow". If so, claim is valid and leased by Federal Government.

The Simmons report only states that "copper" minerals were prospected or extracted and that it was "worked by Jack Richs, Ed Mills, Miller."

Map reference 73: see Appendix B for additional information and references.

Bell Mine This prospect lies to the west of Agua Dulce Pass (T.16S., R.9W., Sec. 11 (p)) and on the northwest slope of the Agua Dulces. The only data on this property comes from a Bureau of Sport Fisheries and Wildlife report and Simmons (1965:Table 2). The Bureau of Sport Fisheries data is as follows:

Two vertical shafts. Apparently an invalid claim or abandoned claim. Gold and some copper minerals of interest. Assorted junk including old car body scattered about. No buildings.

The Simmons report lists the minerals prospected or extracted as "most gold, some copper" and other information as "originally owned by Albert Behan, later by Charlie Bell."

Map reference 76; see Appendix B for additional information and references.

Alley-Hodges Vein The Alley-Hodges vein is located southwest of Ajo (T.16S., R.8W., Secs. 23, 24, 25 and 26 (p)) in the south end of the Agua Dulce Mountains. The data on the Alley-Hodges vein is taken from the Department of Mineral Resources data file and is as follows:

The Alley-Hodges vein is found in the granite-gneiss formation. The vein appears to be a fissure filled type of vein from 13 to 20 feet wide striking N.35°W. and dipping 80°SW. The vein material is mainly calcite with a minor band of silica at the hanging wall.

The Alley-Hodges vein averages about 16' and can be traced approximately 5,000 feet indicating that a large tonnage of calcite is available.

Map reference 88; see Appendix B for additional information and references.

Mines, Prospects or Claim Groups with no Available Information There are 32 mines, prospects or claims groups in this district for which there is little available information other than the mine, claim or prospect name. See Table XV for additional data.

Unnamed Mines, Prospects and Mineral Occurrences There were 6 unnamed prospects or mines recorded by this study. See Table XVI for additional information. One occurrence of uranium niobium-tantalum and thorium was recorded in T15S,

R.10W, Sec. 17 (p).

Map reference 152; see Appendix B for additional information and references.

TABLE XV

MINES, PROSPECTS, OR CLAIM GROUPS IN THE AGUA DULCE
DISTRICT WITH NO INFORMATION OTHER THAN A NAME

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---|--|--|
| 183 | T16S, R11W, Sec.12 (p) | Broken Pick | See Appendix B for additional references |
| 184 | T16S, R10W, Sec.5, 16 (p) | Golden Eagle #1-6 and Grandpa's Boy | See Appendix B for additional references |
| 185 | T16S, R10W, Sec.3, 10 (p) | Surprise | See Appendix B for additional references |
| 186 | T15S, R10W, Sec.34 (p) T16S, R10W, Sec.3 (p) | Las Playas #1,2 | See Appendix B for additional references |
| 187 | T15S, R10W, Sec.32, 33(p) | Border #1-4 | See Appendix B for additional references |
| 188 | T15S, R10W, Sec.29, 30,31,32 (p) | Porcupine, Papago #1 John Laughlyn | See Appendix B for additional references |
| 189 | T15S, R10W, Sec.28 (p) | Novle (sic) #1-3 | See Appendix B for additional references |
| 190 | T15S, R10W, Sec.15, 22(p) | Esperanza, Banker, Judge Wellborn | See Appendix B for additional references |
| 191 | T15S, R10W, Sec. 23 (P) | Dorthy Jean | See Appendix B for additional references |
| 192 | T15S, R10W, Sec 24 (P) | Cimaron | See Appendix B for additional references |

MINES, PROSPECTS, OR CLAIM GROUPS IN THE AGUA DULCE DISTRICT
WITH NO INFORMATION OTHER THAN A NAME (CONT.)

| Map No. | Legal Description | Property Name | Data Sources |
|---------|------------------------------------|--|--|
| 193 | T15S, R10W, Sec.25, 26 & 36 (p) | Papago Extension #1-5, Crown, Howy's, Golden Wonder, Jumbo, Irence | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 194 | T15S, R10W, Sec. 35 (p) | Red Wing, Red Bluff, Eastern, Great Eastern, Red Chief | See Appendix B for additional data |
| 195 | T15S, R10W, Sec. 36 (p) | Desert Queen, Desert King, Squaw, Minnie, Dixie, Farrn, Karl | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 197 | T15S, R9W, Sec.30 (p) | Last Find #1 | See Appendix B for additional data |
| 198 | T15S, R9W, Sec.30 (p) | Cowboy | See Appendix B for additional data |
| 199 | T16S, R9W, Sec.5 (p) | Birthday | See Appendix B for additional data |
| 200 | T15S, R9W, Sec.20, & 29 (p) | Maggie #1-2 | USBM Sample data on file in the Denver office See Appendix B for additional data |

MINES, PROSPECTS, OR CLAIM GROUPS IN THE AGUA DULCE DISTRICT
WITH NO INFORMATION OTHER THAN A NAME (CONT.)

| Map No. | Legal Description | Property Name | Data Sources |
|---------|--|---|--|
| 201 | T15S, R9W, Sec.21 (p) | Showers of Platinum Showers of Silver | See Appendix B for additional data |
| 202 | T16S, R9W, Sec.10, &11(p) | Window Rock #1-4 Agua Dulce, Ocean Wave, Murray, True Blue | See Appendix B for additional data |
| 203 | T16S, R8W, Sec.19 (p) | Bennett Taylor | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 204 | T14S, R8W, N $\frac{1}{2}$, S $\frac{1}{2}$, Sec.10, (p) | Maria Anita, Placer | See Appendix B for additional data |
| 205 | T14S, R8W, N $\frac{1}{2}$, N $\frac{1}{2}$, Sec.16, (p) | Louise Ford Placer | See Appendix B for additional data |
| 206 | T14S, R8W, N $\frac{1}{2}$, Sec.22, (p) | Jean Carpenter Placer | See Appendix B for additional data |
| 207 | T14S, R8W, S $\frac{1}{2}$, S $\frac{1}{2}$, Sec.22, (p) | Jean Franklin Placer | See Appendix B for additional data |

MINES, PROSPECTS, OR CLAIM GROUPS IN THE AGUA DULCE DISTRICT
WITH NO INFORMATION OTHER THAN A NAME (CONT.)

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---|---|------------------------------------|
| 208 | T14S, R8W, N $\frac{1}{2}$, N $\frac{1}{2}$, Sec.27 (p) | Grace Linch Placer | See Appendix B for additional data |
| 209 | T14S, R8W, S $\frac{1}{2}$, N $\frac{1}{2}$, Sec.27 (p) | Mary Potter Placer | See Appendix B for additional data |
| 210 | T14S, R8W, N $\frac{1}{2}$, N $\frac{1}{2}$, Sec.27 (p) | Gertrude Scott Placer | See Appendix B for additional data |
| 212 | T17S, R8W, Sec.2 | Thanksgiving #1 Pappuse, Pappuse #1, Pappuse #2 | See Appendix B for additional data |
| 213 | T16S, R9W, Sec.33 | United Tungsten & Lead #1-2 | See Appendix B for additional data |
| 214 | T13S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 15 (p) | Donna Mary Placer | See Appendix B for additional data |

TABLE XVI

UNNAMED MINES AND PROSPECTS IN THE AGUA DULCE DISTRICT

| Map No. | Legal Description | Data Sources |
|---------|--|---|
| 71 | T15S, R9W, Sec.31,32 (p) | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 74 | T15S, R9W, Sec.19 (p) | See Appendix B for additional data |
| 75 | T15S, R9W, Sec.29 (p) | See Appendix B for additional data |
| 182 | T15S, R11W, Sec.36 (p) T15S, R10W, Sec.31 (p) | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 196 | T15S, R9W, Sec.19 (p) | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 211 | T17S, R8W, Sec.12 | USBM Sample data on file in the Denver office See Appendix B for additional data |
| 69 | T15S, R10W, Sec. 36 (p) | |

Ajo Mining District

The Ajo Mining District covers the Little Ajo Mountains, the northern portion of the Growler Mountains and some placer areas in the Valley of the Ajo and Growler Valley. (Figure 7 P. 34). The name Ajo, it is generally felt, comes from the Spanish word for garlic after the onion-like Ajo lily that grows in the area. However, Keith (1974:7) suggests that "The mine 'Ajo' probably comes from a Papago Indian word (sic) meaning 'red paint' but its spelling is the same as the Spanish word for garlic."

Mines, Prospects, Mineral Occurrences or Claim Groups

Twenty-five mines, prospects, mineral occurrences or claim groups were recorded in the Ajo district by this study. Some published information was available on eighteen of these, two others are unnamed prospects and little is known about the rest other than name and location. However, the major portion of the properties are peripheral to the range and are not discussed in the text of the report. Table XVII lists the name, location and other data related to these properties.

Midway Prospect

This prospect is in the Crater Range (T.9S, R.7W, Sec. 34). It is located on a steeply dipping, weakly mineralized, sheer zone cutting mid-Tertiary (?) volcanics which trends East-West. Several shallow prospect pits expose copper oxide mineralization. There has been no reported production from the prospect. Map reference: 78; see Appendix B for additional information and references.

Hope Group

This group of claims lies about 2 miles west of Ajo (T.12S, R.7W, Sec. 24 (p) T.12S, R.6W, Sec. 19). The following information relating to this prospect was abstracted from a DMR data file. The property is located in granite with large irregular masses of andenite breaking through the granite. Cutting both formations but mainly in the granite are occasional north-westerly fracture zones with irregular iron stained siliceous outcrops. The deepest workings on the property is a 40 foot shaft on the most prominent vein, which dips steeply and carries some copper in scattered bunches as carbonates and silicates at and near the surface.

Map reference: 81; see Appendix B for additional references and information.

Chico Shunie Prospect

This prospect lies approximately 5 miles due west of the open pit at Ajo (T.12S, R.7W, Secs. 25 & 26 (p)). Information regarding this prospect was abstracted from DMR data files. The prospect consists of small lenticular quartz veins in the Chico Shunie quartz monzonite which carry lead with silver. These veins are erratic and spotty and are 1' thick, 4' long and 5'

TABLE XVII

MINES, PROSPECTS OR CLAIM GROUPS IN THE AJO MINING DISTRICT
WHICH ARE PERIPHERAL TO THE LUKE AIR FORCE RANGE

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---|---|--|
| 77 | T12S, R7W, Sec.16, 17, 20, 21 (P) | Rainbow, Rainbow 1 & 3 also 49 #6, 3, 6 & 7 | See Appendix B for additional references |
| 82 | T12S, R6W, Sec. 30 | 85 Group | See Appendix B for additional references |
| 106 | T13S, R6W, Sec. 14 & 15 | Copper Giant | See Appendix B for additional references |
| 107 | T13S, R7W, Sec. 11 & 2 (P) | San Antonio mine (also Sunshine Mica Pumice Corp of Az., Ballestreras) and San Antonio Mine Co. | See Appendix B for additional references |
| 108 | T13S, R7W, Sec. 2 (P) | Unnamed Quarries | See Appendix B for additional references |
| 109 | T12S, R6W, Sec. 27, 28 & 29 | Cardigan | See Appendix B for additional references |
| 110 | T12S, R6W, Sec. 32 | Ajo Peak | See Appendix B for additional references |
| 111 | T12S, R6W, Sec. 27, 33 34 & 35 T13S, R6W, Sec. 1,2,3 | Ajo Extension (?) Bluestone Copper & Unnamed prospects | See Appendix B for additional references |

MINES, PROSPECTS OR CLAIM GROUPS IN THE AJO MINING DISTRICT
WHICH ARE PERIPHERIAL TO THE LUKE AIR FORCE RANGE (cont.)

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---|---|--|
| 112 | T12S, R6W, Sec. 27, 26, 22 & 23 | New Cornelia Div. of Phelps Dodge Corp. (for other names see Appendix B) | See Appendix B for additional references |
| 113 | T11S, R6W, Sec. 1 | Ajo Mine | See Appendix B for additional references |
| 114 | T12S, R6W, Sec. 32 & 33 | Allen Group | See Appendix B for additional references |
| 115 | T12S, R6W, Sec. 19, 20 & 21 | Alley Glass | See Appendix B for additional references |
| 116 | T12S, R6W, Sec. 34 T13S, R6W, Sec. 3 & 4 | Greenway - Alberts | See Appendix B for additional references |
| 117 | T12S, R6W, Sec. 8 & 5 | Heckle (Keins) mine | See Appendix B for additional references |

to 6' wide. In 1938, development of the property consisted of two shallow pits and two test trenches. No reported production. Map reference 85; see Appendix B for additional references and information.

49-Extension This prospect is located just inside LAFR's boundaries (T.12S, R.7W, Sec. 24-25 (p)) in the Little Ajo Mountains. The only information available on this property comes from a Bureau of Sport Fisheries & Wildlife report and is as follows: "Valid mining claims leased by Federal Government."

Map reference 129; see Appendix B for additional references and information.

| | |
|--|---|
| Mines, Prospects or Claim Groups with no Available Information | There are 5 mines, prospects or claim groups for which there is little information available other than the name and location. See Table XVIII for listing of these properties. |
|--|---|

| | |
|----------------------------|---|
| Unnamed Mines Prospects | Two unnamed prospects were recorded by this study and one is located in T.12S, R.7W, Secs. 36 & 35 (p)), map reference: 80; see Appendix B for reference information. The other, an unusual feature, lies at the north end of the Granite Mountains (T.11S., R.10W., Sec. 9 (p) and shows on the USGS Ajo, Arizona 1:250,000 (1953) map as a copper prospect. However, a field check of the area found that the "prospect" was an abandoned World War II bombing target which looked like a rail-road tunnel. (Figure 8 P. 85). |
|----------------------------|---|

Map reference: 66; see Appendix B for additional references and information.

Mines, Prospects or Claim Groups which Lie Within LAFR's Boundaries but not Within an Organized Mining District

There are 20 mines, prospects or claim groups that fit into this category. For 7 of these properties some published information was available. For 2 of the properties only the name and location was found. Also, there are 11 unnamed properties.

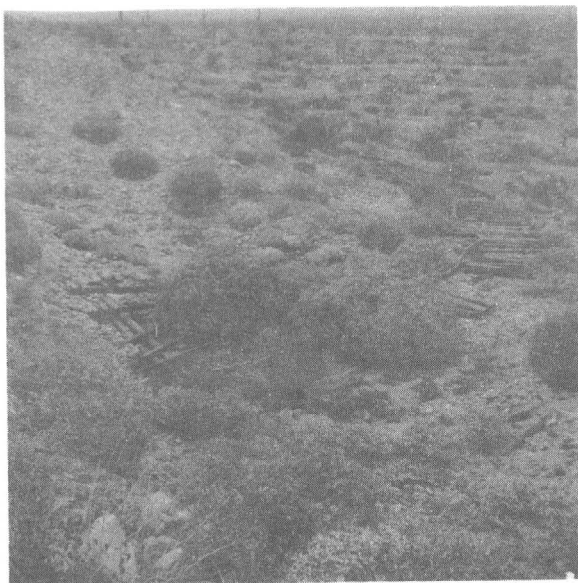
| | |
|---------------------|--|
| Papago Indian Chief | This mine is in the Sand Tanks Mountains (T.7S., R.2W., Sec. 31). The only information on this property is data from the USGS CRIB file and is as follows: The property was prospected for copper. While there is no recorded production development at the mine consisted of one shaft. |
|---------------------|--|

Map reference: 118; see Appendix B for additional references and information.

TABLE XVIII

MINES, PROSPECTS OR CLAIM GROUPS IN THE AJO MINING DISTRICT
WITH NO INFORMATION OTHER THAN A NAME

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---|------------------------|--|
| 215 | T12S, R8W, Sec. 27 (p) | Rainbow 1-3 | See Appendix B for additional references |
| 214 | T13S, R8W, Sec. 15 S $\frac{1}{2}$, S $\frac{1}{2}$ (p) | Donna, Mary Placer | See Appendix B for additional references |
| 216 | T12S, R7W, Sec. 29 & 33 (p) | Decker & Great Eastern | See Appendix B for additional references |
| 217 | T12S, R8W, Sec. 16 (p) | Gold Crown | See Appendix B for additional references |
| 218 | T12S, R9W, Sec. 27 (p) | Gold Crown #3 | See Appendix B for additional references |



Target area looking northward

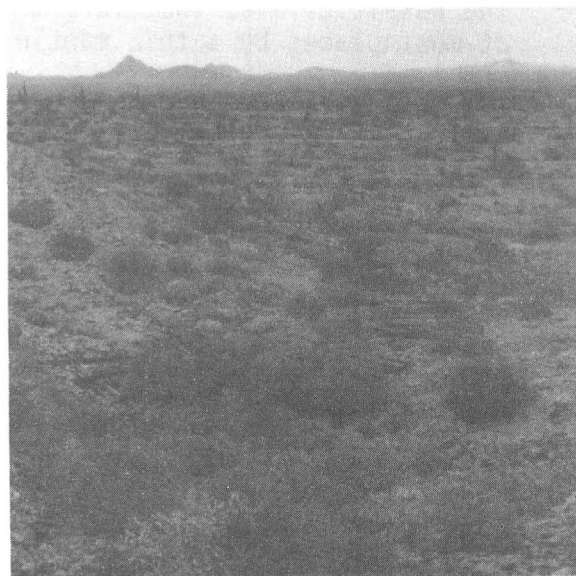


Figure 8. Abandoned bombing target that was marked as a copper prospect on the U.S.G.S. Ajo Arizona 1:250,000 (1953) map.

Palo Verde The Palo Verde Prospect is located SW of Green Gate Well (T.7W., R.5W., Sec 7 (?)) in a group of low hills. The small amount of known information regarding this property was abstracted from DMR data files. The principal mineral at the prospect is manganese, there was no development work and the owner claimed he had "outcrops of ore unlimited."

Map reference: 119; see Appendix B for additional references and information.

Strontium Group This property lies in the north end of the
(Montezuma Claims) Saucedo Mountain (T.8S., R.5W., Sec. 3, 4, 5
 (?) and north of Lookout Well. The best avail-
able information about this prospect is given in USGS Bulletin 871 and
the following is abstracted from that source.

The deposits lie on the northwest side of a low range that rises from the plain on which Gila Bend is built. They occur in a series of tuffs from which the pediment of the mountains is carved and upon which rest the basaltic lavas that form the mountains. The deposits are covered at most places by a thin mantle of gravel.

The celestite occurs with gypsum, sandstone, and a conglomerate and strikes in a more or less northerly direction, with steep dips to the east over a distance of 5,000 feet. Only the southern part of the zone was examined. There the celestite occurs in beds that crop out at several places over a distance of 750 feet, strike N65°E, and dip 28°SE. The main bed is 2 to 3 feet thick and can be traced the entire distance, but at places there are less continuous beds interlayered with the tuffs, which bring the thickness of the zone up to a maximum of 6 feet.

On the assumption of a length of 750 feet, a thickness of 2 feet and a distance of 50 feet on the strike, the amount of celestite rock present would be about 9,000 short tons. Therefore, as is probable, if the celestite zone extends farther along the strike, this estimate would be greatly increased.

There is no recorded production for this property. Map reference: 120; see Appendix B for additional references and information.

Altuda Mine This prospect lies in the northwest portion
 of the Sand Tanks Mountains (T.7S., R.1W., Sec. 19,
30, T.7S., R.2W., Sec. 24, 25) and south of Interstate 8. The information
on this property was abstracted from DMR Data Files.

The area around the Altuda mine consists of pre-cambria (?) schist intruded by a small domed granite-porphyry stock. The granite apparently domed the schists after primary mineralization since none of the veins

could be traced into altered schist. The schists contained considerable epidote along the contact. Between the granite and schist a basic sill has been intruded which appears to be diabase or diorite.

There are 5 parallel veins which trend N30-40°E and dip variably on the property. They vary from 1½ feet to 4½ feet wide and appear to follow fractures. These veins are composed of quartz and granitic breccia cemented by quartz. The quartz is ironstained to a variable degree, from pure white to a brown at the outcrops. The best gold values are mainly associated with the iron oxide.

Development at the mine consists of a vertical shaft approximately 150 foot deep on the main vein with crossouts and drifts in the 65 and 100 foot levels. The only other work is a few small cuts on the other vein systems. One car of ore was shipped for this property.

Map reference: 121; see Appendix B for additional references and information.

Noonam Group The Noonam prospects lie in the Javelina Mountains in T.8S., R.2W., Sec. 3. The little information available on this property is from the DMR Data Files and is as follows: Ore-Malachite and small blebs of chalcocite Workings - 42' tunnel.

Map reference: 125; see Appendix B for additional information and references.

New Maricopa Copper Company This property is located in the Sand Tanks Mountains (T.8S., R.2W., Sec. 4) 5 miles east of Jack-in-the-Pulpit. The data on this property was abstracted from DMR Data File.

Geology: Mostly schist and gneiss-ore principally is soft blue schist. The schist carries from .5% to 1.25% copper.

Workings: Vertical shaft 300 feet deep levels at 100 feet, 200 feet and 300 feet - over 500 feet if drifting on 300 ft. level - no commercial ore was found.

Incline shaft: Short distance from the vertical shaft and at the 100 ft. level - 150 ft. of drifting was done on west side of shaft copper carbonates appear on this level. At bottom of shaft, 155 ft. level, a 100 ft. drift to the southwest and from the end of this drift a cross-cut had been driven 50 ft. Sulphide ore was hit in the last 20 feet - 20 feet of cross-cut was in ore

Map reference: 127: see Appendix B for additional information and references.

Chloride Mountain
Gold Mine

This property lies at the intersection of secs.
8, 9, 16 & 17 T.8S., R.2W approximately 23 miles
northeast of Gila Bend in the Sand Tank Mountains.

The only information on this prospect is from a mine owner's report dated
May 1941, at the DMR's Phoenix office. The following data was abstract-
ed from that report: principal minerals; gold and silver, development;
shaft 100' deep.

Map reference: 122; see Appendix B for additional information and
references.

Mines, Prospects and
Claim Groups with
no Available
Information

There are 2 mines, prospects a claim groups
for which there is little information avail-
able other than the name and location. See
Table XIX for a listing of these properties.

Unnamed Mines,
Prospects and Mineral
Occurrences

Eleven unnamed mines and prospects were
recorded by this study. See Table XX for a
listing of these properties. One mineral
occurrence, gypsum, was recorded in T.7S.,

R.5W.

Map reference: 145; see Appendix B for additional information and references.

Peripheral Mining Districts

Research on 4 districts; Dome (Gila City), Growler, Montezuma (Puerto
Blanco Mts.) and Gunsight (Meyer), peripheral to LAFR was conducted.
However, the work is not as detailed as for the district within LAFR's
boundaries. The properties found were plotted on the Base map, data
sources and other pertinent information is given in Appendix B.

Nine properties were recorded in the Dome (Gila City) District. The base
map number, legal description, property name and data sources are given
in Table XXI. In the Growler District 9 properties were also recorded
and the information is given in Table XXII. Only 2 properties were
recorded in the Gunsight (Meyer) District. The data is given in Table
XXIII. Ten properties were recorded in the Montezuma (Puerto Blanco
Mts.) District and the data is listed in Table XXIV.

TABLE XIX

MINES, PROSPECTS OR CLAIM GROUPS NOT WITHIN AN ORGANIZED
DISTRICT WITH NO INFORMATION OTHER THAN A NAME

| Map No. | Legal Description | Property Name | Data Sources |
|---------|-----------------------|--|--|
| 123 | T8S, R3W, Sec. 9, 10 | Farley | See Appendix B for additional references |
| 124 | T8S, R3W, Sec. 23, 24 | Gertrude Gold Claim #1 & Lode #2 & Gertrude Gold Lode #2 | See Appendix B for additional references |

TABLE XX

UNNAMED MINES, PROSPECTS, AND MINERAL OCCURRENCES
NOT WITHIN AN ORGANIZED DISTRICT

| Map No. | Legal Description | Data Sources |
|---------|---------------------------|------------------------------------|
| 126 | T8S, R2W, Sec. 3 | See Appendix B for additional data |
| 128 | T7S, R2W, Sec. 26 | See Appendix B for additional data |
| 133 | T7S, R2W, Sec. 16 | See Appendix B for additional data |
| 134 | T9S, R1W, Sec. 10 | See Appendix B for additional data |
| 135 | T9S, R1W, Sec. 16 | See Appendix B for additional data |
| 136 | T9S, R1W, Sec. 21 | See Appendix B for additional data |
| 137 | T9S, R1W, Sec. 15 | See Appendix B for additional data |
| 138 | T10S, R3W, Sec. 3, 4, (P) | See Appendix B for additional data |
| 139 | T10S, R4W, Sec. 34 | See Appendix B for additional data |
| 83 | T8S, R7W, Sec. 26 | See Appendix B for additional data |
| 84 | T8S, R9W, Sec. 8 | See Appendix B for additional data |
| 145 | T7S, R5W | See Appendix B for additional data |

TABLE XXI

MINES, PROSPECTS, CLAIM GROUPS, OR MINERAL OCCURRENCES
LOCATED WITHIN THE DOME (GILA CITY) MINING DISTRICT

| Map No. | Legal Description | Property Name | Data Sources |
|---------|---------------------------|--|--|
| 1 | T8S, R21W, Sec. 4 | None Marble(?) | See Appendix B for additional references |
| 2 | T8S, R21W, Sec. 10 | Grey Fox mines | See Appendix B for additional references |
| 3 | T8S, R20W, Sec. 18 | None | See Appendix B for additional references |
| 5 | T8S, R21W, Sec. 12 | McKay | See Appendix B for additional references |
| 6 | T8S, R21W, Sec. 1, 2 | Dome Placers | See Appendix B for additional references |
| 7 | T8S, R21W, Sec. 13, 14 | McPhaul | See Appendix B for additional references |
| 141 | T8S, R21W, Sec. 21 (P) | Tungsten | See Appendix B for additional references |
| 142 | T8S, R21W, Sec. 14 (P) | Rare Earth | See Appendix B for additional references |
| 146 | T9S, R20W, Sec. 11(?) (P) | Tillurium, Thorium, Rare Earth, Niobium-Tantalum | See Appendix B for additional references |

TABLE XXII

MINES, PROSPECTS OR CLAIM GROUPS LOCATED
WITHIN THE GROWLER MINING DISTRICT

| Map No. | Legal Description | Property Name | Data Sources |
|---------|--|--|--|
| 86 | T14S, R7W, Sec. 24 | Clark Gold | See Appendix B for additional references |
| 87 | T14S, R7W, Sec. 26, 27, 28, 33, 34 & 35 T15S, R7W, Sec. 23, 24, (P) | Growler Mine | See Appendix B for additional references |
| 89 | T15S, R5W, Sec. 22, 23, 24, 25, 26 & 27 (P) | Copper Mountain Mine | See Appendix B for additional references |
| 100 | T14S, R7W, Sec. 36 | Yellow Hammer Mine | See Appendix B for additional references |
| 101 | T14S, R7W, E $\frac{1}{2}$ Sec. 13 & Sec. 14 | Bluebird Mine | See Appendix B for additional references |
| 102 | T14S, R7W, NE $\frac{1}{4}$ Sec. 24 | Placer Mtn. Group | See Appendix B for additional references |
| 103 | T14S, R6W, Sec. 6, 7 | Growler Mica & PD Limestone (Lime Hill Area) | See Appendix B for additional references |
| 104 | T14S, R7W, E $\frac{1}{2}$ Sec. 24 | Nelson-Ajo Group | See Appendix B for additional references |

MINES, PROSPECTS OR CLAIM GROUPS LOCATED
WITHIN THE GROWLER MINING DISTRICT (cont.)

| Map No. | Legal Description | Property Name | Data Sources |
|------------|-------------------|---------------|---|
| 105 | T14S, R6N, Sec. 6 | Unnamed | See Appendix B for additional references |

TABLE XXIII

MINERAL OCCURRENCES WITHIN THE
GUNSIGHT (MEYER) MINING DISTRICT

| Map No. | Legal Description | Mineral Occurrences | Data Sources |
|---------|---------------------------|---------------------|--|
| 153 | T13S, R4W, Sec. 18 (P) | Manganese | See Appendix B for additional references |
| 154 | T14S, R4W, Sec. 9, 10 (P) | Arsenic | See Appendix B for additional references |

TABLE XXIV

MINES, PROSPECTS OR CLAIM GROUPS
LOCATED WITHIN THE MONTEZUMA
(PUERTO BLANCO MTS.) MINING DISTRICT

| Map No. | Legal Description | Property Name | Data Source |
|---------|---|---|--|
| 90 | T17S, R6W, Sec. 3 (P) | Baker Mine | See Appendix B for additional references |
| 91 | T17S, R6W, Sec. 4 & 9 (P) | Milton Mine | See Appendix B for additional references |
| 92 | T17S, R6W, Sec. 14 (P) | Martinez Mine | See Appendix B for additional references |
| 93 | T17S, R6W, Sec. 9 & 16 (P) | Unnamed Prospects | See Appendix B for additional references |
| 94 | T17S, R6W, Sec. 24 (P) | Lost Cabin Mine | See Appendix B for additional references |
| 95 | T17S, R6W, Sec. 24 (P) | Victoria Mine | See Appendix B for additional references |
| 96 | T17S, R6W, Sec. 23 (P) | Unnamed Prospects (possibly Gold Bell Claims) | See Appendix B for additional references |
| 97 | T17S, R6W, Sec. 24 & 25 (P) (Possible Loc.) | Golden Eagle Claims | See Appendix B for additional references |

MINES, PROSPECTS OR CLAIM GROUPS
LOCATED WITHIN THE MONTEZUMA
(PUERTO BLANCO MTS.) MINING DISTRICT (cont.)

| Map No. | Legal Description | Property Name | Data Source |
|------------|---|--------------------------|---|
| 98 | T17S, R6W, Sec. 13 (P) (Possible Loc.) | Lucky Dog Claims | See Appendix B for additional references |
| 99 | T16S, R6W, Sec. 20 (P) | Dripping Springs Mine | See Appendix B for additional references |

V. SUMMARY AND CONCLUSIONS

Captain Juan Mates Manjes' 1699 descriptive term "Tierra Incognito" (unknown country) still aptly describes our 1979 knowledge about the mineral resources of Luke Air Force Range (LAFR). When viewed in realistic terms, the mineral resources potential of any given area may never be known. The presence or absence of what can be defined as an economic deposit, reserves, or future resources, depends on a time-place-economic criteria. These variables are particularly susceptible to rapid change. What was considered waste at one time may become, and has become, minable ore through a change in technology or economic conditions. Therefore, it is imperative that areas be periodically evaluated by state-of-the-art technology, methodology or current economics.

Arizona lies within two major physiographic provinces (1) the Colorado Plateau Province and (2) the Basin and Range Province which contains two regional subdivisions. In terms of mineral production, development and potential, the Basin and Range Province is the most important. As an example of only one important mineral commodity found in the area, 66 known major copper deposits are within the province. Because of this, LAFR is located in one of the most productive copper mining areas in the United States. Ten mines, which are in close proximity to LAFR, accounted for approximately 38 percent of Arizona's 1975 copper production. In 1976, these same 10 mines produced approximately 43 percent of the State's copper. A report recently published lists 50 new U.S. metal mines discovered or brought into production in the years from 1940 through 1976; twenty-one of these new mines or deposits are located in Arizona's Basin and Range Province.

Despite its proximity to major Arizona copper deposits, there is little detailed, published information relating to the geology, mineral or energy resources on LAFR. The reason for this is twofold: first, LAFR lies in an extremely hostile, arid and isolated area of Arizona which makes prospecting for and the development of mineral resources extremely difficult; secondly, and perhaps more important, LAFR has been withdrawn from mineral entry since 1942. The withdrawal precluded collection and dissemination of data relating to the mineral resources of the area.

This investigation is a level I mineral resource appraisal. It is but a first step in the assessment of the mineral resources and the delineation of mineralized areas on LAFR. The report only summarizes published and unpublished information relative to geology, mineral activity, development and production. Investigations limited to paper reconnaissance (literature research) have some inherent limitations: (1) the data is spotty (2) the data is generally inadequate for determining the total

resources of an area and (3) the data can be biased, e.g., undeveloped areas can be overlooked. Another limiting factor for this study was scarcity of recent mineral resource data about LAFR. Most of the reports were written prior to 1935.

Two hundred eighteen mines, prospects, claim groups or mineral occurrences were compiled and listed in this report. Data available on these properties ranged from virtually nothing more than a symbol on a topographical map to fairly complete reports. Most of these properties were discovered between 1895 and 1925.

A level II mineral resources appraisal should be conducted to establish data for a total resource evaluation. Such an appraisal will supplement this report by providing (1) on-site reconnaissance (2) geologic, geochemical, and geophysical mapping (3) remote sensing and (4) samples of broad areas that are promising.

APPENDIX A: LIST OF ABBREVIATIONS
USED IN THIS REPORT

| <u>Abbreviation</u> | <u>Description</u> |
|---------------------|---|
| ABM | Arizona Bureau of Mines (Now Bureau of Geology and Mineral Technology) |
| AG | Silver |
| BLM | Bureau of Land Management |
| BSFW | Bureau of Sport Fisheries & Wildlife |
| CU | Copper |
| DMR Data File | Department of Mineral Resources Data File |
| MS | Mineral Survey |
| MO | Molybdenum |
| NPS | National Park Service |
| OP | Open Pit |
| P | Protracted |
| QUAD | Quadrangle |
| UG | Underground |
| USBM | United States Bureau of Mines |
| USBM IC | United States Bureau of Mines Information Circulars |
| USBM RI | United States Bureau of Mines Reports of Investigation |
| USGS Bulletin | United States Geological Survey Bulletin |
| USGS CRIB FILE | United States Geological Survey Computerized Resources Information Bank File |
| USGS PP | United States Geological Survey Professional Paper |
| ZN | Zinc |

APPENDIX B: NUMERICAL INDEX OF MAP REFERENCES FOR
MINES, PROSPECTS OR CLAIM GROUPS ON LUKE AIR FORCE RANGE

| Map No. | Legal description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|---------------------------|--|---|------------------|---|------------------|--------------------|
| 1 | T8S, R21W, Sec. 4 | Yuma; Fortuna 7.5 min. | None Marble (?) | shaft & adit | Fortuna 7.5 min. map; Wilson (1933: 202-207, pt. I #59); USGS CRIB File #00031, DMR Data File | Dome (Gila City) | 91 XXI |
| 2 | T8S, R21W, Sec. 10 | Yuma; Fortuna 7.5 min. | Grey Fox Mines | Unknown | Fortuna 7.5 min. map | Dome (Gila City) | 91 XXI |
| 3 | T8S, R20W, Sec. 18 | Yuma; Ligurta 7.5 min. | Unnamed | Borrow pit | Ligurta 7.5 min map; Wilson (1933: 207-208) USGS CRIB FILE #00034, DMR Data File | Dome (Gila City) | 91 XXI |
| 4 | T9S, R20W, Sec. 7 | Yuma; Ligurta 7.5 min. | Unnamed | pros- pects-2 | Ligurta 7.5 min. map | Fortuna | 44 XI |
| 5 | T8S, R21W, Sec. 12 | Yuma; Ligurta 7.5 min. | McKay | | (?) Not sure of location on map. Wilson (1933: 201-202, pt. I #59) | Dome (Gila City) | 91 XXI |
| 6 | T8S, R21W, Sec. 1, 2 | Yuma;Dome 7.5 min., Laguna Dam 7.5 min. | Dome placers | | Dome 7.5 min. map; Wilson (1933: 208-210, pt. I #65); DMR Data File | Dome (Gila City) | 91 XXI |
| 7 | T8S, R21W, Sec. 13, 14 | Yuma & Fortuna 7.5 min - Legurta AZ 7.5 min. | McPhaul | prospect | (?) Not sure of location on map. Wilson (1933:201,210,pt. I #61); USBM card file; DMR data file | Dome (Gila City) | 91 XXI |
| 8 | T8S, R21W, Sec. 15, 22 | Yuma; Fortuna 7.5 min. | D & J Mining Co., Gila Mts. Sche- elite prospects | prospect | Reported production-125 pounds of concentrate; USBM RI5516, p. 30; DMR data file | Fortuna | 41-42 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|------------------------------------|-----------------------------|-------------------------------------|--|---|------------------|--------------------|
| 9 | T9S, R20W, Sec. 17, 18 | Yuma; Ligurta 7.5 min. | Big Dutchman or Spear-Kent (?) | prospect | Ligurta 7.5 min. map; DMR data file | Fortuna | 43 |
| 10 | T9S, R20W, Sec. 10 | Yuma; Ligurta 7.5 min. | Unnamed | prospect adit-1 shaft-1 | Over section there are 3 prospects, 1 mine, adit & shaft--symbols indicate not known if it is related activities. Ligurta 7.5 min. map | Fortuna | VIII 44 XI |
| 11 | T9S, R20W, Sec. 15 | Yuma; Ligurta 7.5 min. | Unnamed | prospect | Ligurta 7.5 min. map | Fortuna | 44 XI |
| 12 | T9S, R20W, Sec. 33 | Yuma; Fortuna 7.5 min. | Golden dream Mine | adit-1 | Fortuna mine 7.5 min. map; Fortuna 15 min. map (1926); Wilson (1933: 199-200, pt. I #58; USGS CRIB File 00038 | Fortuna | 41 |
| 13 | T9S, R20W, Sec. 22, 27 | Yuma; Fortuna 7.5 min. | Unnamed | pros- pects-2 | Fortuna mine 7.5 min. map | Fortuna | 44 XI |
| 14 | T10S, R20W, Sec. 22 (p) | Yuma; Fortuna 7.5 min. | Pool Mica (?) | pros- pects-2 | Fortuna mine 7.5 min. map; Fortuna 15 min. map (1926); Wilson (1933: 201-202, pt. I #62); DMR data file, Yuma 315-210; (?) Wilson lists the owner of these claims in 1933 as Mr. S.E. Montgomery. This is most like what is now referred to as the Pool Mica property. Also called Montgomery Mica#18 | Fortuna | 41 |
| 15 | T10S, R20W, Sec. 24 (p) | Yuma; Fortuna Mine 7.5 min. | Blue Butte | pros- pect-1 | Fortuna mine 7.5 min. map; Wilson (1933:201, pt. I #60); USGS CRIB File 00046; DMR data file | Fortuna | 39 |
| 16 | T10S, R20W, Sec. 16, 17, 20, 21(p) | Yuma; Fortuna 7.5 min. | Fortuna mine area | shafts-6 adits-2 pros- pects-29 | Fortuna mine 7.5 min. map; Fortuna 15 min. map (1926); Wilson (1933:189-193, pt. I #57); Keith (1978:41,150); Bryan (1925:189); Blake (1897:32-33; 1896:31; 1898:251-254;1904:66-67;USGS CRIB File 00041, 42,47,48; Mines Hand- book (1916:501); (1918:565-566); Engineer & Mining Journal (1912:372) Engineer & Mining Journal (1897:664-665); | Fortuna | 37-39 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|--|--|--|--------------------------|---|---------------------|--------------------|
| | | | | | 1920:397,98 1922:270 1931:314-315 This includes the major references for the Fortuna mining area. | Fortuna | 37-39 |
| 17 | T10S, R20W, Sec.26 27, 34, & 35 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Army corp. of Engineers, Tract No. 1301-17 | Claims | Army Corp. of Engineers, Tract No. 1301-04, Bertie No. 1-4; 1305, Barbara; 1306, Bee - Hive; 1307, White Rock; 1308, Honey Comb; 1309, Sugar Loaf; 1310, Pool Mill Site; 1311-12, Waterhole No. 1-2; 1313, Hillside; 1314, Little Gem; 1315, Red Rock; 1316, Red Top; 1317, Arizona | Fortuna | 43 VII |
| 18 | T10S, R20W, Sec.22 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Montgomery Mica (?) | Prospect- 4 adit-1 | DMR Data File same as the Pool Mica property See No. 14 on page | Fortuna | 41 |
| 19 | T10S, R20W, Sec. 4 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Red Top | Unknown | DMR Data File with available data, location is uncertain (could be same as track #1316, map reference 17) | Fortuna | 43 VII |
| 20 | T10S, R18W, Sec.22 | Yuma; Welton SE, Az 7.5 min. | Double Eagle or Gold Leaf | adits-7 | Welton 15' quad (1926) USGS Crib #00045 Welton SE, Az. 7.5 min. Keith:1978:160 Wilson (1933:173-175, pt. 1 # 53) | La Posa (Welton) | 48 |
| 21 | T10S, R18W, Sec.15 | Yuma; Welton SE, Az 7.5 min. | McMahan | Shaft | Welton SE, Az. 7.5 min. USGS Crib #00044 DMR Data Files Wilson (1933:175-176) | La Posa (Welton) | 48-49 |

| Map. No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|----------|----------------------------|--|--|-------------|--|--------------------|---------------------|
| 22 | T10S, R18W, Sec. 11 | Yuma; Welton SE, Az 7.5 min. | Donaldson | Prospect | Welton SE, Az 7.5 min. USGS Crib #00040 DMR Data File Wilson (1933: 175, pt. I #56) | LaPosa (Welton) | 49 |
| 23 | T10S, R18W, Sec. 20 | Yuma; Welton Hills, Az 7.5 min. | Welton Hills Mine (Draghi or Frazier) | adits-2 | Welton Hills, Az 7.5 min. USGS Crib #00043 DMR Data Files Keith: 1978:161 Wilson (1933: 174-175, pt. I #55) | LaPosa (Welton) | 49-50 |
| 24 | T10S, R18W, Sec. 4 or 5 | Yuma; Welton Hills, Az 7.5 min. | Northern | | DMR Data Files with the available data location is uncertain Wilson (1933: 176) | LaPosa (Welton) | 50 |
| 25 | T10S, R18W, Sec. 2 | Yuma; Welton SE, Az 7.5 min. | Poorman (Desert Dwarf, Eaton, Svenson, Hindman | Shaft | Welton SE, Az 7.5 min. USGS Crib #00039 DMR Data File Keith: 1978:160 Wilson (1933: 174, pt. I #54)- See #79 p. 13 Appendix B | LaPosa (Welton) | 50 |
| 26 | T10S, R18W, Sec. 22 | Yuma; Welton SE, Az 7.5 Min. | Shirley Mae | Adit-1 | Welton SE, Az 7.5 min. DMR Data File Wilson (1933: 176) | LaPosa (Welton) | 50-51 |
| 27 | T10S, R19W, Sec. 17 (p) | Yuma; Welton Hills, Az 7.5 min. | Unnamed | Shaft-1 | Welton Hills, Az 7.5 min. | Fortuna | 44 XI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|------------------------|---|--|--------------|--|------------------|----------------------|
| 28 | T11S, R17W, Sec.10 (p) | Yuma; Tinajas Altas 15 min. | Smith Mine (Last Chance & Copper Coin) | Adit & Shaft | Tinajas Altas 15 min. Smith 1956 DMR Data File USGS Grib #00052 Keith: (1978:160) Wilson (1933: 167, pt. #52 USBM Sample Data on file at USBM Denver Office. . U.S. Army Corp of Engineers Tract: 1348-50, 1348, Gold Coin; Gold Coin 1-2; 1351, Last Chance; 1352-55; Last Chance #1; Last Chance #1-4 | LaPosa (Welton) | 56 |
| 29 | T10S, R18W, Sec. 16 | Yuma; Welton SE,Az & Welton Hills,Az 7.5 min. | Wanamaker | Prospect | Welton SE, Az 7.5 min. quad with the available data, location is uncertain Welton Hills, Az 7.5 min. quad Wilson (1933: 175) | LaPosa (Welton) | 51 |
| 30 | T10S, R18W, Sec. 8 (p) | Yuma; Welton Hills,Az 7.5 min. | Unnamed | Prospect | Welton 15 min. quad (1926) | LaPosa (Welton) | 61 XI |
| 31 | T10S, R18W, Sec. 14 | Yuma; Welton SE,Az 7.5 Min. | Unnamed | Prospect | Welton 7.5 min. map Welton 15 min. map (1926) | LaPosa (Welton) | 61 XI |
| 32 | T10S, R18W, Sec. 16 | Yuma; Welton Hills,Az Welton SE, Az | Welltonia Prospect | | Welton SE, Az 7.5 min. quad Wilson (1933:176) Welton Hills, Az " " " DMR Data Files With the available data, location is uncertain | LaPosa (Welton) | 51-52 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|--|--|-------------------------------------|----------------|---|---------------------|--------------------|
| 33 | T19S, R18W, Sec.24 (NW ¼) | Yuma Welton Mesa, Az 7.5 min. | Gypsum | Mine | DMR Data Files | La Posa (Welton) | 63 XII |
| 34 | T11S, R17W, Sec.9 (p) | Yuma; Tinajas Altas 15 min. | Unnamed | Prospect | Tinajas Altas 15 min. quad USBM Sample Data on file at the USBM office in Denver | La Posa (Welton) | 61 XI |
| 35 | T11S, R17W, Sec.4, & 5 (p) | Yuma; Tinajas Altas 15 min. | unnamed | Prospect- 2 | Tinajas Altas 15 min quad USBM Sample Data on file at the USBM office in Denver | La Posa (Welton) | 61 XI |
| 36 | T12S, R16W, Sec. 9. 10, 15 & 16 (p) | Yuma; Cabeza Prieta Peak 15 min. | McMillian Mine | adits-2 | Cabeza Prieta Peak 15 min. quad Wilson (1933:163, pt. 1 #50) USGS Bull. 1147-A, p. A48-49 USBM Card File (See book for more ref.) USGS Crib #00053-54 DMR Data Files BSFW p. 155; ABM Bull. #180:286; ABM Bull, #180:289; USGS P. P. 455-A | La Posa (Welton) | 55-56 |
| 37 | T12S, R16W, Sec.4 & 5 (p) | Yuma; Cabeza Prieta Peak 15 min. | Stemwinder Group of mine (?) | Shaft-2 | Cabeza Prieta Peak 15 min. quad DMR Data Files | La Posa (Welton) | 52 |
| 38 | T12S, R16W, Sec.36 (p) | Yuma; Cabeza Prieta Peak 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) | La Posa (Welton) | 61 XI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|---------------------|---|---|------------------|--|--------------------|--------------------|
| 39 | T11S, R17W, Sec. 2 | Yuma; Mohawk SW, Az. 7.5 min. | Betty Lee Mine (Ariz. Consolidated Mining Co., Frisco, & Ella J. Mines, Swenson, Copple & McIntosh, Linden | adits-3 shaft | Mohawk SW, Az. 7.5 min. quad Mohawk 15 min. quad (1926) DMR data file, Yuma Wilson (1933:A166-167, pt. I #51) USGS CRIB #00049 & 50; DMR data files Copper Handbooks, (1911:93,355; 1912- 1913:72); Keith (1978:160) U.S. Army Crop of Engineers Tract #1319-1340; 1319 Betty Lee, 1320-1340; Frisco # 1-21 | LaPosa (Welton) | 52 |
| 40 | T10S, R17W, Sec. 23 | Yuma; Mohawk SW, Az. 7.5 min. | Chicago | | U.S. Army Corp of Engineers Tract # 1318, Chicago; Wilson (1933: 167 2nd para.) | LaPosa (Welton) | 55,57 X |
| 41 | T10S, R17W, Sec. 25 | Yuma; Mohawk SW, Az. 7.5 min. | Old Soak | adits-2 | U.S. Army Corp of Engineers Tract # 1341-45, Old Soak - Old Soak No. 5; 1346, Red Cheiftain #1 Mohawk SW, Az. 7.5 min. quad DMR data file Yuma-311 | LaPosa (Welton) | 53 |
| 42 | T9S, R17W, Sec. 22 | Yuma; Tacna, Az. 7.5 min | Baker Peak Barite | | USGS CRIB #00037 - (Could be in Sec. 15) With the available data, loca- tion uncertain | LaPosa (Welton) | 53 |
| 43 | T11S, R17W, Sec. 2 | Yuma; Cabeza Prieta Peak Az. 15 min. | Unnamed | | Wilson (1933:167); Several unnamed prospects map location is in same area, however, because of avail- able data, location is uncertain. | LaPosa (Welton) | 61 XI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|---|--|--|---------------------|---|--------------------|----------------------|
| 44 | T9S, R17W, Sec. 35 | Yuma; Mohawk SW, AZ 7.5 min. | Unnamed | | Wilson (1933: 167-168) Two shafts located approx. 1/8 mile apart | LaPosa (Welton) | 61 XI |
| 45 | T10S, R17W, Sec. 26 NE $\frac{1}{4}$ | Yuma; Mohawk SW, AZ 7.5 min. | Guiding Star | | BLM-U.S. Land Office Mineral Survey MS 1327 | LaPosa (Welton) | 57 X |
| 46 | T9S, R14W, Sec. 2 | Yuma; Mohawk Mts. NW 7.5 min. | Red Cross Mine (Norton) (Norton- Zappia) | Shaft-2 | Mohawk Mts. NW 7.5 min. quad DMR Data File Wilson (1933: 157, pt. I #45) USGS Crib #00035 Keith: (1978:163) USBM Card File | Mohawk Mts | 64-65 |
| 47 | T9S, R14W, Sec. 9 & 10 | Yuma; Mohawk Mts. NW 7.5 min. | Tavasci or Victoria (Clara, Susie & Betty) | adits-0 prospect | Mohawk Mts NW 7.5 min. quad USGS Crib # 00036 DMR Data File - Yuma - 61 (listed as- Clara, Susie & Betty) Wilson (1933: 153, pt. I #48) | Mohawk Mts | 65 |
| 48 | T9S, R14W, Sec. 18 | Yuma; Mohawk Mts. N.W. Az. 7.5 min. | Mica Flower (?) | prospects 4 | Mohawk Mts., Az 7.5 min. quad DMR Data File Yuma - 200 (?) | Mohawk Mts | 69 VIII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|-----------------------------------|------------------------------------|-------------------------------------|---------------------|--|--------------------|----------------------|
| 49 | T8S, R15W, Sec. 11 12, 13 & 14 | Yuma; Mohawk, Az 7.5 min. | Renner Barite | Shaft-1 Prospect | Mohawk, Az 7.5 min. quad USBM Card File Wilson (1933: 152-153, pt. I #46) USGS Crib #00033 USBM RI 5651, p. 88 Keith (1978:163) | Mohawk | 65-66 |
| 50 | T8S, R15W, Sec. 1 & 12 | Yuma; Growler, Az 7.5 min. | Ruby prospect | Shaft | Growler, 7.5 min. quad USGS Crib #00032 Wilson (1933: 153, pt. I #47) | Mohawk | 66 |
| 51 | T8S, R15W, Sec. 14 (?) | Yuma; Mohawk, Az 7.5 min. | Mohawk Lime Quarry | Ruins | Mohawk, Az 7.5 min. quad Wilson (1933: 154) DMR Data File | Mohawk | 66-67 |
| 52 | T14S, R15W, Sec. 23 & 26 (p) | Yuma; Tule Mts. 15 min. | Venegas prospects | Shaft-1 Prpts-0 | Tule Mtn. 15 min. quad U.S. BSW, p. 158 DMR Data File Wilson (1933: 161, pt. I #49 U.S. Army Corp of Engineers Tract #: 1357-64, Santa Clara No. 1 - 8 | LaPosa (Welton) | 53-54 |
| 53 | T11S, R14W, Sec. 36 (p) | Yuma; Isla Pinta, Az 15 min. | Unnamed | Shaft-1 | Isla Pinta 15 min. quad | Mohawk | 70 XVI |
| 54 | T11S, R14W, Sec. 31 & 36 (p) | Yuma; Isla Pinta, Az 15 min. | Unnamed | prospect | Isla Pinta 15 min. quad | Mohawk | 70 XVI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|--------------------------------------|-----------------------------------|---|--------------------|--|------------------|---------------------|
| 55 | T13S, R12W, Sec. 28 (p) | Yuma; Isla Pinta, Az 15 min. | Unnamed | prospects-1 | Isla Pinta 15 min. quad | Mohawk | 70 XVI |
| 56 | T13S, R14W, Sec. 35 & 36 (p) | Yuma; Isla Pinta, Az 15 min. | Dart & Kart | prospect | U.S. Army Corp of Engineers Tract #: 1365, Dart; 1366, Kart U.S. BSWF, p. 153 . Document identifies this property the same as Tillie Pat as this studies # 57 | LaPosa (Welton) | 54 |
| 57 | T13S, R14W, Sec. 35 & 36 (p) | Yuma; Isla Pinta, Az 15 min. | Dan Drifts Mine Dart & Kart, (Tillie Pat) | Calims-Prospects | U.S. Army Corps of Engineers Tract No.: 1367, Banjo; 1368, Tillie Pat; 1369, Tule Rose U.S. BSWF, p. 153. Document identifies this property the same as Tillie Pat as this studies #56 | LaPosa (Welton) | 54 |
| 58 | T14S, R14W, Sec. 7 & 18 (p) | Yuma; Sierra Arida 15 min. | Unnamed | Prospects | Sierra Arida 15 min. quad. | LaPosa (Welton) | 62 XI |
| 59 | T14S, R14W, Sec. 28 (p) | Yuma; Sierra Arida 15 min. | Thanksgiving Mine | Mine | Sierra Arida 15 min. map DMR Data File; See map No. 163 for additional data source. | LaPosa (Welton) | 57 X |
| 60 | T14S, R14W, Sec. 22, 23, 25 & 26 (p) | Yuma; Sierra Arida 15 min. | Santa Clara 1-8 | Prospect (Claims) | U.S. Army Corps of Engineers Tract No.: 1357-1364, Santa Clara 1-8 DMR Data File | LaPosa (Welton) | 54 |
| 61 | T10S, R13W, Sec. 8 | Yuma; Mohawk Mts. SW, Az 7.5 min. | Unnamed | Shaft-1 prospect-1 | Mohawk Mts., SW, 7.5 min. | Mohawk | 70 XVI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|---------------------------------|---|-------------------------------------|---|---|------------------|---------------------|
| 62 | T10S, R13W, Sec. 15 | Yuma; Mohawk Mts SE, Az 7.5 min. | Unnamed | Shafts-2 | Mohawk Mts., SW, 7.5 min. | Mohawk | 70 XVI |
| 63 | T7S, R12W, Sec. 25 | Yuma; Aztec Hills, Az 7.5 min. | Unnamed | Shafts-1 Mine-1 | Aztec Hill, Az. 7.5 min. quad | Mohawk | 70 XVI |
| 64 | T11S, R12W, Sec. 14 (p) | Yuma; Granite Mts 15 min. | Unnamed | Prospect | Granite Mtn. 15 min. quad map | Mohawk | 70 XVI |
| 65 | T11S, R12W, Sec. 23 & 24 (p) | Yuma; Granite Mts 15 min. | Lord Will #2 (Child's Prop.) | Shafts-1 adits-2 | Granite Mtn. 15 min quad map DMR Data Files | Mohawk | 67-68 |
| 66 | T11S, R10W, Sec. 9 (p) | Pima; Granite Mts. 15 min. | Unnamed | Shows on map as mine but is target | Ajo, Ariz. 1:250,000 U.S. Series Topographic Map (1953-69). Shows as a mine on map, how- ever, field check showed it was a World War II target which was made to look like a rail- road tunnel. | Ajo | 83, 85 |
| 67 | T15S, R11W, Sec. 36 (p) | Yuma; O'Neill Hills 15 min. | Rasmussen Mine | Shafts-2 Prospect | O'Neill Hills 15 min. quad map BSFW p. 156 | Agua Dulce | 71-72 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|-----------------------------|------------------------------|---|---------------------------------------|---|------------------|---------------------|
| 68 | T15S, R10W, Sec. 26 (p) | Pima; O'Neill Hills 15 min. | Legal Tender or Papago Mine | Shafts-4 adit-2 pros- pect-1 | O'Neill Hills 15 min. quad. map BSFW p. 154 BLM, U.S. Land Office Mineral Survey MS 3445 Simmons (1965:Table 2) DMR Data Files USBM corresponds data on file on DMR Phoenix offices. | Agua Dulce | 72 |
| 69 | T15S, R10W, Sec. 36 (p) | Pima; O'Neill Hills 15 min. | Unnamed mine (Could be part of Legal Tender claims) | Shafts-1 pros- pects-2 | O'Neill Hills, Az. 15 min. quad. map | Agua Dulce | 79 XVI |
| 70 | T15S, R9W, Sec. 32 (p) | Pima; Agua Dulce Mts 15 min. | Ajo Mine | pros- pects-3 adit-1 | Agua Dulce Mts., Az 15 min. quad USBM Sample Data on file in USBM Card File Sample # 1039-TS, 1032-3B U.S. Army Corps of Engineers Tract #: 1372, Ajo BSFW p. 151 DMR data files on file in Denver Office | Agua Dulce | 72-73 |
| 71 | T15S, R9W, Sec. 31 & 32 (p) | Pima; Agua Dulce Mts 15 min. | Unnamed | Shaft-1 pros- pect-1 | Agua Dulce Mts., Az. 15 min. quad USBM Sample Data on file in the Denver office Sample #: 1029, 1030 & 1031 | Agua Dulce | 79 XVI |
| 72 | T15S, R9W, Sec. 16 & 21 (p) | Pima; Agua Dulce Mts 15 min. | Showers of Platinum | | Agua Dulce Mts., 15 min. quad U.S. Army Corps of Engineer Tract #: 1374, Showers of Platinum BSFW p. 157 | Agua Dulce | 73 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|-------------------------------------|--------------------------------|--|-------------------|---|------------------|---------------------|
| 73 | T16S, R9W, Sec. 23 (p) | Pima; Agua Dulce Mts 15 min. | Merry Widow (Rick's Mine, Sheepview #5 & Stone Walls Mine) | | U.S. Army Corps of Engineers Tract #: 1370, Merry Widow USBM Sample Data on file in the Denver Office; Sample # 1044-TS, 1045, 1046; DMR Data File; Claim Names: Escondido, Javelin, Lost Lover; BSFW p. 156; Simmons (1965: Table 2) | Agua Dulce | 73 |
| 74 | T15S, R9W, Sec. 19 (p) | Pima; Agua Dulce Mts 15 min. | Unnamed | Shaft | Agua Dulce Mts., 15 min. quad | Agua Dulce | 79 XVI |
| 75 | T15S, R9W, Sec. 29 (p) | Pima Agua Dulce Mts 15 min. | Unnamed | Shaft-1 | Agua Dulce Mts., Az. 15 min. quad | Agua Dulce | 79 XVI |
| 76 | T16S, R9W, Sec. 11 (p) | Pima Agua Dulce Mts 15 min. | Bell Mine | Shaft-1 adit-1 | Agua Dulce Mts., 15 min. quad USBM Sample Data Sample #: 1039-1041 BSFW p. 151 Simmons (1965: Table 2) on file in the Denver office | Agua Dulce | 73-74 |
| 77 | T12S, R7W, Sec. 16, 17, 20 & 21 (p) | Pima; Growler Peak, Az 15 min. | Rainbow, Rainbow 1 & 3 also 49 #2, 3, 6 & 7 | | U.S. Army Corps of Engineers Tract #: 1375, Rainbow; 1376, Rainbow #1; 1377, Rainbow #3; 1378-79, 49 #2 & 3; 1380-81, 49 #6 & 7 | Ajo | 81 XVII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|---|---|-------------------------------------|-----------------------------|---|---------------------------------|---------------------|
| 78 | T9S, R7W, Sec. 34 | Pima; Midway, Az 15 min. | Midway | | U.S. Army Corps of Engineers Tract #: 1373, Midway DMR Data Files | Ajo | 80 |
| 79 | T10S, R18W, Sec. 2 | Yuma; Welton, SE & Welton Hills, Az (?) | Hindman Property (Poorman Mine) | Shaft | DMR Data File same as the Poorman Same as #25 | LaPosa (Welton) | 50 |
| 80 | T12S, R7W, Sec. 35 & 36(p) | Pima; Ajo 15 min. | Unnamed | pros- pects-2 | Ajo 15 min. quad. | Ajo | 83 |
| 81 | T12S, R7W, Sec. 24 (p) T12S, R6W, Sec. 19 | Pima; Ajo 15 min. | Hope Group (?) | pros- pects-2 shaft-1 | Ajo 15 min. quad. DMR Data File | Ajo | 80 |
| 82 | T12S, R6W, Sec. 30 | Pima; Ajo 15 min. | 85-Group | pros- pect-1 shaft-1 | Ajo, 15 min. quad map USBM Card File USGS Crib #00060 | Ajo | 81 XVII |
| 83 | T8S, R7W, Sec. 26 | Maricopa | Unnamed | Mine-1 | Ajo, Az. (1953 revised 1969) 1:250,000 U.S. Series | Not in Organized District | 90 XX |
| 84 | T8S, R9W, Sec. 8 | Maricopa | Unnamed | Mine-1 | Ajo, Az. (1953 revised 1969) 1:250,000 U.S. Series | Not in Organized District | 90 XX |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|--|---|-------------------------------------|--|--|-------------------------------------|----------------------|
| 85 | T12S, R7W, Sec. 25 & 26 (p) | Pima; Ajo, Az 15 min. | Chico Shunie Prspct | | DMR Data File | Ajo | 80, 83 |
| 86 | T14S, R7W, Sec. 24 | Pima; Kino Peak, Az 15 min. | Clark Gold | pros- pects-2 shaft-1 | Kino Peak, Az, 15 min. quad map DMR Data File | Growler | 92 XXII |
| 87 | T14S, R7W, Sec. 26, 27, 28, 33, 34 & 35 T15S, R7W, Sec. 23 & 24 (p) | Pima; Kino Peak, Az 15 min. | Growler Mine | | DMR Data File National Parks Service (1972: Exhibit 2) | Growler | 92 XXII |
| 88 | T16S, R8W, Sec. 23, 24, 25 & 26 (p) | Pima; Agua Dulce Mts 15 min. | Alley-Hodges Vein | | DMR Data File Sample data on file | Agua Dulce | 74 |
| 89 | T15S, R5W, Sec. 22, 23, 24, 25, 26 & 27 (p) | Pima; Kino Peak, Az Mt. Ajo, Az 15 min. | Copper Mountain Mine | pros- pects-17 adits-2 | National Park Service (1972:7) Kino Peak, Az. 15 min. quad. Ajo, Az. 15 min. quad. | Growler | 92 XXII |
| 90 | T17S, R6W, Sec. 3 (p) | Pima; Lukeville, Az 15 min. | Baker Mine | Shaft-1 adit-1 pros- pects-2 | National Parks Service (1972:8) Lukeville, AZ. 15 min. quad. | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 91 | T17S, R6W, Sec. 4 & 9 (p) | Pima; Lukeville, Az 15 min. | Milton Mine | Shaft-1 Mine-1 pros- pects-11 | Lukeville, Az. 15 min. quad National Park Service (1972:7) | Montezuma (Puerto Blanco Mts) | 95 XXIV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|--|-----------------------------|--|------------------------------|---|-------------------------------------|----------------------|
| 92 | T17S, R6W, Sec. 14 (p) | Pima; Lukeville, Az 15 min. | Martinez Mine | Shafts-3 pros- pects-5 | National Park Service (1972:7&8) Lukeville, Az. 15 min. quad. | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 93 | T17S, R6W, Sec. 9 & 16 (p) | Pima; Lukeville, Az 15 min. | Unnamed Prospects | pros- pects-3 | Lukeville, Az. 15 min. quad. | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 94 | T17S, R6W, Sec. 24 (p) | Pima; Lukeville, Az 15 min. | Lost Cabin Mine | pros- pects-2 shaft-1 | Lukeville, Az. 15 min. quad. National Park Service (1972:7) | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 95 | T17S, R6W, Sec. 24 (p) | Pima; Lukeville, Az 15 min. | Victoria Mine | pros- pects-6 shaft-2 | Lukeville, Az. 15 min. quad DMR Data File National Park Service (1972:7) | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 96 | T17S, R6W, Sec. 23 (p) | Pima; Lukeville, Az 15 min. | Unnamed Prospects (possibly Gold Bell claims) | pros- pects-3 | Lukeville, Az. 15 min. quad. map National Park Service (1972:7) | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 97 | T17S, R6W, Sec. 24 & 25 (possible Loc.) (p) | Pima; Lukeville, Az 15 min. | Golden Eagle Claims | | National Park Service (1972:7) | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| 98 | T17S, R6W, Sec. 13 (p) (possible loc.) | Pima; Lukeville, Az 15 min. | Lucky Dog Claims | | National Park Service (1972:7) With the available data location is uncertain | Montezuma (Puerto Blanco Mts) | 96 XXIV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|---|-----------------------------|--|--------------------|--|-------------------------------|---------------------|
| 99 | T16S, R6W, Sec. 20 (p) | Pima; Kino Peak, Az 15 min. | Dripping Springs Mine | | National Park Service (1972:7) | Montezuma (Puerto Blanco Mts) | 96 XXIV |
| 100 | T14S, R7W, Sec. 36 | Pima; Kino Peak, Az 15 min. | Yellow Hammer Mine | | National Park Service (1972:7) DMR Data File | Growler | 92 XXII |
| 101 | T14S, R7W, Sec. 13 E $\frac{1}{2}$ & 14 | Pima; Kino Peak, Az 15 min. | Bluebird Mine | Adit-1 Prspct-1 | DMR Data File (Potential Leach Copper Property) Kino Peak, Az, 15 min. quad. BSFW p. 152 | Growler | 92 XXII |
| 102 | T14S, R7W, Sec. NE $\frac{1}{4}$ 24 | Pima; Kino Peak, Az 15 min. | Placer Mtn. Group | | DMR Data File; USBM Sample Data Sample #: 1051, 1052, 1053, 1054, 1055TS, 1056 on file in the Denver office Wallaby Enterprises- Growler Mining Dist. Literature Survey on file in the DMR Phoenix Office. | Growler | 92 XXII |
| 103 | T14S, R6W, Sec. 6 & 7 | Pima; Kino Peak, Az 15 min. | Growler Mica & PD Limestone (Lime Hill Area) | Mine-4 | DMR Data File Wallaby Enterprises-Growler Mining Dist. Literature Survey on file in the DMR Phoenix Office. | Growler | 92 XXII |
| 104 | T14S, R7W, Sec. 24 E $\frac{1}{2}$ | Pima; Kino Peak, Az 15 min. | Nelson-Ajo Group | | DMR Data File Wallaby Enterprises-Growler Mining Dist. Literature Survey on file in the DMR Phoenix Office. | Growler | 92 XXII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|----------------------------|-----------------------------|---|--|---|------------------|--------------------|
| 105 | T14S, R6W, Sec. 6 | Pima; Kino Peak, Az 15 min. | Unnamed | Mine | Kino Peak, Az 15 min. quad. map USBM Claim & Sample Data; Sample # 1048 - TS On file in the Denver office | Growler | 93 XXII |
| 106 | T13S, R6W, Sec.14 &15 | Pima; Ajo, Az 15 min. | Copper Giant | Pros- pects-5 | Ajo, Az 15 min. quad. map USBM Card File USGS Crib #00066 DMR Data File | Ajo | 81 XVII |
| 107 | T13S, R7W, Sec.11 &2 (p) | Pima; Ajo, Az 15 min. | San Antonio Mine (also Sunshine Mica; Pumice Corp of Az; Ballestreras) & San Antonio Mine Co. | Mine-3 | Ajo, Az. 15 min. quad. map DMR Data File ABM Bull. 189,p.82 ABM Bull. 155,p30 USGS Crib #00065 USBM Card File BSFW p. 57 Keith (1974:83) | Ajo | 91 XVII |
| 108 | T13S, R7W, Sec.2 (p) | Pima; Ajo, Az 15 min. | Unnamed Quarries | Pros- pects-5 Mine-1 Shaft-1 | Ajo, Az 15 min. quad. map DMR Data File BSFW p.157 | Ajo | 81 XVII |
| 109 | T12S, R6W, Sec.27, 28 & 29 | Pima; Ajo, Az 15 min. | Cardigan | Pros- pects-37 adit-1 Shaft-4 | USGS Crib #00061 USBM Card File DMR Data File | Ajo | 81 XVII |
| 110 | T12S, R6W, Sec.32 | Pima; Ajo, Az 15 min. | Ajo Peak | Shaft-1 | USGS Crib #00063 USBM Card File | Ajo | 81 XVII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page. Table |
|---------|--|------------------------------|--|--|--|------------------|-------------|
| 111 | T12S, R6W, Sec. 27 33, 34, & 35 T13S, R6W, Sec. 1 2 & 3 | Pima; Ajo, Az. 15 min. | Ajo Extension (?) (Bluestone Copper & Unnamed Prospects) | Pros- pects-67 adit-1 shaft-1 | USGS CRIB #00062 USBM Card File | Ajo | 81 XVII |
| 112 | T12S, R6W, Sec. 27 26, 22, 23 | Pima; Ajo, AZ 15 min. | New Cornelia Div. Phelps Dodge, New Cornelia (Ajo) Mine (Arizona Copper Mining & Trading Co. St. Louis Copper Co., Rescue Copper Co., Cornelia Copper Co., New Cornelia Copper Co., Calumet & Arizona Copper Co. | | Joralemon, I.B. (1915:593-609) Joralemon, I.B. (1914:663-665) DeKalb, C. (1918:115-119, 153-156) Greenway, J.C. (1920:17) Allen, A.W. (1922:952-956, 1003-1008) Richard, T.A. (1923:7-10) Richard, T.A. (1925:285-289) Stewart, L.A. (1933) Lake, A. (1900:12-15) Romslo, T.M. & Robinson, C.S. (1952) Gilluly, J. (1937) Gilluly, J. (1938:86-90) Gilluly, J. (1942:257-309) Gilluly, J. (1946: Gilluly, J. (1952:58-61) Joralemon, I.B. (1914:2011-2028) May, B.T. (1968) Hardwick, W.R. (1960) Ingham, G.R. & A.T. Barr (1932) Sixon, D.W. (1966:123-132) Keith, S.B. (1969) Moore, R.T. (1969) Mines & Copper Handbook (see Keith:1974 for years) Blake, W.P. (1896, 1897, 1899) Keith, (1974: 7-10, 82) USGS CRIB #'s 00055,56,57,58,59, & 64 USBM Card File Treutlein, T.E. (1965) Dunne, Peter M. (1955) Chapman, T.G. ed. (1962) | Ajo | 82 XVII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|--|-----------------------------------|---------------------------------------|------------------|---|---------------------------------|---------------------|
| | | | | | Arizona Mining Journal (1722:6,23) Rickard, T.A. (1925:285-289) Rickard, T.A. (1923:7-10) Koschman A.H. and Bergendahl (1968:42) | Ajo | 82 XVII |
| 113 | T11S, R6W, Sec. 1 | Pima; Ajo, AZ. 15 min. | Ajo Mine | | USGS CRIB #00051 Dilluly (1946) | Ajo | 82 XVII |
| 114 | T12S, R6W, Sec. 32 & 33 | Pima; Ajo, AZ. 15 min. | Allen Group | | DMR Data Files | Ajo | 82 XVII |
| 115 | T12S, R6W, Sec. 19 20 & 21 | Pima; Ajo, AZ. 15 min. | Alley Glass | prospect | DMR Data Files | Ajo | 82 XVII |
| 116 | T12S, R6W, Sec. 34 T13S, R6W, Sec. 3, 4 | Pima; Ajo, AZ. 15 min. | Greenway-Alberts | pros- pects-2 | DMR Data Files | Ajo | 82 XVII |
| 117 | T12S, R6W, Sec. 8-5 | Pima; Ajo, AZ. 15 min. | Heckle (Keins) Mine | | DMR Data Files | Ajo | 82 XVII |
| 118 | T7S, R2W, Sec. 31 | Maricopa; Estrella 15 min. | Papago Indian Chief | shaft-1 | Ajo, Az 1:250,000 U.S. Series Topographic map (1953, revised 1969) USGS CRIB #00024 | Not in Organized District | 83 |
| 119 | T7S, R5W, Sec. 7 (?) | Maricopa; Theba, Az. 15 min | Palo Verde | | DMR Data File Maricopa #231 | Not in Organized District | 86 |
| 120 | T8S, R5W, Sec. 3, 4, 5 (?) | Maricopa; Theba, Az 15 min. | Strontium Group (Montezuma Claims) | | DMR Data File-Maricopa #329 USGS CRIB #00029 Hewett et al (1936:154,161) | Not in Organized District | 86 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|--|------------------------------------|--|-------------|--|---------------------------|---------------------|
| 121 | T7S, R1W, Sec. 19, 30 T7S, R2W, Sec. 24, 25 | Maricopa; Estrella 15 min. | Altuda | | DMR Data File - Maricopa #36 USGS Crib #00014 & 15 (?) | Not in Organized District | 86-87 |
| 122 | T8S, R2W, Sec. 8, 9, 16, 17 | Maricopa; Kaka, Az 15 min. | Chloride Mtn. #1 Gold Mine | | DMR Data File - Maricopa #279 U.S. Army Corps of Engineers Tract #: 1383, Chloride Mtn. #1 | Not in Organized District | 88 |
| 123 | T8S, R3W, Sec. 9, 10 | Maricopa; Gila Bend, Az 15 min. | Farley | | U.S. Army Corps of Engineers Tract #: 1382, Farley | Not in Organized District | 89 XIX |
| 124 | T8S, R3W, Sec. 23, 24 | Maricopa; Hat Mtn, Az 15 min. | Gertrude Gold Claim #1 & Lode #2 & Gertrude Gold Lode #2 | | U.S. Army Corps of Engineers Tract #: 1384-1385, Gertrude Gold Claim #1 Gertrude Gold Lode #2 | Not in Organized District | 89 XIX |
| 125 | T8S, R2W, Sec. 3 | Maricopa; Estrella, Az 15 min. | Noonan Group | Shaft-1 | Estrella, Az 15 min. quad map DMR Data File USGS Crib #00027 (?) | Not in Organized District | 87 |
| 126 | T8S, R2W, Sec. 3 | Maricopa; Estrella, Az 15 min. | Unnamed | prospect-1 | Estrella, Az 15 min. quad. map USGS Crib #00028 | Not in Organized District | 90 XX |
| 127 | T8S, R2W, Sec. 4 | Maricopa; Estrella, Az 15 min. | New Maricopa Copper Co. | Shaft-1 | Estrella, Az. 15 min. quad map DMR Data File Sample Data Available USGS Crib #00025 & 26 | Not in Organized District | 87 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|------------------------------|--------------------------------------|-------------------------------------|-------------|--|---------------------------|----------------------|
| 128 | T7S, R2W, Sec. 26 | Maricopa; Estrella, Az 15 min. | Unnamed | Shaft-1 | Estrella, Az 15 min. quad map USGS Crib #00020 | Not in Organized District | 90 XX |
| 129 | T12S, R7W, Sec. 24 25 (p) | Pima; Ajo, Az 15 min. | 49-Extension | | U.S. BSWF, p. 153 U.S. Army Corps of Engineers Tract #: 1378-79, 49 No. 2 & 3 1380-81, 49 No. 6 & 7 | Ajo | 83 |
| 130 | T13S, R15W, Sec. 4 (p) | Pima; Cabeza Prieta Peak, Az 15 min. | Golden Brown | | U.S. BSWF, p. 153 | LaPosa (Welton) | 57 I |
| 131 | T12S, R15W, Sec. 19 | Pima; Cabeza Prieta Peak, Az 15 min. | Long Lost Mine | | U.S. BSWF, p. 155 | LaPosa (Welton) | 54-55 |
| 132 | T12S, R15W, Sec. 18 | Pima; Cabeza Prieta Peak, Az 15 min. | Silver Star Mine | | U.S. BSWF, p. 158 | LaPosa (Welton) | 55 |
| 133 | T7S, R2W, Sec. 16 | Maricopa; Estrella, Az 15 min. | Unnamed | prospect-1 | Estrella, Az. 15 min. quad. map USGS CRIB #00013 | Not in Organized District | 90 XX |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|----------------------------|-------------------------------|-------------------------------------|-------------|--|---------------------------|---------------------|
| 134 | T9S, R1W, Sec. 10 | Maricopa; Kaka, Az 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) | Not in Organized District | 90 XX |
| 135 | T9S, R1W, Sec. 16 | Maricopa; Kaka, Az 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) The unrevised 1953 map showed them as copper prospects. | Not in Organized District | 90 XX |
| 136 | T9S, R1W, Sec. 21 | Maricopa; Kaka, Az 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) The unrevised 1953 map showed them as copper prospects. | Not in Organized District | 90 XX |
| 137 | T9S, R1W, Sec. 15 | Maricopa; Kaka, Az 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) The unrevised 1953 map showed them as copper prospects. | Not in Organized District | 90 XX |
| 138 | T10S, R3W, Sec. 3 4 (p) | Maricopa; Hat Mtn, Az 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) The unrevised 1953 map showed them as copper prospects. | Not in Organized District | 90 XX |
| 139 | T10S, R4W, Sec.34 | Maricopa; Hat Mtn, Az 15 min. | Unnamed | Mine | Ajo, Arizona 1:250,000 U.S. Series Topographic map (1953, revised 1969) The unrevised 1953 map showed them as copper prospects. | Not in Organized District | 90 XX |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|------------------------------|---|--|-------------|--|---------------------------|---------------------|
| 140 | T10S, R12W, Sec.29 | Yuma; Mohawk Mts SE, Az 7.5 min. | Unnamed | | Wilson (1933:156) | Mohawk | 67, 70 XVI |
| 141 | T8S, R21W, Sec.21 (p) | Yuma; | Mineral Occurrences Tungsten | | ABM map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az.(1969) | Dome (Gila City) | 91 XXI |
| 142 | T8S, R21W, Sec.14 (p) | Yuma; | Rare Earth | | ABM map of known metallic mineral occurrences (Excluding Base & Precious Metals)in Az.(1969) | Dome (Gila City) | 91 XXI |
| 143 | T9S, R17W, Sec. 5 (p) | Yuma; | Bentonite | | ABM map of known nonmetallic mineral occur- rences of Arizona, 1965 | LaPosa (Welton) | 63 XII |
| 144 | T7S, R12W, Sec.35 (p) | Yuma; | Jasper | | Map of known nonmetallic mineral occurrences of Arizona (1969) | Mohawk | 68 |
| 145 | T7S, R5W, | Maricopa | Gypsum | | Map of known nonmetallic mineral occurrences of Arizona (1969) | Vekol (Casa Grande) | 90 XX |
| 146 | T9S, R20W, Sec.11 (?) (p) | Yuma; | Tillurium, Thorium, Rare Earth, Nioburn- Tantalum | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals)in Az.(1969) | Dome (Gila City) | 91 XXI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - TableNo. |
|---------|------------------------|----------------------|-------------------------------------|-------------|--|------------------|---------------------|
| 147 | T10S, R20W, Sec.17 (p) | Yuma | Beryllium | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | Fortuna | 42 |
| 148 | T10S, R18W, Sec.14 (p) | Yuma | Molybdenum | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | LaPosa (Welton) | 63 XII |
| 149 | T12S, R16W, Sec.16 (p) | Yuma | Uranium | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | LaPosa (Welton) | 63 XII |
| 150 | T10S, R13W, Sec. 8 (p) | Yuma | Molybdenum | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | Mohawk | 68 |
| 151 | T11S, R12W, Sec.23 (p) | Yuma | Molybdenum | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | Mohawk | 68 |
| 152 | T15S, R10W, Sec.17 (p) | Yuma | Uranium, Niobium-Tantalum, Thorium | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | Agua Dulce | 79 XVI |
| 153 | T13S, R4W, Sec.18 (p) | Pima | Manganese | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | Gunsight (Meyer) | 94 XXIII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No |
|---------|---|----------------------------------|---|-----------------------------|---|------------------|---------------------|
| 154 | T14S, R4W, Sec.9&10 (p) | Pima | Arsenic | | Map of known metallic mineral occurrences (Excluding Base & Precious Metals) in Az(1969) | Gunsight (Meyer) | 94 XXIII |
| 155 | T13S, R17W, Sec.17, 18, 19 & 20, 21 (p) | Yuma; Tinajas Altas 15 min. | Crescent # 1 & 2, Golden King, Barragone Star | Adit -1 | DMR Data File; USBM Sample Data Sample #: 1001, 1001TS on file in the Denver Office No. of claims: 5 | Fortuna | 43 VIII |
| 156 | T12S, R18W, Sec.15 (p) | Yuma; Tinajas Altas 15 min. | Old Smokey # 1 | | DMR Data File No. of Claims: 1 | Fortuna | 43 VIII |
| 157 | T11S, R17W, Sec. 3 & 4, 5, 8, 9, 10 (p) | Yuma; Tinajas Altas 15 min. | Unnamed | prop- pects-3 shaft-1 | DMR Data File; USBM Sample Data Sample #: 600-B, 601-B, 602-B, 603-B, 604-B, 605-B, 606-B on file in the Denver Office No. of samples: 7 In same general area as #28 (Smith mine) | LaPosa (Welton) | 62 XI |
| 158 | T12S, R16W, Sec. 5 4, 8, 9 (p) | Yuma; Cabeza Prieta Peak 15 min. | Copper Hill area 1-9 | | USBM Sample Data Sample #: 607-B, 612-B, 613-B, 614-B, 2566, 617-B, 616-B on file in the Denver Office Claim Name-Copper Hill area 1-9 No. of claims: 9 | LaPosa (Welton) | 57 X |
| 159 | T12S, R16W, Sec.14 (p) | Yuma; Cabeza Prieta Peak 15 min. | Black mts. 1-4 | | DMR Data Files; No. of claims: 4 Claim Name - Black mts. # 1-4 | LaPosa (Welton) | 57 X |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|--|----------------------------------|--|-------------|---|------------------|---------------------|
| 160 | T12S, R15W, Sec.17, 18, 20, 21, 22, 28 (p) | Yuma; Cabeza Prieta Peak 15 min. | La Bamba, Merry Christmas, Copper Hill, Silver Star Mine, Unnamed, Big John, Gold Eagle, Golden Pheasant, Golden Drina | | Claim Name-La Bamba, Merry Christmas, Copper Hill, Silver Star Mine, Unnamed, Big John, Gold Eagle, Golden Pheasant, Golden Drina No. of claims: 9; 1 on ground find | La Posa (Welton) | 57 X |
| 161 | T12S, R15W, Sec.31,32 T12S, R16W, Sec.25,36 (p) | Yuma; Cabeza Prieta Peak 15 min. | Cabrismo, Black Head, Cabeza Prieta #1&2, Comstock, Princess, Vampire Mine | | Claim Name-Cabrismo, Black Head, Cabeza Prieta #1&2, Comstock, Princess, Vampire Mine No. of claims: 6; 1 on ground find | La Posa (Welton) | 58 X |
| 162 | T13S, R16W, Sec.14 (p) | Yuma; Cabeza Prieta Peak 15 min. | EDA | | Claim Name- EDA No. of claims: 1 | LaPosa (Welton) | 58 X |
| 163 | T13S, R15W, Sec.6 (p) | Yuma; Cabeza Prieta Peak 15 min. | Long Joe #1 | | DMR Data File Claim Name-Long Joe No. of Claims: 1 | LaPosa (Welton) | 58 X |
| 164 | T13S, R15W, Sec.9 (p) | Yuma; Cabeza Prieta Peak 15 min. | Rising Sun | | DMR Data File Claim Name-Rising Sun No. of claims: 1 | LaPosa (Welton) | 58 X |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|---|--|--|-------------|---|--------------------|------------------------|
| 165 | T13S, R15W, Sec.11 (p) | Yuma; Cabeza Prieta Peak 15 min. | Unnamed | | DMR Data File No. of claims: 1 | LaPosa (Welton) | 62 XI |
| 166 | T11S, R14W, Sec. 36, (p) | Yuma; Isla Pinta, AZ 15 min. | Morning # 1,2 Phoenix # 1,2 | | DMR Data File Claim Name-Morning #1,2 Phoenix # 1,2 1 on ground find No. of claims: 4 | Mohawk | 69 XIII |
| 167 | T13S, R14W, Sec.25, 26,27,33,34,35&36 (p) | Yuma; Isla Pinta, AZ 15 min. | Halo Gp. 1-9 | | DMR Data File;USBM Sample Data Claim Name: Halo Gp. 1-9 Sample #: 658-B, 659-B, 1057, 1060, 1061, 657-B, 1062, 1063, 1064, 1087, 1088, 1065 on file in the Denver Office No. of claims: 31; 7 on ground find | LaPosa (Welton) | 58 X |
| 168 | T13S, R12W, Sec.21, 28 (p) | Yuma; Isla Pinta, AZ 15 min. | Senator, Dixie, Ben Franklin, Antelope, High Peak, IBEX, Black Stallion, Butte, Good Hope | | DMR Data File Claim Name-Senator, Dixie, Ben Franklin, Antelope, High Peak, IBEX, Black Stallion, Butte, Good Hope No. of claims: 9; 1 on ground find | Mohawk | 69 XIII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|--------------------------------------|-------------------------------------|---|-------------|--|--------------------|------------------------|
| 169 | T14S, R14W, Sec.28 (p) | Yuma; Sierra Arida AZ 15 min. | adit symbol (labeled mine) Thanksgiving mine | | DMR Data File;USBM Sample Data Claim Name: Thanksgiving Mine Sample #: 655-B, 656-B on file in the Denver Office | LaPosa (Welton) | 57 X |
| 170 | T14S, R14W, Sec. 7 & 18 (p) | Yuma; Sierra Arida AZ 15 min. | Unnamed | Prospect | DMR Data File;USBM Sample Data Sample #: 654-B on file in the Denver Office | LaPosa (Welton) | 62 XI |
| 171 | T14S, R14W, Sec.8 (p) | Yuma; Sierra Arida AZ 15 min. | Copper World | | DMR Data File Claim Name: Copper World No. of claims: 1 | LaPosa (Welton) | 58 X |
| 172 | T14S, R14W, Sec.3 4,9,10 & 11 (p) | Yuma; Sierra Arida AZ 15 min. | Unnamed | | DMR Data File;USBM Sample Data Sample #: 1066, 1069, 1068, 1067, 2577, 2578, 1080, 1081, 1082, 1083, 2579, 1084, 1085 on file in the Denver Office No. of samples: 12 | LaPosa (Welton) | 62 XI |
| 173 | T14S, R14W, Sec. 12 (p) | Yuma; Sierra Arida AZ 15 min. | Last Chance | | DMR Data File Claim Name: Last Chance No. of claims: 1 | LaPosa (Welton) | 58 X |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|------------------------------------|-------------------------------------|---|-----------------------------|--|--------------------|------------------------|
| 174 | T14S, R13W, Sec.7 (p) | Yuma; Sierra Arida AZ 15 min. | High Grade, Gold Johnny, Leona, Mary | | DMR Data File Claim Names: High Grade, Gold Johnny, Leona, Mary No. of claims: 4 | LaPosa (Welton) | 59 X |
| 175 | T14S, R14W, Sec. 30 (p) | Yuma; Tule Mts. AZ 15 min. | Gloria De Ora 1-8 | | DMR Data File Claim Names: Gloria De Ora 1-8 No. of claims: 8 | LaPosa (Welton) | 59 X |
| 176 | T14S, R15W, Sec. 23 & 26 (p) | Yuma; Tule Mts. AZ 15 min. | Venegas Prospect | Shaft-1 pros- pects-9 | DMR Data File;USBM Sample Data Sample #: 638-B, 653-B, 2586, 2589 on file in the Denver Office No. of samples: 2 | LaPosa (Welton) | 53-54 |
| 177 | T14S, R15W, Sec. 22 (p) | Yuma; Tule Mts. AZ 15 min. | Emma Jean 1-2 Tule 1-2 | | DMR Data File Claim Names: Emma Jean 1-2 Tule 1-2 No. of claims: 4 | LaPosa (Welton) | 59 X |
| 178 | T13S, R17W, Sec. 35 (p) | Yuma; Tule Mts. AZ 15 min. | Dolores | | DMR Data File;USBM Sample Data Claim Name: Dolores Sample #: 2581 on file in the Denver Office No. of claims: 1 | LaPosa (Welton) | 59 X |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|--|---------------------------------------|-------------------------------------|---------------------------------|--|------------------|---------------------|
| 179 | T14S, R15W, Sec. 14,15 23,24 (p) | Yuma; Tule Mts. AZ 15 min. | Copper Head #2 | | DMR Data File;USBM Sample Data Sample #: 2572, 2573, 2575, 2576, 2582, 2583 on file in the Denver office Claim Name: Copper Head # 2 No. of claims: 1 | LaPosa (Welton) | 59 X |
| 180 | T14S, R15W, Sec. 11,12,13. T14S, R14W, Sec. 7 (p) | Yuma; Tule Mts. AZ 15 min. | Black Prince | | DMR Data File;USBM Sample Data Sample #: 2574, 2584, 2587, 2588, 1086 on file in the Denver office Claim Name: Black Prince No. of claims: 1 | LaPosa (Welton) | 59 X |
| 181 | T14S, R15W, Sec.10 (p) | Yuma; Tule Mts. AZ 15 min. | Santa Clara 1-5 | | DMR Data File Claim Names: Santa Clara 1-5 No. of claims: 5 | LaPosa (Welton) | 59 X |
| 182 | T15S, R11W, Sec.36 (p) T15S, R10W, Sec.31 (p) | Yuma, O'Neill Hills AZ. 15 min. | Unnamed | Shaft-2 Adit-1 prospect-1 | DMR Data File;USBM Sample Data Sample #: 1002-06, 1002-TS, 1003-TS,1005-TS,1006-TS,1019, 1020-TS,1021,1023 on file in the Denver Office No. of samples: 9 | Agua Dulce | 64-65 |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|---|--------------------------------------|-------------------------------------|-------------|---|------------------|------------------------|
| 183 | T16S, R11W, Sec.12 (p) | Yuma; O'Neill Hills AZ 15 min. | Broken Pick | | DMR Data File Claim Name: Broken Pick No. of claims: 1 | Agua Dulce | 75 XV |
| 184 | T16S, R10W, Sec.5 & 16 (p) | Pima; O'Neill Hills AZ 15 min. | Golden Eagle 1-6 & Grandpa's Boy | | DMR Data File Claim Names: Golden Eagle 1-6 & Grandpa's Boy No. of claims: 7 | Agua Dulce | 75 XV |
| 185 | T16S, R10W, Sec.3 &10 (p) | Pima; O'Neill Hills AZ 15 min. | Surprise | | DMR Data File Claim Name: Surprise No. of Claims: 1 | Agua Dulce | 75 XV |
| 186 | T15S, R10W, Sec. 34 (p) T16S, R10W, Sec. 3 (p) | Pima; O'Neill Hills AZ 15 min. | Las Playas 1-2 | | DMR Data File Claim Name: Las Playas 1-2 No. of claims: 2 | Agua Dulce | 75 XV |
| 187 | T15S, R10W, Sec. 32&33 (p) | Pima; O'Neill Hills AZ 15 min. | Border 1-4 | | DMR Data File Claim Names: Border 1-4 No. of claims: 4 | Agua Dulce | 75 XV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|----------------------------------|--------------------------------|-------------------------------------|-------------|---|------------------|----------------------|
| 188 | T15S, R10W, Sec. 29,30,31,32 (p) | Pima; O'Neill Hills AZ 15 min. | Porcupine, Papago #1 John Laughlyn | | DMR Data File Claim Names: Porcupine, Papago #1, John Laughlyn No. of claims: 3 | Agua Dulce | 75 XV |
| 189 | T15S, R10W, Sec. 28 (p) | Pima; O'Neill Hills AZ 15 min. | Novle (sic) #1-3 | | DMR Data File Claim Names: Novle 1-3 No. of claims: 3 | Agua Dulce | 75 XV |
| 190 | T15S, R10W, Sec. 15 & 22 (p) | Pima; O'Neill Hills AZ 15 Min. | Esperanza, Banker, Judge Wellborn | | DMR Data File Claim Name: Esperanza, Banker, Judge Wellborn No. of claims: 3 | Agua Dulce | 75 XV |
| 191 | T15S, R10W, Sec. 23 (p) | Pima; O'Neill Hills AZ 15 min. | Dorthy Jean | | DMR Data File Claim Name: Dorthy Jean No. of claims: 1 | Agua Dulce | 75 XV |
| 192 | T15S, R10W, Sec. 24 (p) | Pima; O'Neill Hills AZ 15 min. | Cimaron | | DMR Data File Claim Name: Cimaron No. of Claims: 1 | Agua Dulce | 75 XV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|-------------------------------|---|---|---------------------------------------|--|------------------|------------------------|
| 193 | T15S, R10W, Sec. 25,26,36 (p) | Pima; O'Neill Hills AZ 15 min. | Papago Extension 1-5, Crown, Howy's, Golden Wonder, Jumbo, Irene | Shaft-5 Adit-2 pros- pects-3 | DMR Data File;USBM Sample Data Sample #: 1007, 1018, 1007- TS, 1016-TS, 1024, 1025 on file in the Denver office Claim Name: Papago Extension 1-5 Crown, Howy's, Golden Wonder, Jumbo, Irene No. of claims: 10 | Agua Dulce | 76 XV |
| 194 | T15S, R10W, Sec. 35 (p) | Pima; O'Neill Hills AZ 15 min. | Red Wing, Red Bluff, Eastern, Great Eastern, Red Chief | | DMR Data File Claim Name: Red Wing, Red Bluff Eastern, Great Eastern, Red Chief No. of claims: 5 | Agua Dulce | 76 XV |
| 195 | T15S, R10W, Sec. 36 (p) | Pima; Agua Dulce Mts. AZ 15 min. | Desert Queen, Desert King, Squaw, Minnie, Dixie Farrn, Karl | | DMR Data File;USBM Sample Data Sample #: 1026 on file in the Denver office Claim Name: Desert Queen, Desert King, Squaw, Minnie, Dixie Farrn, Karl No. of claims: 6 | Agua Dulce | 76 XV |
| 196 | T15S, R9W, Sec. 19 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Unnamed | Shaft-1 | DMR Data File;USBM Sample Data Sample #: 1028 on file in the Denver Office | Agua Dulce | 79 XVI |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. - Table No. |
|---------|---------------------------|----------------------------------|-------------------------------------|-------------|--|------------------|----------------------|
| 197 | T15S, R9W, Sec. 30 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Last Find #1 | | DMR Data File U.S. BSW, p. 154 U.S. Army Corps of Engineers Tract #: 1371 Claim Name: Last Find #1 No. of Claims: 1 | Agua Dulce | 76 XV |
| 198 | T15S, R9W, Sec. 30 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Cowboy | | DMR Data File Claim Name: Cowboy No. of Claims: 1 | Agua Dulce | 76 XV |
| 199 | T16S, R9W, Sec. 5 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Birthday | | DMR Data File Claim Name: Birthday No. of Claims: 1 | Agua Dulce | 76 XV |
| 200 | T15S, R9W, Sec. 20&29 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Maggie 1-2 | Shaft-1 | DMR Data File; USBM Sample Data Sample #: 1027 on file in the Denver office Claim Name: Maggie - 1-2 No. of claims: 2 | Agua Dulce | 76 XV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|-------------------------------|---|--|-------------|--|------------------|------------------------|
| 201 | T15S, R9W, Sec. 21 (p) | Pima; Agua Dulce Mts. AZ 15 Min | Showers of Platinum Showers of Silver | | DMR Data File U.S. Army Corps of Engineers Tract #: 1374 Claim Name: Showers of Platinum Showers of Silver No. of claims: 2 | Agua Dulce | 77 XV |
| 202 | T16S, R9W, Sec. 10&11 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Window Rock 1-4 Agua Dulce, Ocean Wave, Murray, True Blue | | DMR Data File Claim Name: Window Rock 1-4 Agua Dulce, Ocean Wave, Murray, True Blue No. of claims: 8 | Agua Dulce | 77 XV |
| 203 | T16S, R8W, Sec. 19 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Bennett Taylor | | DMR Data File; USBM Sample Data Sample#: 1047 on file in the Denver office Claim Name: Bennett Taylor No. of claims: 1 | Agua Dulce | 77 XV |
| 204 | T14S, R8W, Sec. N½, S½ 10 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Maria Anita Placer | | DMR Data File Claim Name: Maria Anita Placer No. of claims: 1 | Agua Dulce | 77 XV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No.- Table No. |
|---------|---|---|-------------------------------------|-------------|--|------------------|---------------------|
| 205 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 16 (P) | Pima; Agua Dulce Mts. AZ 15 Min. | Louise Ford Placer | | DMR Data File Claim Name: Louise Ford Placer No. of claims: 1 | Agua Dulce | 77 XV |
| 206 | T14S, R8W, Sec. N $\frac{1}{2}$ S $\frac{1}{2}$ 22 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Jean Carpenter Placer | | DMR Data File Claim Name: Jean Carpenter Placer No. of claims: 1 | Agua Dulce | 77 XV |
| 207 | T14S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 22 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Jean Franklin Placer | | DMR Data File Claim Name: Jean Franklin Placer No. of claims: 1 | Agua Dulce | 77 XV |
| 208 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 27 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Grace Linch Placer | | DMR Data File Claim Name: Grace Linch Placer No. of claims: 1 | Agua Dulce | 78 XV |
| 209 | T14S, R8W, Sec. S $\frac{1}{2}$ N $\frac{1}{2}$ 27 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Mary Potter Placer | | DMR Data File Claim Name: Mary Potter Placer No. of claims: 1 | Agua Dulce | 78 XV |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|--|--|--|-------------|---|------------------|------------------------|
| 210 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 34 (p) | Pima; Agua Dulce Mts. AZ 15 Min. | Gertrude Scott Placer | | DMR Data File Claim Name: Gertrude Scott Placer No. of claims: 1 | Agua Dulce | 78 XV |
| 211 | T17S, R8W, Sec. 12 | Pima; Quitobaquito Springs, AZ 15 Min. | Unnamed | | DMR Data File; USBM Sample Data Sample #: 1043-TS, 1042 on file in the Denver Office | Agua Dulce | 79 XVI |
| 212 | T17S, R8W, Sec. 2 | Pima; Quitobaquito Springs, AZ 15 Min. | Thanksgiving #1, Pappuse, Pappuse #2, Pappoos #1 | | DMR Data File Claim Name: Thanksgiving #1, Pappuse, Pappuse #2, Pappoos #1 No. of claims: 4 | Agua Dulce | 78 XV |
| 213 | T16S, R9W, Sec. 33 | Pima; Quitobaquito Springs, AZ 15 Min. | United Tungsten, & Lead #1-2 | | DMR Data File Claim Name: United Tungsten, & Lead #1-2 No. of claims: 2 | Agua Dulce | 78 XV |
| 214 | T13S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 15 (p) | Pima; Growler Peak, AZ 15 Min. | Donna Mary Placer | | DMR Data File Claim Name: Donna Mary Placer No. of claims: 1 | Ajo | 78, 84 XVI XVIII |

| Map No. | Legal Description | County and Quad. Map | Property Name or Mineral Occurrence | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---------|---------------------------|--------------------------------|-------------------------------------|-------------|--|------------------|--------------------|
| 215 | T12S, R8W, Sec. 27 (p) | Pima; Growler Peak, AZ 15 Min. | Rainbow 1-3 | | DMR Data File Claim Name: Rainbow 1-3 No. of claims: 3 | Ajo | 84 XVII |
| 216 | T12S, R7W, Sec. 29&33 (p) | Pima; Growler Peak, AZ 15 Min. | Decker, Great Eastern | | DMR Data File Claim Name: Decker, Great Eastern No. of claims: 2 | Ajo | 84 XVIII |
| 217 | T12S, R8W, Sec. 16 (p) | Pima; Growler Peak, AZ 15 Min. | Gold Crown | | DMR Data File Claim Name: Gold Crown No. of claims: 1 | Ajo | 84 XVIII |
| 218 | T12S, R9W, Sec. 27 (p) | Pima; Growler Peak, AZ 15 Min. | Gold Crown #3 | | DMR Data File Claim Name: Gold Crown #3 No. of claims: 1 | Ajo | 84 XVIII |

APPENDIX C: ALPHABETICAL INDEX OF MINES,
PROSPECTS OR CLAIM GROUPS ON LUKE AIR FORCE RANGE

| Property Name or Mineral Occurrence | Map No. | Legal Description | County and Quad. Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|---|------------------------------|-----------------------------------|--------------------------|---------------------------|--------------------|
| Ajo Extension (?) (Bluestone Copper & Unnamed Prospects) | 111 | T12S, R6W, Sec.27, 33,34,35 T13S, R6W, Sec. 1,2,& 3 | Pima; Ajo, Az 15 min. | Shaft-1 Adit-1 Prospects-67 | See Appendix B; pg. | Ajo | 81 XVII |
| Ajo Mine | 70 | T15S, R9W, Sec. 32 (p) | Pima; Agua Dulce Mts 15 min. | Prospects-3 adit-1 | See Appendix B; pg. | Agua Dulce | 72-73 |
| Ajo Mine | 113 | T11S, R6W, Sec. 1 | Pima; Ajo, Az 15 min. | | See Appendix B; pg. | Ajo | 82 XVII |
| Ajo Peak | 110 | T12S, R6W, Sec. 32 | Pima; Ajo, Az 15 min. | Shaft-1 | See Appendix B; pg. | Ajo | 82 XVII |
| Allen Group | 114 | T12S, R6W, Sec. 32 & 33 | Pima; Ajo, Az 15 min. | | See Appendix B; pg. | Ajo | 82 XVII |
| Alley Glass | 115 | T12S, R6W, Sec. 19,20 &21 | Pima; Ajo, Az 15 min. | Prospect | See Appendix B; pg. | Ajo | 82 XVII |
| Alley-Hodges Vein | 88 | T16S, R8W, Sec. 23,24,25 &26 (p) | Pima; Agua Dulce Mts 15 min. | | See Appendix B; pg. | Agua Dulce | 74 |
| Altuda | 121 | T7S, R1W, Sec.19 & 30 T7S, R2W, Sec. 24 & 25 | Maricopa; Estrella 15 min. | | See Appendix B; pg. | Not in Organized District | 86-87 |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|--------------------------|--|----------------------------------|--------------------------|-------------------------------------|--------------------|
| Arsenic | 154 | T14S, R4W, Sec.9 &10 (p) | Pima | | See Appendix B | Gunsight (Meyer) | 94 XXIII |
| Baker Mine | 90 | T17S, R6W, Sec.3 (p) | Pima; Lukeville, Az 15 min. | Shaft-1 adit-1 Prospects-2 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Baker Peak Barite | 42 | T9S, R17W, Sec.22 | Yuma; Tacna, Az 7.5 min. | | See Appendix B | LaPosa (Welton) | 53 |
| Bell Mine | 76 | T16S, R9W, Sec.11 (p) | Pima; Agua Dulce Mts 15 min. | Shaft-1 adit-1 | See Appendix B | Agua Dulce | 73-74 |
| Bennett Taylor | 203 | T16S, R8W, Sec.19 (p) | Pima; Agua Dulce Mt. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| Bentonite | 143 | T9S, R17W, Sec.5 (p) | Yuma | | See Appendix B | LaPosa (Welton) | 63 XII |
| Beryllium | 147 | T10S, R20W, Sec.17 (p) | Yuma | | See Appendix B | Fortuna | 42 |
| Betty Lee Mine or Ariz. Consolidated Mining Co. Frisco, & Ella J. Mines, Swenson, Copple & McIntosh, Linden | 39 | T11S, R17W, Sec.2 | Yuma; Mohawk SW, Az 7.5 min. | adits-3 shaft | See Appendix B | LaPosa (Welton) | 52 |
| Big Dutchman or Spear-Kent (?) | 9 | T9S, R20W, Sec.17, 18 | Yuma; Ligurta 7.5 min. | Prospect | See Appendix B | Fortuna | 43 VIII |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|--|----------------------------------|----------------------------------|--------------------------|------------------|--------------------|
| Birthday | 199 | T16S, R9W, Sec.5 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 76 XV |
| Black mts. 1-4 | 159 | T12S, R16W, Sec.14 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 57 X |
| Black Prince | 180 | T14S, R15W, Sec.11 12,13 T14S, R14W, Sec.7 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | LaPosa (Welton) | 59 X |
| Bluebird Mine | 101 | T14S, R7W, Sec.13 & 14 E $\frac{1}{2}$ | Pima; Kino Peak, Az 15 min. | Adit-1 Prospect-1 | See Appendix B | Growler | 92 XXII |
| Blue Butte | 15 | T10S, R20W, Sec. 24 (p) | Yuma; Fortuna Mine 7.5 min. | Prospect-1 | See Appendix B | Fortuna | 39 |
| Border 1-4 | 187 | T15S, R10W, Sec. 32&33 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Broken Pick | 183 | T16S, R11W, Sec.12 (p) | Yuma; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Cabriso, Black Head, Cabeza Prieta #1&2, Comstock, Princess, Vampire Mine | 161 | T12S, R15W, Sec.31, 32 T12S, R16 W, Sec. 25, 36 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 58 X |
| Cardigan | 109 | T12S, R6W, Sec.27 28 & 29 | Pima; Ajo, Az 15 min. | Prospect-37 Shaft-4 adit-1 | See Appendix B | Ajo | 81 XVII |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|------------------------------------|----------------------------------|---------------------|--------------------------|---------------------------|--------------------|
| Chicago | 40 | T10S, R17W, Sec. 23 | Yuma; Mohawk SW, Az 7.5 min. | | See Appendix B | LaPosa (Welton) | 55, 57 X |
| Chico Shunie Prospect | 85 | T12S, R7W, Sec.25 & 26 (p) | Pima; Ajo, Az 15 min. | | See Appendix B | Ajo | 80, 83 |
| Chloride Mtn. #1 Gold Mine | 122 | T8S, R2W, Sec. 8, 9, 16& 17 | Maricopa; Kaka, Az 15 min. | | See Appendix B | Not in Organized District | 88 |
| Cimaron | 192 | T15S, R10W, Sec.24 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Army Corp of Engineers Tract # 1301-17 | 17 | T10S, R20W, Sec.26 27,34, & 35 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Claims | See Appendix B | Fortuna | 43 VIII |
| Clark Gold | 86 | T14S, R7W, Sec.24 | Pima; Kino Peak Az 15 min. | Prospects-2 Shaft-1 | See Appendix B | Growler | 92 XXII |
| Copper Giant | 106 | T13S, R6W, Sec.14 & 15 | Pima; Ajo, Az 15 min. | Prospects-5 | See Appendix B | Ajo | 81 XVII |
| Copper Head #2 | 179 | T14S, R15W, Sec.14 15,23,24 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | LaPosa (Welton) | 59 X |
| Copper Hill area 1-9 | 158 | T12S, R16W, Sec.5 4,8,9, (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 57 X |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|--|---|-------------------------|--------------------------|---------------------|--------------------|
| Copper Mountain Mine | 89 | T15S, R5W, Sec.22 23,24,25,26&27 (p) | Pima; Kino Peak Az Mt. Ajo, Az 15 min. | Prospects-17 Adits-2 | See Appendix B | Growler | 92 XXII |
| Copper World | 171 | T14S, R14W Sec.8 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | LaPosa (Welton) | 58 X |
| Cowboy | 198 | T15S, R9W, Sec.30 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 76 XV |
| Crescent #1 & 2, Golden King, Barragone Star | 155 | T13S, R17W, Sec.17 18,19, & 20, 21 (p) | Yuma; Tinajas Altas 15 min. | Adit-1 | See Appendix B | Fortuna | 43 VIII |
| D&J Mining Co., Gila Mts. Scheelite Prospects | 8 | T8S, R21W, Sec.15, & 22 | Yuma; Fortuna 7.5 min. | Prospect | See Appendix B | Fortuna | 41-42 |
| Dan Drifts Mine Dart & Kart, (Tillie Pat) | 57 | T13S, R14W, Sec.35 & 36 (p) | Yuma; Isla Pinta Az 15 min. | Claims Prospects | See Appendix B | La Posa (Welton) | 54 |
| Dart & Kart | 56 | T13S, R14W, Sec.35 & 36 (p) | Yuma; Isla Pinta Az 15 min. | Prospect | See Appendix B | LaPosa (Welton) | 54 |
| Decker, Great Eastern | 216 | T12S, R7W. Sec.29 & 33 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | Ajo | 84 XVIII |
| Desert Queen, Desert King, Squaw, Minnie, Dixie Farm, Karl | 195 | T15S, R10W, Sec.36 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 76 XV |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|--|--|-----------------------|--------------------------|-------------------------------|------------------------|
| Dolores | 178 | T13S, R17W, Sec.35 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | La Posa (Welton) | 59 X |
| Dome Placers | 6 | T8S, R21W, Sec.1, & 2 | Yuma; Dome 7.5 min. Laguna Dam 7.5 min. | | See Appendix B | Dome (Gila City) | 91 XXI |
| Donaldson | 22 | T10S, R18W, Sec.11 | Yuma; Welton SE, Az 7.5 min. | Prospect | See Appendix B | La Posa (Welton) | 49 |
| Donna Mary Placer | 214 | T13S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 15 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | Ajo | 78, 84 XVI XVIII |
| Dorthy Jean | 191 | T15S, R10W, Sec. 23 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Double Eagle or Gold Leaf | 20 | T10S, R18W, Sec. 22 | Yuma; Welton SE, Az 7.5 min. | adits-7 | See Appendix B | La Posa (Welton) | 48 |
| Dripping Springs Mine | 99 | T16S, R6W, Sec.20 (p) | Pima; Kino Peak, Az 15 min. | | See Appendix B | Montezuma (Puerto Blanco Mts) | 96 XXIV |
| 85-Group | 82 | T12S, R6W, Sec.30 | Pima; Ajo 15 min. | Prospect-1 Shaft-1 | See Appendix B | Ajo | 81 XVII |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|--|----------------------------------|-------------------------------------|--------------------------|---------------------------|--------------------|
| EDA | 162 | T13S, R16W, Sec.14 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 58 X |
| Emma Jean 1-2 Tule 1-2 | 177 | T14S, R15W, Sec.22 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | LaPosa (Welton) | 59 X |
| Esperanza, Banker, Judge Wellborn | 190 | T15S, R10W, Sec.15 & 22 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| 49-Extension | 129 | T12S, R7W, Sec.24 & 25 (p) | Pima; Ajo, Az 15 min. | | See Appendix B | Ajo | 83 |
| Farley | 123 | T8S, R3W, Sec.9 & 10 | Maricopa; Gila Bend, Az 15 min. | | See Appendix B | Not in Organized District | 89 XIX |
| Fortuna mine area | 16 | T10S, R20W, Sec.16 17, 20, 21 (p) | Yuma; Fortuna 7.5 min. | 6 shafts 2 adits 29 prospects | See Appendix B | Fortuna | 37-39 |
| Gertrude Gold Claim #1 & Lode #2 & Gertrude Gold Lode #2 | 124 | T8S, R3W, Sec.23 & 24 | Maricopa; Hat Mtn, Az 15 min. | | See Appendix B | Not in Organized District | 89 XIX |
| Gertrude Scott Placer | 210 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 34 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 78 XV |
| Gloria De Ora 1-8 | 175 | T14S, R14W, Sec. 30 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | LaPosa (Welton) | 59 X |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|--|--------------------------------------|-------------|--------------------------|-------------------------------|--------------------|
| Gold Crown | 217 | T12S, R8W, Sec.16 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | Ajo | 84 XVIII |
| Gold Crown #3 | 218 | T12S, R9W, Sec.27 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | Ajo | 84 XVIII |
| Golden Brown | 130 | T13S, R15W, Sec.4 (p) | Pima; Cabeza Prieta Peak, Az 15 min. | | See Appendix B | LaPosa (Welton) | 57 X |
| Golden Dream Mine | 12 | T9S, R20W, Sec.33 | Yuma; Fortuna 7.5 min. | Adit-1 | See Appendix B | Fortuna | 41 |
| Golden Eagle 1-6 & Grandpa's Boy | 184 | T16S, R10W, Sec.5 & 16 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Golden Eagle Claims | 97 | T17S, R6W, Sec.24 & 25 (possible Loc.) (p) | Pima; Lukeville Az 15 min. | | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Grace Linch Placer | 208 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 27 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 78 XV |
| Greenway-Alberts | 116 | T12S, R6W, Sec.34 T13S, R6W, Sec.3, & 4 | Pima; Ajo, Az 15 min. | Prospects-2 | See Appendix B | Ajo | 82 XVII |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|---|---|-------------|--------------------------|---------------------|--------------------|
| Grey Fox Mines | 2 | T8S, R21W, Sec.10 | Yuma; Fortuna 7.5 min. | | See Appendix B | Dome (Gila City) | 91 XXI |
| Growler Mica & PD Limestone (Lime Hill Area) | 103 | T14S, R6W, Sec.6 & 7 | Pima; Kino Peak Az 15 min. | Mine-4 | See Appendix B | Growler | 92 XXII |
| Growler Mine | 87 | T14S, R7W, Sec.26 27, 28, 33, 34,35 T15S, R7W, Sec.23 & 24 (p) | Pima; Kino Peak Az 15 min. | | See Appendix B | Growler | 92 XXII |
| Guiding Star | 45 | T10S, R17W, Sec. 26 NE 1/4 | Yuma; Mohawk SW, Az 7.5 min. | | See Appendix B | LaPosa (Welton) | 57 X |
| Gypsum | 33 | T19S, R18W, Sec. 24 (NW 1/4) | Yuma; Welton Mesa, Az 7.5 min. | Mine | See Appendix B | LaPosa (Welton) | 63 XII |
| Gypsum | 145 | T7S, R5W, | Maricopa | | See Appendix B | Vekol (Casa Grande) | 90 XX |
| Halo Gp. 1-9 | 167 | T13S, R14W, Sec. 25,26,27,33,34, 35 & 36 (p) | Yuma; Isla Pinta Az 15 min. | | See Appendix B | LaPosa (Welton) | 58 X |
| Heckle (Keins) Mine | 117 | T12S, R6W, Sec.8 -5 | Pima; Ajo, Az 15 min. | | See Appendix B | Ajo | 82 XVII |
| High Grade, Gold Johnny, Leona, Mary | 174 | T14S, R13W, Sec.7 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | LaPosa (Welton) | 59 X |

| Property Name or Mineral Occurrence | Map No. | Legal Description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|--|---|---------------------|----------------------------|------------------|--------------------|
| Hindman Property (Poorman Mine) | 79 | T10S, R18W, Sec.2 | Yuma; Welton, SE & Welton Hills, Az (?) | Shaft | See Appendix B Same as #25 | LaPosa (Welton) | 50 |
| Hope Group (?) | 81 | T12S, R7W, Sec.24 (p) T12S, R6W, Sec.19 | Pima; Ajo 15 min. | Prospects-2 Shaft-1 | See Appendix B | Ajo | 80 |
| Jasper | 144 | T7S, R12W, Sec.35 (p) | Yuma | | See Appendix B | Mohawk | 68 |
| Jean Carpenter Placer | 206 | T14S, R8W, Sec. N $\frac{1}{2}$ S $\frac{1}{2}$ 22 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| Jean Franklin | 207 | T14S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 22 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| La Bamba, Merry Christmas, Copper Hill, Silver Star Mine, Unnamed, Big John, Gold Eagle, Golden Pheasant, Golden Drina | 160 | T12S, R15W, Sec. 17,18,20,21,22, 28 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 57 X |
| Last Chance | 173 | T14S, R14W, Sec. 12 (p) | Az 15 min Yuma; Sierra Arida | | See Appendix B | LaPosa (Welton) | 58 X |
| Last Find #1 | 197 | T15S, R9W, Sec. 30 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 76 XV |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|---|---|----------------------------------|--------------------------|-------------------------------------|--------------------|
| Las Playas 1-2 | 186 | T15S, R10W, Sec.34 (p) T16S, R10W, Sec.3 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Legal Tender or Papago Mine | 68 | T15S, R10W, Sec.26 (p) | Pima; O'Neill Hills 15 min. | Shafts-4 adit-2 Prospect-1 | See Appendix B | Agua Dulce | 72 |
| Long Joe #1 | 163 | T13S, R15W, Sec.6 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 58 X |
| Long Lost Mine | 131 | T12S, R15W, Sec.19 | Pima; Cabeza Prieta Peak, Az 15 min. | | See Appendix B | LaPosa (Welton) | 54-55 |
| Lord Will #2 (Child's Prop.) | 65 | T11S, R12W, Sec.23 & 24 (p) | Yuma; Granite Mts 15 min. | Shafts-1 adits-2 | See Appendix B | Mohawk | 67-68 |
| Lost Cabin Mine | 94 | T17S, R6W, Sec.24 (p) | Pima; Lukeville, Az 15 min. | Prospects-2 Shaft-1 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Louise Ford Placer | 205 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 16 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| Lucky Dog Claims | 98 | T17S, R6W, Sec.13 (p) (possible loc.) | Pima; Lukeville, Az 15 min. | | See Appendix B | Montezuma (Puerto Blanco Mts) | 96 XXIV |
| Maggie 1-2 | 200 | T15S, R9W, Sec. 20 & 29 (p) | Pima; Agua Dulce Mts. Az 15 min. | Shaft-1 | See Appendix B | Agua Dulce | 76 XV |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|--|---|----------------------|--------------------------|-------------------------------|--------------------|
| Manganes | 153 | T13S, R4W, Sec.18 (p) | Pima | | See Appendix B | Gunsight (Meyer) | 94 XXIII |
| Maria Anita Placer | 204 | T14S, R8W, Sec. N $\frac{1}{2}$ S $\frac{1}{2}$ 10 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| Martinez Mine | 92 | T17S, R6W, Sec.14 (p) | Pima; Lukeville Az 15 min. | Shafts-3 Prospects-5 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Mary Potter Placer | 209 | T14S, R8W, Sec. S $\frac{1}{2}$ N $\frac{1}{2}$ 27 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 78 XV |
| McKay | 5 | T8S, R21W, Sec.12 | Yuma; Ligurta 7.5 min. | | See Appendix B | Dome (Gila City) | 91 XXI |
| McMahan | 21 | T10S, R18W, Sec.15 | Yuma; Welton SE, Az 7.5 min. | Shaft | See Appendix B | LaPosa (Welton) | 48-49 |
| McMillian Mine | 36 | T12S, R16W, Sec.9 10,15,&16 (p) | Yuma; Cabeza Prieta Peak 15 min. | adits-2 | See Appendix B | LaPosa (Welton) | 55-56 |
| McPhaul | 7 | T8S, R21W, Sec.13 & 14 | Yuma & Fortuna 7.5 min - Legurta Az 7.5 min | Prospect | See Appendix B | Dome (Gila City) | 91 XXI |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|--------------------------|----------------------------------|-----------------------------------|--------------------------|-------------------------------|--------------------|
| Merry Widow (Rick's Mine, Sheepview #5 & Stonewalls Mine) | 73 | T16S, R9W, Sec. 23 (p) | Pima; Agua Dulce Mts 15 min. | | See Appendix B | Agua Dulce | 73 |
| Mica Flower (?) | 48 | T9S, R14W, Sec.18 | Yuma; Mohawk Mts. NW Az 7.5 min. | Prospect-4 | See Appendix B | Mohawk Mts | 69 XIII |
| Midway | 78 | T9S, R7W, Sec.34 | Pima; Midway, Az 15 min. | | See Appendix B | Ajo | 80 |
| Milton Mine | 91 | T17S, R6W, Sec.4 & 9 (p) | Pima; Lukeville, Az 15 min. | Shaft-1 Mine-1 Prospects-11 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Mineral Occurrences Tungsten | 141 | R8S, R21W, Sec.21 (p) | Yuma | | See Appendix B | Dome (Gila City) | 91 XXI |
| Mohawk Lime Quarry | 51 | T8S, R15W, Sec. 14 (?) | Yuma; Mohawk Az 7.5 min. | Ruins | See Appendix B | Mohawk | 66-67 |
| Molybdenum | 148 | T10S, R18W, Sec. 14 (p) | Yuma | | See Appendix B | LaPosa (Welton) | 63 XII |
| Molybdenum | 150 | T10S, R13W, Sec.8 (p) | Yuma | | See Appendix B | Mohawk | 68 |
| Molybdenum | 151 | T11S, R12W, Sec. 23 (p) | Yuma | | See Appendix B | Mohawk | 68 |
| Montgomery Mica (?) | 18 | T10S, R20W, Sec.22 (p) | Yuma; Fortuna Mine Az 7.5 min. | Prospects-4 adit-1 | See Appendix B | Fortuna | 41 |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|----------------------------------|--|-------------|--------------------------|---------------------------------|--------------------|
| Morning #1,2 Phoenix #1,2 | 166 | T11S, R14W, Sec. 36, (p) | Yuma; Isla Pinta, Az 15 min. | | See Appendix B | Mohawk | 69 VIII |
| Nelson-Ajo Group | 104 | T14S, R7W, Sec. 24 E½ | Pima; Kino Peak Az 15 min. | | See Appendix B | Growler | 92 XXII |
| New Cornelia Div. Phelps Dodge New Cornelia (Ajo) Mine Arizona Copper Mining & Trading Co. St. Louis Copper Co., Rescue Copper Co., Cornelia Copper Co., New Cornelia Copper Co., Calumet & Arizona Copper Co. | 112 | T12S, R6W, Sec. 27 26, 22, 23 | Pima; Ajo, Az 15 min. | | See Appendix B | Ajo | 82 XVII |
| New Maricopa Copper Co. | 127 | T8S, R2W, Sec. 4 | Maricopa; Estrella, Az 15 min. | Shaft-1 | See Appendix B | Not in Organized District | 87 |
| Noonan Group | 125 | T8S, R2W, Sec. 3 | Maricopa; Estrella, Az 15 min. | Shaft-1 | See Appendix B | Not in Organized District | 87 |
| Northern | 24 | T10S, R18W, Sec. 4 or & 5 | Yuma; Welton Hills, Az 7.5 min. | | See Appendix B | LaPosa (Welton) | 50 |
| Novle (sic) #1-3 | 189 | T15S, R10W, Sec. 28 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|----------------------------|--|-------------|--------------------------|--------------------|--------------------|
| Unnamed | 11 | T9S, R20W, Sec.15 | Yuma; Ligurta 7.5 min. | Prospect | See Appendix B | Fortuna | 44 XI |
| Unnamed | 13 | T9S, R20W, Sec.22 27 | Yuma; Fortuna 7.5 min. | Prospects-2 | See Appendix B | Fortuna | 44 XI |
| Unnamed | 27 | T10S, R19W, Sec.17 (p) | Yuma; Welton Hills Az 7.5 min. | Shaft-1 | See Appendix B | Fortuna | 44 XI |
| Unnamed | 30 | T10S, R18W, Sec.8 (p) | Yuma; Welton Hills, Az 7.5 min. | Prospect | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 31 | T10S, R18W, Sec.14 | Yuma; Welton SE, Az 7.5 min. | Prospect | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 34 | T11S, R17W, Sec.9 (p) | Yuma; Tinajas Altas 15 min. | Prospect | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 35 | T11S, R17W, Sec.4&5 (p) | Yuma; Tinajas Altas 15 min. | Prospect-2 | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 165 | T13S, R15W, Sec. 11 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 62 XI |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|-------------------------------------|--------------------------------|---------------------------|--------------------------|---------------------------|--------------------|
| Old Smokey #1 | 156 | T12S, R18W, Sec.15 (p) | Yuma; Tinajas Altas 15 min. | | See Appendix B | Fortuna | 43 VIII |
| Old Soak | 41 | T10S, R17W, Sec.25 | Yuma; Mohawk SW, Az 7.5 min. | adits-2 | See Appendix B | LaPosa (Welton) | 53 |
| Palo Verde | 119 | T7S, R5W, Sec.7 (?) | Maricopa; Theba, Az 15 min. | | See Appendix B | Not in Organized District | 86 |
| Papago Extension 1-5, Crown, Howy's Golden Wonder, Jumbo, Irene | 193 | T15S, R10W, Sec. 25,26,36 (p) | Pima; O'Neill Hills Az 15 min. | Shaft-5 Adit-2 Prospect-3 | See Appendix B | Agua Dulce | 76 XV |
| Papago Indian Chief | 118 | T7S, R2W, Sec.31 | Maricopa; Estrella 15 min. | Shaft-1 | See Appendix B | Not in Organized District | 83 |
| Placer Mtn. Group | 102 | T14S, R7W, Sec. NE $\frac{1}{4}$ 24 | Pima; Kino Peak Az 15 min. | | See Appendix B | Growler | 92 XXII |
| Pool Mica (?) | 14 | T10S, R20W, Sec.22 (p) | Yuma; Fortuna 7.5 min. | Prospects-2 | See Appendix B | Fortuna | 41 |
| Poorman Desert Dwarf, Eaton, Svenson, Hindman | 25 | T10S, R18W, Sec.2 | Yuma; Welton SE, Az 7.5 min. | Shaft | See Appendix B | LaPosa (Welton) | 50 |
| Porcupine, Papago #1 John Laughlyn | 188 | T15S, R10W, Sec. 29,30,31,32 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|-----------------------------------|---------------------------------|-------------------|--------------------------|------------------|--------------------|
| Unnamed | 170 | T14S, R14W, Sec.7 & 18 (p) | Yuma; Sierra Arida Az 15 min. | Prospect | See Appendix B. | LaPosa (Welton) | 62 XI |
| Rainbow, Rainbow 1 & 3 also 49 #2, 3, 6 & 7 | 77 | T12S, R7W, Sec.16 17,20, & 21 (p) | Pima; Growler Peak Az 15 min. | | See Appendix B | Ajo | 81 XVII |
| Rainbow 1-3 | 215 | T12S, R8W, Sec.27 (p) | Pima; Growler Peak Az 15 min. | | See Appendix B | Ajo | 84 XVII |
| Rare Earth | 142 | T8S, R21W, Sec.14 (p) | Yuma | | See Appendix B | Dome(Gila City) | 91 XXI |
| Rasmussen Mine | 67 | T15S, R11W, Sec.36 (p) | Yuma; O'Neill Hills 15 min. | Shafts-2 Prospect | See Appendix B | Agua Dulce | 71-72 |
| Red Cross Mine (Norton) (Norton-Zappia) | 46 | T9S, R14W, Sec.2 | Yuma; Mohawk Mts. NW 7.5 min. | Shaft-2 | See Appendix B | Mohawk Mts | 64-65 |
| Red Top | 19 | T10S, R20W, Sec.4 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Unknown | See Appendix B | Fortuna | 43 VIII |
| Red Wing, Red Bluff Eastern, Great Eastern, Red Chief | 194 | T15S, R10W, Sec. 35 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 76 XV |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|--|--|----------------------|--------------------------|---------------------|--------------------|
| Renner Barite | 49 | T8S, R15W, Sec.11 12, 13, & 14 | Yuma; Mohawk Az 7.5 min. | Shaft-1 Prospect | See Appendix B | Mohawk | 65-66 |
| Rising Sun | 164 | T13S, R15W, Sec.9 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | LaPosa (Welton) | 58 X |
| Ruby Prospect | 50 | T8S, R15W, Sec.1 & 12 | Yuma; Growler, Az 7.5 min. | Shaft | See Appendix B | Mohawk | 66 |
| San Antonio Mine (also Sunshine Mica; Pumice Corp of Az; Ballestreras) & San Antonio Mine Co. | 107 | T13S, R7W, Sec.11 & 2 (p) | Pima; Ajo, Az 15 min. | Mine-3 | See Appendix B | Ajo | 81 XVII |
| Santa Clara 1-5 | 181 | T14S, R15W, Sec.10 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | LaPosa (Welton) | 59 X |
| Santa Clara 1-8 | 60 | T14S, R14W, Sec. 22, 23,25,&26 (p) | Yuma; Sierra Arida 15 min. | Prospect (Claims) | See Appendix B | La Posa (Welton) | 54 |
| Senator, Dixie, Ben Franklin, Antelope, High Peak, IBEX, Black Stallion, Butte, Good Hope | 168 | T13S, R12W, Sec. 21,28 (p) | Yuma; Isla Pinta, Az 15 min. | | See Appendix B | Mohawk | 69 VIII |
| Shirley Mae | 26 | T10S, R18W, Sec. 22 | Yuma; Welton SE, Az 7.5 min. | Adit-1 | See Appendix B | LaPosa (Welton) | 50-51 |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|----------------------------|--------------------------------------|------------------|--------------------------|---------------------------|--------------------|
| Showers of Platinum | 72 | T15S, R9W, Sec.16 & 21 (p) | Pima; Agua Dulce Mts 15 min. | | See Appendix B | Agua Dulce | 73 |
| Showers of Platinum Showers of Silver | 201 | T15S, R9W, Sec.21 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| Silver Star Mine | 132 | T12S, R15W, Sec. 18 | Pima; Cabeza Prieta Peak, Az 15 min. | | See Appendix B | LaPosa (Welton) | 55 |
| Smith Mine (Last Chance & Copper Coin) | 28 | T11S, R17W, Sec.10 (p) | Yuma; Tinajas Altas 15 min. | Adit & Shaft | See Appendix B | LaPosa (Welton) | 56 |
| Stemwinder Group of mine (?) | 37 | T12S, R16W, Sec.4 & 5 (p) | Yuma; Cabeza Prieta Peak 15 min. | Shaft-2 | See Appendix B | LaPosa (Welton) | 52 |
| Strontium Group (Montezuma Claims) | 120 | T8S, R5W, Sec.3 4,5 (?) | Maricopa; Theba Az 15 min. | | See Appendix B | Not in Organized District | 86 |
| Surprise | 185 | T16S, R10W, Sec.3 & 10 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | Agua Dulce | 75 XV |
| Tavasci or Victoria (Clara, Susie & Betty) | 47 | T9S, R14W, Sec.9 & 10 | Yuma; Mohawk Mts. NW 7.5 min. | Adits-0 Prospect | See Appendix B | Mohawk Mts | 65 |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|---------------------------|--|-------------------------|--------------------------|------------------|--------------------|
| Thanksgiving Mine adit symbol (labeled mine) | 169 | T14S, R14W, Sec.28 (p) | Yuma; Sierra Arida Az.15 min. | | See Appendix B | LaPosa (Welton) | 57 X |
| Thanksgiving Mine | 59 | T14S, R14W, Sec.28 (p) | Yuma; Sierra Arida 15 min. | Mine | See Appendix B | LaPosa (Welton) | 57 X |
| Thanksgiving #1 Pappuse, Pappuse #2, Pappoos #1 | 212 | T17S, R8W, Sec.2 | Pima; Quitobaquito Springs, Az 15 min. | | See Appendix B | Agua Dulce | 78 XV |
| Tillurium, Thorium, Rare Earth, Niobium-Tantalum | 146 | T9S, R20W, Sec.11 (?) (p) | Yuma; | | See Appendix B | Dome (Gila City) | 91 XXI |
| United Tungsten & Lead #1-2 | 213 | T16S, R9W, Sec.33 | Pima; Quitobaquito Springs, Az 15 min. | | See Appendix B. | Agua Dulce | 78 XV |
| None Marble (?) | 1 | T8S, R21W, Sec.4 | Yuma; Fortuna 7.5 min. | Shaft & adit | See Appendix B. | Dome (Gila City) | 91 XXI |
| Unnamed | 3 | T8S, R20W, Sec.18 | Yuma; Ligurta 7.5 min. | Borrow pit | See Appendix B | Dome (Gila City) | 91 XXI |
| Unnamed | 4 | T9S, R20W, Sec.7 | Yuma; Ligurta 7.5 min. | Prospects-2 | See Appendix B | Fortuna | 44 XI |
| Unnamed | 10 | T9S, R20W, Sec.10 | Yuma; Ligurta 7.5 min. | Prospect adit-1 shaft-1 | See Appendix B. | Fortuna | 44 XI |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|----------------------------|--------------------------------|----------------------------|--------------------------|-------------------------------|--------------------|
| Unnamed | 80 | T12S, R7W, Sec.35 & 36 (p) | Pima; Ajo 15 min. | Prospect-2 | See Appendix B | Ajo | 83 |
| Unnamed | 83 | T8S, R7W, Sec.26 | Maricopa | Mine-1 | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 84 | T8S, R9W, Sec.8 | Maricopa | Mine-1 | See Appendix B | Not in Organized District | 90 XX |
| Unnamed Prospects | 93 | T17S, R6W, Sec.9 & 16 (p) | Pima; Lukeville Az 15 min. | Prospect-3 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Unnamed Prospects (possibly Gold Bell claims) | 96 | T17S, R6W, Sec.23 (p) | Pima; Lukeville Az 15 min. | Prospects-3 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Unnamed | 105 | T14S, R6W, Sec.6 | Pima; Kino Peak Az 15 min. | Mine | See Appendix B | Growler | 93 XXII |
| Unnamed Quarries | 108 | T13S, R7W, Sec.2 (p) | Pima; Ajo, Az 15 min. | Prospects-5 Mine-1 Shaft-1 | See Appendix B | Ajo | 81 XVII |
| Unnamed | 126 | T8S, R2W, Sec.3 | Maricopa; Estrella, Az 15 min. | Prospect-1 | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 128 | T8S, R2W, Sec.26 | Maricopa; Estrella Az 15 min. | Shaft-1 | See Appendix B | Not in Organized District | 90 XX |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|-----------------------------|--------------------------------------|-----------------------|--------------------------|------------------|--------------------|
| Unnamed | 38 | T12S, R16W, Sec.36 (p) | Yuma; Cabeza Prieta Peak 15 min. | Mine | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 43 | T11S, R17W, Sec.2 | Yuma; Cabeza Prieta Peak Az. 15 min. | | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 44 | T9S, R17W, Sec.35 | Yuma; Mohawk SW, Az 7.5 min. | | See Appendix B | LaPosa (Welton) | 61 XI |
| Unnamed | 53 | T11S, R14W, Sec.36 (p) | Yuma; Isla Pinta, Az 15 min. | Shaft-1 | See Appendix B | Mohawk | 70 XVI |
| Unnamed | 54 | T11S, R14W, Sec.31 & 36 (p) | Yuma; Isla Pinta Az 15 min. | Prospect | See Appendix B | Mohawk | 70 XVI |
| Unnamed | 55 | T13S, R12W, Sec.28 (p) | Yuma; Isla Pinta Az 15 min. | Prospect-1 | See Appendix B | Mohawk | 70 XVI |
| Unnamed | 58 | T14S, R14W, Sec.7 & 18 (p) | Yuma; Sierra Arida 15 min. | Prospects | See Appendix B | LaPosa (Welton) | 62 XI |
| Unnamed | 61 | T10S, R13W, Sec.8 | Yuma; Mohawk Mts. SW, Az 7.5 min. | Shaft-1 Prospect-1 | See Appendix B | Mohawk | 70 XVI |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|---|---------|------------------------------|---|---|--------------------------|---------------------------------|--------------------|
| Unnamed | 62 | T10S, R13W, Sec.15 | Yuma; Mohawk Mts SE, Az 7.5 min. | Shafts-2 | See Appendix B | Mohawk | 70 XVI |
| Unnamed | 63 | T7S, R12W, Sec.25 | Yuma; Aztec Hills, Az 7.5 min. | Shafts-1 Mine-1 | See Appendix B | Mohawk | 70 XVI |
| Unnamed | 64 | T11S, R12W, Sec.14 (p) | Yuma; Granite Mts 15 min. | Prospect | See Appendix B | Mohawk | 70 XVI |
| Unnamed | 66 | T11S, R10W, Sec.9 (p) | Pima; Granite Mts 15 min. | Shows on map as mine but is target | See Appendix B | Ajo | 83,85 |
| Unnamed Mine (Could be part of Legal Tender claims) | 69 | T15S, R10W, Sec.36 (p) | Pima; O'Neill Hills 15 min. | Shafts-1 Prospects-2 | See Appendix B | Agua Dulce | 79 XVI |
| Unnamed | 71 | T15S, R9W, Sec.31 &32 (p) | Pima; Agua Dulce Mts 15 min. | Shaft-1 Prospect-1 | See Appendix B | Agua Dulce | 79 XVI |
| Unnamed | 74 | T15S, R9W, Sec.19 (p) | Pima; Agua Dulce Mts 15 min. | Shaft | See Appendix B | Agua Dulce | 79 XVI |
| Unnamed | 75 | T15S, R9W, Sec.29 (p) | Pima; Agua Dulce Mts 15 min. | Shaft-1 | See Appendix B | Agua Dulce | 79 XVI |
| Unnamed | 133 | T7S, R2W, Sec.16 | Maricopa; Estrella, Az 15 min. | Prospect-1 | See Appendix B | Not in Organized District | 90 XX |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|-------------------------------------|---------|-----------------------------------|----------------------------------|--------------------|--------------------------|---------------------------|--------------------|
| Unnamed | 134 | T9S, R1W, Sec.10 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 135 | T9S, R1W, Sec.16 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 136 | T9S, R1W, Sec.21 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 137 | T9S, R1W, Sec.15 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 138 | T10S, R3W, Sec.3 & 4 (p) | Maricopa; Hat Mtn, Az, 15 min. | Mine | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 139 | T10S, R4W, Sec. 34 | Maricopa; Hat Mtn, Az 15 min. | Mine | See Appendix B | Not in Organized District | 90 XX |
| Unnamed | 140 | T10S, R12W, Sec. 29 | Yuma; Mohawk Mts SE, Az 7.5 min. | | See Appendix B | Mohawk | 67, 70 XVI |
| Unnamed | 157 | T11S, R17W, Sec. 3,4,5,8,9,10 (p) | Yuma; Tinajas Altas 15 min. | Prospect-3 Shaft-1 | See Appendix B | LaPosa (Welton) | 62 XI |
| Unnamed | 172 | T14S, R14W, Sec.3 4,9,10 &11 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | LaPosa (Welton) | 62 XI |

| Property Name or Mineral Occurrence | Map No. | Legal description | County Quad. Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page.No. Table No. |
|-------------------------------------|---------|--|--|---------------------------------|--------------------------|-------------------------------------|--------------------|
| Unnamed | 182 | T15S, R11W, Sec.36 (p) T15S, R10W, Sec.31 (p) | Yuma; O'Neill Hills Az 15 min. | Shaft-2 Adit-1 Prospect-1 | See Appendix B | Agua Dulce | 79 XVI |
| Unnamed | 196 | T15S, R9W, Sec.19 (p) | Pima; Agua Dulce Mts. Az 15 min. | Shaft-1 | See Appendix B | Agua Dulce | 79 XVI |
| Unnamed | 211 | T17S, R8W, Sec.12 | Pima; Quitobaquito Springs, Az 15 min. | | See Appendix B | Agua Dulce | 79 XVI |
| Uranium | 149 | T12S, R16W, Sec.16 (p) | Yuma | | See Appendix B | LaPosa (Welton) | 63 XII |
| Uranium, Niobium-Tantalum, Thorium | 152 | T15S, R10W, Sec.17 (p) | Yuma | | See Appendix B | Agua Dulce | 79 XVI |
| Venegas Prospects | 52 | T14S, R15W, Sec.23 & 26 (p) | Yuma; Tule Mts. 15 min. | Shaft-1 Prospect-0 | See Appendix B | LaPosa (Welton) | 53-54 |
| Venegas Prospect | 176 | T14S, R15W, Sec. 23&26 (p) | Yuma; Tule Mts. Az 15 min. | Shaft-1 Prospects-9 | See Appendix B | LaPosa (Welton) | 53-54 |
| Victoria Mine | 95 | T17S, R6W, Sec.24 (p) | Pima; Lukeville, Az 15 min. | Prospects-6 Shaft-2 | See Appendix B | Montezuma (Puerto Blanco Mts) | 95 XXIV |
| Wanamaker | 29 | T10S, R18W, Sec.16 | Yuma; Welton SE, Az & Welton Hills, Az 7.5 min. | Prospect | See Appendix B | LaPosa (Welton) | 51 |

| Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Mining Districts | Page No. Table No. |
|--|---------|-----------------------------|--|-------------|--------------------------|------------------|--------------------|
| Welltonia Prospect | 32 | T10S, R18W, Sec.16 | Yuma; Welton Hills, Az Welton SE, Az | | See Appendix B. | LaPosa (Welton) | 51-52 |
| Welton Hills Mine (Draghi or Frazier) | 23 | T10S, R18W, Sec.20 | Yuma; Welton Hills, Az 7.5 min. | Adits-2 | See Appendix B | LaPosa (Welton) | 49-50 |
| Window Rock 1-4 Agua Dulce, Ocean Wave, Murray, True Blue | 202 | T16S, R9W, Sec. 10 & 11 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | Agua Dulce | 77 XV |
| Yellow Hammer Mine | 100 | T14S, R7W, Sec.36 | Pima; Kino Peak Az 15 min. | | See Appendix B | Growler | 92 XXII |

APPENDIX D: ALPHABETICAL INDEX OF MINES, PROSPECTS
OR CLAIM GROUPS ON LUKE AIR FORCE RANGE BY MINING DISTRICTS

| Mining Districts | Property Name or Mineral Occurrence | Map. No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|--|----------|----------------------------|------------------------------|----------------------------|--------------------------|--------------------|
| Agua Dulce | Rasmussen Mine | 67 | T15S, R11W, Sec.36 (p) | Yuma; O'Neill Hills 15 min. | Shafts-2 Prospect | See Appendix B | 71-72 |
| Agua Dulce | Legal Tender or Papago Mine | 68 | T15S, R10W, Sec.26 (p) | Pima; O'Neill Hills 15 min. | Shafts-4 adit-2 prospect-1 | See Appendix B | 72 |
| Agua Dulce | Unnamed Mine (could be part of Legal Tender claims) | 69 | T15S, R10W, Sec.36 (p) | Pima; O'Neill Hills 15 min. | Shaft-1 Prospect-2 | See Appendix B | 79 XVI |
| Agua Dulce | Ajo Mine | 70 | T15S, R9W, Sec.32 (p) | Pima; Agua Dulce Mts 15 min. | Prospect-3 adit-1 | See Appendix B | 72-73 |
| Agua Dulce | Unnamed | 71 | T15S, R9W, Sec.31 & 32 (p) | Pima; Agua Dulce Mts 15 min. | Shaft-1 Prospect-1 | See Appendix B | 79 XVI |
| Agua Dulce | Showers of Platinum | 72 | T15S, R9W, Sec.16 & 21 (p) | Pima; Agua Dulce Mts 15 min. | | See Appendix B | 73 |
| Agua Dulce | Merry Widow (Rick's Mine, Sheepview #5 & Stone Walls Mine) | 73 | T16S, R9W, Sec.23 (p) | Pima; Agua Dulce Mts 15 min. | | See Appendix B | 73 |
| Agua Dulce | Unnamed | 74 | T15S, R9W, Sec.19 (p) | Pima; Agua Dulce Mts 15 min. | Shaft | See Appendix B | 79 XVI |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|-------------------------------------|---------|--|--------------------------------|---------------------------------|--------------------------|--------------------|
| Agua Dulce | Unnamed | 75 | T15S, R9W, Sec.29 (p) | Pima; Agua Dulce Mts 15 min. | Shaft-1 | See Appendix B | 79 XVI |
| Agua Dulce | Bell Mine | 76 | T16S, R9W, Sec.11 (p) | Pima; Agua Dulce Mts 15 min. | Shaft-1 adit-1 | See Appendix B | 73-74 |
| Agua Dulce | Alley-Hodges Vein | 88 | T16S, R8W, Sec.23 24,25, & 26 (p) | Pima; Agua Dulce Mts 15 min. | | See Appendix B | 74 |
| Agua Dulce | Uranium, Niobium-Tantalum, Thorium | 152 | T15S, R10W, Sec.17 (p) | Yuma | | See Appendix B | 79 XVI |
| Agua Dulce | Unnamed | 182 | T15S, R11W, Sec.36 (p) T15S, R10W, Sec.31 (p) | Yuma; O'Neill Hills Az 15 min. | Shaft-2 Adit-1 Prospect-1 | See Appendix B | 79 XVI |
| Agua Dulce | Broken Pick | 183 | T16S, R11W, Sec.12 (p) | Yuma; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Golden Eagle 1-6 & Grandpa's Boy | 184 | T16S, R10W, Sec.5 & 16 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix E | 75 XV |
| Agua Dulce | Surprise | 185 | T16S, R10W, Sec.3 & 10 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Las Playas 1-2 | 186 | T15S, R10W, Sec. 34 (p) T16S, R10W, Sec.3 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|----------------------------------|----------------------------------|---------------------------------|--------------------------|--------------------|
| Agua Dulce | Border 1-4 | 187 | T15S, R10W, Sec. 32 & 33 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Porcupine, Papago #1 John Laughlyn | 188 | T15S, R10W, Sec. 29,30,31,32 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Novle (sic) #1-3 | 189 | T15S, R10W, Sec. 28 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Esperanza, Banker, Judge Wellborn | 190 | T15S, R10W, Sec. 15 & 22 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Dorthy Jean | 191 | T15S, R10W, Sec. 23 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Cimaron | 192 | T15S, R10W, Sec. 24 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 75 XV |
| Agua Dulce | Papago Extension 1-5, Crown, Howy's Golden Wonder, Jumbo, Irene | 193 | T15S, R10W, Sec. 25,26,36, (p) | Pima; O'Neill Hills Az 15 min. | Shaft-5 Adit-2 Prospect-3 | See Appendix B | 76 XV |
| Agua Dulce | Red Wing, Red Bluff Eastern, Great Eastern, Red Chief | 194 | T15S, R10W, Sec. 35 (p) | Pima; O'Neill Hills Az 15 min. | | See Appendix B | 76 XV |
| Agua Dulce | Desert Queen, Desert King, Sqaw, Minnie, Dixie Farrn, Karl | 195 | T15S, R10W, Sec. 36 (p) | Pima; Agua Dulce Mts: Az 15 min. | | See Appendix B | 76 XV |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|--|---------|----------------------------|----------------------------------|-------------|--------------------------|--------------------|
| Agua Dulce | Unnamed | 196 | T15S, R9W, Sec.19 (p) | Pima; Agua Dulce Mts. Az 15 min. | Shaft-1 | See Appendix B | 79 XVI |
| Agua Dulce | Last Find #1 | 197 | T15S, R9W, Sec.30 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 76 XV |
| Agua Dulce | Cowboy | 198 | T15S, R9W, Sec.30 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 76 XV |
| Agua Dulce | Birthday | 199 | T16S, R9W, Sec.5 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 76 XV |
| Agua Dulce | Maggie 1-2 | 200 | T15S, R9W, Sec.20&29 (p) | Pima; Agua Dulce Mts. Az 15 min. | Shaft-1 | See Appendix B | 76 XV |
| Agua Dulce | Showers of Platinum Showers of Silver | 201 | T15S, R9W, Sec.21 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |
| Agua Dulce | Window Rock 1-4 Agua Dulce, Ocean Wave, Murray, True Blue | 202 | T16S, R9W, Sec.10 & 11 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources And Remarks | Page No. Table No. |
|------------------|-------------------------------------|---------|--|----------------------------------|-------------|--------------------------|--------------------|
| Agua Dulce | Bennett Taylor | 203 | T16S, R8W, Sec.19 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |
| Agua Dulce | Maria Anita Placer | 204 | T14S, R8W, Sec. N $\frac{1}{2}$ S $\frac{1}{2}$ 10 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |
| Agua Dulce | Louise Ford Placer | 205 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 16 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |
| Agua Dulce | Jean Carpenter Placer | 206 | T14S, R8W, Sec. N $\frac{1}{2}$ S $\frac{1}{2}$ 22 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |
| Agua Dulce | Jean Franklin Placer | 207 | T14S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 22 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 77 XV |
| Agua Dulce | Grace Linch Placer | 208 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 27 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 78 XV |
| Agua Dulce | Mary Potter Placer | 209 | T14S, R8W, Sec. S $\frac{1}{2}$ N $\frac{1}{2}$ 27 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 78 XV |
| Agua Dulce | Gertrude Scott Placer | 210 | T14S, R8W, Sec. N $\frac{1}{2}$ N $\frac{1}{2}$ 34 (p) | Pima; Agua Dulce Mts. Az 15 min. | | See Appendix B | 78 XV |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|--|--|------------------------------------|--------------------------|--------------------|
| Agua Dulce | Unnamed | 211 | T17S, R8W, Sec.12 | Pima; Quitobaquito Springs, Az 15 min. | | See Appendix B | 79 XVI |
| Agua Dulce | Thanksgiving #1 Pappuse, Pappuse #2, Pappoos #1 | 212 | T17S, R8W, Sec.2 | Pima; Quitobaquito Springs, Az 15 min. | | See Appendix B | 78 XV |
| Agua Dulce | United Tungsten, & Lead #1-2 | 213 | T16S, R9W, Sec.33 | Pima; Quitobaquito Springs, Az 15 min. | | See Appendix B | 78 XV |
| Ajo | Unnamed | 66 | T11S, R10W, Sec.9 (p) | Pima; Granite Mts 15 min. | Shows on map as mine but is target | See Appendix B | 83, 85 |
| Ajo | Rainbow, Rainbow 1 & 3 also 49 #2 3,6 & 7 | 77 | T12S, R7W, Sec.16 17,20, &21 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | 81 XVII |
| Ajo | Midway | 78 | T9S, R7W, Sec.34 | Pima; Midway, Az 15 min. | | See Appendix B | 80 |
| Ajo | Unnamed | 80 | T12S, R7W, Sec.35 & 36 (p) | Pima; Ajo 15 min. | Prospects-2 | See Appendix B | 83 |
| Ajo | Hope Group (?) | 81 | T12S, R7W, Sec.24 (p) T12S. R6W, Sec.19 | Pima; Ajo 15 min. | Prospects-2 Shaft-1 | See Appendix B | 80 |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|--|-----------------------------|-----------------------------------|--------------------------|--------------------|
| Ajo | 85-Group | 82 | T12S, R6W, Sec.30 | Pima; Ajo 15 min. | Prospects-1 Shaft-1 | See Appendix B | 81 XVII |
| Ajo | Chico Shunie Prospect | 85 | T12S, R7W, Sec.25 & 26 (p) | Pima; Ajo, Az 15 min. | | See Appendix B | 80, 83 |
| Ajo | Copper Giant | 106 | T13S, R6W, Sec.14 & 15 | Pima; Ajo, Az 15 min. | Prospects-5 | See Appendix B | 81 XVII |
| Ajo | San Antonio Mine (also Sunshine Mica; Pumice Corp of Az; Ballestreras) & San Antonio Mine Co. | 107 | T13S, R7W, Sec.11 & 2 (p) | Pima; Ajo, Az 15 min. | Mine-3 | See Appendix B | 81 XVII |
| Ajo | Unnamed Quarries | 108 | T13S, R7W, Sec.2 (p) | Pima; Ajo, Az 15 min. | Prospects-5 Mine-1 Shaft-1 | See Appendix B | 81 XVII |
| Ajo | Cardigan | 109 | T12S, R6W, Sec.27 28, & 29 | Pima; Ajo, Az 15 min. | Prospects-37 Shaft-4 adit-1 | See Appendix B | 81 XVII |
| Ajo | Ajo Peak | 110 | T12S, R6W, Sec.32 | Pima; Ajo, Az 15 min. | Shaft-1 | See Appendix B | 81 XVII |
| Ajo | Ajo Extension (?) (Bluestone Copper & Unnamed Prospects) | 111 | T12S, R6W, Sec.27 33, 34 & 35 T13S, R6W, Sec.1 2, & 3 | Pima; Ajo, Az 15 min. | Prospects-67 adit-1 Shaft-1 | See Appendix B | 81 XVII |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|--|--------------------------------|-------------|--------------------------|------------------------|
| Ajo | New Cornelia Div. Phelps Dodge New Cornelia (Ajo) Mine Arizona Copper Mining & Trading Co. St. Louis Copper Co., Rescue Copper Co., Cornelia Copper Co., New Cornelia, Copper Co., Calumet & Arizona Copper Co. | 112 | T12S, R6W, Sec.27 26,22,23 | Pima; Ajo, Az 15 min. | | See Appendix B | 82 XVII |
| Ajo | Ajo Mine | 113 | T11S, R6W, Sec.1 | Pima; Ajo, Az 15 min. | | See Appendix B | 82 XVII |
| Ajo | Allen Group | 114 | T12S, R6W, Sec.32 & 33 | Pima; Ajo, Az 15 min. | | See Appendix B | 82 XVII |
| Ajo | Alley Glass | 115 | T12S, R6W, Sec.19 20, & 21 | Pima; Ajo, Az 15 min. | Prospect | See Appendix B | 82 XVII |
| Ajo | Greenway-Alberts | 116 | T12S, R6W, Sec.34 T13S, R6W, Sec.3, & 4 | Pima; Ajo, Az 15 min. | Prospects-2 | See Appendix B | 82 XVII |
| Ajo | Heckle (Keins) Mine | 117 | T12S, R6W, Sec.8 & 5 | Pima; Ajo, Az 15 min. | | See Appendix B | 82 XVII |
| Ajo | 49-Extension | 129 | T12S, R7W, Sec.24 & 25 (p) | Pima; Ajo, Az 15 min. | | See Appendix B | 83 |
| Ajo | Donna Mary Placer | 214 | T13S, R8W, Sec. S $\frac{1}{2}$ S $\frac{1}{2}$ 15 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | 78, 84 XVI XVIII |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|-------------------------------------|---------|----------------------------|--------------------------------|--------------|--------------------------|--------------------|
| Ajo | Rainbow 1-3 | 215 | T12S, R8W, Sec.27 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | 84 XVII |
| Ajo | Decker, Great Eastern | 216 | T12S, R7W, Sec.29 & 33 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | 84 XVIII |
| Ajo | Gold Crown | 217 | T12S, R8W, Sec.16 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | 84 XVIII |
| Ajo | Gold Crown #3 | 218 | T12S, R9W, Sec.27 (p) | Pima; Growler Peak, Az 15 min. | | See Appendix B | 84 XVIII |
| Dome (Gila City) | None Marble (?) | 1 | T8S, R21W, Sec.4 | Yuma; Fortuna 7.5 min. | Shaft & adit | See Appendix B | 91 XXI |
| Dome (Gila City) | Grey Fox Mines | 2 | T8S, R21W, Sec.10 | Yuma; Fortuna 7.5 min. | Unknown | See Appendix B | 91 XXI |
| Dome (Gila City) | Unnamed | 3 | T8S, R20W, Sec.18 | Yuma; Ligurta 7.5 min. | Borrow Pit | See Appendix B | 91 XXI |
| Dome (Gila City) | McKay | 5 | T8S, R21W, Sec.12 | Yuma; Ligurta 7.5 min. (?) | | See Appendix B | 91 XXI |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|---------------------------|--|-------------------------|--------------------------|--------------------|
| Dome (Gila City) | Dome Placers | 6 | T8S, R21W, Sec.1 & 2 | Yuma; Dome 7.5 min. Laguna Dam 7.5 min. | | See Appendix B | 91 XXI |
| Dome (Gila City) | McPhaul | 7 | T8S, R21W, Sec.13 & 14 | Yuma & Fortuna 7.5 min-Ligurta AZ 7.5 min. | Prospect | See Appendix B | 91 XXI |
| Dome (Gila City) | Mineral Occurrences Tungsten | 141 | T8S, R21W, Sec.21 (p) | Yuma | | See Appendix B | 91 XXI |
| Dome (Gila City) | Rare Earth | 142 | T8S, R21W, Sec.14 (p) | Yuma; | | See Appendix B | 91 XXI |
| Dome (Gila City) | Tillurium, Thorium Rare Earth, Niobium-Tantalum | 146 | T9S, R20W, Sec.11 (?) (p) | Yuma | | See Appendix B | 91 XXI |
| Fortuna | Unknown | 4 | T9S, R20W, Sec.7 | Yuma; Ligurta 7.5 min. | Prospects-2 | See Appendix B | 44 XI |
| Fortuna | D & J Mining Co., Gila Mts. Scheelite Prospects | 8 | T8S, R21W, Sec.15 & 22 | Yuma; Fortuna 7.5 min. | Prospect | See Appendix B | 41-42 |
| Fortuna | Big Dutchman or Spear-Kent | 9 | T9S, R20W, Sec.17 & 18 | Yuma; Ligurta 7.5 min. | Prospect | See Appendix B | 43 VIII |
| Fortuna | Unknown | 10 | T9S, R20W, Sec.10 | Yuma; Ligurta 7.5 min. | Prospect adit-1 shaft-1 | See Appendix B | 44 XI |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|---------------------------------------|--|-------------------------------------|--------------------------|--------------------|
| Fortuna | Unnamed | 11 | T9S, R20W, Sec.15 | Yuma; Ligurta 7.5 min. | Prospect | See Appendix B | 44 XI |
| Fortuna | Golden Dream Mine | 12 | T9S, R20W, Sec.33 | Yuma; Fortuna 7.5 min. | Adit-1 | See Appendix B | 41 |
| Fortuna | Unnamed | 13 | T9S, R20W, Sec.22 & 27 | Yuma; Fortuna 7.5 min. | Prospects-2 | See Appendix B | 44 XI |
| Fortuna | Pool Mica (?) | 14 | T10S, R20W, Sec.22 (p) | Yuma; Fortuna 7.5 min. | Prospects-2 | See Appendix B. | 41 |
| Fortuna | Blue Butte | 15 | T10S, R20W, Sec.24 (p) | Yuma; Fortuna 7.5 min. | Prospect-1 | See Appendix B | 39 |
| Fortuna | Fortuna mine area | 16 | T10S, R20W, Sec.16 17,20,21 (p) | Yuma; Fortuna 7.5 min. | 6 shafts 2 adits 29 prospects | See Appendix B | 37-39 |
| Fortuna | Army Corp. of Engineers, Tract # 1301-17 | 17 | T10S, R20W, Sec.26 27,34, & 35 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Claims | See Appendix B | 43 VII |
| Fortuna | Montgomery Mica (?) | 18 | T10S, R20W, Sec.22 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Prospects-4 adit-1 | See Appendix B | 41 |
| Fortuna | Red Top | 19 | T10S, R20W, Sec.4 (p) | Yuma; Fortuna Mine, Az 7.5 min. | Unknown | See Appendix B | 43 VII |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|--|---------------------------------------|----------------------|--------------------------|--------------------|
| Fortuna | Unnamed | 27 | T10S, R19W, Sec.17 (p) | Yuma; Welton Hills, Az 7.5 min. | Shaft-1 | See Appendix B. | 44 XI |
| Fortuna | Beryllium | 147 | T10S, R20W, Sec.17 (p) | Yuma | | See Appendix B | 42 |
| Fortuna | Crescent #1 & 2 Golden King, Barragone Star | 155 | T13S, R17W, Sec.17 18, 19, 20 & 21 (p) | Yuma; Tinajas Altas 15 min. | Adit-1 | See Appendix B | 43 VIII |
| Fortuna | Old Smokey # 1 | 156 | T12S, R18W, Sec.15 (p) | Yuma; Tinajas Altas 15 min. | | See Appendix B | 43 VIII |
| Growler | Clark Gold | 86 | T14S, R7W, Sec.24 | Pima; Kino Peak Az 15 min. | Prospects-2 Shaft-1 | See Appendix B | 92 XXII |
| Growler | Growler Mine | 87 | T14S, R7W, Sec.26 27, 28, 33, 34, & 35 T15S, R7W, Sec.23 & 24 (p) | Pima; Kino Peak Az 15 min. | | See Appendix B | 92 XXII |
| Growler | Copper Mountain Mine | 89 | T15S, R5W, Sec.22 23, 24, 25, 26, & 27 (p) | Pima; Kino Peak Az Mt. Ajo Az 15 min. | Prospects-17 Adits-2 | See Appendix B | 92 XXII |
| Growler | Yellow Hammer Mine | 100 | T14S, R7W, Sec.36 | Pima; Kino Peak Az 15 min. | | See Appendix B. | 92 XXII |
| Growler | Bluebird Mine | 101 | T14S, R7W, Sec.13 E $\frac{1}{2}$ & 14 | Pima; Kino Peak Az 15 min. | Adit-1 Prospect-1 | See Appendix B | 92 XXII |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|--|---------|-------------------------------------|------------------------------|-------------|--------------------------|--------------------|
| Growler | Placer Mtn. Group | 102 | T14S, R7W, Sec. NE $\frac{1}{4}$ 24 | Pima; Kino Peak Az 15 min. | | See Appendix B | 92 XXII |
| Growler | Growler Mica & PD Limestone (Lime Hill Area) | 103 | T14S, R6W, Sec. 6 & 7 | Pima; Kino Peak Az 15 min. | Mine-4 | See Appendix B | 92 XXII |
| Growler | Nelson-Ajo Group | 104 | T14S, R7W, Sec. 24 E $\frac{1}{2}$ | Pima; Kino Peak Az 15 min. | | See Appendix B | 92 XXII |
| Growler | Unnamed | 105 | T14S, R6W, Sec. 6 | Pima; Kino Peak Az 15 min. | Mine | See Appendix B | 93 XXII |
| Gunsight (Meyer) | Manganese | 153 | T13S, R4W, Sec. 18 (p) | Pima | | See Appendix B | 94 XXIII |
| Gunsight (Meyer) | Arsenic | 154 | T14S, R4W, Sec. 9 & 10 (p) | Pima | | See Appendix B | 94 XXIII |
| La Posa (Welton) | Double Eagle or Gold Leaf | 20 | T10S, R18W, Sec. 22 | Yuma; Welton SE, Az 7.5 min. | adits-7 | See Appendix B | 48 |
| La Posa (Welton) | McMahan | 21 | T10S, R18W, Sec. 15 | Yuma; Welton SE, Az 7.5 min. | Shaft | See Appendix B | 48-49 |
| La Posa (Welton) | Donaldson | 22 | T10S, R18W, Sec. 11 | Yuma; Welton SE, Az 7.5 min. | Prospect | See Appendix B | 49 |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|-------------------------|---|--------------|--------------------------|--------------------|
| La Posa (Welton) | Welton Hills Mine (Draghi or Frazier) | 23 | T10S, R18W, Sec.20 | Yuma; Welton Hills, Az 7.5 min. | adits-2 | See Appendix B | 49-50 |
| LaPosa (Welton) | Northern | 24 | T10S, R18W, Sec.4, or 5 | Yuma; Welton Hills, Az 7.5 min. | | See Appendix B | 50 |
| La Posa (Welton) | Poorman (Desert Dwarf, Eaton, Svenson, Hindman) | 25 | T10S, R18W, Sec.2 | Yuma; Welton SE, Az 7.5 min. | Shaft | See Appendix B | 50 |
| La Posa (Welton) | Shirley Mae | 26 | T10S, R18W, Sec.22 | Yuma; Welton SE, Az 7.5 min. | Adit-1 | See Appendix B | 50-51 |
| La Posa (Welton) | Smith Mine (Last Chance & Copper Coin) | 28 | T11S, R17W, Sec.10 (p) | Yuma; Tinajas Altas 15 min. | Adit & Shaft | See Appendix B | 56 |
| La Posa (Welton) | Wanamaker | 29 | T10S, R18W, Sec.16 | Yuma; Welton SE, Az & Welton Hills, Az 7.5 min. | Prospect | See Appendix B | 51 |
| La Posa (Welton) | Unnamed | 30 | T10S, R18W, Sec.8 (p) | Yuma; Welton Hills, Az 7.5 min. | Prospect | See Appendix B | 61 XI |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|-------------------------------------|---------|-----------------------------------|--------------------------------------|-------------|--------------------------|--------------------|
| La Posa (Welton) | Unnamed | 31 | T10S, R18W, Sec.14 | Yuma; Welton SE, Az 7.5 min. | Prospect | See Appendix B | 61 XI |
| La Posa (Welton) | Welltonia Prospect | 32 | T10S, R18W, Sec.16 | Yuma; Welton Hills, Az Welton SE, Az | | See Appendix B | 51-52 |
| La Posa (Welton) | Gypsum | 33 | T19S, R18W, Sec.24 (NW1/4) | Yuma; Welton Mesa, Az 7.5 min. | Mine | See Appendix B | 63 XII |
| La Posa (Welton) | Unnamed | 34 | T11S, R17W, Sec.9 (p) | Yuma; Tinajas Altas 15 min. | Prospect | See Appendix B | 61 XI |
| La Posa (Welton) | Unnamed | 35 | T11S, R17W, Sec. 4&5 (p) | Yuma; Tinajas Altas 15 min. | Prospects-2 | See Appendix B | 61 XI |
| La Posa (Welton) | McMillian Mine | 36 | T12S, R16W, Sec.9 10, 15 & 16 (p) | Yuma; Cabeza Prieta Peak 15 min. | adits-2 | See Appendix B | 55-56 |
| La Posa (Welton) | Stemwinder Group of mine (?) | 37 | T12S, R16W, Sec.4 & 5 (p) | Yuma; Cabeza Prieta Peak 15 min. | Shaft-2 | See Appendix B | 52 |
| La Posa (Welton) | Unnamed | 38 | T12S, R16W, Sec.36 (p) | Yuma; Cabeza Prieta Peak 15 min. | Mine | See Appendix B | 61 XI |

186

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|-------------------------------------|-------------------------------------|---------------|--------------------------|--------------------|
| La Posa (Welton) | Betty Lee Mine or Ariz. Consolidated Mining Co. Frisco, & Ella J. Mines, Swenson, Copple & McIntosh, Linden | 39 | T11S, R17W, Sec.2 | Yuma; Mohawk SW, Az 7.5 min. | adits-3 shaft | See Appendix B | 52 |
| La Posa (Welton) | Chicago | 40 | T10S, R17W, Sec.23 | Yuma; Mohawk SW, Az 7.5 min. | | See Appendix B | 55, 57 X |
| La Posa (Welton) | Old Soak | 41 | T10S, R17W, Sec.25 | Yuma; Mohawk SW, Az 7.5 min. | adits-2 | See Appendix B | 53 |
| La Posa (Welton) | Baker Peak Barite | 42 | T9S, R17W, Sec.22 | Yuma; Tacna, Az 7.5 min. | | See Appendix B | 53 |
| La Posa (Welton) | Unnamed | 43 | T11S, R17W, Sec.2 | Yuma; Cabeza Prieta Peak AZ 15 min. | | See Appendix B | 61 XI |
| La Posa (Welton) | Unnamed | 44 | T9S, R17W, Sec.35 | Yuma; Mohawk SW, Az 7.5 min. | | See Appendix B | 61 XI |
| La Posa (Welton) | Guiding Star | 45 | T10S, R17W, Sec.26 NE $\frac{1}{2}$ | Yuma; Mohawk SW, Az 7.5 min. | | See Appendix B | 57 X |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|------------------------------------|--|--------------------|-------------------------------|--------------------|
| La Posa (Welton) | Venegas Prospects | 52 | T14S, R15W, Sec.23 & 26 (p) | Yuma; Tule Mts. 15 min. | Shaft-1 Prospect-0 | See Appendix B | 53-54 |
| La Posa (Welton) | Dart & Kart | 56 | T13S, R14W, Sec.35 & 36 (p) | Yuma; Isla Pinta Az 15 min. | Prospect | See Appendix B | 54 |
| La Posa (Welton) | Dan Drifts Mine Dart & Kart, (Tillie Pat) | 57 | T13S, R14W, Sec.35 & 36 (p) | Yuma Isla Pinta Az 15 min. | Claims Prospects | See Appendix B | 54 |
| La Posa (Welton) | Unnamed | 58 | T14S, R14W, Sec.7 & 18 (p) | Yuma; Sierra Arida 15 min. | Prospects | See Appendix B | 62 XI |
| La Posa (Welton) | Thanksgiving Mine | 59 | T14S, R14W, Sec.28 (p) | Yuma; Sierra Arida 15 min. | Mine | See Appendix B | 57 X |
| La Posa (Welton) | Santa Clara 1-8 | 60 | T14S, R14W, Sec.22 23,25, & 26 (p) | Yuma; Sierra Arida 15 min. | Prospect (Claims) | See Appendix B | 54 |
| La Posa (Welton) | Hindman Property (Poorman Mine) | 79 | T10S, R18W, Sec.2 | Yuma; Welton, SE & Welton Hill, Az (?) | Shaft | See Appendix B Same as #25 | 50 |
| La Posa (Welton) | Golden Brown | 130 | T13S, R15W, Sec.4 (p) | Pima Cabeza Prieta Peak, Az 15 min. | | See Appendix B | 57 X |
| La Posa (Welton) | Long Lost Mine | 131 | T12S, R15W, Sec.19 | Pima; Cabeza Prieta Peak, Az 15 min. | | See Appendix B | 54-55 |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|--|---------|---|--------------------------------------|--------------------|--------------------------|--------------------|
| La Posa (Welton) | Silver Star Mine | 132 | T12S, R15W, Sec.18 | Pima; Cabeza Prieta Peak, Az 15 min. | | See Appendix B | 55 |
| La Posa (Welton) | Bentonite | 143 | T9S, R17W, Sec.5 (p) | Yuma; | | See Appendix B | 63 XII |
| La Posa (Welton) | Molybdenum | 148 | T10S, R18W, Sec.14 (p) | Yuma | | See Appendix B | 63 XII |
| La Posa (Welton) | Uranium | 149 | T12S, R16W, Sec.16 (p) | Yuma | | See Appendix B | 63 XII |
| La Posa (Welton) | Unnamed | 157 | T11S, R17W, Sec.3 4, 5, 8, 9, & 10 (p) | Yuma; Tinajas Altas 15 min. | Prospect-3 Shaft-1 | See Appendix B | 62 XI |
| La Posa (Welton) | Copper Hill area 1-9 | 158 | T12S, R16W, Sec.5 4, 8, 9, (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 57 X |
| La Posa (Welton) | Black Mts. 1-4 | 159 | T12S, R16W, Sec.14 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 57 X |
| La Posa (Welton) | La Bamba, Merry Christmas, Copper Hill, Silver Star Mine, Unnamed, Big John, Gold Eagle, Golden Pheasant, Golden Drina | 160 | T12S, R15W, Sec.17 18, 20, 21, 22, 28 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 57 X |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|--|-------------------------------------|-------------|--|--------------------|
| La Posa (Welton) | Gabriso, Black Head, Cabeza Prieta #1&2, Comstock, Princess, Vampire Mine | 161 | T12S,R15W, Sec.31, & 32 T12S,R16W, Sec.25, & 36 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 58 X |
| La Posa (Welton) | EDA | 162 | T13S, R16W, Sec.14 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 58 X |
| La Posa (Welton) | Long Joe #1 | 163 | T13S, R15W, Sec.6 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 58 X |
| La Posa (Welton) | Rising Sun | 164 | T13S, R15W, Sec.9 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 58 X |
| La Posa (Welton) | Unnamed | 165 | T13S, R15W, Sec.11 (p) | Yuma; Cabeza Prieta Peak 15 min. | | See Appendix B | 62 XI |
| La Posa (Welton) | Halo Gp. 1-9 | 167 | T13S, R14W, Sec.25, 26,27,33,34,35,&36 (p) | Yuma; Isla Pinta Az 15 min. | | See Appendix B. | 58 X |
| La Posa (Welton) | adit symbol (labeled mine) Thanksgiving Mine | 169 | T14S, R14W, Sec.28 (p) | Yuma; Sierra Arida AZ 15 min. | | See Appendix B May be the same as #59 | 57 X |
| La Posa (Welton) | Unnamed | 170 | T14S, R14W, Sec.7 & 18 (p) | Yuma; Sierra Arida Az 15 min. | Prospect | See Appendix B | 62 XI |
| La Posa (Welton) | Copper World | 171 | T14S, R14W, Sec.8 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | 58 X |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|---|---------|--|-------------------------------------|------------------------|-------------------------------|--------------------|
| La Posa (Welton) | Unnamed | 172 | T14S, R14W, Sec.3 4, 9, 10, 11 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | 62 XI |
| La Posa (Welton) | Last Chance | 173 | T14S, R14W, Sec.12 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | 58 X |
| La Posa (Welton) | High Grade, Gold Johnny, Leona, Mary | 174 | T14S, R13W, Sec.7 (p) | Yuma; Sierra Arida Az 15 min. | | See Appendix B | 59 X |
| La Posa (Welton) | Gloria De Ora 1-8 | 175 | T14S, R14W, Sec.30 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | 59 X |
| La Posa (Welton) | Venegas Prospect | 176 | T14S, R15W, Sec.23 & 26 (p) | Yuma; Tule Mts. Az 15 min. | Shaft-1 Prospects-9 | See Appendix B Same as #52 | 53-54 |
| La Posa (Welton) | Emma Jean 1-2 Tule 1-2 | 177 | T14S, R15W, Sec.22 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | 59 X |
| La Posa (Welton) | Dolores | 178 | T13S, R17W, Sec.35 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | 59 X |
| La Posa (Welton) | Copper Head #2 | 179 | T14S, R15W, Sec.14 15, 23, 24 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | 59 X |
| La Posa (Welton) | Black Prince | 180 | T14S, R15W, Sec.11 12, 13 T14S, R14W, Sec.7 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | 59 X |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|--|---------|--------------------------------|---------------------------------|------------------|--------------------------|--------------------|
| La Posa (Welton) | Santa Clara 1-5 | 181 | T14S, R15W, Sec.10 (p) | Yuma; Tule Mts. Az 15 min. | | See Appendix B | 59 X |
| Mohawk Mts | Red Cross Mine (Norton) (Norton-Zappia) | 46 | T9S, R14W, Sec.2 | Yuma; Mohawk Mts. NW 7.5 min. | Shaft-2 | See Appendix B | 64-65 |
| Mohawk Mts | Tavasci or Victoria (Clara, Susie & Betty) | 47 | T9S, R14W, Sec.9 & 10 | Yuma; Mohawk Mts. NW 7.5 min. | adits-0 prospect | See Appendix B | 65 |
| Mohawk Mts | Mica Flower (?) | 48 | T9S, R14W, Sec.18 | Yuma; Mohawk Mts NW AZ 7.5 min. | prospects-4 | See Appendix B | 69 XIII |
| Mohawk | Renner Barite | 49 | T8S, R15W, Sec.11 12, 13, & 14 | Yuma; Mohawk, Az 7.5 min. | Shaft-1 Prospect | See Appendix B | 65-66 |
| Mohawk | Ruby Prospect | 50 | T8S, R15W, Sec.1 & 12 | Yuma; Growler, Az 7.5 min. | Shaft | See Appendix B | 66 |
| Mohawk | Mohawk Lime Quarry | 51 | T8S, R15W, Sec.14 (?) | Yuma; Mohawk, Az 7.5 min. | Ruins | See Appendix B | 66-67 |
| Mohawk | Unnamed | 53 | T11S, R14W, Sec.36 (p) | Yuma; Isla Pinta, Az 15 min. | Shaft-1 | See Appendix B | 70 XVI |
| Mohawk | Unnamed | 54 | T11S, R14W, Sec.31 & 36 (p) | Yuma; Isla Pinta Az 15 min. | Prospect | See Appendix B | 70 XVI |

| Mining Districts | Property Name or Mineral Occurrences | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|------------------|--------------------------------------|---------|-----------------------------|--|-----------------------|--------------------------|--------------------|
| Mohawk | Unnamed | 55 | T13S, R12W, Sec.28 (p) | Yuma; Isla Pinta Az 15 min. | Prospect-1 | See Appendix B | 70 XVI |
| Mohawk | Unnamed | 61 | T10S, R13W, Sec.8 | Yuma; Mohawk Mts. SW, Az 7.5 min. | Shaft-1 Prospect-1 | See Appendix B | 70 XVI |
| Mohawk | Unnamed | 62 | T10S, R13W, Sec.15 | Yuma; Mohawk Mts SE, Az 7.5 min. | Shafts-2 | See Appendix B | 70 XVI |
| Mohawk | Unnamed | 63 | T7S, R12W, Sec.25 | Yuma; Aztec Hills,Az 7.5 min. | Shaft-1 Mine-1 | See Appendix B | 70 XVI |
| Mohawk | Unnamed | 64 | T11S, R12W, Sec.14 (p) | Yuma; Granite Mts. 15 min. | Prospect | See Appendix B | 70 XVI |
| Mohawk | Lord Will #2 (Child's Prop.) | 65 | T11S, R12W, Sec.23 & 24 (p) | Yuma; Granite Mts. 15 min. | Shafts-1 adits-2 | See Appendix B | 67-68 |
| Mohawk | Unnamed | 140 | T10S, R12W, Sec.29 | Yuma; Mohawk Mts. SE, Az 7.5 min. | | See Appendix B | 67, 70 XVI |
| Mohawk | Jasper | 144 | T7S, R12W, Sec.35 (p) | Yuma | | See Appendix B | 68 |
| Mohawk | Molybdenum | 150 | T10S, R13W, Sec.8 (p) | Yuma | | See Appendix B | 68 |

| Mining Districts | Property Name or Mineral Occurrences | Map No. | Legal description | County and Quad Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|-------------------------------|---|---------|----------------------------|-----------------------------------|----------------------------------|--------------------------|--------------------|
| Mohawk | Molybdenum | 151 | T11S, R12W, Sec.23 (p) | Yuma | | See Appendix B | 68 |
| Mohawk | Morning # 1,2 Phoenix # 1,2 | 166 | T11S, R14W, Sec. 36, (p) | Yuma; Isla Pinta Az 15 min. | | See Appendix B | 69 XIII |
| Mohawk | Senator, Dixie, Ben Franklin, Antelope, High Peak, IBEX, Black Stallion, Butte, Good Hope | 168 | T13S, R12W, Sec.21 28, (p) | Yuma; Isla Pinta Az 15 min. | | See Appendix B. | 69 XIII |
| Montezuma (Puerto Blanco Mts) | Baker Mine | 90 | T17S, R6W, Sec.3 (p) | Pima; Lukeville Az 15 min. | Shaft-1 adit-1 Prospects-2 | See Appendix B. | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Milton Mine | 91 | T17S, R6W, Sec.4 & 9 (p) | Pima; Lukeville Az 15 min. | Shaft-1 Mine-1 Prospect-11 | See Appendix B | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Martinez Mine | 92 | T17S, R6W, Sec.14 (p) | Pima; Lukeville Az 15 min. | Shafts-3 Prospects-5 | See Appendix B. | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Unnamed Prospects | 93 | T17S, R6W, Sec.9 & 16 (p) | Pima; Lukeville Az 15 min. | Prospects-3 | See Appendix B | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Lost Cabin Mine | 94 | T17S, R6W, Sec.24 (p) | Pima; Lukeville Az 15 min. | Prospects-2 Shaft-1 | See Appendix B. | 95 XXIV |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad. Map | Map Symbols | Sources and Remarks | Page No. Table No. |
|-------------------------------|---|---------|--|----------------------------|---------------------|---------------------|--------------------|
| Montezuma (Puerto Blanco Mts) | Victoria Mine | 95 | T17S, R6W, Sec.24 (p) | Pima; Lukeville Az 15 min. | Prospects-6 Shaft-2 | See Appendix B | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Unnamed Prospects (possibly Gold Bell claims) | 96 | T17S, R6W, Sec.23 (p) | Pima; Lukeville Az 15 min. | Prospects-3 | See Appendix B | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Golden Eagle Claims | 97 | T17S, R6W, Sec.24 & 25 (possible Loc.) (p) | Pima; Lukeville Az 15 min. | | See Appendix B | 95 XXIV |
| Montezuma (Puerto Blanco Mts) | Lucky Dog Claims | 98 | T17S, R6W, Sec.13 (p) (possible loc.) | Pima; Lukeville Az 15 min. | | See Appendix B | 96 XXIV |
| Montezuma (Puerto Blanco Mts) | Dripping Springs Mine | 99 | T16S, R6W, Sec.20 (p) | Pima; Kino Peak Az 15 min. | | See Appendix B | 96 XXIV |
| Vekol (Casa Grande) | Gypsum | 145 | T7S, R5W, | Maricopa | | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 83 | T8S, R7W, Sec.26 | Maricopa | Mine-1 | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 84 | T8S, R9W, Sec.8 | Maricopa | Mine-1 | See Appendix B | 90 XX |
| Not in Organized District | Papago Indian Chief | 118 | T7S, R2W, Sec.31 | Maricopa; Estrella 15 min. | Shaft-1 | See Appendix B | 83 |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quad. Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|---------------------------|---|---------|--|--------------------------------------|-------------|--------------------------|--------------------|
| Not in Organized District | Palo Verde | 119 | T7S, R5W, Sec.7 (?) | Maricopa; Theba, Az 15 min. | | See Appendix B | 86 |
| Not in Organized District | Strontium Group (Montezuma Claims) | 120 | T8S, R5W, Sec.3 4,5 (?) | Maricopa; Theba, Az 15 min. | | See Appendix B | 86 |
| Not in Organized District | Altuda | 121 | T7S, R1W, Sec.19 30 T7S, R2W, Sec.24 25 | Maricopa; Estrella 15 min. | | See Appendix B | 86-87 |
| Not in Organized District | Chloride Mtn. #1 Gold Mine | 122 | T8S, R2W, Sec.8 9, 16, 17 | Maricopa; Kaka, Az 15 min. | | See Appendix B | 88 |
| Not in Organized District | Farley | 123 | T8S, R3W, Sec.9 10 | Maricopa; Gila Bend Az 15 min. | | See Appendix B | 89 XIX |
| Not in Organized District | Gertrude Gold Claim #1 & Lodge#2 & Gertrude Gold Lode #2 | 124 | T8S, R3W, Sec.23 &24 | Maricopa; Hat Mtn Az 15 min. | | See Appendix B | 89 XIX |
| Not in Organized District | Noonan Group | 125 | T8S, R2W, Sec.3 | Maricopa; Estrella Az 15 min. | Shaft-1 | See Appendix B | 87 |
| Not in Organized District | Unnamed | 126 | T8S, R2W, Sec.3 | Maricopa; Estrella Az 15 min. | Prospect-1 | See Appendix B | 90 XX |
| Not in Organized District | New Maricopa Copper Co. | 127 | T8S, R2W, Sec.4 | Maricopa; Estrella Az 15 min. | Shaft-1 | See Appendix B | 87 |

| Mining Districts | Property Name or Mineral Occurrence | Map No. | Legal description | County and Quap. Map | Map Symbols | Data Sources and Remarks | Page No. Table No. |
|---------------------------|-------------------------------------|---------|--------------------------|--------------------------------|-------------|--------------------------|--------------------|
| Not in Organized District | Unnamed | 128 | T7S, R2W, Sec.26 | Maricopa; Estrella, Az 15 min. | Shaft-1 | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 133 | T7S, R2W, Sec.16 | Maricopa; Estrella Az 15 min | Prospect-1 | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 134 | T9S, R1W, Sec.10 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 135 | T9S, R1W, Sec.16 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 136 | T9S, R1W, Sec.21 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 137 | T9S, R1W, Sec.15 | Maricopa; Kaka, Az 15 min. | Mine | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 138 | T10S, R3W, Sec.3 & 4 (p) | Maricopa; Hat Mtn, Az 15 min. | Mine | See Appendix B | 90 XX |
| Not in Organized District | Unnamed | 139 | T10S, R4W, Sec.34 | Maricopa; Hat Mtn, Az 15 min. | Mine | See Appendix B | 90 XX |

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