CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

TRANSFER COPY

ARIZONA
(PIMA COUNTY)
COMOBABI QUADRANGLE
15-MINUTE SERIES

Topography by C.A.Ecklund, Adolph Fankhauser, S.S.Evans and R.H.Moore
Surveyed in 1937

APPROXIMATE MEAN DECLINATION, 1937

Scale $\frac{1}{62500}$

Contour interval 25 feet
Datum is mean sea level

Polyconic projection. 1927 North American datum
5000 yard grid based on U.S. zone system, F
10000 foot grid based on Arizona (Central) rectangular coordinate system

COMOBABI, ARIZ.
Edition of 1942

N3200—W11145/15

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,680}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

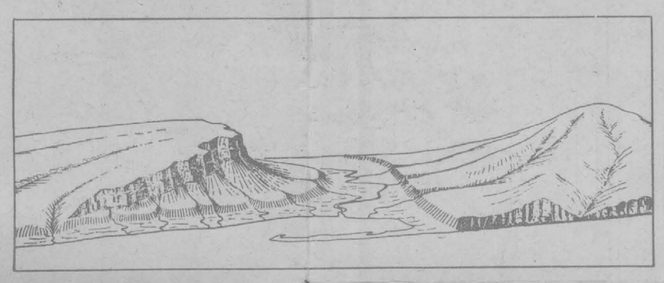
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

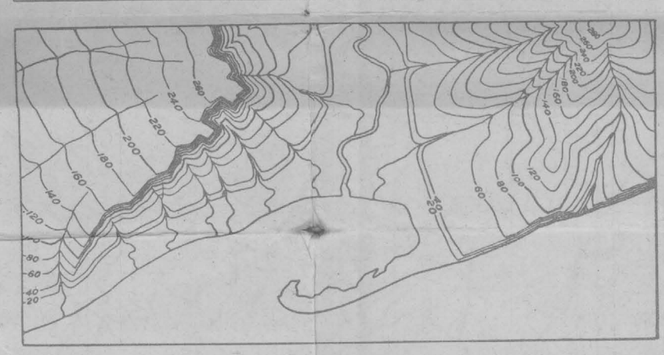
The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.





The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

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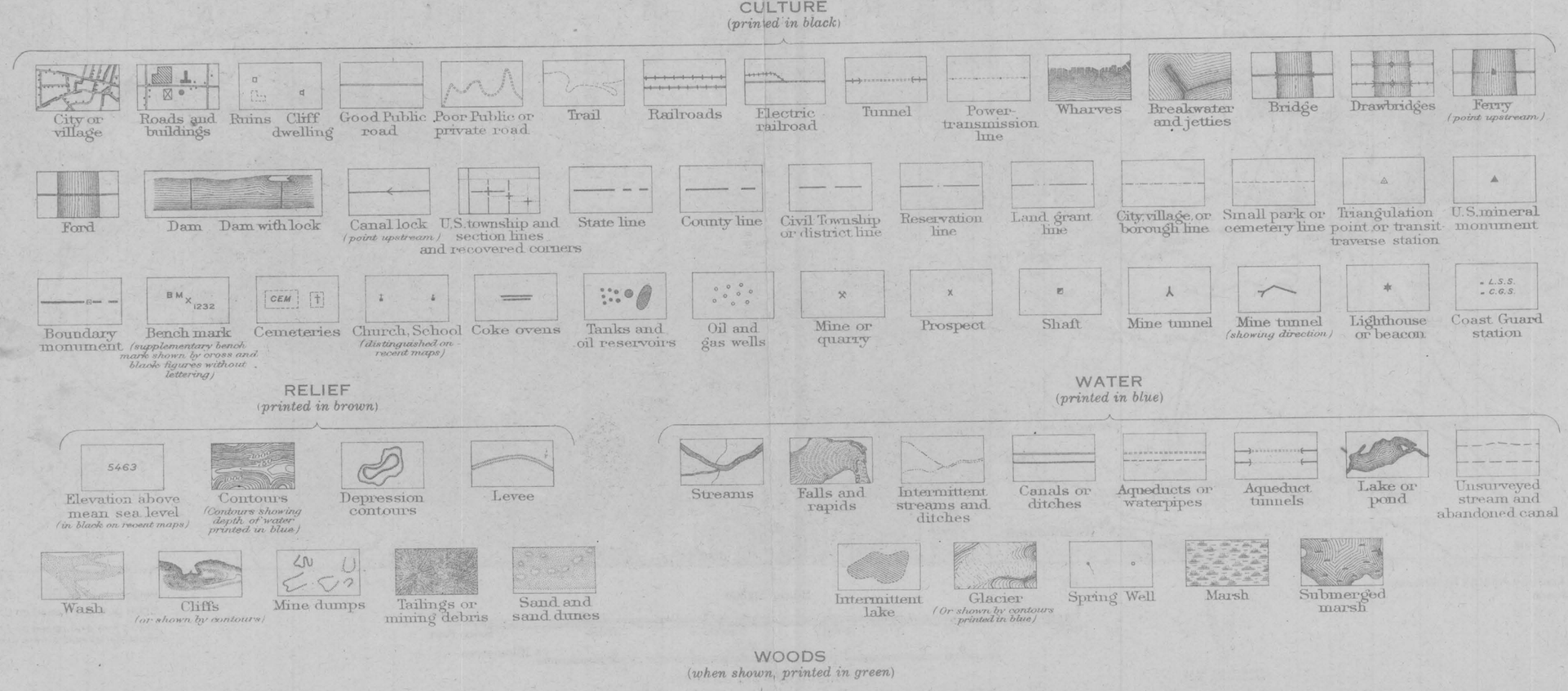
November 1937.

STANDARD SYMBOLS



UNITED STATES
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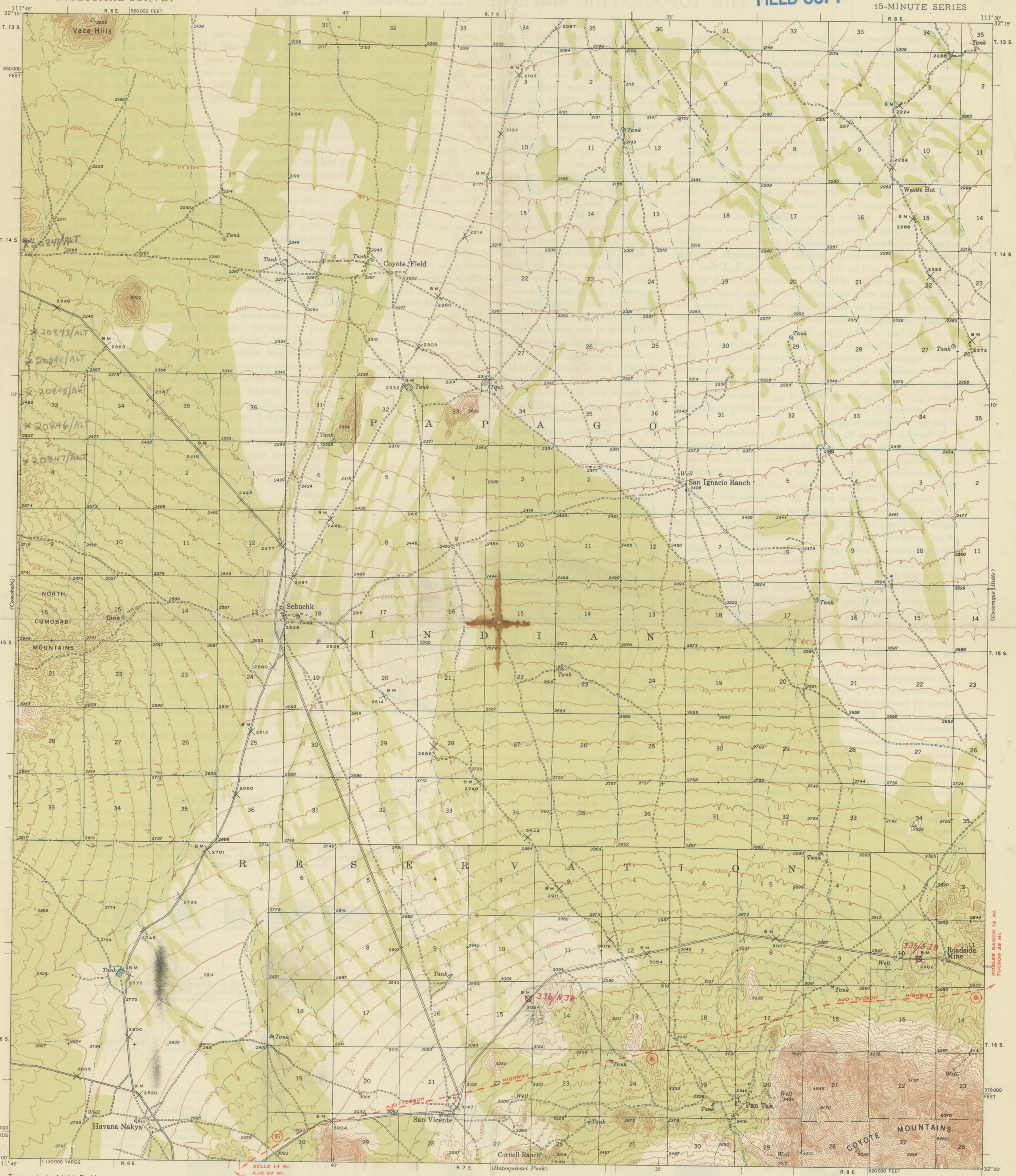
GEOLOGICAL SURVEY

FIELD COPY

ARIZONA
(PIMA COUNTY)
SAN VICENTE QUADRANGLE
15-MINUTE SERIES



Topography by Adolph Fankhauser,
Frank H. Purdy, J. Mark Holmes, and
Charles W. Birdseye
Surveyed in 1938

ROAD CLASSIFICATION

HARD-SURFACE ALL WEATHER ROADS		DRY WEATHER ROADS
Heavy-duty	4 LANE | 6 LANE	Improved dirt
Medium-duty	4 LANE | 6 LANE	Unimproved dirt
Loose-surface, graded, or narrow hard-surface		

U. S. Route — State Route

TRUE NORTH — MAGNETIC NORTH — 14°
APPROXIMATE MEAN DECLINATION, 1938

SCALE 1:62500

1 ½ 0 1 2 3 4 MILES
3000 0 3000 6000 9000 12000 15000 18000 21000 FEET
1 .5 0 1 2 3 4 5 KILOMETERS

Contour interval 25 feet
Datum is mean sea level

Polyconic projection. 1927 North American datum
5000 yard grid based on U. S. zone system, F
10000 foot grid based on Arizona (Central)
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SAN VICENTE, ARIZ.
Edition of 1948

N3200—W11130/15

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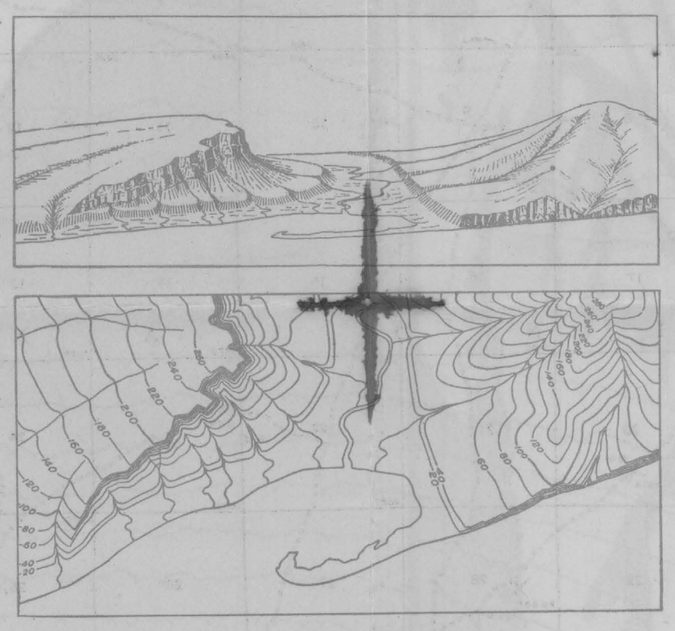

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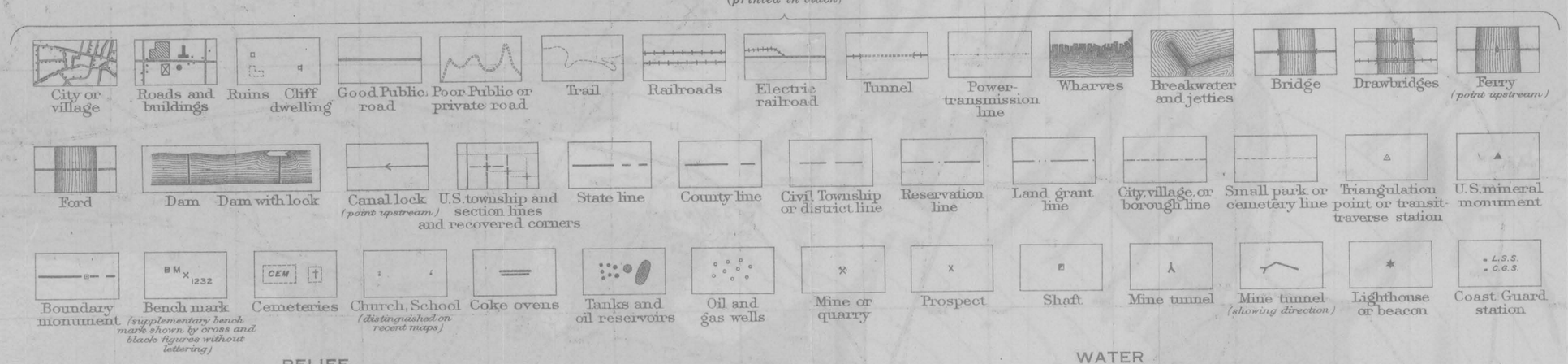
United States Geological Survey,
Washington, D. C.

November 1937.

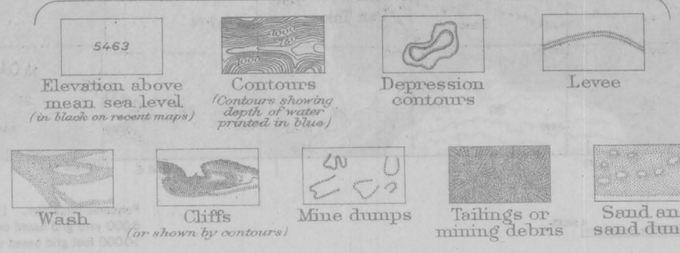
STANDARD SYMBOLS

NOTE:—Effective on and after October 1, 1946, the price of standard topographic quadrangle maps will be 20 cents each, with a discount of 20 percent on orders amounting to $10 or more at the retail rate.

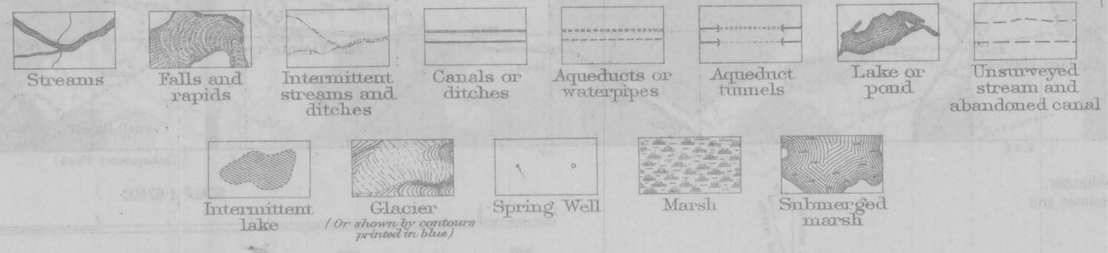
CULTURE
(printed in black)



RELIEF
(printed in brown)



WATER
(printed in blue)



WOODS
(when shown, printed in green)

S WORLDWIDE #115
ST. CODE
K .09825
ERATOR J. FINK

KENNECOTT COPPER CORPORATION
EXPLORATION SERVICES — GEOPHYSICS DIVISION
GRAVITY FIELD NOTES

PAGE 7
DATE 8-26-66
AREA SILNAKYA
STATE ARIZ

TATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
20801	H31	15.9	0855	378.0	32°11.50	111°45.31	
20801	H31	15.9	0919	894.2	32°11.50	111°45.31	RESET LATITUDE
20849	ALT	21.0	1010	481.8	32°09.45	111°47.66	
20850	ALT	21.3	1022	435.3	32°09.25	111°47.82	
0851	ALT	21.6	1037	371.0	32°09.12	111°47.97	
0852	ALT	21.9	1107	280.2	32°08.92	111°47.98	
20801	H31	26.3	1156	889.8	32°11.50	111°45.31	
0801	H31	26.3	1227	891.8	32°11.50	111°45.31	
20801	H31	52.0	1559	895.3	32°11.50	111°45.31	

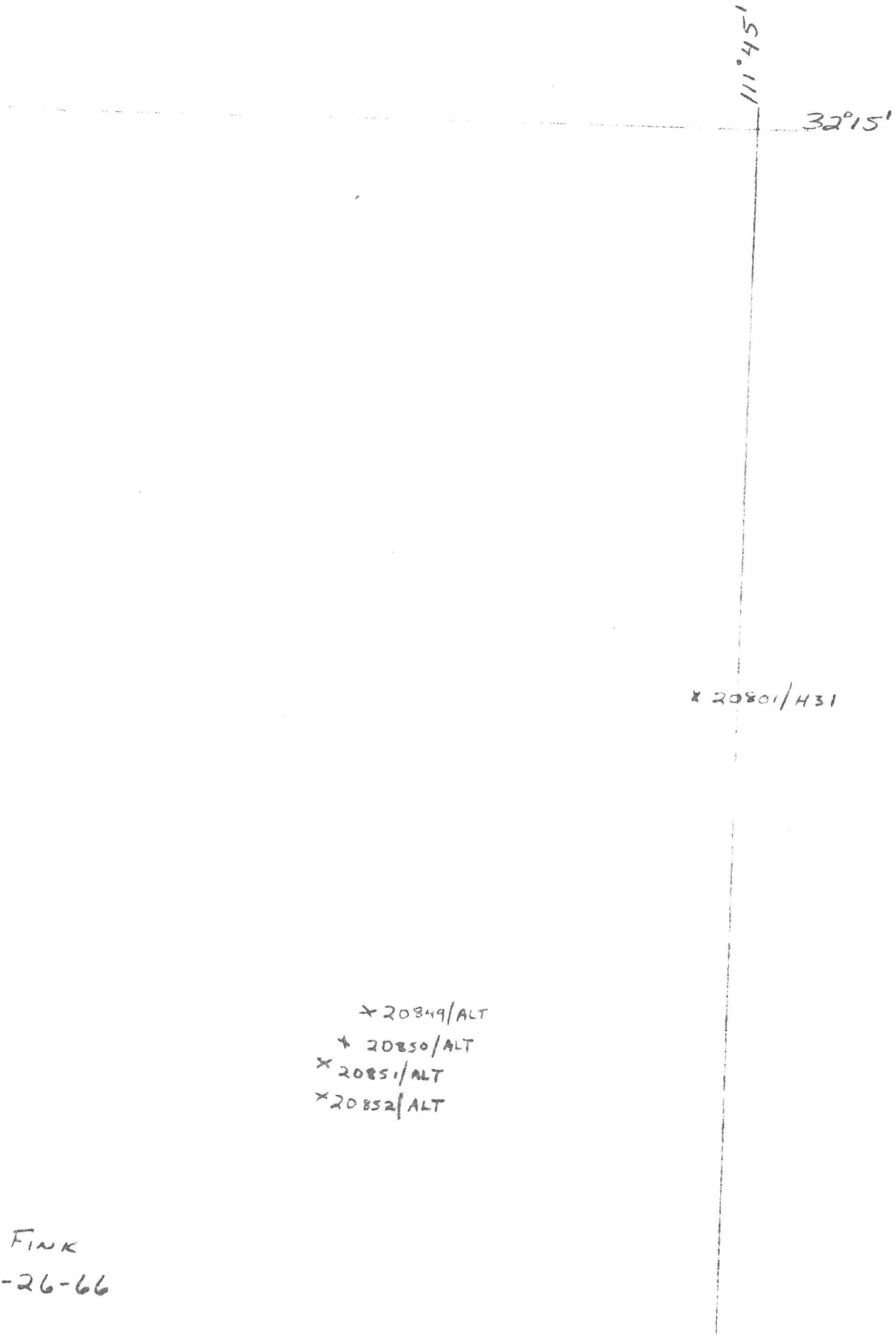
ALTIMETER 1. E
ALTIMETER 2. F
OPERATOR K. WIJAMS
WEATHER CLEAR

KENNECOTT COPPER CORPORATION
EXPLORATION SERVICES — GEOPHYSICS DIVISION

ALTIMETER NOTES

P. 7
DATE 8-26-66
AREA SILVANAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY/WET	C.F.	ELEV	REMARKS
★ 20801	H31	15.9	0855	2052	3055	87/71		2342	
★ 20801	H31	15.9	0920	2050	3055	89/70		2342	RESET LATITUDE
20849	ALT	21.0	1010	2540	3539				
20850	ALT	21.3	1022	2602	3612				
20851	ALT	21.6	1037	2675	3692				
20852	ALT	21.9	1107	2800	3812				
★ 20801	H31	26.3	1156	2062	3072	100/74		2342	
★ 20801	H31	26.3	1227	2072	3078	99/72		2342	
★ 20801	H31	52.0	1559	2125	3131	99/71		2342	


111°45'
32°15'
x 20801/H31
x 20849/ALT
x 20850/ALT
x 20851/ALT
x 20852/ALT

J. FINK
8-26-66

ALTIMETER 1. E
ALTIMETER 2. F
OPERATOR K. IJAMS
WEATHER CLEAR

KENNECOTT COPPER CORPORATION
EXPLORATION SERVICES — GEOPHYSICS DIVISION

ALTIMETER NOTES

PAGE 6
DATE 8-25-66
AREA SANAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE	TIME	ALT. 1	ALT. 2	DRY/WET	C.F.	ELEV.	REMARKS
★ 20801	H31	72.1	0852	2005	3000	87/74		2342	
★ 20838	RE	73.0	0922	2000	3002	89/75		2344	
20839	ALT	73.5	0933	1987	2990				
20840	ALT	74.0	0953	1972	2972				
20841	ALT	74.3	1006	1950	2957				WELL
20842	ALT	75.8	1034	1991	2990				Windmill
20843	ALT	78.4	1101	2045	3045				
20844	ALT	78.9	1114	2081	3080				
20845	ALT	79.4	1120	2121	3128				
20846	ALT	79.9	1128	2182	3189				
★ 20801	H31	82.5	1140	2021	3021	97/74		2342	
★ 20801	H31	82.5	1220	2033	3033	95/75		2342	
20847	ALT	85.5	1243	2291	3291				
20848	ALT	86.0	1259	2357	3374				
★ 20801	H31	91.6	1458	2111	3113	99/74		2342	

INST. WORLDWIDE #115
INST. CODE
K .09825
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KENNECOTT COPPER CORPORATION
EXPLORATION SERVICES — GEOPHYSICS DIVISION
GRAVITY FIELD NOTES

PAGE 6
DATE 8-25-66
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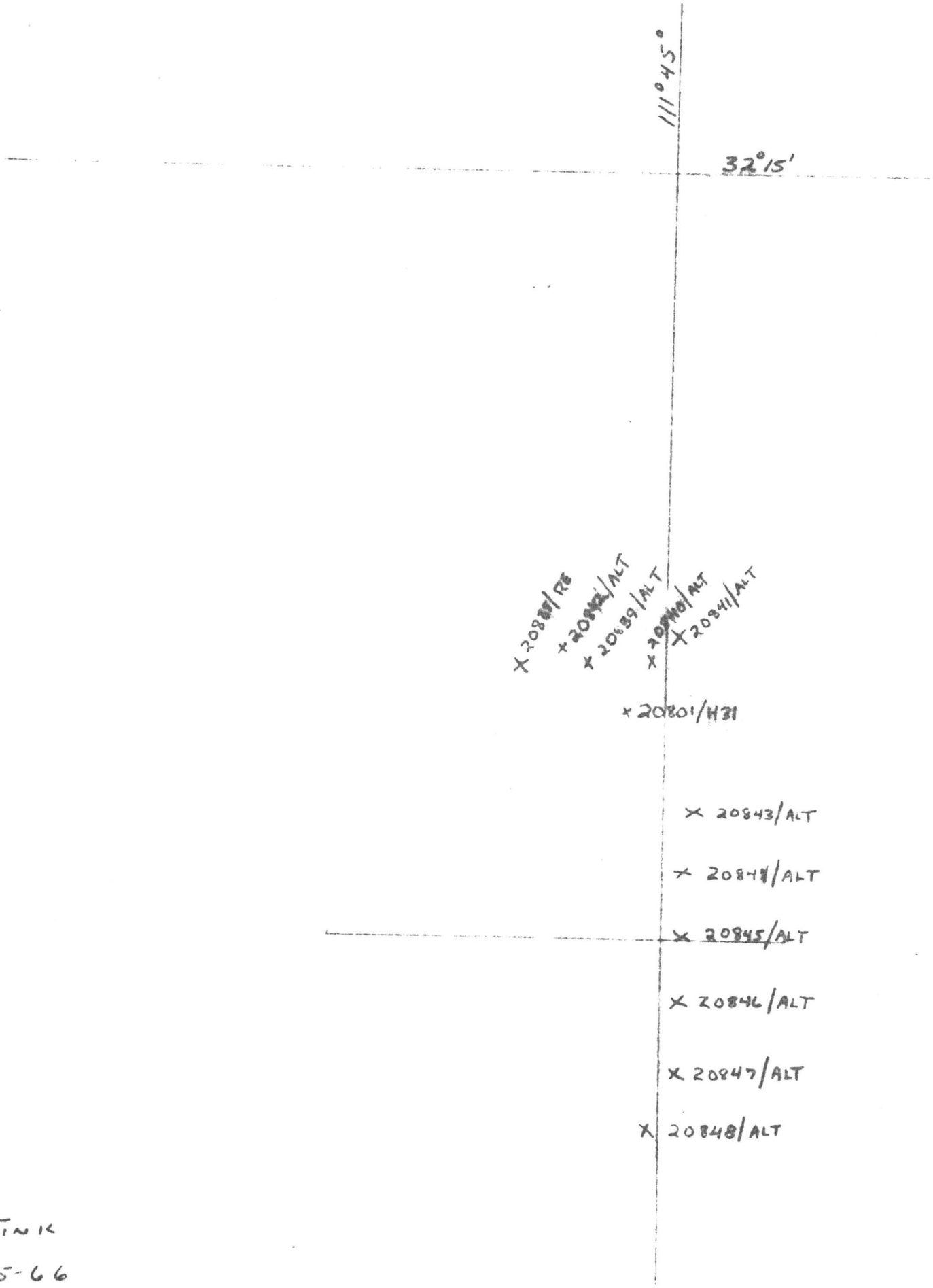
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H31	72.1	0852	383.5	32°11.50	111°45.31	
*20838	RE	73.0	0922	396.2	32°11.78	111°46.13	
20839	ALT	73.5	0933	394.9	32°11.81	111°45.62	
20840	ALT	74.0	0953	406.2	32°11.83	111°45.12	
20841	ALT	74.3	1006	419.6	32°11.99	111°44.90	WELL
20842	ALT	75.8	1084	400.4	32°11.90	111°45.83	Wind mill
20843	ALT	78.4	1101	342.5	32°10.83	111°44.76	
20844	ALT	78.9	1114	303.7	32°10.43	111°44.85	
20845	ALT	79.4	1120	249.6	32°10.03	111°44.83	
20846	ALT	79.9	1128	190.0	32°09.58	111°44.85	
*20801	H31	82.5	1140	382.0	32°11.50	111°45.31	
*20801	H31	82.5	1220	381.6	32°11.50	111°45.31	
20847	ALT	85.5	1243	110.0	32°09.12	111°44.86	
20848	ALT	86.0	1259	053.5	32°08.76	111°45.10	
*20801	H31	91.6	1458	386.2	32°11.50	111°45.31	


111°45'
32°15'
20837/RE
20838/ALT
20839/ALT
20840/ALT
20841/ALT
20801/H31
20843/ALT
20844/ALT
20845/ALT
20846/ALT
20847/ALT
20848/ALT

J. FINK
8-25-66

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AREA SIL NAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H31	24.2	0907	384.1	32°11.50	111°45.31	
20832	ALT	31.2	1034	261.8	32°11.27	111°48.45	
20833	ALT	31.7	1045	194.1	32°10.84	111°48.54	
20834	ALT	32.2	1054	106.0	32°10.43	111°48.59	
20835	ALT	32.6	1120	072.6	32°10.13	111°48.72	
*20801	H31	40.8	1217	385.4	32°11.50	111°45.31	
*20801	H31	40.8	1354	385.6	32°11.50	111°45.31	
20836	ALT	42.1	1323	393.2	32°11.93	111°46.93	
20837	ALT	42.6	1333	369.6	32°11.58	111°46.86	
*20801	H31	47.6	1430	385.8	32°11.50	111°45.31	

ALTIMETER 1. E
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WEATHER CLEAR

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AREA SIL NAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE	TIME	ALT. 1	ALT. 2	DRY / WET	C.F	ELEV.	REMARKS
★ 20801	H31	24.2	0907	1950	2953	87 / 74		2342	
20832	ALT	31.2	1034	2078	3078				
20833	ALT	31.7	1045	2150	3160				
20834	ALT	32.2	1054	2256	3265				
20835	ALT	32.6	1120	2325	3325				
★ 20801	H31	40.8	1217	1978	2972	94 / 75		2342	
★ 20801	H31	40.8	1354	1989	2989	95 / 70		2342	
20836	ALT	42.1	1323	2020	3015				
20837	ALT	42.6	1333	2035	3037				
★ 20801	H31	47.6	1430	2029	3031	96 / 75		2342	

32°15'

111°45'

+ 20836/ALT

× 20837/ALT

× 20832/ALT

× 20833/ALT

× 20834/ALT

+ 20835/ALT

J. FINK

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STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*336	N38	66.4	0933	199.0	32° 02.15	111° 37.03	ADJUSTED LAT.
20801	H31	83.0	1113	954.8	32° 11.50	111° 45.31	
*336	N 38	300.0	1223	199.4	32° 02.15	111° 37.03	
20801	H 31	316.0	1342	954.9	32° 11.50	111° 45.31	
*336	N 38	31.9	1456	199.2	32° 02.15	111° 37.03	

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WEATHER CLDY-HUMID

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AREA SIL NAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
*336	N38	66.4	0933	2755	3760	77° / 77°		3064	
*20801	H31	83.0	1113	2092	3088	90° / 74°		2342	
*336	N38	300.3	1223	2782	3782	74° / 83°		3064	
*20801	H31	316.0	1342	2135	3138	73° / 88°		2342	
*336	N38	319	1456	2818	3825	75° / 87°		3064	

111°45'

32°15'

20801/H31

x

10'

R. ZUNIGA

8-19-66

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AREA SIL NARYA
STATE ARIZ.

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
✱336	N38	37.4	0859	172.9	32°02.15	111°37.03	
✱20801	H31	52.9	1002	951.7	32°11.50	111°45.31	
✱336	N38	68.4	1102	194.5	32°02.15	111°37.03	
✱20801	H31	83.9	1159	951.2	32°11.50	111°45.31	
20801	H31	83.9	1245	400.7	32°11.50	111°45.31	ADJUSTED LAT.
20802	ALT.	84.4	1256	407.4	32°11.65	111°45.77	
20803	ALT.	84.9	1305	409.9	32°11.80	111°46.27	
20804	RE	85.4	1321	411.7	32°11.88	111°46.80	
20805	H32	85.7	1338	4[illegible]	32°12.07	111°47.13	
20806	ALT	86.2	1350	450.9	32°12.35	111°47.53	
20807	ALT.	86.7	1358	462.7	32°12.58	111°47.97	
20808	RE	86.9	1406	473.0	32°12.63	111°48.16	
20801	H31	89.9	1421	401.0	32°11.50	111°45.31	

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AREA SIL NAKYA
STATE ARIZ.

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT 2	DRY / WET	C.F.	ELEV.	REMARKS
*336	N38	37.4	0859	2764	3770	81°/72°		3064	
*20801	H31	52.9	1002	2090	3092	91/74		2342	
*336	N38	68.4	1102	2761	3770	86/71		3064	
*20801	H31	83.9	1159	2108	3108	96/74		2342	
*20801	H31	83.9	1245	2117	3117	96/74		2342	
20802	ALT.	84.4	1256	2123	3122	96/74			
20803	ALT	84.9	1305	2135	3137	96/75			
20804	RE	85.4	1321	2148	3144	96/75		2352	
20805	H32	85.7	1338	2128	3128	97/75		2332	
20806	ALT,	86.2	1350	2110	3109	97/75			
20807	ALT,	86.7	1358	2106	3105	97/75			
20808	RE	86.9	1406	2096	3095	97/75		2285	
*20801	H31	89.9	1421	2152	3158	96/74		2342	

111°45'

32°15'

10'

R. ZUNIGA

8-20-66

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STATE ARIZ.

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H 31	20.2	0946	392.8	32° 11.50	111° 45.31	
20809	ALT	20.5	0959	390.8	32° 11.59	111° 45.62	
20810	ALT	21.0	1008	354.7	32° 11.18	111° 45.78	
20811	ALT	21.5	1020	323.1	32° 10.83	111° 46.07	
20812	RE	21.9	1027	283.0	32° 10.50	111° 46.21	
20813	ALT	22.4	1040	228.2	32° 10.20	111° 46.63	
20814	ALT	22.9	1054	169.9	32° 09.95	111° 47.05	BOTTOM OF WASH
20815	ALT	23.2	1106	099.0	32° 09.82	111° 47.27	RIDGE
20816	ALT	23.5	1117	038.5	32° 09.65	111° 47.50	RIDGE
*20801	H 31	27.4	1159	392.9	32° 11.50	111° 45.31	
*20801	H 31	27.4	1237	392.9	32° 11.50	111° 45.31	
20817	ALT	29.0	1253	380.6	32° 11.47	111° 46.66	STREAM BED
20818	ALT	29.5	1303	347.8	32° 11.08	111° 46.43	
20819	ALT	30.0	1314	304.1	32° 10.69	111° 46.27	
20820	ALT	30.5	1326	251.7	32° 10.27	111° 46.07	
20821	ALT	31.0	1336	215.1	32° 09.87	111° 45.90	
20822	ALT	31.5	1346	147.7	32° 09.42	111° 45.81	
20823	RE	31.75	1353	107.3	32° 09.19	111° 45.88	
20824	ALT	31.9	1404	110.3	32° 09.27	111° 46.15	
*20801	H 31	36.4	1437	392.0	32° 11.50	111° 45.31	

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WEATHER CLEAR

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AREA SIL NAKYA
STATE ARIZ.

STATION	ELEVATION CONTROL	MILE	TIME	ALT. 1	ALT. 2	DRY/WET	C.F.	ELEV.	REMARKS
*20801	H31	20.2	0946	2088	3085	94/66		2342	
20809	ALT	20.5	0959	2090	3090	96/66			
20810	ALT	21.0	1008	2128	3130	94/64			
20811	ALT	21.5	1020	2150	3153	94/65			
*20812	RE	21.9	1027	2189	3185	94/65		2452	
20813	ALT	22.4	1040	2243	3249	97/66			
20814	ALT	22.9	1054	2312	3310	96/66			BOTTOM OF WASH
20815	ALT	23.2	1106	2398	3415	95/65			RIDGE
20816	ALT	23.5	1117	2478	3486	96/65			RIDGE
*20801	H31	27.4	1159	2094	3099	98/67		2342	
*20801	H31	27.4	1237	2108	3110	98/67		2342	
20817	ALT	29.0	1253	2138	3144	101/70			STREAM BED
20818	ALT	29.5	1303	2166	3172	98/68			
20819	ALT	30.0	1314	2197	3208	100/68			
20820	ALT	30.5	1326	2257	3260	99/68			
20821	ALT	31.0	1336	2286	3289	98/69			
20822	ALT	31.5	1346	2348	3356	97/69			
*20823	RE	31.75	1353	2387	3406	98/68		2636	
20824	ALT	31.9	1404	2390	3405	104/71			
*20801	H31	36.4	1437	2147	3152	101/69		2342	

32° 15'

111° 45'

20817/ALT

20805/ALT

20804/HS1

20818/ALT

20810/ALT

20811/ALT

[redacted]

20812/RE

20820/ALT

20813/ALT

32° 00'

20819/ALT

20821/ALT

20815/ALT

20816/ALT

20822/ALT

20829/ALT

20823/RE

R. ZUNIGA
8-22-66

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AREA SIL NAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 20801	H31	69.0	0918	2020	3011	91/66		2342	
20825	ALT	72.5	1053	2325	3322				WASH
20826	ALT	79.8	1115	1978	2978				
20827	ALT	80.3	1133	2018	3011				FENCELINE
20828	ALT	80.8	1145	2050	3058				END FENCELINE
★ 20801	H31	85.2	M14	2012	3016	97/71		2342	
★ 20801	H31	85.2	1250	2012	3015	98/71		2342	
★ 20829	H33	89.2	1310	1980	2900	96/73		2211	
20830	ALT	91.6	1340	1971	2960				
20831	ALT	92.6	1400	2069	3070				
★ 20801	H31	99.0	1455	2060	3062	99/74		2342	

Traced 5/24/66

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AREA SIL NAKYA
STATE ARIZONA

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H31	69.0	09[illegible]	391.2	32° 11.50	111°45.31	
20825	ALT	72.5	1055	071.2	32°09.02	111°45.86	WASH
20826	ALT	79.8	1115	438.4	32°12.26	111°48.06	
20827	ALT	80.3	1133	401.9	32°11.[illegible]	111°48.00	FENCELINE
20828	ALT	80.9	1145	355.7	32°11.60	111°47.78	END FENCELINE
*20801	H31	85.2	1214	389.6	32°11.50	111°45.31	
*20801	H31	85.2	1250	389.6	32°11.50	111°45.31	
*20829	H33	89.2	1310	513.7	32°13.29	111°48.91	
20830	ALT	91.6	1340	470.7	32°12.71	111°48.84	
20831	ALT	92.6	1400	372.5	32°12.07	111°48.60	
*20801	H31	99.0	1455	389.8	32°11.50	111°45.31	

32°15'

111°45'

X 20829/H33

X 20830/ALT

X 20826/ALT

X 20831/ALT

X 20827/ALT

X 20828/ALT

20801/H31

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AREA Gunsight
STATE ARIZONA.

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*4-10	Z36	58.3	0850	567.5	32°12.45	112°35.27	
20947	ALT	70.6	0955	603.1	32°9.70	112° 26.80	
20948	ALT	71.2	10:06	600.9	32°9.75	112° 27.30	
20949	ALT	71.7	10:18	603.4	32°9.75	112° 27.80	
20950	ALT	72.3	10:30	608.8	32°9.75	112° 28.30	
20951	ALT	72.8	10:43	611.5	32°9.80	112° 28.80	
20952	ALT	73.3	10:55	615.0	32°9.80	112° 29.30	
20953	ALT	73.8	11:10	619.8	32°9.85	112° 29.80	
20954	ALT	74.3	11:50	602.9	32°9.85	112° 30.30	
20955	ALT	74.8	12:05	592.7	32°9.50	112° 30.55	
20956	ALT	75.3	12:25	592.6	32° 9.15	112° 30.85	
*4-10	Z36	83.4	1340	566.9	32.12.45	112° 35.27	

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KENNECOTT COPPER CORPORATION
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AREA GUNSIGHT
STATE ARIZONA

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*410	Z36	47.4	10:05	571.5			
20938	ALT	59.8	11.00	607.0			
20939	ALT	60.3	11:08	615.3			
20940	ALT	60.8	11:23	621.0			
20941	ALT	61.3	11:40	624.1			
20942	ALT	61.8	12:06	610.9			
20943	S.C.	62.5	12:15	585.6			Sec. Corner.
20944	ALT	63.1	12.33	569.9			
20945	S.C	63.7	12.48	501.8			Sec Corner
20946	S C	64.7	13.55	435.1			Sec Corner
14171	S.C.	65.7	13.55	444.5			S. C.
*410	Z36		1445	571.3			
410	Z36		1520	570.7			

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AREA GUNSIGHT
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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*410	Z36	35.1	0840	571.0	32°15.45	112°35.27	
20926	ALT	45.3	0925	584.7			
20927	ALT	45.8	0943	590.5			
20928	RE	46.3	0955	601.7			
20929	ALT	46.8	10:12	610.1			
20930	RE	47.4	10:26	610.7			
20931	ALT	47.9	10:47	617.2			
20932	RE	48.3	11:00	616.1			
20933	alt	48.8	11:15	612.1			
*410	Z36	68.2	12.25	571.5			
*410	Z36	68.2	1312	571.6			
20934	ALT	78.1	1358	586.9			
20935	ALT	78.6	1413	586.9			
20936	ALT	79.2	1430	590.4			
20937	ALT	79.7	1452	594.6			
*410	Z36	87.3	1525	573.8			
20949							
20940							

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AREA GUNSIGHT
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
* 410	Z 36	27.7	0830	586.5	32°12.45	112°35.27	
20924	ALT	36.9	0855	599.3	32° 11.18	112° 26.28	
20925	RE	37.2	0908	599.5	32° 10.96	112° 26.28	VEHICLE BREAKDOWN
* 410	Z 36	47.2	1017	587.9	32°12.45	112°35.27	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*410	Z 36	69.2	0817	591.7	32°12.45	112°35.27	
20907	13LC	88.7	0856	531.2	32°04.52	112°32.60	
20908	ALT	89.2	0907	530.0	32°04.50	112°33.14	
20909	ALT	89.7	0914	537.5	32°04.92	112°33.08	
20910	ALT	90.2	0923	536.5	32°05.32	112°32.97	
20911	ALT	90.7	0932	536.9	32°05.73	112°32.84	
20912	ALT	91.2	0939	551.8	32°06.16	112°32.71	
20913	ALT	94.4	1008	543.0	32°04.45	112°32.10	
20914	RE	95.0	1015	547.9	32°04.39	112°31.47	
20915	ALT	95.5	1035	554.5	32°04.34	112°30.97	
20916	14LC	95.9	1040	560.8	32°04.30	112°30.52	
20917	ALT	96.9	1050	568.3	32°04.15	112°29.50	
20918	15LC	97.7	1058	574.7	32°03.94	112°28.61	
20919	ALT	98.7	1106	588.7	32°03.73	112°27.61	
20920	16LC	99.8	1115	602.5	32°03.54	112°26.43	CATTLE GUARD
*410	Z 36	24.9	1159	591.4	32°12.45	112°35.27	
*410	Z 36	24.9	1228	591.1	32°12.45	112°35.27	
20921	ALT	51.1	1409	612.5	32°04.40	112°26.42	
20922	ALT	52.2	1512	616.6	32°05.25	112°26.40	
20923	ALT	53.3	1538	639.0	32°06.08	112°26.37	
*410	Z 36	73.2	1752	591.8	32°12.45	112°35.27	

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AREA GUNSIGHT
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*410	Z 36	39.4	0834	591.8	32°15.45	112°35.27	
*20877	Z-HRP	55.3	0926	627.5	32°11.11	112°22.00	
20878	ALT	56.3	0936	614.7	32°11.23	112°23.01	
20879	RE	57.2	0946	600.1	32°11.33	112°23.91	
20880	ALT	57.8	0958	597.3	32°11.40	112°24.50	
20881	ALT	58.3	1007	604.7	32°11.46	112°24.99	
20882	ALT	58.8	1014	615.2	32°11.52	112°25.44	
20883	RE	59.4	1020	613.7	32°11.60	112°26.08	
20884	ALT	59.9	1029	612.6	32°11.66	112°26.62	
20885	D 37	60.5	1039	608.6	32°11.75	112°27.27	
20886	ALT	61.0	1049	607.6	32°11.80	112°27.78	
20887	ALT	61.5	1057	608.8	32°11.85	112°28.28	
20888	ALT	62.0	1103	622.0	32°11.92	112°28.78	
*20889	C 37	62.5	1110	631.8	32°11.97	112°29.28	
20890	ALT	63.0	1119	642.8	32°12.04	112°29.77	
20891	ALT	63.5	1125	647.7	32°12.08	112°30.27	
20892	ALT	64.0	1134	635.7	32°12.15	112°30.78	EMBANKMENT
*410	Z 36	68.1	1150	591.9	32°12.45	112°35.27	
*410	Z 36	68.1	1235	591.9	32°12.45	112°35.27	
20893	ALT	72.5	1249	641.6	32°11.91	112°30.96	
20894	ALT	72.8	1257	636.9	32°11.62	112°31.00	
20895	ALT	73.8	1308	640.7	32°11.46	112°30.59	
20896	ALT	82.3	1400	595.1	32°10.93	112°23.88	
20897	ALT	82.9	1409	595.5	32°10.42	112°23.75	
20898	ALT	83.4	1416	584.5	32°10.16	112°24.15	
20899	ALT	83.9	1425	581.8	32°09.90	112°24.60	
20900	ALT	84.4	1438	596.2	32°09.71	112°25.04	
20901	ALT	84.9	1444	609.3	32°09.47	112°25.36	
20902	ALT	85.4	1451	620.7	32°09.07	112°25.21	
20903	ALT	85.9	1500	627.8	32°08.75	112°24.90	
20904	ALT	86.4	1507	623.7	32°08.40	112°24.67	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
20905	ALT	86.9	1513	628.0	32°07.99	112°24.56	
20906	RE	87.4	1536	629.0	32°07.66	112°24.55	
*410	Z36	06.0	1614	595.0	32°12.45	112°35.27	

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STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*401	Z 36	23.6	0830	595.0	32°15.45	112°35.27	
20859	ALT	30.7	0934	532.0	32°08.26	112°34.45	
20860	ALT	31.0	0946	540.1	32°08.20	112°34.17	
20861	ALT	31.5	0953	558.6	32°08.14	112°33.68	
20862	ALT	32.0	1012	579.8	32°08.15	112°33.18	
20863	ALT	32.5	1045	596.3	32°08.22	112°32.66	
20864	ALT	33.0	1100	608.6	32°08.30	112°32.17	
20865	ALT	34.4	1134	608.3	32°08.40	112°31.62	
*401	Z 36	41.5	1219	594.7	32°15.45	112°35.27	
20866	RE	70.0	1345	513.6	32°04.41	112°33.69	
20867	ALT	70.9	1353	526.6	32°04.93	112°33.78	
20868	ALT	71.4	1407	535.9	32°05.42	112°33.77	
20869	ALT	71.9	1413	542.7	32°05.89	112°33.81	
20870	ALT	72.4	1420	543.3	32°06.31	112°33.98	
20871	ALT	72.9	1427	540.3	32°06.74	112°34.12	
20872	ALT	73.4	1438	545.2	32°07.19	112°34.31	
20873	ALT	73.9	1447	557.7	32°07.53	112°34.46	
20874	ALT	74.4	1457	541.2	32°07.79	112°34.58	
20875	ALT	74.7	1505	531.3	32°08.07	112°34.60	
20876	ALT	75.0	1514	528.8	32°08.27	112°34.75	
*410	Z 36	81.1	1556	596.2	32°15.45	112°35.27	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*410	Z 36	24.6	0937	602.2	32°12.45	112°35.27	RESET LATITUDE
20853	ALT	28.8	1012	495.6	32°10.05	112°33.79	
20854	ALT	29.3	1022	525.9	32°09.90	112°33.28	
20855	ALT	29.8	1032	579.7	32°09.62	112°32.88	
20856	ALT	30.8	1108	588.1	32°09.34	112°32.53	
20857	ALT	31.3	1118	594.8	32°09.02	112°32.18	
20858	ALT	31.8	1127	606.7	32°08.69	112°31.87	
*410	Z 36	39.8	1224	599.0	32°12.45	112°35.27	
*410	Z 36	39.8	1303	598.9	32°12.45	112°35.27	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H31	15.9	0855	378.0	32°11.50	111°45.31	
*20801	H31	15.9	0919	894.2	32°11.50	111°45.31	RESET LATITUDE
20849	ALT	21.0	1010	481.8	32°09.45	111°47.66	
20850	ALT	21.3	1022	435.3	32°09.25	111°47.82	
20851	ALT	21.6	1037	371.0	32°09.12	111°47.97	
20852	ALT	21.9	1107	280.2	32°08.92	111°47.98	
*20801	H31	26.3	1156	889.8	32°11.50	111°45.31	
*20801	H31	26.3	1227	891.8	32°11.50	111°45.31	
*20801	H31	52.0	1559	895.3	32°11.50	111°45.31	

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AREA SILNAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H31	72.1	0852	383.5	32°11.50	111°45.31	
*20838	RE	73.0	0922	396.2	32°11.78	111°46.13	
20839	ALT	73.5	0933	394.9	32°11.81	111°45.62	
20840	ALT	74.0	0953	406.2	32°11.83	111°45.12	
20841	ALT	74.3	1006	419.6	32°11.99	111°44.90	WELL
20842	ALT	75.8	1034	400.4	32°11.90	111°45.83	Wind mill
20843	ALT	78.4	1101	342.5	32°10.83	111°44.76	
20844	ALT	78.9	1114	303.7	32°10.43	111°44.85	
20845	ALT	79.4	1120	249.6	32°10.03	111°44.83	
20846	ALT	79.9	1128	190.0	32°09.58	111°44.85	
*20801	H31	82.5	1140	382.0	32°11.50	111°45.31	
*20801	H31	82.5	1220	381.6	32°11.50	111°45.31	
20847	ALT	85.5	1243	110.0	32°09.12	111°44.86	
20848	ALT	86.0	1259	053.5	32°08.76	111°45.10	
*20801	H31	91.6	1458	386.2	32°11.50	111°45.31	

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STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H 31	24.2	0907	384.1	32°11.50	111°45.31	
20832	ALT	31.2	1034	261.8	32°11.27	111°48.45	
20833	ALT	31.7	1045	194.1	32°10.84	111°48.54	
20834	ALT	32.2	1054	106.0	32°10.43	111°48.59	
20835	ALT	32.6	1120	072.6	32°10.13	111°48.72	
*20801	H 31	40.8	1217	385.4	32°11.50	111°45.31	
*20801	H 31	40.8	1354	385.6	32°11.50	111°45.31	
20836	ALT	42.1	1323	393.2	32°11.43	111°46.93	
20837	ALT	42.6	1333	369.6	32°11.38	111°46.86	
*20801	H 31	47.6	1430	385.8	32°11.50	111°45.31	

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STATE ARIZONA

STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H31	69.0	0918	391.2	32° 11.50	111°45.31	
20825	ALT	72.5	1055	071.2	32°09.02	111°45.86	WASH
20826	ALT	79.8	1115	438.4	32°12.26	111°48.06	
20827	ALT	80.3	1133	401.9	32°11.93	111°48.00	FENCELINE
20828	ALT	80.8	1145	355.7	32°11.60	111°47.78	END FENCELINE
*20801	H31	85.2	1214	389.6	32°11.50	111°45.31	
*20801	H31	85.2	1250	389.6	32°11.50	111°45.31	
20829	H33	89.2	1310	513.7	32°13.29	111°48.91	
20830	ALT	91.6	1340	470.7	32°12.71	111°48.84	
20831	ALT	92.6	1400	372.5	32°12.07	111°48.60	
*20801	H31	99.0	1455	389.8	32°11.50	111°45.31	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*20801	H 31	20.2	0946	392.8	32° 11.50	111° 45.31	
20809	ALT	20.5	0959	390.8	32° 11.59	111° 45.62	
20810	ALT	21.0	1008	354.7	32° 11.18	111° 45.78	
20811	ALT	21.5	1020	323.1	32° 10.83	111° 46.07	
20812	~~RE~~	21.9	1027	283.0	32° 10.50	111° 46.21	
20813	ALT	22.4	1040	228.2	32° 10.20	111° 46.63	
20814	ALT	22.9	1054	169.9	32° 09.95	111° 47.05	BOTTOM OF WASH
20815	ALT	23.2	1106	099.0	32° 09.82	111° 47.27	RIDGE
20816	ALT	23.5	1117	038.5	32° 09.65	111° 47.50	RIDGE
*20801	H 31	27.4	1159	392.9	32° 11.50	111° 45.31	
*20801	H 31	27.4	1237	392.9	32° 11.50	111° 45.31	
20817	ALT	29.0	1253	380.6	32° 11.47	111° 46.66	STREAM BED
20818	ALT	29.5	1303	347.8	32° 11.08	111° 46.43	
20819	ALT	30.0	1314	304.1	32° 10.69	111° 46.27	
20820	ALT	30.5	1326	251.7	32° 10.27	111° 46.07	
20821	ALT	31.0	1336	215.1	32° 09.87	111° 45.90	
20822	ALT	31.5	1346	147.7	32° 09.42	111° 45.81	
20823	RE	31.75	1353	107.3	32° 09.19	111° 45.88	
20824	ALT	31.9	1404	110.3	32° 09.27	111° 46.15	
*20801	H 31	36.4	1437	392.0	32° 11.50	111° 45.31	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*336	N38	37.4	0859	192.9	32°02.15	111°37.03	
*20801	H31	52.9	1002	951.7	32°11.50	111°45.31	
*336	N38	68.4	1102	194.5	32°02.15	111°37.03	
*20801	H31	83.9	1159	951.2	32°11.50	111°45.31	
20801	H31	83.9	1245	400.7	32°11.50	111°45.31	ADJUSTED LAT.
20802	ALT.	84.4	1256	407.4	32°11.65	111°45.77	
20803	ALT.	84.9	1305	409.9	32°11.80	111°46.27	
20804	RE	85.4	1321	411.7	32°11.88	111°46.80	
20805	H32	85.7	1338	428.7	32°12.07	111°47.13	
20806	ALT	86.2	1350	452.9	32°12.35	111°47.53	
20807	ALT.	86.7	1358	462.7	32°12.58	111°47.97	
20808	RE	86.9	1406	473.0	32°12.63	111°48.16	
20801	H31	89.9	1421	401.0	32°11.50	111°45.31	

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STATION	ELEVATION CONTROL	MILE.	TIME	DIAL	LATITUDE	LONGITUDE	REMARKS
*336	N38	66.4	0933	199.0	32° 02.15	111° 37.03	ADJUSTED LAT.
20801	H31	83.0	1113	954.8	32° 11.50	111° 45.31	
*336	N38	300.0	1223	199.4	32° 02.15	111° 37.03	
20801	H31	316.0	1342	954.9	32° 11.50	111° 45.31	
*336	N38	31.9	1456	199.0	32° 02.15	111° 37.03	

ALTIMETER 1. _____
ALTIMETER 2. _____
OPERATOR P. Berryman
WEATHER CLEAR

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STATE ARIZONA

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
*410	Z36	58.3	08:50	1880	2892	88/70	1.08	2150	
20947	ALT	70.6	09:55	1709	2719				
20948	ALT	71.2	10:06	1730	2739				
20949	ALT	71.7	10:18	1752	2762				
20950	ALT	72.3	10:30	1780	2790				
20951	ALT	72.8	10:43	1810	2820				
20952	ALT	73.3	10:55	1840	2850				
20953	ALT	73.8	11:10	1874	2880				
20954	ALT	74.3	11:50	1899	2909				
20955	ALT	74.8	12:05	1935	2945				
20956	ALT	75.3	12:25	1930	2941				
*410	Z36	83.9	13:40	1960	2970	101/74	1.11	2150	

ALTIMETER 1. E
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OPERATOR P Berryman
WEATHER CLEAR

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
*410	Z36	47.4	10:25	1809	2809	90/72		2150	
20938	Alt	59.8	11:00	1711	2722				
20939	ALT	60.3	11:08	1737	2742				
20940	ALT	60.8	11:23	1762	2772				
20941	ALT	61.3	1140	1788	2807				
20942	ALT	61.8	1200	1818	2823			2168	
20943	S.C.	62.5	1215	1858	2869	98/76		2168	· FOUND S. CORNER.
20944	ALT	63.1	1233	1879	2889				
20945	S.C.	63.7	1248	1960	2960	101/78		2256	Section Corner
20946	S.C.	64.7	1355	1990	3002	104/76		2291	Section Corner
74971	S.C.	65.7	1420	1950	2960	102/76		2234	TIE POINT
·410	Z36	68.7	1445	1878	2892	101/76			
-410	Z36	68.7	15:20	1890	2900	102/76		2150	
20947									

ALTIMETER 1. E
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OPERATOR P. BERRYMAN
WEATHER CLEAR

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
*410	Z36	35.1	0840	1828	2834	85/65		2150	
20926	ALT	45.3	0925	1639	2647	90/68			Level STAKE
20927	ALT	45.8	0943	1627	2637	/68			
20928	RE	46.3	0955	1629	2648	91/68		1956	
20929	ALT	46.8	10:12	1635	2638				level STAKE
20930	RE	47.4	10:26	1628	2638	93/68		1951	
20931	ALT	47.9	10.42	1642	2640				Level STAKE
20932	RE	48.3	11:00	1629	2635	100/72		1946	
20933	ALT	48.8	11:15	1627	2637				level STAKE
*410	Z36	68.2	12:25	1850	2850	100/70		2150	
*410	Z36	68.2	13.12	1851	2860	98/68		2150	
20934	ALT	78.1	1358	1708	2707			939	
20935	ALT	78.6	14.13	1718	2722				
20936	ALT	79.2	1430	1741	2742				
20937	ALT	79.7	1452	1763	2770				
*410	Z36	87.3	1525	1891	2892	100/75			NEW psychrometer USED

ALTIMETER 1. E
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WEATHER CLEAR

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 410	Z 36	27.7	0830	1863	2877	77 / 62	1.06	2150	
20924	ALT	36.9	0855	1679	2689				
★ 20925	RE	37.2	0908	1695	2683	83 / 64	1.07	1965	VEHICLE BREAKDOWN
★ 410	Z 36	47.2	1017	1843	2855	87 / 65	1.08	2150	

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 410	Z 36	69.2	0817	1932	2941	78/61	1.06	2150	
★ 20907	13LC	88.7	0856	1888	2899	82/66	1.07	2114	
20908	ALT	89.2	0907	1906	2915				
20909	ALT	89.7	0914	1901	2912				
20910	ALT	90.2	0923	1901	2912				
20911	ALT	90.7	0932	1920	2925				
20912	ALT	91.2	0939	1918	2928				
20913	ALT	94.4	1008	1873	2873				
★ 20914	RE	95.0	1015	1844	2853	84/64	1.07	2077	CHANGED DRY THERMOMETER
20915	ALT	95.5	1035	1831	2843				
20916	14LC	95.9	1040	1820	2830	84/65	1.07	2047	
20917	ALT	96.9	1050	1788	2800				
★ 20918	15LC	97.7	1058	1763	2777	85/66	1.07	1990	
20919	ALT	98.7	1106	1735	2742				
20920	16LC	99.8	1115	1712	2723	86/66	1.08	1930	
★ 410	Z 36	24.9	1159	1947	2951	88/65	1.08	2150	
★ 410	Z 36	24.9	1228	1947	2955	90/66	1.08	2150	
20921	ALT	51.1	1409	1750	2760				
20922	ALT	52.2	1512	1769	2780				
20923	ALT	52.3	1538	1784	2791				
★ 410	Z 36	73.2	1752	2000	3002	80/62	1.06	2150	

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KENNECOTT COPPER CORPORATION
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AREA GUNSIGHT
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 410	Z 36	39.4	0834	1935	2941	80/69	1.07	2150	
★ 20877	2-HRP	55.3	0926	1720	2729	84/71	1.07	1937	
20878	ALT	56.3	0936	1720	2725				
★ 20879	RE	57.2	0946	1730	2732	82/72	1.07	1946	
20880	ALT	57.8	0956	1730	2737				
20881	ALT	58.3	1007	1736	2743				
20882	ALT	58.8	1014	1739	2748				
★ 20883	RE	59.4	1020	1749	2755	89/71	1.08	1973	
20884	ALT	59.9	1029	1762	2773				
★ 20885	D 37	60.5	1039	1781	2791	87/70	1.08	1995	
20886	ALT	61.0	1049	1800	2808				
20887	ALT	61.5	1057	1818	2825				
20888	ALT	62.0	1103	1833	2844				
★ 20889	C 37	62.5	1110	1847	2860	90/70	1.09	2062	
20890	ALT	63.0	1119	1868	2883				
20891	ALT	63.5	1125	1887	2899				
20892	ALT	64.0	1134	1912	2928				EMBANKMENT
★ 410	Z 36	68.1	1150	1947	2957	90/69	1.08	2150	
★ 410	Z 36	68.1	1235	1966	2974	92/68	1.09	2150	
20893	ALT	72.5	1249	1943	2951				
20894	ALT	72.8	1257	1956	2968				
20895	ALT	73.8	1308	1949	2958				
20896	ALT	82.3	1400	1773	2786				
20897	ALT	82.9	1409	1771	2773				
20898	ALT	83.4	1416	1768	2772				
20899	ALT	83.9	1425	1770	2779				
20900	ALT	84.4	1438	1771	2780				
20901	ALT	84.9	1444	1778	2787				
20902	ALT	85.4	1451	1773	2780				
20903	ALT	85.9	1500	1770	2774				
20904	ALT	86.4	1507	1772	2767				

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
20905	ALT	86.9	1513	1750	2754				
20906	RE	87.4	1536	1751	2755	93 / 67	1.09	1906	
★ 410	Z36	06.0	1614	2008	3011	95 / 66	1.09	2150	

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
* 410	Z 36	23.6	0830	1897	2909	83 / 69		2150	
20859	ALT	30.7	0934	2031	3042				
20860	ALT	31.0	0946	2009	3015				
20861	ALT	31.5	0953	1981	2987				
20862	ALT	32.0	1012	1960	2959				
20863	ALT	32.5	1045	1916	2928				
20864	ALT	33.0	1100	1900	2914				
20865	ALT	34.4	1134	1908	2912				
* 410	Z 36	41.5	1219	1910	2920	90 / 72		2150	
20866	RE	70.0	1345	1950	2950	92 / 72		2153	
20867	ALT	70.9	1353	1949	2949				
20868	ALT	71.4	1407	1952	2957				
20869	ALT	71.9	1413	1969	2975				
20870	ALT	72.4	1420	1991	2995				
20871	ALT	72.9	1427	2012	3020				
20872	ALT	73.4	1438	2029	3035				
20873	ALT	73.9	1447	2053	3059				
20874	ALT	74.4	1457	2083	3089				
20875	ALT	74.7	1505	2100	3105				
20876	ALT	75.0	1514	2108	3117				
* 410	Z 36	81.1	1556	1994	3000	94 / 70			

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 410	Z 36	24.6	0937	1930	2943	90 / 68	1.08	2150	
20853	ALT	28.8	1012	2027	3032				
20854	ALT	29.3	1022	2010	3021				
20855	ALT	29.8	1032	2008	3015				
20856	ALT	30.8	1108	1988	2994				
20857	ALT	31.3	1118	1970	2977				
20858	ALT	31.8	1127	1955	2963				
★ 410	Z 36	39.8	1224	1950	2961	97 / 75	1.10	2150	
★ 410	Z 36	39.8	1303	1949	2956	86 / 72	1.08	2150	

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AREA SILNAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 20801	H31	15.9	0855	2052	3055	87/71		2342	
★ 20801	H31	15.9	0920	2050	3055	89/70		2342	RESET LATITUDE
20849	ALT	21.0	1010	2540	3539				
20850	ALT	21.3	1022	2602	3612				
20851	ALT	21.6	1037	2675	3692				
20852	ALT	21.9	1107	2800	3812				
★ 20801	H31	26.3	1156	2062	3072	100/74		2342	
★ 20801	H31	26.3	1227	2072	3078	99/72		2342	
★ 20801	H31	52.0	1559	2125	3131	99/71		2342	

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AREA SILNAKYA
STATE ARIZ

STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 20801	H31	72.1	0852	2005	3000	87/74		2342	
★ 20838	RE	73.0	0922	2000	3002	89/75		2344	
20839	ALT	73.5	0933	1987	2990				
20840	ALT	74.0	0953	1972	2972				
20841	ALT	74.3	1006	1950	2957				WELL
20842	ALT	75.8	1034	1991	2990				Windmill
20843	ALT	78.4	1101	2045	3045				
20844	ALT	78.9	1119	2081	3080				
20845	ALT	79.4	1120	2121	3128				
20846	ALT	79.9	1128	2182	3189				
★ 20801	H31	82.5	1140	2021	3021	97/74		2342	
★ 20801	H31	82.5	1220	2033	3033	95/75		2342	
20847	ALT	85.5	1243	2291	3291				
20848	ALT	86.0	1259	2357	3374				
★ 20801	H31	91.6	1458	2111	3113	99/74		2342	

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 20801	H31	24.2	0907	1950	2953	87 / 74	1.09	2342	
20832	ALT	31.2	1034	2078	3078				
20833	ALT	31.7	1045	2150	3160				
20834	ALT	32.2	1054	2256	3265				
20835	ALT	326	1120	2325	3325				
★ 20801	H31	40.8	1217	1978	2972	94 / 75	1.10	2342	
★ 20801	H31	40.8	1354	1989	2989	95 / 70	1.11	2342	
20836	ALT	42.1	1323	2020	3015				
20837	ALT	42.6	1333	2035	3037				
★ 20801	H31	47.6	1430	2029	3031	96 / 75	1.10	2342	

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
★ 20801	H 31	69.0	0918	2020	3011	91 / 66		2342	
20825	ALT	72.5	1053	2325	3322				WASH
20826	ALT	79.8	1115	1978	2978				
20827	ALT	80.3	1133	2018	3011				FENCELINE
20828	ALT	80.8	1145	2050	3058				END FENCELINE
★ 20801	H31	85.2	1214	2012	3016	97 / 71		2342	
★ 20801	H31	85.2	1250	2012	3015	98 / 71		2342	
★ 20829	H33	89.2	1310	1930	2900	96 / 73		2211	
20830	ALT	91.6	1340	1971	2960				
20831	ALT	92.6	1400	2069	3070				
★ 20801	H31	99.0	1455	2060	3062	99 / 74		2342	

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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
*20801	H 31	20.2	0946	2088	3085	94°/66°		2342	
20809	ALT	20.5	0959	2090	3090	96/66			
20810	ALT	21.0	1008	2128	3130	94/64			
20811	ALT	21.5	1020	2150	3153	94/65			
20812	~~RE~~	21.9	1027	2189	3185	94/65		2452	
20813	ALT	22.4	1040	2243	3249	97/66			
20814	ALT	22.9	1054	2312	3310	96/66			BOTTOM OF WASH
20815	ALT	23.2	1106	2398	3415	95/65			RIDGE
20816	ALT	23.5	1117	2478	3486	96/65			RIDGE
*20801	H 31	27.4	1159	2094	3099	98/67		2342	
*20801	H 31	27.4	1237	2108	3110	98/67		2342	
20817	ALT	29.0	1253	2138	3144	101/70			STREAM BED
20818	ALT	29.5	1303	2166	3172	98/68			
20819	ALT	30.0	1314	2197	3208	100/68			
20820	ALT	30.5	1326	2257	3260	99/68			
20821	ALT	31.0	1336	2286	3289	98/69			
20822	ALT	31.5	1346	2348	3356	97/69			
20823	RE	31.75	1353	2387	3406	98/68		2636	
20824	ALT	31.9	1404	2390	3405	101/71			
			1437	2147	3152	101/69		2342	

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AREA SIL NAKYA
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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
*336	N38	37.4	0859	2764	3770	81/72		3064	
*20801	H31	52.9	1002	2090	3092	91/74		2342	
*336	N38	68.4	1102	2761	3770	86/71		3064	
*20801	H31	83.9	1159	2108	3108	96/74		2342	
*20801	H31	83.9	1245	2117	3117	96/74		2342	
20802	ALT.	84.4	1256	2123	3122	96/74			
20803	ALT	84.9	1305	2135	3137	96/75			
20804	RE	85.4	1321	2148	3144	96/75		2352	
20805	H32	85.7	1338	2128	3127	97/75		2332	
20806	ALT.	86.2	1350	2110	3109	97/75			
20807	ALT.	86.7	1358	2106	3105	97/75			
20808	RE	86.9	1406	2096	3095	97/75		2285	
*20801	H31	89.9	1421	2152	3158	96/74		2342	

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AREA SIL NAKYA
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STATION	ELEVATION CONTROL	MILE.	TIME	ALT. 1	ALT. 2	DRY / WET	C.F.	ELEV.	REMARKS
* 336	N 38	66.4	0933	2755	3760	77° / 77°		3064	
* 20801	H 31	83.0	1113	2092	3088	90° / 74°		2342	
* 336	N 38	300.3	1223	2782	3782	74° / 83°		3064	
* 20801	H 31	316.0	1342	2135	3138	73° / 88°		2342	
* 336	N 38	31.9	1456	2818	3825	75° / 87°		3064	

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

THIRD-ORDER LEVELING
Sea Level Datum of 1929

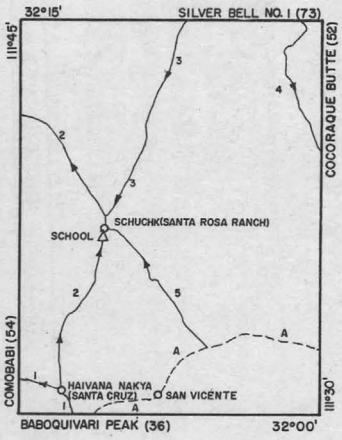
SAN VICENTE QUADRANGLE
ARIZONA 55
N3200—W11130/15

Pima County

Edition of 5/22/57

Supersedes Multilith List of 4/21/57

Preliminary adjusted elevations to be readjusted when final adjusted elevations are available for USC&GS Lines in this area.



PRELIMINARY

USC&GS Level Line

A. 11.6 mi. SE. of Ajo to Tucson, Arizona, (No. 15) Second order.

Feet

LINE 1.

FROM BABOQUIVARI PEAK QUADRANGLE (36) NORTHWEST ALONG ROAD VIA HAIVANA NAKYA INTO COMOBABI QUADRANGLE (54) (by E. E. Harris, 1936; Book B 7129)

Haivana Nakya (Santa Cruz), about 0.7 mi. SE. of; on SW. side of intersection of private rd. NW.; in base on N. side of 10-in. palo verde tree; rail spike 2897.40

Haivana Nakya (Santa Cruz), 0.6 mi. N. of; 8.1 mi. S. of Schuchk (Santa Rosa Ranch); 24 ft. NE. of center of prominent curve in rd. from NW. to W.; 34 ft. SE. of dry creek bed and between rd. and ditch; in concrete post; standard tablet stamped "H 18 1936 2830" 2830.013

Haivana Nakya (Santa Cruz), 1.0 mi. W. of; 40 ft. N. of center of rd.; in crotch of mesquite tree; copper nail and washer 2804.81

LINE 2.

FROM POINT 0.6 MILE NORTH OF HAIVANA NAKYA NORTHEAST TO SCHUCHK (SANTA ROSA RANCH) THENCE NORTHWEST INTO COMOBABI QUADRANGLE (54) (by E. E. Harris, 1936; Book B 7129)

Haivana Nakya (Santa Cruz), 0.6 mi. N. of; 8.1 mi. S. of Schuchk (Santa Rosa Ranch); standard tablet stamped "H 18 1936 2830" (Described in Line 1) 2830.013

Schuchk (Santa Rosa Ranch), 7.2 mi. SW. of; on E. side of rd.; at point where rd. runs close to fence line; in base on W. side of forked mesquite tree; rail spike 2799.65

Schuchk (Santa Rosa Ranch), 6.2 mi. SW. of; at Charco tank; 38 ft. E. of angle in rd.; in concrete post; standard tablet stamped "H 26 1936 2772" 2771.748

Schuchk (Santa Rosa Ranch), 5.5 mi. SW. of; on SE. edge of rd. jct.; 140 ft. NE. of wash; in base on N. side of 15-in. mesquite tree; rail spike 2745.10

Schuchk (Santa Rosa Ranch), 4.7 mi. SW. of; 40 ft. W. of rd.; in base on S. side of 12-in. leaning mesquite tree; rail spike 2732.22

Schuchk (Santa Rosa Ranch), 3.9 mi. SW. of; 78 ft. E. of center of rd.; 4 ft. NW. of NW. corner post around U. S. experimental grass plot; in concrete post; standard tablet stamped "H 27 1936 2700" 2700.564

Schuchk (Santa Rosa Ranch), 3.0 mi. SW. of; on SE. edge of rd. on NE. bank of wash; in root on S. side of 12-in. mesquite tree; copper nail and washer 2659.90

Schuchk (Santa Rosa Ranch), 2.0 mi. SW. of; 38 ft. E. of center of rd.; 100 ft. N. of narrow strip of mesquite trees crossing rd.; in concrete post; standard tablet stamped "H 28 1936 2613" 2612.799

Reference mark, 100 ft. SW. of tablet; in root on E. side of 15-in. mesquite tree; copper nail and washer 2612.41

Schuchk (Santa Rosa Ranch), 1.0 mi. SW. of; on NW. edge of rd.; in root on NW. side of 8-in. mesquite tree; copper nail and washer 2560.26

School Triangulation Station (USC&GS), at Schuchk (Santa Rosa Ranch), at the Indian School; 101 ft. E. of SE. corner of easternmost one of two small white school buildings; 40 ft. E. of center of rd. leading past the school; in concrete post; USC&GS standard triangulation disk stamped "SCHOOL" (Latitude 32°07'08.080" Longitude 111°40'50.603") 2524.874

Reference mark, 84 ft. W. of station; 30 ft. E. of center of rd. leading past school; in concrete post; USC&GS standard reference disk stamped "R M NO 1" 2524.370

Schuchk (Santa Rosa Ranch), 1.0 mi. N. of; on SW. bank of rd.; on NW. side of wash; in base on NE. side of 6-in. leaning mesquite tree; rail spike 2477.00

Schuchk (Santa Rosa Ranch), 1.0 mi. N. thence 0.9 mi. NW. from; 40 ft. SW. of rd. behind a large, prominent palo verde tree; in base of forked mesquite tree; rail spike 2444.86

Schuchk (Santa Rosa Ranch), 1.0 mi. N. thence 1.9 mi. NW. from; on SE. bank of wash; 30 ft. NE. of center of rd.; in concrete post; standard tablet stamped "H 29 1936 2415" 2414.927

Reference mark, 120 ft. S. of tablet; in base on NE. side of forked mesquite tree; rail spike 2415.94

Schuchk (Santa Rosa Ranch), 1.0 mi. N. thence 3.0 mi. NW. from; on SW. edge of rd.; 150 ft. SE. of wash; in crotch of mesquite tree; copper nail and washer 2386.77

Schuchk (Santa Rosa Ranch), 1.0 mi. N. thence 4.1 mi. NW. from; 180 ft. NW. of a cattle guard; 45 ft. NE. of center of rd.; in concrete post; standard tablet stamped "H 30 1936 2364" 2363.532

Reference mark, 185 ft. S. of tablet; on S. end of W. concrete guard rail to cattle guard; chiseled square 2364.92

Schuchk (Santa Rosa Ranch), 1.0 mi. N. thence 5.2 mi. NW. from; 40 ft. S. of rd.; in crotch of large palo verde tree; copper nail and washer 2340.48

LINE 3.

FROM SILVER BELL NO. 1 QUADRANGLE (73) SOUTHWEST ALONG ROAD TO SCHUCHK (SANTA ROSA RANCH) (by E. E. Harris, 1937; Book B 7252)

Schuchk (Santa Rosa Ranch), 10.0 mi. NE. of; 25 ft. E. of rd.; in root on E. side of mesquite tree; copper nail and washer 2086.63

Schuchk (Santa Rosa Ranch), 9.0 mi. NE. of; 22 ft. W. of center of rd., at intersection of rd. N.; in concrete post; standard tablet stamped "H 4 1937 2104" 2103.190

Reference mark, 84 ft. SE. of tablet; in crotch of mesquite tree; copper nail and washer 2104.57

Schuchk (Santa Rosa Ranch), 8.1 mi. NE. of; 25 ft. E. of rd.; in root on SE. side of mesquite tree; copper nail and washer 2136.94

Schuchk (Santa Rosa Ranch), 7.4 mi. NE. of; 13 ft. E. of center of rd.; 27 ft. S. of fence line and 4 ft. W.; in concrete post; standard tablet stamped "H 5 1937 2171" 2170.857

Reference mark, 250 ft. N. of tablet; in root on W. side of small mesquite tree; copper nail and washer 2170.77

Schuchk (Santa Rosa Ranch), 6.4 mi. NE. of; 40 ft. SE. of curve in rd.; in crotch of large mesquite tree; copper nail and washer 2214.17

Schuchk (Santa Rosa Ranch), 5.4 mi. NE. of; 35 ft. N. and 33 ft. W. of dim crossroads; in concrete post; standard tablet stamped "H 6 1937 2260" 2259.754

Reference mark, 200 ft. NE. of tablet; in root on W. side of mesquite tree; copper nail and washer 2258.00

Schuchk (Santa Rosa Ranch), 4.6 mi. NE. of; in E. corner of crossroads; in crotch of mesquite tree; copper nail and washer 2302.70

Schuchk (Santa Rosa Ranch), 4.0 mi. NE. of; 52 ft. E. of center of rd.; at intersection of dim rd. NE.; in concrete post; standard tablet stamped "H 7 1937 2332" 2332.482

Reference mark, 215 ft. NW. of tablet; in mesquite stump; copper nail and washer 2332.02

Schuchk (Santa Rosa Ranch), 1.7 mi. NE. of; 45 ft. E. of center of rd.; in concrete post; standard tablet stamped "H 8 1937 2448" 2448.210

Reference mark, 142 ft. NE. of tablet; in mesquite stump; copper nail and washer 2445.96

LINE 3 (Continued)

Schuchk (Santa Rosa Ranch), 0.6 mi. NE. of; on W. edge of rd.; in crotch of mesquite tree; copper nail and washer	2497.09
School Triangulation Station (USC&GS), at Schuchk (Santa Rosa Ranch); at Indian School; standard USC&GS triangulation disk stamped "SCHOOL" (Described in Line 2)	2524.874

LINE 4.

FROM SILVER BELL NO. 1 QUADRANGLE (73) SOUTHEAST ALONG ROAD INTO COCORAQUE BUTTE QUADRANGLE (52) (by E. E. Harris, 1937; Book B 7252)

Viopuli, 12.5 mi. NW. of; in jct. of rd.; 100 ft. N. of wash; in root on SW. side of mesquite tree; copper nail and washer	2234.94
Viopuli, 11.4 mi. NW. of; 46 ft. NW. of center of rd.; in concrete post; standard tablet stamped "H 10 1937 2224"	2223.592
Reference mark, 152 ft. NE. of tablet; in root of mesquite tree; copper nail and washer	2224.88
Viopuli, 10.3 mi. NW. of; 260 ft. N. of intersection of rd. NW.; 30 ft. E. of center of curve in rd.; in root on N. side of mesquite stump; copper nail and washer	2253.56
Viopuli, 9.5 mi. NW. of; 44 ft. W. of intersection of dim rd. SE.; in concrete post; standard tablet stamped "H 11 1937 2288"	2287.882
Reference mark, 120 ft. NE. of tablet; in root on W. side of mesquite tree; copper nail and washer	2287.02
Viopuli, 8.5 mi. NW. of; on E. edge of rd.; in root on W. side of small mesquite tree; copper nail and washer	2322.38
Viopuli, 7.4 mi. NW. of; 27 ft. NE. of center of curve in rd., just NE. of wash; in concrete post; standard tablet stamped "H 12 1937 2372"	2372.395
Reference mark, 280 ft. NW. of tablet; in root on NE. side of mesquite tree; copper nail and washer	2369.60

LINE 5.

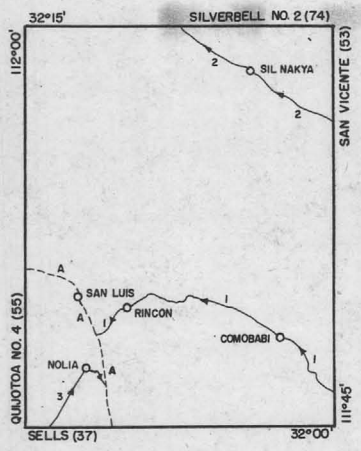
FROM POINT ON STATE HIGHWAY 86, 3.8 MILES NORTHEAST OF SAN VICENTE NORTHWEST ALONG ROAD TO SCHUCHK (SANTA ROSA RANCH) (by E. E. Harris, 1937; Book B 7252)

"P 38 1933" (USC&GS)	3054.223
Schuchk (Santa Rosa Ranch), 7.3 mi. SE. of; on NE. edge of rd.; in wash; in crotch of mesquite tree; copper nail and washer	3008.75
Schuchk (Santa Rosa Ranch), 6.2 mi. SE. of; 28 ft. NE. of center of rd.; in concrete post; standard tablet stamped "H 18 1937 2911"	2911.356
Reference mark, 128 ft. SE. of tablet; in crotch of mesquite tree; copper nail and washer	2913.92
Schuchk (Santa Rosa Ranch), 5.2 mi. SE. of; on NE. edge of curve in rd.; in root on SW. side of mesquite tree; copper nail and washer	2844.17
Schuchk (Santa Rosa Ranch), 4.0 mi. SE. of; 30 ft. SW. of center of rd.; in concrete post; standard tablet stamped "H 19 1937 2749"	2748.953
Reference mark, 77 ft. SE. of tablet; in root on N. side of mesquite tree; copper nail and washer	2748.38
Schuchk (Santa Rosa Ranch), 3.2 mi. SE. of; on NW. edge of rd.; 0.1 mi. S. of curve in rd.; in wash; in root on SE. side of mesquite tree; copper nail and washer	2687.62
Schuchk (Santa Rosa Ranch), 2.1 mi. SE. of; 36 ft. S. of center of rd.; in concrete post; standard tablet stamped "H 20 2615 1937"	2614.278
Reference mark, 100 ft. E. of tablet; in crotch of mesquite tree; copper nail and washer	2615.06
Schuchk (Santa Rosa Ranch), 1.0 mi. SE. of; on N. edge of rd.; in root on S. side of mesquite tree; copper nail and washer	2545.88
School Triangulation Station (USC&GS), at Schuchk (Santa Rosa Ranch); at Indian School; standard USC&GS triangulation disk stamped "SCHOOL" (Described in Line 2)	2524.874

Pima County

Edition of 5/27/57

Preliminary adjusted elevations to be readjusted when final adjusted elevations are available for USC&GS Lines in this area



PRELIMINARY

USC&GS Level Line

A. 11.6 mi. SE. of Ajo to Tucson, Arizona (No. 15)
Second Order

Feet

LINE 1.

FROM SAN VICENTE QUADRANGLE (53) NORTHWEST AND WEST ALONG ROAD TO RINCON THENCE SOUTHWEST TO POINT ON STATE HIGHWAY 86 10.7 MILES NORTHWEST OF SELLS (by E. E. Harris, 1936; Book B 7129)

(Note: This line was run by third order methods but closure was 0.353 ft. low in a distance of 18.9 mi. This closure has been distributed in line.)

Haivana Nakya (Santa Cruz), 2.1 mi. NW. of; 23 ft. S. of center of curve in rd. at top of grade; in concrete post; standard tablet stamped "H 19 1936 2897" 2897.176

Haivana Nakya (Santa Cruz), 2.9 mi. NW. of; on S. side of rd. at top of grade; 300 ft. E. of intersection of dim rd. NE.; in crotch of palo verde tree; copper nail and washer 2975.24

Haivana Nakya (Santa Cruz), 3.6 mi. NW. of; 20 ft. NE. of center of curve in rd. at top of grade; in concrete post; standard tablet stamped "H 20 1936 3019" 3019.165

Reference mark, 180 ft. NW. of tablet; NE side of rd.; on boulder; chiseled square 3009.70

Haivana Nakya (Santa Cruz), 4.6 mi. NW. of; on W. edge of rd. at top of grade; on S. bank of small drain; in root on NW. side of palo verde stump; copper nail and washer 3037.40

Haivana Nakya (Santa Cruz), 5.7 mi. NW. of; 8.5 mi. E. of Rincon; 39 ft. S. of intersection at top of grade; 24 ft. SE. of rd. SW.; in concrete post; standard tablet stamped "H 21 3127 1936" 3126.638

Reference mark, 125 ft. NE. of tablet; on boulder; chiseled square 3122.48

Rincon, 7.4 mi. E. of; on S. edge of rd. at top of grade; in base on N. side of 10-in. mesquite tree; rail spike 3215.01

Rincon, 6.5 mi. E. of; 340 ft. W. of dim rd. NW.; 30 ft. N. of center of rd.; in concrete post; standard tablet stamped "H 22 1936 3010" 3009.509

Reference mark, 225 ft. E. of tablet; in base on N. side of mesquite tree; rail spike 3014.46

Rincon, 5.4 mi. E. of; at cattle guard; on N. edge of rd. at fence line crossing; on E. end of N. concrete guard rail to cattle guard; chiseled square 2925.22

Rincon, 4.3 mi. E. of; 25 ft. S. of center of curve in rd.; in concrete post; standard tablet stamped "H 23 1936 2850" 2850.412

Reference mark, 130 ft. NE. of tablet; in base on S. side of 15-in. mesquite tree; rail spike 2852.52

Rincon, 3.2 mi. E. of; on S. edge of curve in rd. at top of grade; in base on NE. side of 10-in. mesquite tree; copper nail and washer 2838.39

Rincon, 2.3 mi. E. of; 25 ft. N. of rd. at top of grade; in concrete post; standard tablet stamped "H 24 1936 2758" 2758.265

Reference mark, 62 ft. E. of tablet; N. edge of rd.; in crotch of palo verde tree; copper nail and washer 2758.27

Rincon, 1.7 mi. E. of; at intersection of E. approach of rd. N. to Sil Nakya; on buried boulder; chiseled square 2724.68

Rincon, 0.9 mi. E. of; on E. end of N. guard rail of cattle guard; chiseled square 2653.43

Rincon, about 800 ft. SW. of chapel; 18 ft. N. of rd.; in concrete post; standard tablet stamped "H 25 1936 2588" 2588.078

Reference mark, 93 ft. E. of tablet; on boulder; chiseled square 2582.72

Rincon, 0.8 mi. SW. of; on SE. edge of curve in rd. at top of grade; in base on NW. side of 8-in. palo verde tree; rail spike 2562.79

Rincon, 1.9 mi. SW. of; on S. edge of intersection of dim rd. SW.; on rock outcrop level with rd.; chiseled square 2484.58

"W 37 1933" (USC&GS) 2475.057

LINE 2.

FROM SAN VICENTE QUADRANGLE (53) NORTHWEST ALONG ROAD VIA SIL NAKYA INTO SILVER BELL NO. 2 QUADRANGLE (74) (by E. E. Harris, 1936; Book B 7129)

Schuchk (Santa Rosa Ranch), 1.0 mi. N. thence 6.2 mi. NW. from; 4.2 mi. SE. of Sil Nakya; 35 ft. N. of center of rd.; in concrete post; standard tablet stamped "H 31 1936 2342" 2342.128

Reference mark, 225 ft. E. of tablet; in crotch of large palo verde tree; copper nail and washer 2340.98

Sil Nakya, 3.3 mi. SE. of; on S. edge of curve in rd. from W. to SW.; in base on N. side of forked mesquite tree; rail spike 2343.87

Sil Nakya, 2.2 mi. SE. of; 100 ft. NW. of wash; 30 ft. SW. of center of rd.; in concrete post; standard tablet stamped "H 32 1936 2333" 2332.241

Reference mark, 75 ft. NE. of tablet; in root on NW. side of mesquite tree; copper nail and washer 2331.61

Sil Nakya, 1.5 mi. SE. of; on N. edge of rd.; on E. end of stone head wall of culvert; chiseled square 2310.91

Sil Nakya, 0.7 mi. SE. of; on NE. edge of curve in rd. at top of grade; in base on SW. side of palo verde tree; rail spike 2280.90

Sil Nakya, 450 ft. E. of chapel; 60 ft. NW. of watering trough; 56 ft. SW. of center of rd.; in concrete post; standard tablet stamped "H 33 1936 2211" 2210.769

Reference mark, 60 ft. S. of tablet; on SW. corner of concrete watering trough; chiseled square 2209.38

Sil Nakya, 1.0 mi. NW. of; 80 ft. N. of rd.; on NE. side of rd. NW. to Santa Rosa; in crotch of palo verde tree; copper nail and washer 2187.20

Sil Nakya, 1.9 mi. NW. of; 33 ft. NE. of intersection; in concrete post; standard tablet stamped "H 44 1936 2134" 2134.557

Reference mark, 165 ft. NW. of tablet; in base on NE. side of palo verde tree; rail spike 2135.06

Sil Nakya, 3.1 mi. NW. of; on SE. edge of rd.; in NW. side of small palo verde tree; rail spike 2071.56

Sil Nakya, 4.1 mi. NW. of; 16 ft. S. of gate in fence line crossing rd.; 2 ft. E. of fence; in concrete post; standard tablet stamped "H 43 1936 2030" 2030.728

Reference mark, 250 ft. W. of tablet; in crotch of palo verde tree; copper nail and washer 2030.87

LINE 3.

FROM SELLS QUADRANGLE (37) NORTHEAST ALONG ROAD TO NOLIA THENCE EAST TO POINT ON STATE HIGHWAY 86 8.7 MILES NORTHWEST OF SELLS (by H. J. Wenderoth, 1940; Book B 8687)

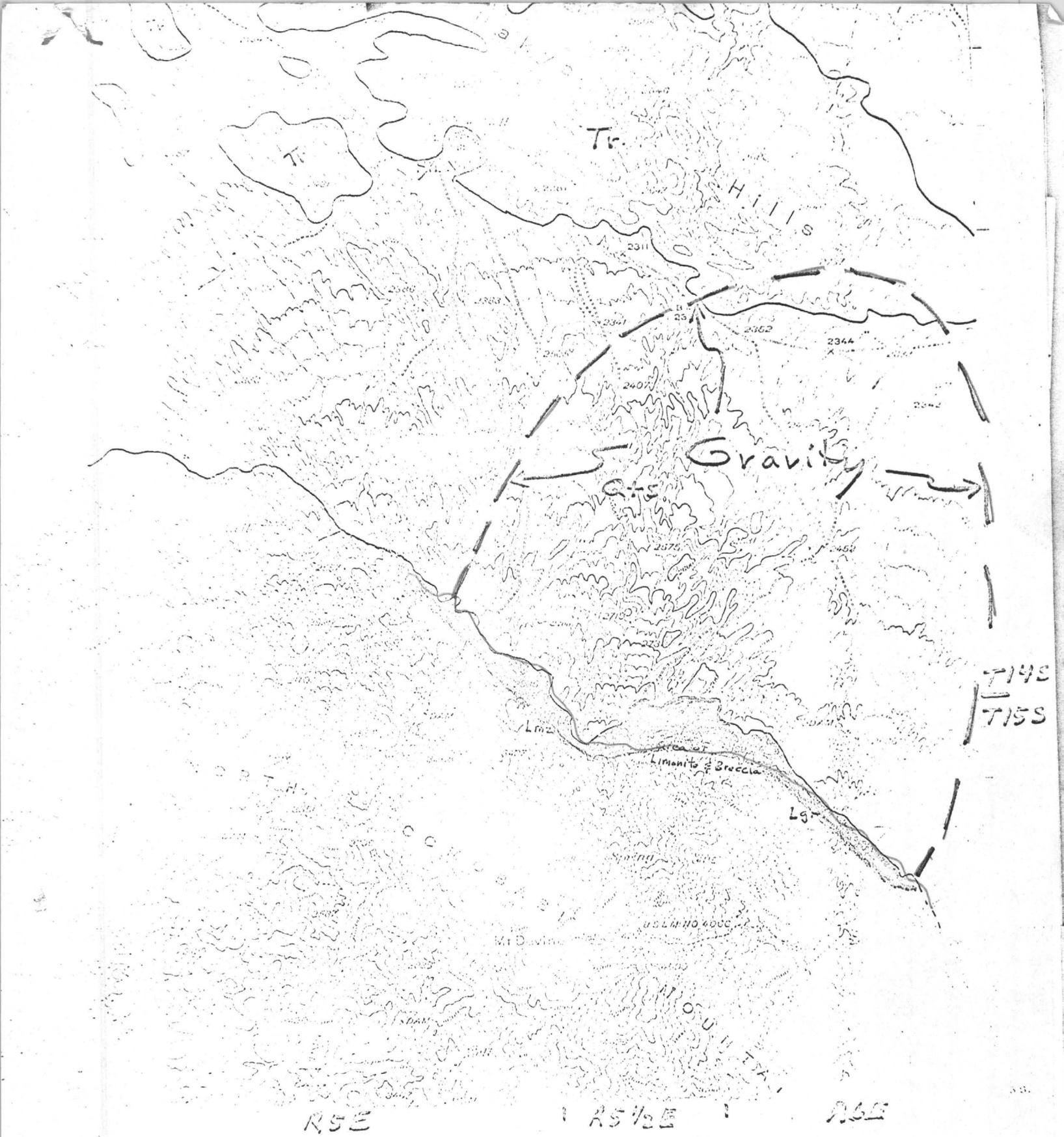
Gu Oidak, 7.3 mi. NE. of; 2.9 mi. SW. of Nolia; 130 ft. N. of center of large wash crossing; 28 ft. W. of center of rd.; in concrete post; standard tablet stamped "1940 W 31 2219" 2218.752

Reference mark, 18 ft. E. of tablet; 10 ft. W. of center of rd.; in fork of 6-in. mesquite tree; copper nail and washer 2219.93

LINE 3 (Continued)

Nolia, 1.8 mi. SW. of; 50 ft. E. of center of rd. at wash crossing; on root on N. side of 16-in. mesquite tree; copper nail and washer	2274.27
Nolia, 1.0 mi. SW. of; 40 ft. N. and 75 ft. W. of Y-rd. intersection; 4 ft. SE. of curve in fence; in concrete post; standard tablet stamped "1940 W 32 2320"	2319.650
Reference mark, 135 ft. S. of tablet; 45 ft. W. of center of rd.; 25 ft. E. of fence; in S. side of N. fork of 8-in. ironwood tree; copper nail and washer	2319.73
Nolia, 45 ft. S. and 85 ft. W. of center of crossroads; 75 ft. SE. of drain crossing; on W. side of 7-in. mesquite tree; copper nail and washer	2373.76
"X 37 1933" (USC&GS)	2507.351

GPO 974649



Comobabi Quad

Post-mineral { Qts sand & gravel
Tr rhyolite

Pre-mineral { Lg granite
Lmz monzonite

QUADRANGLE SCALE

SIL NAKYA PED.
06-12-0671

MAY 1963

PUBLISHED AND PRINTED BY:
U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

VERTICAL CONTROL DATA

by the

Coast and Geodetic Survey

SEA-LEVEL DATUM OF 1929

QUAD 321113
ARIZ.
LATITUDE 32°00' TO 32°30'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-11 TUCSON

LINE 101
(Second-order)

The field work (L-5899) was done in 1935 by a party supervised by G.R. Fish.

These elevations are based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
U 84	493.150	1617.943
V 84	496.021	1627.362

LINE 102
(Second-order)

The field work (L-14475) was done in February 1952 by a party supervised by J.R. Plaggmier.

These elevations are based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
KOMELIH	567.834	1862.969
KOMELIH RM 1	567.889	1863.149
KOMELIH RM 2	567.578	1862.129
L 89	506.849	1662.887
C 318	508.709	1668.989
M 89	507.813	1666.050
D 318	520.381	1707.283
N 89	529.427	1736.962
E 318	532.827	1748.117
P 89	526.052	1725.889
H 24 (USGS)	521.990	1712.562
F 318	514.984	1689.577
H 23 (USGS)	508.210	1667.352
G 318	504.214	1654.242

LINE 103
(Second-order)

The field work (L-14475) was done in February 1952 by a party supervised by J.R. Plaggmier.

These elevations are based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
J 318	511.623	1678.550
L 93	Not recovered	

LINE 103
(Continued)

Bench Mark	Adjusted Elevation (Meters)	(Feet)
K 93	516.739	1695.335
K 318	523.547	1717.670
J 93	534.431	1753.379
L 318	546.023	1791.410
H 93	555.732	1823.264
M 318	563.346	1848.244
G 93	567.017	1860.288
N 318	571.940	1876.440
F 93	576.544	1891.545
P 318	575.238	1887.260
Q 318	576.619	1891.791
E 93	576.103	1890.098

LINE 104
(Second-order)

The field work (L-14475) was done during the winter of 1951-52 by a party supervised by J.R. Plaggmier.

These elevations are based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
W 89	628.240	2061.151
ADS 12 (USGS)	632.324	2074.550
ADS 13 (USGS)	643.356	2110.744
X 89	645.944	2119.235
E 292	641.405	2104.343
Y 89	645.694	2118.414
3887 (USMS)	652.216	2139.812
S 292	660.791	2167.945
T 292	692.223	2271.068
Z 89	717.408	2353.696
V 292	767.710	2518.729
S 90	727.474	2386.721
U 292	695.050	2280.343
C 310	691.207	2267.735
T 90	679.818	2230.370
S 31 S 6 (USGLO)	664.614	2180.488
RM 1 (USGLO)	664.418	2179.845
RM 2 (USGLO)	663.983	2178.418
A 318	655.961	2152.099
U 90	645.997	2119.408
W 311	631.731	2072.604

LINE 104
(Continued)

Bench Mark	Adjusted Elevation (Meters)	(Feet)
V 90	617.930	2027.325
X 311	610.863	2004.140
W 90	601.638	1973.874
Y 311	584.552	1917.818
X 90	576.865	1892.598
Z 311	570.231	1870.833
Y 90	569.585	1868.713
K 311	570.340	1871.190
Z 90	566.566	1858.809
J 311	572.839	1879.389
A 91	577.068	1893.264
H 311	577.103	1893.379
R 318	577.819	1895.728
B 91	579.982	1902.824
G 311	583.494	1914.347
C 91	584.632	1918.080
F 311	580.064	1903.093
D 91	575.365	1887.677
E 311	569.530	1868.533
E 91	561.784	1843.120
D 311	555.589	1822.795
F 91	548.046	1798.048
C 311	542.749	1780.669
G 91	541.664	1777.109
B 311	540.956	1774.786
H 91	543.255	1782.329

LINE 105
(Second-order)

The field work (L-14475) was done in December 1951 by a party supervised by J.R. Plaggmier.

This elevation is based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
T 295	652.785	2141.679

LINE 106
(Second-order)

The field work (L-14475) was done during the winter of 1951-52 by a party supervised by J.R. Plaggmier.

These elevations are based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
F 303	739.428	2425.940
Q 93	722.462	2370.277
G 303	735.386	2412.679
S17 S16 S20 S21 (USGLO)	727.752	2387.633
P 93	742.574	2436.262
H 303	751.718	2466.261
J 303	772.632	2534.877
N 93	767.411	2517.748
B 310	765.961	2512.990
A 310	713.847	2342.013

LINE 107
(Second-order)

The field work (L-945) was done in November 1933 by a party supervised by G.R. Fish.

These elevations are based on a supplementary adjustment of 1958.

Bench Mark	Adjusted Elevation (Meters)	(Feet)
U 37	702.311	2304.165
V 37	731.556	2400.113
W 37	754.358	2474.923
X 37	764.202	2507.219

THE LINE LEAVES AND RE-ENTERS THE QUADRANGLE

876+1240 (AHD)	No elev.	available
L 38	915.448	3003.432
M 38	959.027	3146.408
N 38	933.834	3063.754
P 38	930.869	3054.026
S 38	884.571	2902.130
R 38	915.175	3002.537

MAY 1963

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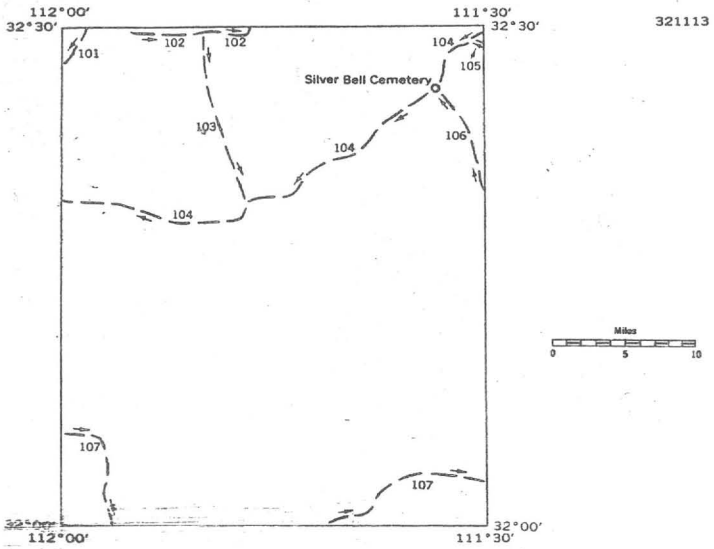
VERTICAL CONTROL DATA

by the
Coast and Geodetic Survey
SEA-LEVEL DATUM OF 1929

QUAD 321113 PAGE NO. 1
ARIZ.
LATITUDE 32°00' TO 32°30'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-11 TUCSON



LINE 101

LINE 102

DESCRIPTION OF BENCH MARK

Designation Komelih State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 0.9 mile southeast
Character of mark Bronze Triangle Disk Stamping K O M E L I H 1936
Established by United States Coast & Geodetic Survey
Detailed description 0.8 mile southeast along a track road from the windmill at Komelih, thence 0.1 mile south to the top of a rocky hill, on the semi-detatched knoll which forms the highest point of the hill, about 40 yards east of the divide in hills, about 20 yards west of the drop at the east edge of the summit, in top of an outcrop, about flush with the ground, 9 feet north of the south edge of the summit.

DESCRIPTION OF BENCH MARK

Designation R.M. KOMELIH 1 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 0.9 mile southeast
Character of mark Bronze Disk Stamping K O M E L I H
Established by United States Coast & Geodetic Survey Number 1 1936
Detailed description Same description to reach as Komelih triangle station, in top of a 2 feet by 2 feet outcrop which is projecting 1.0 foot above the ground, 11.8 feet north of the station, 0.4 foot west of the east edge of the outcrop.

FORM 685A
(1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation U 84 State Arizona County Pinal
Nearest town Gu Komelik County Chief of Party
Distance and direction from nearest town 2.0 miles south Recovery Date March 1962
Character of mark Stamping
Established by
Present condition Not recovered
Detailed report Either destroyed or buried by the new Casa Grande-Covered Wells road.

In Pima County, 2.0 miles south along the Casa Grande-Covered Wells road from Gu Komelik, Pinal County, 90 feet northeast of a small dry wash, and 68 feet north of the centerline of the road. A standard disk, stamped "U 84 1935" and set in the top of a concrete post.

DESCRIPTION OF BENCH MARK

Designation R.M. KOMELIH 2 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 0.9 mile southeast
Character of mark Bronze Reference Mark Disk Stamping K O M E L I H
Established by United States Coast & Geodetic Survey Number 2 1936
Detailed description Same description to reach as Komelih triangle station, in top of the west edge of a rock ledge which is at the east edge of the summit, about flush with the ground, 21.1 feet east of the station, 12 feet north of south edge of the summit.

DESCRIPTION OF BENCH MARK

Designation V 84 State Arizona County Pinal
Nearest town Gu Komelik County Chief of party
Distance and direction from nearest town 4.0 miles south Leveling date
Character of mark Stamping
Established by
Detailed description

In Pima County, 4.0 miles south along the Casa Grande-Covered Wells road from the windmill at Gu Komelik, Pinal County, 100 yards southwest of a dry wash, and 47 feet west of the centerline of the road. A standard disk, stamped "V 84 1935" and set in the top of a concrete post.

DESCRIPTION OF BENCH MARK

Designation L 89 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 1.95 miles southeast
Character of mark Bronze Disk Stamping L 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 1.55 miles southeast along a track road from the windmill at Komelih, thence 0.4 mile east along a dim track road, about 45 yards south of the base of a lone round rocky mountain, 142 feet southwest of a 15 feet high Giant Saguaro, 32 feet north of the center line of an east-west wash, 8 feet south of the center line of and about level with the road, 2.5 feet west of a witness post, and set in the top of a concrete post projecting 0.3 foot above the ground.

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VERTICAL CONTROL DATA

by the

Coast and Geodetic Survey

SEA-LEVEL DATUM OF 1929

ARIZ.
LATITUDE 32°00' TO 32°30'
LONGITUDE 111 30' TO 112 00'
DIAGRAM NI 12-11 TUCSON

DESCRIPTION OF BENCH MARK

Designation C 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 2.95 miles southeast
Character of mark Bronze Disk Stamping C 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 2.95 miles southeast along a track road from the windmill at Komelih, 1.0 mile south of a lone round rocky mountain, on top of a slight ridge about midway between two small washes, 108 feet southwest of a lone Giant Saguaro, 22 feet northeast of and about level with the center line of the road, 2.4 feet north of a witness post, and set in the top of a concrete post projecting 0.7 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation M 89 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 3.95 miles southeast
Character of mark Bronze Disk Stamping M 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 3.95 miles southeast along a track road from the windmill at Komelih, about 2 miles south of a lone rocky mountain, 0.3 mile south of the 'Y' junction of a track road leading east, at a small clear spot among a mesquite thicket, at a point where the road crosses several washes, 5½ feet west of the center line of and about level with the road, 2.2 feet northeast of a witness post, and set in the top of a concrete post projecting 1.0 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation D 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 5.0 miles southeast
Character of mark Bronze Disk Stamping D 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.0 miles southeast along a track road from the windmill at Komelih, about 1¼ miles north-northwest of a range of mountains, 0.55 mile northwest of a road junction, at a slight upgrade going southeast, at a small clearing, 17 feet east of the center line of and about ½ foot higher than the road, 2.6 feet northwest of a witness post, and set in the top of a concrete post projecting 0.7 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation N 89 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 5.9 miles southeast
Character of mark Bronze Disk Stamping N 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 0.35 mile east along a dim track road, about 175 yards northwest of the southwest end of a low rock covered hill, 95½ feet northwest of a Palo Verde tree, 35 feet southwest of the crossing of a small wash, 15 feet south of the center line of and about level with the road, 2.1 feet north of a witness post, and set in the top of a concrete post projecting 0.2 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation E 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 6.9 miles southeast
Character of mark Bronze Disk Stamping E 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 1.35 miles east along a dim track road, 0.6 mile west of a lone high round mountain, about ¼ mile southwest of a low, round hill, at a small clearing, 174 feet north of and across the road from a lone double Giant Saguaro, 18 feet north of the center line of and about level with the road, 2.2 feet southeast of a witness post, and set in the top of a concrete post projecting 0.6 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation P 89 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 7.9 miles southeast
Character of mark Bronze Disk Stamping P 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 2.35 miles east along a dim track road, 0.35 mile north-north east of a lone high round mountain, 47 feet north of and across the road from a lone ironwood tree, 15 feet north of the center line of and about level with the road, 1.6 feet south of a witness post, and set in the top of a concrete post projecting 0.4 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation H 24 (USGS) State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 8.75 miles southeast
Character of mark Bronze Disk Stamping H 24 1712 1939
Established by United States Geodetic Survey
Detailed description 5.5 miles southeast along a track road from the windmill at Komelih, thence 3.2 miles east along a dim track road, 1.2 miles northeast of a lone high round mountain, about 100 yards north of the north edge of a large meadow-like clearing, 14 feet north of the center line of and about level with the road, 2.2 feet west of a witness post, and set in the top of a concrete post projecting 0.3 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation F 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 9.95 miles east
Character of mark Bronze Disk Stamping F 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 4.4 miles east along a dim track road, about 125 yards northeast of the northeast edge of a large clearing, at a small gravel covered clearing surrounded with mesquite, 53 feet north of the center of a small sandy wash, 15½ feet southeast of the center line of and about level with the road, 21 feet north of a witness post, and set in the top of a concrete post projecting 0.8 foot above the ground.

LINE 102 103

DESCRIPTION OF BENCH MARK

Designation H 23 (USGS) State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 11.05 miles east
Character of mark Bronze Disk Stamping H 23 1667 1939
Established by United States Geological Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, about 225 yards due west of a lone Giant Saguaro, at a large water soaked bottom land clearing spotted with mesquite, at the 'T' junction of a very dim track road which leads south, 53 feet northwest of the center line of and about level with the main road, 4.5 feet east of a witness post, and set in the top of a concrete post projecting 0.5 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation G 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 12.15 miles east
Character of mark Bronze Disk Stamping G 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 6.6 miles east along a dim track road, 0.95 mile west of a north-south fence line, about 10.5 miles southeast of Jackrabbit, thence 0.9 mile west along a track road leading to Komelih, about 80 yards north of the northedge of a mesquite thicket, at a water soaked bottom land, 19 feet north of the center line of and about level with the road, 2.6 feet west of a witness post, and set in the top of a concrete post projecting 0.7 foot above the ground.

LINE 103

DESCRIPTION OF BENCH MARK

Designation J 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 12.1 miles east
Character of mark Bronze Disk Stamping J 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 1.05 miles south along a dim track road 1.05 miles south-southeast of B.M. H 23 (USGS), about 200 yards east of the east edge of a large meadow-like clearing, about 200 yards north of two large Palo Verde trees, on a mesquite covered flat, 15 feet north of the center line of and about level with the road, 3.2 feet south of a witness post, and set in the top of a concrete post projecting 0.9 foot above the ground.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 685 A

RECOVERY NOTE, BENCH MARK

R

Designation L 93 State Arizona County Pima
Nearest town O'Tool Ranch County Pima Feb. 1952
Distance and direction from nearest town 2.1 miles southwest
Character of mark Bronze Disk Stamping
Established by United States Coast & Geodetic Survey
Present condition
Detailed report A thorough search was made for this mark and it was not recovered at this date.

ORIGINAL DESCRIPTION

2.1 miles southwest along a dim road (leading to the junction of the Silver Bell Santa Rosa road at a point 11 miles east of Santa Rosa (Gu Achi) from the O'Tool Ranch, Pima County, 1.9 miles northeast of bench mark K 93 dexcribed below, in a flat composed of water soaked bottom land, and 25 feet west of the centerline of the road. A standard disk, stamped "L 93 1935" and set in the top of a concrete post.

NOTE--This bench mark was set in 1935 but not leveled over. It was searched for but not recovered in February 1952.

DESCRIPTION OF BENCH MARK

Designation K 93 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 13.2 miles southeast
Character of mark Bronze Disk Stamping K 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 2.15 miles south along a dim track road, 1.1 miles southeast of B.M.J. 318, 0.15 mile north of a mesquite and iron wood thicket, about 60 yards north of an iron wood tree, on a mesquite covered flat, 18 feet west of the center line of and about level with the road, 2.0 feet north of a witness post, and set in the top of a concrete post projecting 0.4 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation K 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 14.2 miles southeast
Character of mark Bronze Disk Stamping K 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 3.15 miles south along a dim track road, 1.0 mile south of B.M. K93, about 1 3/4 miles north-northeast of a low round hill, about 350 yards due west of two Giant Saguaros, at a small sandy clearing surrounded with mesquite, 12 feet east of the center line of and about level with the road, 2.6 feet northwest of a witness post, and set in the top of a concrete post projecting 1.0 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation J 93 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 15.2 miles southeast
Character of mark Bronze Disk Stamping J 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 4.15 miles south along a dim track road, 1.0 mile south of B.M. K318, about 3/4 mile north-northeast of a low round hill, 25 feet west of the center line of a north-south wash, 8 feet east of the center line and about level with the road, 1.9 feet west of a witness post, and set in the top of a concrete post projecting 0.6 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation L 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 16.3 miles southeast
Character of mark Bronze Disk Stamping L 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 5.25 miles south along a dim track road, 1.1 miles south of B.M. J93, about 1/2 mile due east of the south end of a low round hill, at the crossing of a deep wash, 25 feet east of the center line of and about level with the road, 25 feet north of the center line of the wash, 13.4 feet west of a 14 inch Palo Verde tree, 1.8 feet south of a witness post, and set in the top of a concrete post projecting 1.0 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation H 93 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 17.25 miles southeast
Character of mark Bronze Disk Stamping H 93 1935
Established by United States Coast and Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 6.2 miles south along a dim track road, at a clearing, at a small flat, 136 feet northwest of the center of a sandy wash, 19 feet southwest of the center line of and about level with the road, 1.8 feet east of a witness post, and set in the top of a concrete post projecting 0.5 foot above the ground

DESCRIPTION OF BENCH MARK

Designation M 318 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 18.45 miles southeast
Character of mark Bronze Disk Stamping M 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 7.4 miles south along a dim track road, in a flat covered with greasewood and Palo Verde trees, at a small clearing, 111 feet north of the center of a small sandy wash, 12 feet east of the center line of and about level with the road, 1.9 feet west of a witness post, and set in the top of a concrete post projecting 0.6 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation G 93 State Arizona County Pima
Nearest town Komelih County Pima
Distance and direction from nearest town 19.25 miles southeast
Character of mark Bronze Disk Stamping G 93 1935
Established by United States Coast and Geodetic Survey
Detailed description 5.55 miles southeast along a track road from the windmill at Komelih, thence 5.5 miles east along a dim track road, thence 8.2 miles south along a dim track road, 19.65 miles northeast of the school at Santa Rosa, at a small clearing, in a flat covered with greaswood, 0.4 mile north of a large wooden gate which the road passes through, about 100 yards south of a small sandy wash, 15 feet southwest of the center line of and about level with the road, 2.8 feet southeast of a witness post, and set in the top of a concrete post projecting 0.6 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation N 318 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 18.65 miles northeast
Character of mark Bronze Disk Stamping N 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 15.25 miles east of Santa Rosa, thence 3.4 miles north along a track road, at a small clearing, at a flat covered with greasewood and mesquite trees, about 0.6 mile south of a large gate at a fence line, 33 feet north of the center of a small sandy wash, 13 feet east of the center line of a track road, 2.4 feet north of a witness post, and set in the top of a concrete post projecting 0.6 foot above the ground, and level with the road.

DESCRIPTION OF BENCH MARK

Designation F 93 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 17.65 miles northeast
Character of mark Bronze Disk Stamping F 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 15.25 miles east of Santa Rosa, thence 2.4 miles north along a track road, in a saddle between some hills, about 0.3 mile east of the east base of a sharp rocky hill, 74 feet northwest of a lone giant cactus, 10 feet east of the center line of a dim track road, 1.8 feet northwest of a witness post, and set in the top of a concrete post projecting 0.5 foot above the ground, and level with the road.

DESCRIPTION OF BENCH MARK

Designation P 318 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 16.45 miles northeast
Character of mark Bronze Disk Stamping P 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 15.25 miles east of Santa Rosa, thence 1.2 miles north along a track road at a small clearing in a flat covered with greasewood and Palo Verde trees, about 0.15 mile east of the east base of a small hill, 22 feet east of the center line of a track road, 1.6 feet northwest of a witness post, and set in the top of a concrete post projecting 0.6 foot above the ground, and level with the road.

DESCRIPTION OF BENCH MARK

Designation Q 318 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 16.15 miles northeast
Character of mark Bronze Disk Stamping Q 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 15.25 miles east of Santa Rosa, thence 0.9 mile north along a track road, at a small clearing, at a greasewood flat, 18 feet east of the center line of a track road, 4.1 feet southwest of a witness post, and set in the top of a concrete post projecting 0.5 foot above the ground, and about 1 foot higher than the road.

DESCRIPTION OF BENCH MARK

Designation E 93 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 15.65 miles east
Character of mark Bronze Disk Stamping E 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 15.25 miles east along a track road from the school at Santa Rosa, thence 0.4 mile north along a dim track road, 0.4 mile north of a bench Mark R 318, about 0.15 mile north of a wash, in a greasewood flat, 19 feet northwest of the center line of a track road, 1.8 feet southeast of a witness post, and set in the top of a concrete post projecting 0.3 foot above the ground, and about level with the road.

LINE 104

DESCRIPTION OF BENCH MARK

Designation W 89 State Arizona County Pima
Nearest town Red Rock County Pinal
Distance and direction from nearest town 11.7 miles west
Character of mark Bronze Disk Stamping W 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 0.2 mile southeast along State Highway 84 from the Southern Pacific Railroad Station at Red Rock, thence 11.5 miles west and then southwest along a graded road, 0.3 mile northeast of the El Paso Natural Gas Line, 0.15 mile southwest of a 39 inch corrugated metal pipe culvert under the road, and in the top of the approximate center of a 4 by 7 feet red boulder projecting 1½ foot above the ground, 59 feet northwest of the center line of the road, 27.6 feet northwest of a fence, and about 1 foot higher than the road.

DESCRIPTION OF BENCH MARK

Designation ADS 12 (USGS) State Arizona County Pima
Nearest town Red Rock County Pinal
Distance and direction from nearest town 12.1 miles west
Character of mark Bronze Disk Stamping ADS 12 1946
Established by United States Geological Survey 2075
Detailed description 0.2 mile southeast along State Highway 84 from the Southern Pacific Railroad Station at Red Rock, thence 11.9 miles west and southwest along a graded road, 0.15 mile southwest of an El Paso Natural underground Gas Line crossing under the road, 241.7 feet northeast of an iron gate on the road, 25 feet northwest of the center line of the road, 8.2 feet southeast of a fence, 1.7 feet southeast of the witness post, and about level with the road, and set in the top of a concrete post projecting 0.8 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation A D S 13 (USGS) State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 6.9 miles northeast
Character of mark Bronze Disk Stamping A D S 13 2111
Established by United States Geological Survey 1946
Detailed description 6.9 miles northeast along a gravel road from the Silver Bell Cemetery also 0.2 mile southwest along State Highway 84 from the Southern Pacific Railroad Station at Red Rock, thence 13.3 miles west and southwest along a graded road, at the junction of a road leading southeast to Rillito, 38 feet southeast of the Red Rock Road, 30 feet northeast of the center line of the road to Rillito, and about level with the road to Rillito, and set in the top of a concrete post projecting 0.3 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation X 89 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 6.4 miles northeast
Character of mark Bronze Disk Stamping X 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 6.4 miles east and northeast along a gravel road from the Silver Bell Cemetery, 0.55 mile southwest of an intersection with gravel roads, 18½ feet northeast of the center line ofthe road, 1.8 feet south of the witness post, and about level with the road, and set in the top of a concrete post projecting 0.3 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation E 292 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 5.4 miles northeast
Character of mark Bronze Disk Stamping E 292 1951
Established by United States Coast & Geodetic Survey
Detailed description 5.4 miles east and northeast along a gravel road from the Silver Bell Cemetery, 1.4 mile east of a gravel road intersection, 0.4 mile northeast of an abandoned mine and water tanks, and about 50 yards northeast of a shallow sandy wash crossing the road, 38 feet southeast of the center line of the road; 2.1 feet west of the witness post, and about level with the road, and set in the top of a concrete post projecting 0.6 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation Y 89 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 4.6 miles northeast
Character of mark Bronze Disk Stamping Y 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 4.6 miles east and northeast along a gravel road from the Silver Bell Cemetery, 0.4 mile southwest of an abandoned mine and water tanks, at a "Y" junction of a dim track road leading east, 19 feet northwest of the center line of the road, 1.6 feet southeast of the witness post, and about level with the road, and set in the top of a concrete post projecting 0.4 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation 3887 (USMS) State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 4.3 miles northeast
Character of mark 1 inch Iron Pipe Cap Stamping U.S.M.S. No. 3887
Established by U. S. M. S. 3 G.M. 7
Detailed description 4.3 miles east and northeast along a gravel road from the Silver Bell Cemetery, 25½ feet west of the center line of the road, and about 2 feet higher than the road, an iron cap screwed on top of a 1 inch iron pipe with rocks piled around it, and projecting 2½ feet above the ground.

DESCRIPTION OF BENCH MARK

Designation S 292 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 3.5 miles northeast
Character of mark Bronze Disk Stamping S 292 1951
Established by United States Coast & Geodetic Survey
Detailed description 3.5 miles east and northeast along a gravel road from the Silver Bell Cemetery, at a 50 feet wide gravel wash leading northwest-southeast, and set in the top of a 7 by 7 feet outcrop in the southwest southwest edge of the wash, 55 yards north of the well on the w est side of the wash, 38½ feet west of the center line of the road, 15½ feet southwest of the center line of the wash, and about 1½ feet higher than the wash.

DESCRIPTION OF BENCH MARK

Designation T 292 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 2.8 miles northeast
Character of mark Bronze Disk Stamping T 292 1951
Established by United States Coast & Geodetic Survey
Detailed description 2.8 miles east and northeast along a gravel road from the Silver Bell Cementery, 0.05 mile southeast of an intersection with an old railroad bed, at a point where a small wash crosses the road, and set in the top of a 3 by 3 foot boulder projecting 3 feet above the ground and located on the south bank of the wash, 74 feet east along a wash from the center line of the road, 46 feet northeast of the center line of the road, and 4 feet south of the center line of the wash.

DESCRIPTION OF BENCH MARK

Designation Z 89 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 2.3 miles northeast
Character of mark Bronze Disk Stamping Z 89 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.3 miles east and northeast along a gravel road from the Silver Bell Cemetery, 0.2 mile north of a cattle guard on the road, 0.05 mile south of a wash crossing the road, 25½ feet northeast of the center line of the road, 2.2 feet south of the witness post, and about level with the road, and set in the top of a concrete post projecting 0.4 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation V 292 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 1.5 miles east
Character of mark Bronze Disk Stamping V 292 1951
Established by United States Coast & Geodetic Survey
Detailed description 1.5 miles east and northeast along a gravel road from the Silver Bell Cemetery, 0.4 mile northeast of an intersection with a gravel road leading east and one south across the wash to a mine camp, 0.2 mile east of a gate in a north-south fence across the road, and on the outside of a wide horse shoe turn in the road at an intersection with the gravel roads leading east-south to the Old Silver Bell Mine, 78½ feet north of the center line of the gravel road leading east, 40 feet east of the center line of the main road, 2.5 feet south of the witness post, and about 1 foot lower than the road, and set in the top of a concrete post projecting 0.7 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation S 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 0.6 mile east
Character of mark Bronze Disk Stamping S 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 0.6 mile east along a gravel road from the Silver Bell Cemetery, about 70 yards west of a wide wash crossing, at a junction with a gravel road leading southeast to a mine camp, 73 feet west of the approximate center of the road junction, 11½ feet south of the center line of the main road, 1.3 feet east of the witness post, and about 1 foot higher than the road, and set in the top of a concrete post projecting 0.4 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation U 292 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 0.1 mile east
Character of mark Bronze Disk Stamping U 292 1951
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, at an intersection with a gravel road leading north-south, at the southwest corner of the intersection, 48½ feet south of the center line of the main road, 27½ feet west of the center line of the gravel road, 2.1 feet north of the witness post, and about 2 feet higher than the main road, and set in the top of a concrete post porjecting 0.5 foot above the ground.

DESCRIPTION OF BENCH MARK

Designation C 310 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 0.75 miles west
Character of mark Bronze Disk Stamping C 310 1952
Established by United States Coast & Geodetic Survey
Detailed description 0.75 mile west along a track road from the Silver Bell Cemetery, at the "Y" junction of a dim track road leading south, on a slight down grade going southwest, at a small clearing, 70 feet southwest of the center of the junction, 20 feet northwest of the center line about level with the main road, 2.9 feet south of a witness post, and set in a concrete post projecting 1 foot.

DESCRIPTION OF BENCH MARK

Designation T 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 1.45 miles west
Character of mark Bronze Disk Stamping T 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 1.45 miles west along a track road from the Silver Bell Cemetery, 0.7 mile southwest of the "Y" junction of a dim track road leading south, on the west slope of a ridge, at the crossing of an east-west rocky wash, 30 feet south of the center line of the wash, 20 feet northeast of the center line of and about 1 foot lower than the road, 2.1 feet east of the witness post, and set in a concrete post projecting 0.5 foot.

DESCRIPTION OF BENCH MARK

Designation S 31 S 6 (USGLO) State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 2.15 miles west
Character of mark Bronze Disk Stamping T 11 S R 8 E S 31S6 T 12 S 1936 1916
Established by United States General Land Office
Detailed description 2.15 miles west along a track road from the Silver Bell Cemetery, at a point where the road passes through a gate, at a "T" in a fence line, 11 feet southeast of the center line and about ½ foot higher than the road, 4.5 feet southeast of the southeast gate post, 3 feet south of the witness post, 0.7 foot north of the fence post ata "T", and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation R M 1 (GLO) State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 2.15 miles west
Character of mark Bronze Disk Stamping R M N 1 1936
Established by United States General Land Office
Detailed description Same description to reach as the Station, 47.7 feet southwest of the north gate post, 40.2 feet west of the station, 12 feet northwest of the center line and about level with the road, and set in a concrete post projecting 0.4 foot, and about 1 foot lower than the Station.

DESCRIPTION OF BENCH MARK

Designation R M 2 (GLO) State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 2.15 mile west
Character of mark Bronze Disk Stamping R M N 2 1936
Established by United States General Land Office
Detailed description Same description to reach as the Station, directly in line with the north-south fence line, 50.3 feet north of the station, 39½ feet north of the center line of and about 2 feet lower than the road, 28.6 feet north of the north gate post, and set in a concrete post projecting 0.4 foot, and about 2½ feet lower than the station.

DESCRIPTION OF BENCH MARK

Designation A 318 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 2.7 miles west
Character of mark Bronze Disk Stamping A 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, 0.1 mile southwest of the crossing of a gate, in the crotch of the "Y" junction of a dim track road leading southwest, 33.5 feet southwest of a 20 feet higher giant Saquaro, 24.8 feet southeast of the center line of the main traveled road, 21 feet northeast of the center line of a dim track road which the line of levels follow, 1.8 feet east of a witness post, and about level with the roads, and set in a concrete post projecting 0.7 foot.

DESCRIPTION OF BENCH MARK

Designation U 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 3.5 miles west
Character of mark Bronze Disk Stamping U 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 0.8 mile southwest along a dim track road, between two ridges, 0.1 mile south west of the northeast ridge, about 50 yards northeast of a slight up grade going southwest, 18½ feet southeast of the center line of and about 1 foot higher than the road, 3 feet northeast of the witness post, and set in a concrete post projecting 0.5 foot.

DESCRIPTION OF BENCH MARK

Designation W 311 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 4.45 miles west
Character of mark Bronze Disk Stamping W 311 1952
Established by United States Coast & Geodetic Surgey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 1.75 miles southwest along a dim track road, about 50 yards southwest of the crossing of a deep, sandy, wash, at a small clearing, 21 feet southeast of the center line of and about level with the road, 1.9 feet northwest of a witness post, and set in a concrete post projecting 0.6 foot.

VERTICAL CONTROL DATA

by the
Coast and Geodetic Survey
SEA-LEVEL DATUM OF 1929

DESCRIPTION OF BENCH MARK

Designation V 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 5.45 miles southwest
Character of mark Bronze Disk Stamping V 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 2.75 miles southwest along a dim track road, on a slight gravel covered ridge, between two small washes, 55 feet south of a palo verde tree, 17 feet northwest of the center line of and about level with the road, 1.5 foot southwest of the witness post, and set in a concrete post projecting 0.4 foot.

DESCRIPTION OF BENCH MARK

Designation X 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 9.4 miles southwest
Character of mark Bronze Disk Stamping X 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 6.7 miles southwest along a dim track road, about 1¼ mile northwest of a windmill, on a flat spotted with mesquite brush, about 40 yards northeast of a 1½ foot ironwood tree, about 40 yards west of a fork in a wash, 17 feet northwest of the center line of and about level with the road, 1.9 feet southeast of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation X 311 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 6.55 miles southwest
Character of mark Bronze Disk Stamping X 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 3.88 miles southwest along a dim track road, about 45 yards southwest of the crossing of a sandy wash, at a small barren spot, 69½ feet southeast of a giant saguaro, 19 feet southeast of the center line and about level with the road, 2.3 feet north of the witness post, and set in a concrete post projecting 0.5 foot.

DESCRIPTION OF BENCH MARK

Designation Z 311 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 10.5 miles southwest
Character of mark Bronze Disk Stamping Z 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west allong a track road from the Silver Bell Cemetery, thence 7.8 miles southwest along a dim track road, about 1½ miles west northwest of the wind mill at Aquires Well, at a water soaked bottom land clearing surrounded with mesquite, 20 feet west of the center line of and about level with the road, 2.8 feet northeast of the witness post, and set in a concrete post projecting 0.7 foot.

DESCRIPTION OF BENCH MARK

Designation W 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 7.45 miles southwest
Character of mark Bronze Disk Stamping W 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 4.75 miles southwest along a dim track road, at a wide gravel flat spotted with short mesquite brush, at a point where the road follows a sandy wash, 13½ feet north of the center line of and about 1 foot higher than the road, 2 feet south of a witness post, and set in a concrete post projecting 0.7 foot.

DESCRIPTION OF BENCH MARK

Designation Y 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 11.4 miles southwest
Character of mark Bronze Disk Stamping Y 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 8.7 miles southwest along a dim track road, 0.55 mile northeast of the crossing of a 150 feet wide wash, on a water soaked bottom land clearing lightly spotted with mesquite, 8 feet southeast of the center line of and about level with the road, 1.8 feet north of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation Y 311 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 8.6 miles southwest
Character of mark Bronze Disk Stamping Y 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 5.9 miles southwest along a dim track road, at a point where the road follows a wash, at a red dirt flat spotted with mesquite and palo verde trees, 41½ feet south of a 2 foot palo verde tree, 15 feet northwest of the center line of and about level with the road, 2.7 feet east of the witness post, and set in a concrete post projecting 0.5 foot.

DESCRIPTION OF BENCH MARK

Designation K 311 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 12.25 miles southwest
Character of mark Bronze Disk Stamping K 311 1952
Established by United States Coast Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 9.55 miles southwest along a dim track road, 0.3 mile southwest of the crossing of a 150 feet wide wash, and about 45 yards southwest of the northeast edge of a large, open clearing, on the northwest side of a 2 foot high gravel mound., 42 feet southeast of the center line of and about level with the road, 1.8 feet north of a witness post, and set in the top of a concrete post projecting 0.8 foot.

DESCRIPTION OF BENCH MARK

Designation Z 90 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 13.40 miles southwest
Character of mark Bronze Disk Stamping Z 90 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 10.70 miles southwest along a dim track road, about 150 yards southwest of the southwest edge of a large, open clearing, at a point where the road crosses several sandy washes, on a water soaked bottom land covered with mesquite, 19 feet southeast of the center line of and about level with the road, 1.8 feet northwest of the witness post, and set in a concrete post projecting 0.4 foot.

DESCRIPTION OF BENCH MARK

Designation J 311 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 14.45 miles southwest
Character of mark Bronze Disk Stamping J 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 11.75 miles southwest along a dim track road, on a slight sandy downgrade going east, about 2 miles north-northwest of the highest peak of a long mountain, at a clearing, 17 feet southeast of the center line of and about level with the road, 2.8 feet northeast of a witness post, and set in a concrete post projecting 0.8 foot.

DESCRIPTION OF BENCH MARK

Designation A 91 State Arizona County Pima
Nearest town Silver Bell Cemetery County Pima
Distance and direction from nearest town 15.35 miles southwest
Character of mark Bronze Disk Stamping A 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 2.7 miles west along a track road from the Silver Bell Cemetery, thence 12.65 miles southwest along a dim track road, approximatly 1½ miles north-northwest of the west end of a long, low mountain, at a slightly rolling sandy bottom land covered with mesquite, 22 feet south of the center line of and about level with the road, 1.8 feet north of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation H 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 15.55 miles east
Character of mark Bronze Disk Stamping H 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 15.55 miles east along a dim track road from the school at Santa Rosa, 16.45 miles southwest of the Silver Bell Cemetern, 0.5 mile east-northeast of a 6 foot high mass of concrete, 0.2 mile west-southwest of a lone giant saquaro, 0.1 mile east of a deep open clearing, at asmall clearing spotted with iron wood trees, 27 feet north of the center line of and about level with the road, 2.7 feet southwest of a witness post, and set in a concrete post projecting 0.9 foot.

DESCRIPTION OF BENCH MARK

Designation R 318 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 15.25 miles east
Character of mark Bronze Disk Stamping R 318 1952
Established by United States Coast & Geodetic Survey
Detailed description 15.25 miles east along a dim track road from the school at Santa Rosa, at the near center of a large, open clearing, 0.2 mile northeast of a mass of concrete which projects 6 foot above the ground, about 300 yards north-northwest of the east end of a levee, at the junction of a very dim track road leading north, at the crossing of a north-south cattle trail, 14 feet east of the center line of the cattle trail, 12 feet southeast of and about level with the center of the road junction, 2.4 foot northwest of a witness post, and set in the top of a concrete post projecting 0.8 foot.

DESCRIPTION OF BENCH MARK

Designation B 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 14.5 miles east
Character of mark Bronze Disk Stamping B 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 14.5 miles eastalong a dim track road from the school at Santa Rosa, 0.15 mile west-southwest of the right angle in a levee, 0.1 mile west of the west edge of a large clearing, at a water soaked bottom land covered with mesquite, 17 feet north of the center line of and about level with the road, 1.5 foot south of a witness post, and set in a concrete post projecting 0.4 foot.

NOTE--March 1962 report: Not recovered, description not adequate for heavy brush and grass covering the area.

DESCRIPTION OF BENCH MARK

Designation G 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 13.75 miles east
Character of mark Bronze Disk Stamping G 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 13.75 miles east along a dim track road from the school at Santa Rosa, 0.45 mile northeast of the northeast corner of a fence line, at a water soaked bottom land clearing spotted with iron wood trees, about 40 yards northwest of a wash, 18 feet north of the center line of and about level with the road, 15½ feet southwest of an iron wood tree, 2.8 feet east of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation C 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 12.70 miles east
Character of mark Bronze Disk Stamping C 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 12.45 miles east along a dim track road from the school at Santa Rosa, thence 0.25 miles northeast along a track road which forms a loop with the main road, 0.55 mile east of the east edge of a reservoir, about 150 yards northwest of a point where the roads rejoin, about 100 yards north of an east-west fence line, 14 feet southwest of the center line of and about level with the road, 1.5 feet north of a witness post, and set in a concrete post projecting 0.5 foot.

DESCRIPTION OF BENCH MARK

Designation F 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 11.75 miles east
Character of mark Bronze Disk Stamping F 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 11.75 mile east along a dim track road from the school at Santa Rosa, 0.35 mile west of the west edge of a reservoir, at a large clearing spotted with iron wood trees, about 80 yards east of a wide snad wash which outlines the west edge of the clearing, about 75 yards south of the north edge of the clearing, 36½ feet southwest of an ironwood tree, 24 feet south of the center line of and about level with the road, 2.9 feet northwest of a witness post, and set in a concrete post projecting 0.9 foot.

DESCRIPTION OF BENCH MARK

Designation D 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 10.75 miles east
Character of mark Bronze Disk Stamping D 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 10.75 miles east along a dim track road from the school at Santa Rosa, approximatly 1 mile south-southeast of the southeast end of a huge red mountain, 0.6 mile east of the southeast corner of a fence line, about 0.1 mile west of a point where the road passes among numerous giant saquaros, 69 feet east of a lone ironwood tree, 21 feet north of the center line of and about level with the road, 1.2 feet south of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation E 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 9.80 miles east
Character of mark Bronze Disk Stamping E 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 9.80 miles east along a dim track road from the school at Santa Rosa, about 1 mile due south of the southeast end of a huge mountain, 0.3 mile east of the east end of a loop formed by the main road and a track road leading west, 0.3 mile west of servel abandoned adobe huts, at a large wooden gate which the road passes thru, 19 feet north of the center line of and about level with the road, 11.7 feet north of the north gate post, 1.9 feet south of a witness post, 1.6 feet east of a fence, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation E 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 8.7 miles east
Character of mark Bronze Disk Stamping E 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 8.7 miles east along a dim track road from the school at Santa Rosa, approximatly 1½ mile due south of a white peak which is located at the southwest foot of a huge mountain, 0.75 mile east of the "Y" junction of a track road leading southeast which forms a loop with the main road, 0.75 mile north west of the east end of the loop and a fence corner, at a meadow like clearing lightly spotted with mesquite brush, about 50 yards south of the north edge of the clearing, 65 feet north of the center line of and about level with the road, 1.9 feet west of a witness post, and set in a concrete post projecting 1 foot.

DESCRIPTION OF BENCH MARK

Designation D 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 7.75 miles east
Character of mark Bronze Disk Stamping D 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 7.75 miles east along a dim track road from the school at Santa Rosa, approximatly 2½ miles south-southwest of a white peak which is located at the southwest foot of a huge mountain, at a round clearing spotted with ironwood trees, about 60 yards south of the north edge of the clearing, 0.25 mile west of the road fork of a track leading southeast which forms a loop with the main road, 19 feet south of the center line of and about level with the road, 18½ feet east of an ironwood tree, 2.1 feet north of a witness post, and set in a concrete post projecting 1 foot.

DESCRIPTION OF BENCH MARK

Designation F 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 6.75 miles east
Character of mark Bronze Disk Stamping F 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 6.75 miles east along a dim track road from the school at Santa Rosa, approximatly 3 miles west-southwest of awhite peak which is located at the southwest foot of a huge mountain, at a point where the road crosses several red sand washes, 7½ feet southwest of the center line of a small wash, 5 feet northeast of the center line of and about level with the road, 2.2 feet west of a witness post, and set in a concrete post projecting 1 foot.

DESCRIPTION OF BENCH MARK

Designation C 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 5.85 miles east
Character of mark Bronze Disk Stamping C 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 5.85 miles east along a dim track road from the school at Santa Rosa, 0.7 mile east of the east edge of a large clearing, at a water soaked bottom land spotted with mesquite, at a small clearing, 45½ feet north of and across the road from a lone forked ironwood tree, 16 feet north of the center line of and about level with the road, 2.8 feet east of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation G 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 4.85 miles east
Character of mark Bronze Disk Stamping G 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 4.85 miles east along a dim track road from the school at Santa Rosa, between two large clearings, 0.2 mile east of the crossing of a 7 foot deep wash which outlines the east edge of the west clearing, about 50 yards west of the west edge of the east clearing, 85 feet south of the center line of and about level with the road, 1.9 feet northeast of a witness post, and set in a concrete post projecting 0.6 foot.

DESCRIPTION OF BENCH MARK

Designation B 311 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 4 miles east
Character of mark Bronze Disk Stamping B 311 1952
Established by United States Coast & Geodetic Survey
Detailed description 4 miles east along a dim track road from the school at Santa Rosa, 0.35 mile west of a point where the road crosses an extreamly large clearing, 0.2 mile north of the south end of the clearing, 0.1 mile east of a point where the road crosses over the south end of a clearing, about 100 yards east of the crossing of a small wash which outlines the east edge of the clearing, 18 feet north of the center line of and about level with the road, 2.7 feet east of the witness post, and set in a concrete post projecting 0.7 foot.

DESCRIPTION OF BENCH MARK

Designation H 91 State Arizona County Pima
Nearest town Santa Rosa County Pima
Distance and direction from nearest town 3.05 miles east
Character of mark Bronze Disk Stamping H 91 1935
Established by United States Coast & Geodetic Survey
Detailed description 3.05 miles east along a dim track road from the school at Santa Rosa, 0.5 mile east of an adobe shed, 0.5 mile west of a small ridge, 0.25 mile east of the southeast corner of a fence line, at a small clearing at a flat dotted with small mesquite trees, 9 feet north of the center line of and about level with the road, 2.2 feet east of a witness post, and set in a concrete post projecting 1 foot.

LINE 105

DESCRIPTION OF BENCH MARK

Designation T 295 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 7 miles northeast
Character of mark Brass Disk Stamping T 295 1951
Established by United States Coast & Geodetic Survey
Detailed description 6.9 miles northeast along a gravel road from the cemetery at Silver Bell, thence 0.3 mile southeast along Silver Bell Road, inside of a triangle formed by a "Y" junction of a road leading south, 0.3 mile southeast of a intersection and (A.D.S. 13 USGS), 176 feet southeast of the northwest corner of the triangle, 128 feet west of the east corner of the triangle, 60 feet southwest of the center line of Silver Bell Road, 3.7 feet north of a witness post, and about 2 feet higher than the road, and set in the top of a concrete post projecting 0.5 foot above the ground.

LINE 106

DESCRIPTION OF BENCH MARK

Designation F 303 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 7.9 miles southeast
Character of mark Bronze Disk Stamping F 303 1951
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 7.8 miles southeast along a gravel road, 0.15 mile northwest of the northwest edge of a wide wash, 0.5 mile northwest of a "Y" junction of a gravel road leading south, 31½ feet northeast across from a palo verde tree, 20 feet northeast of the center line of the road, 2 feet south of a witness post, and braised on the top of a 3½ inch iron pipe, projecting 1 foot above the ground, and about level with the road.

DESCRIPTION OF BENCH MARK

Designation Q 93 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 6.9 miles southeast
Character of mark Bronze Disk Stamping Q 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 6.8 miles southeast along agravel road, about mid-way between two sandy washes at a small clearing, 16½ feet northeast of the center line of the road, 2.4 feet southwest of a witness post, and set in a concrete post projecting 0.4 foot, and about level with the road.

DESCRIPTION OF BENCH MARK

Designation G 303 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 5.8 miles southeast
Character of mark Bronze Disk Stamping G 303 1951
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a graded road from the Silver Bell Cemetery, thence 5.7 miles southeast along a gravel road, 0.2 mile southeast of a gate for a fence crossing the road, on the top of a short, steep upgrade going southeast, 21 feet southwest of the center line of the road, 3 feet north of a witness post, and braised on the top of a 3½ inch iron pipe, projecting 1.2 foot above the ground and about level with the road.

DESCRIPTION OF BENCH MARK
(USGLO)

Designation S 17 S 16 S 20 S 21 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 5.6 miles southeast T 12 S R 8 E
Character of mark Brass Cap Stamping S 17 S 16 1925
Established by United States General Land Office S 20 S 21
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 5.5 miles southeast along a gravel road, at the boundry of the Papago Indian Reservation 40 feet west of the center line of the road, 37.2 feet west of the west gate post of a gate across the road, 2.9 feet northwest of a fence, 2 feet southeast of the southeast bank of a wash, rivited on the top of a 2½ inch iron pipe, projecting 1 foot, and about level with the road.

LINE 106 107

DESCRIPTION OF BENCH MARK

Designation P 93 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 4.8 miles southeast
Character of mark Bronze Disk Stamping P 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 4.7 miles southeast along a gravel road, 0.1 mile northwest of a triple road fork of the main road leading south, graded road leading southeast, and a gravel road leading east-southeast, at the top of a ridge, 21 feet northeast of the center line of the road, 1.9 feet southwewt of a witness post, and set in the top of a concrete post projecting 0.5 foot above the ground, and about level with the road.

DESCRIPTION OF BENCH MARK

Designation H 303 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 4.1 miles southeast
Character of mark Bronze Disk Stamping H 303 1951
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 4 miles southeast along a gravel road, 0.5 mile southeast of a "Y" junction with a gravel road leading southwest, at a wash crossing, and in the top of a sand stone outcrop located on the south bank of the wash, 93 feet southwest of the center line of the road, 4½ feet south of the center line of the wash, and about level with the road.

DESCRIPTION OF BENCH MARK

Designation J 303 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 3.3 miles southeast
Character of mark Bronze Disk Stamping J 303 1951
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 3.2 miles southeast along a gravel road, 0.05 mile northwest of a "T" junction with a graded road leading northeast, at a deep rocky wash on the southeast edge of some old ruins, and in the top of a large granite outcrop located on the southeast edge of the wash, projecting about 3 feet above the wash, 105 feet southwest of the center line of the road along the wash, and about 2 feet lower than the road.

DESCRIPTION OF BENCH MARK

Designation N 93 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 2.7 miles south
Character of mark Bronze Disk Stamping N 93 1935
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 2.6 miles south along a track road on the southwest slope of a rock covered hill, at a point where a rocky wash crosses a curve in the road, in the top of an outcrop projection 1 foot above the ground, 55 feet north of the approximate center of a wash at the crossing, 27 feet northeast of and about 8 feet higher than the center line of the road.

DESCRIPTION OF BENCH MARK

Designation B 310 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 1.7 miles south
Character of mark Bronze Disk Stamping B 310 1952
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 1.6 miles south along a track road on the west slope of a hill which was partly bared by a dozer blade, at the top of a grade and at a 3 feet high dirt barrier which crosses over the road, and in the top of a 3½ by 4 feet decomposed granite outcrop which projects 0.8 foot above the ground, surrounded by a group of 4 feet high outcrops, 50 feet west of and about 2 feet lower than the center line of the road.

DESCRIPTION OF BENCH MARK

Designation A 310 State Arizona County Pima
Nearest town Silver Bell County Pima
Distance and direction from nearest town 0.7 mile south
Character of mark Bronze Disk Stamping A 310 1952
Established by United States Coast & Geodetic Survey
Detailed description 0.1 mile east along a gravel road from the Silver Bell Cemetery, thence 0.6 mile south along a track road, inside of the south end of a large triangle formed by the main road and a dim wagon road leading east to a windmill, 120 feet north of the south end of the triangle, 37½ feet northwest of the center line of the southeast leg of the wagon road, 21 feet east of the center line of the main road, 3.4 feet west of a witness post, and set in the top of a concrete post projecting 0.4 foot above the ground, and about level with the roads.

LINE 107

FORM 685A
(1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation U 37 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 14.9 miles northwest Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report
14.9 miles northwest along State Highway 86 from the post office at Sells, Pima County, on the old Ajo-Tucson highway, 10.4 miles east of Savage's Store (in 1934), and 45 feet south of the centerline of the highway. A standard disk, stamped "2304.300 U 37 1933" and set in the top of a concrete post projecting 8 inches above ground.

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation V 37 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 12.7 miles northwest Recovery Date Dec. 1937
Character of mark Stamping
Established by
Present condition Not recovered
Detailed report It is likely that the tablet has been destroyed by the Indians.

12.7 miles northwest along State Highway 86 from the post office at Sells, Pima County, on the old Ajo-Tucson highway, near an Indian village, 60 feet east of a wide arroyo, at a shallow rock cut, 46 feet north of the highway, in the top of a rock outcrop, and 2 inches above the ground. A standard disk, stamped "2400.245 V 37 1933."

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation W 37 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 10.7 miles northwest Recovery Date Jan 1958
Character of mark Stamping
Established by
Present condition Good
Detailed report

10.7 miles northwest along State Highway 86 from the post office at Sells, Pima County, on the old Ajo-Tucson highway, on the east side of a saddle east of the Casabi Trading Station, 96 feet north of the centerline of the highway, in the top of a 10-foot square andesite boulder, and 4 feet above the ground. A standard disk, stamped "2475.057 W 37 1933."

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation X 37 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 8.7 miles northwest Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report

8.7 miles northwest along State Highway 86 from the post office at Sells, Pima County, on the old Ajo-Tucson highway, 1.2 miles southeast of the junction of a road leading to Mildren Mine, 156 feet west of a dip in the highway, and 40 feet north of the centerline of the highway. A standard disk, stamped "2507.351 X 37 1933" and set in the top of a concrete post projecting 8 inches above ground.

THE LINE LEAVES AND RE-ENTERS THE QUADRANGLE

DESCRIPTION OF BENCH MARK

Designation 876+1240 (AHD) State Arizona County Pima
Nearest town Sells County Pima
Distance and direction from nearest town 15.2 miles northeast
Character of mark Bronze Disk Stamping 876+1240 3003.63
Established by Arizona Highway Department 1948
Detailed description 1.5 miles east along a gravel road form the post office at Sells, thence 13.7 miles northeast along the State Highway 86, set in the top and in the center of the southeast headwall of a 5 by 44 feet concrete bridge, 19 feet southeast of the center line of the road, and about flush with the top of the road. **Note: This mark was not leveled over in 1952.**

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 685 A

RECOVERY NOTE, BENCH MARK

R

Designation L 38 State Arizona County Pima
Nearest town Sells County Pima Jan .1952
Distance and direction from nearest town 15.55 miles northeast
Character of mark Bronze Disk Stamping L 38 3003.593
Established by United States Coast & Geodetic Survey 1933
Present condition Good
Detailed report 1.5 miles east along a gravel road from the post office at Sells, thence 14.05 miles east along the State Highway 86, set in the top of a outcrop and about the center of the west bound lane of Highway 86, a square iron box has been put around the mark with a round lid, the mark 0.9 foot under the highway road bed, 8½ feet northwest of the center line of the highway, 5.7 feet southeast of the northwest edge of the highway, and about 0.9 foot under the highway bed in a iron box. **Note: This mark was not leveled over in 1952.**

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation M 38 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 17.7 miles northeast Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report

17.7 miles northeast of Sells, Pima County. This bench mark may be reached from the post office by going 1.5 miles east along a gravel road, thence 16.2 miles northeast along State Highway 86. It is on the old Ajo-Tucson highway, 0.1 mile northeast of a ranch house and a dirt road intersection, 40 yards east of a corner pole guyed to the south, and 50 feet north of the centerline of the highway. A standard disk, stamped "3146.582 M 38 1933" and set in the top of a concrete post projecting 8 inches above ground.

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation N 38 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 18.6 miles northeast Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report

18.6 miles northeast of Sells, Pima County, This bench mark may be reached from Sells by going 14.8 miles northeast along State Highway 86, thence 3.8 miles northeast along the old Ajo-Tucson highway. It is 64 feet north of the centerline of the highway, 24 feet south of a pole, and 36 feet south of a fence line. A standard disk, stamped "3063.937 N 38 1933" and set in the top of a concrete post projecting 8 inches above ground.

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation R 38 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 22.5 miles northeast Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report

22.5 miles northeast of Sells, Pima County. This bench mark may be reached from Sells by going 14.8 miles northeast along State Highway 86, thence 7.7 miles northeast along the old Ajo-Tucson highway. It is 0.1 mile west of the junction of a dirt road leading north, 310 feet east of a double pipe culvert with mosonry headwalls, 42 feet north of the centerline of the highway, and 43 feet west of a pole. A standard disk, stamped "3002.747 R 38 1933" and set in the top of a concrete post porjecting 8 inches above ground.

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation P 38 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 20.5 miles northeast Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report

20.5 miles northeast of Sells, Pims County. This bench mark may be reached from Sells by going 14.8 miles northeast along State Highway 86, thence 5.7 miles northeast along the old Ajo-Tucson highway. It is 0.3 mile southwest of a rise, and 48 feet south of the centerline of the highway. A standard disk, stamped "3054.223 P 38 1933" and set in the top of a concrete post projecting 8 inches above ground.

FORM 685A (1-8-58)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, BENCH MARK

R

Designation S 38 State Arizona County Pima
Nearest town Sells County Chief of Party
Distance and direction from nearest town 24.6 miles northeast Recovery Date Oct. 1934
Character of mark Stamping
Established by
Present condition Good
Detailed report

24.6 miles northeast of Sells, Pima County. This bench mark may be reached from Sells by going 14.8 miles northeast along State Highway 86, thence 9.8 miles northeast along the old Ajo-Tucson highway. It is 0.4 mile west of Roadside Mine, 51 feet southeast of the middle of a 4-foot pipe culvert with concrete headwalls, 27 feet south of the centerline of the highway, in the top of an andesite outcrop projecting 3 inches above ground, and 2 feet lower than the highway. A standard disk, stamped "2902.353 S 38 1933."

GU ACHI (75) ( ) Arizona E.E. Harris, 1936

Third Order

Adjusted Elevations Based
On Sea Level Datum of 1929

Book: B 7129

Latitude: 32°15' Longitude: 112°00'

(1) FROM QUIJOTOA NO. 4 QUADRANGLE (55) NORTHWEST ALONG ROAD ACROSS SOUTHEAST CORNER OF QUADRANGLE INTO SILVER BELL NO. 2 QUADRANGLE (74)

San Tomos, 5.3 mi. N. of, 24 ft. E. of center of rd., at intersection of dim rd. to SE., in concrete post; standard tablet stamped "H 38 1936 1900" 1899.771

San Tomos, 6.3 mi. N. of, 75 ft. NW. of rd., in crotch of mesquite tree; rail spike 1872.02

San Tomos, 6.3 mi. N. thence 1 mi. NE. from, 650 ft. SW. of Indian hogan, 450 ft. E. of intersection of rd. to SE., 43 ft. S. of center of rd., 12 ft. W. of ditch, in concrete post; standard tablet stamped "H 39 1936 1872" (Not Found) 1872.514

Reference mark, 30 ft. S. of tablet, in crotch of mesquite tree; copper nail and washer 1872.51

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11/8/63 lw

GU ACHI (75) Arizona R.B. Steele, 1939

Third Order Adjusted Elevations Based On Sea Level Datum of 1929

Book: B 8043

Latitude: 32°30' Longitude: 112°00'

(2) FROM VEKOL MTS. QUADRANGLE (99) SOUTHWEST ALONG ROAD TO VENTANA THENCE NORTH ALONG ROAD INTO VEKOL MTS. QUADRANGLE (99)

Kohatk Indian School, 10.7 mi. SW. of along Ventana Rd., 39 ft. NW. of center of rd., in concrete post; iron bolt 2048.77

"M 91 1935" (USC&GS) 2065.098

Ventana Indian School, 6.5 mi. NE. of along rd. to Kohatk, 3 mi. NE. of gate in S. boundary fence of Papago Indian Reservation, 46 ft. SE. of center of rd.; in concrete post; iron bolt 2105.80

"L 91 1935" (USC&GS) 2171.105

Reference mark, 16 ft. NE. of tablet, 31 ft. NW. of center of rd., in concrete post; iron bolt 2171.40

Ventana Indian School, 4.4 mi. NE. along rd. to Kahatk, 1 mi. NE. of gate in S. boundary fence of Papago Indian Reservation, at top of steep ridge, 120 ft. W. of old well in E. edge of wash, 34 ft. N. of center of rd., 16 ft. N. of driveway, in concrete post; iron bolt (Recovered by USC&GS) 2245.55

"K 91 1935" (USC&GS) 2315.806

Reference mark, 105 ft. SW. of tablet, at Y-junction, 40 ft. SW. of center of rd. SE., 38 ft. SE. of center of rd. SW., in concrete post; iron bolt 2318.07

Ventana Indian School, 2.5 mi. E. of along rd. to Santa Rosa, 35 ft. S. of intersection of rd. to Quijotoa, in concrete post; iron bolt 2359.27

"H 90 1935" (USC&GS) 2305.579

Reference mark, 242 ft. E. of tablet, 27 ft. S. of center of rd., in concrete post; iron bolt 2307.78

Ventana Indian School, 0.5 mi. E. of along rd. to Santa Rosa, 330 ft. E. of lone giant cactus, 25 ft. N. of center of rd., about midway between rd. and small sand wash, in concrete post; iron bolt 2259.92

FILE COPY

11/8/63 lw

Third Order

Adjusted Elevations Based
On Sea Level Datum of 1929

Book: B 8043

(2) "J 90 1935" (USC&GS) 2234.31

Reference mark, 216 ft. SW. of tablet, 2 ft. N. of second telephone pole S. of rd. junction, in concrete post; iron bolt 2233.02

Ventana Indian School, 0.9 mi. N. of along desert rd., 220 ft. N. of small wash crossing, 20 ft. E. of center of rd., in concrete post; iron bolt 2227.03

"K 90 1935" (USC&GS) 2203.365

Reference mark, 216 ft. SW. of tablet, 30 ft. W. of center of rd., in concrete post; iron bolt 2207.24

11/8/63 lw

FILE COPY

GU ACHI (75) (..)

Arizona

R.R. Moore, 1961

Third Order

Adjusted Elevations Based
On Sea Level Datum of 1929

Book: PV 444

Latitude: 32°15' Longitude: 112°00'

(3) FROM EAST EDGE OF QUIJOTOA NO. 2 QUADRANGLE (76) EAST AND NORTH ALONG ROAD TO A POINT IN VENTANA

Ajo, 22 mi. E. of, along State Highway 86, thence 14 mi. NE. to Hickiwan, thence 9 mi. easterly to Vaya Chin, thence 7.3 mi. NE. to junction of Ventana-Santa Rosa Rd., large triangle at junction, 150 ft. and 3 ft. higher of W. point, 220 ft. and 3 ft. higher of N. point, 235 ft. and 4 ft. lower of S. point, concrete post projecting 4 in.; standard tablet stamped "8 RRM 1961"

2305.573

Reference mark, 63 ft. W. of tablet, 1.3 ft. lower than tablet, buried rock; chiseled square

2304.201

1.17 mi. N. of BM "8 RRM", 50 ft. S. of drain crossing, 55 ft. W. of center of rd., rock in place; chiseled square

2272.676

Ajo, 22 mi. E. of, along State Highway 86, thence 14 mi. NE. to Hickiwan Village, thence 9 mi. easterly to Vaya Chin, thence 7.3 mi. NE. to junction of Ventana-Santa Rosa Rd., thence 2.09 mi. N. to light rd., E. of main gravel rd., 1.5 mi. S. of Ventana, 55 ft. E. of center of gravel rd., concrete post projecting 4 in.; standard tablet stamped "9 RRM 1961"

2252.189

Reference mark, 74 ft. S. of tablet, 10 ft. E. of telephone pole, 58 ft. E. of center of rd., buried boulder; chiseled square

2252.969

0.95 mi. N. of BM "9 RRM", 58 ft. E. and 1.5 ft. higher than center of rd., buried rock; chiseled square

2242.230

BM "J 90 1935" (USC&GS)

2234.231

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11/15/63 lw

GU ACHI (75)

Arizona

Third Order

R.R. Moore, 1961

Adjusted Elevations Based
On Sea Level Datum of 1929

Book: PV 444

Latitude: 32°15' Longitude: 112°00'

(4) FROM USC&GS BM "J 91 1935" 1.4 MILES EAST OF SANTA ROSA SOUTHEAST ALONG ROADS INTO NORTHEAST CORNER OF QUIJOTOA NO. 4 QUADRANGLE (55)

BM "J 91 1935" (USC&GS)

Santa Rosa, 1.4 mi. E. of, thence 1.02 mi. SE. along dirt rd., 1.56 mi. NW. of San Serafin Indian village, 20 ft. E. of center of rd., concrete post projecting 4 in.; standard tablet stamped "10 RRM 1961" 1780.639

Reference mark, 76 ft. N. of tablet, 20 ft. E. of center of rd., buried rock; chiseled square 1805.472

0.54 mi. S. of BM "10 RRM 1961", 24 ft. W. and 1 ft. higher than center of rd., buried boulder; chiseled square 1805.281

Santa Rosa, 1.4 mi. E. of, thence 2.58 mi. SE. to the Indian village of San Serafin, 70 ft. SW. of dirt rd. intersection at W. side of village, concrete post projecting 4 in.; standard tablet stamped "11 RRM 1961" 1819.679

Reference mark, 126 ft. N. of tablet, 25 ft. NW. of center of intersection, buried boulder; chiseled square 1847.572

1.39 mi. SE. of BM "11 RRM 1961", 15 ft. E. and 1 ft. higher than center of dirt rd., buried boulder; chiseled square 1846.225

1868.689

FILE COPY

11/15/63 lw

GU ACHI (75) ( ) Arizona L.H. Lange, 1962

Third Order Adjusted Elevations Based
On Sea Level Datum of 1929

Book: PV 444

Latitude 32°15' Longitude 112°00'

(5) FROM USC&GS BM "V-310 1952" 8.5 MILES NORTHWEST OF SANTA ROSA, SOUTHWEST ON DIRT ROAD INTO EAST EDGE OF QUIJOTOA NO. 2 QUADRANGLE (76)

Note: This line was run by Third Order methods but closure was .381 ft. high in a distance of 21.83 mi. This closure error has been prorated in the line.

USC&GS BM "V-310 1952"	2078.605
Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, 50 ft. W. of mound of dirt, 35 ft. S. of dirt rd., 25 ft. W. of T-rd. junction; concrete filled pipe projecting	2059.165
Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 1.07 mi. S. on dirt rd., 250 ft. W. of cahie, pond, and corral, 45 ft. S. of small drain, 20 ft. W. of dirt rd., concrete post projecting; standard tablet stamped "11 LHL 1962"	2051.363
Reference mark, 200 ft. W. of cattle pond, 100 ft. NE. of BM "11 LHL", 30 ft. NW. of small drain, 10 ft. E. of center of rd.	2048.297
Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 2.02 mi. S. on dirt rd., 40 ft. NW. of large cement water tank, W. point of large windmill base; chiseled square on windmill base	2046.462
Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 2.81 mi. S. on dirt rd., 200 ft. S. of big drain ditch, 25 ft. E. of rd. center, on top of ridge, concrete post projecting; standard tablet stamped "12 LHL 1962"	2035.438
Reference mark, 100 ft. N. of BM "12 LHL", 20 ft. E. of center of rd., N. side of ridge, rock; chiseled square	2033.718
Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 3.73 mi. S. on dirt rd., 400 ft. S. of series of rd. washes that run E. and W., 36 ft. E. of small drain running N., 16 ft. E. of dirt rd.; concrete filled pipe	2079.353
Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 4.68 mi. S. on dirt rd., 200 ft. S. of big drain running SW., 20 ft. from saguaro cactus with three prongs, 18 ft. W. of rd., concrete post projecting; standard tablet stamped "13 LHL 1962"	2127.935
Reference mark, 120 ft. N. of BM "13 LHL", 80 ft. S. of drain 19 ft. E. of rd.; rock; chiseled square	2126.717

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11/18/63 lw

Third Order

Adjusted Elevations Based
On Sea Level Datum of 1929

Book: PV 444

(5) Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 5.09 mi. S. on dirt rd., 0.73 mi. E. on same rd., 30 ft. N. of rd., 20 ft. N. of clump of saguaro cactus, on top of ridge; concrete filled pipe projecting 2154.625

Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 5.09 mi. S. of dirt rd., 2.15 mi. E. on same rd., 45 ft. NE. of E. end of dike, 33 ft. W. of small drain, 20 ft. N. of rd. center, concrete post projecting; standard tablet stamped "14 LHL 1962" 2148.618

Reference mark, 60 ft. NW. of E. end of dike, 15 ft. N. of center of rd., cement filled pipe; copper nail and washer 2146.056

Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 5.09 mi. S. on dirt rd., 2.15 mi. E. on same rd., 1.19 mi. SW. on same rd., 48 ft. N. of fork rd., 30 ft. NW. of saguaro cactus which sets 10 ft. W. of dirt rd., 20 ft. W. of rd. center; concrete filled pipe projecting 2190.773

PP, At palo verde tree, at rd. junction, 100 ft. NW. of N. end of dike 2230.588

Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 5.09 mi. S. on dirt rd., 2.15 mi. E. on same rd., 2.43 mi. SW. on same rd., 12 ft. W. of center of E. side of rd. fork, 10 ft. E. of center of W. side of fork, 10 ft. N. of cactus which is at base of fork, concrete post projecting; standard tablet stamped "15 LHL 1962" 2273.609

Reference mark, 100 ft. N. of BM "15 LHL", 20 ft. N. of dead saguaro cactus, 15 ft. E. of center of rd., rock; chiseled square 2269.314

Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 5.09 mi. S. on dirt rd., 3.57 mi. SW. on same rd., 2.15 mi. E. on same rd., 20 ft. N. of center of rd., 20 ft. N. of palo verde that sets 5 ft. S. of center; concrete filled pipe projecting 2282.728

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11/18/63 lw

(5) Santa Rosa Highway, 6.7 mi. W. to Vaya Chin, thence 5.09 mi. S. on dirt rd., 2.15 mi. E. on same rd., 4.72 mi. SW. on same rd., 55 ft. NW. of dike, 35 ft. W. of dim trail directly in middle of two small palo verde trees, concrete post projecting; standard tablet stamped "16 LHL 1962" 2269.264

Reference mark, 70 ft. S. of end of E.-W. dike, 15 ft. W. of center of dim trail, 10 ft. E. of palo verde tree marked with metal tag (26-59), rock; chiseled square 2272.714

Tracy Trading Post, 0.15 mi. E., thence 6.71 mi. N. on dirt rd. to corral, 1.83 mi. NE. on dirt rd. to dam and corral, thence 6.14 mi. E. on dim rd., 85 ft. E. of end of N.-S. dike, 60 ft. W. of very small drain, 15 ft. S. of center of dirt rd.; concrete filled pipe projecting 2235.731

Tracy Trading Post, 0.15 mi. E., thence 6.71 mi. N. on dirt rd. to corral, 1.83 mi. NE. to dam and corral, thence 5.03 mi. E. on dim rd., 100 ft. W. of large wash on small ridge, 50 ft. W. of edge of small ridge, 13 ft. S. of dim rd., concrete post projecting; standard tablet stamped "17 LHL 1962" 2191.919

Reference mark, 160 ft. NE. of BM "17 LHL", 35 ft. W. of drain which has a tree studded island, 25 ft. N. of rd., buried rock; chiseled square 2188.480

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11/18/63 lw