

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

Sta - 1014 AZ 93

STATE Arizona COUNTY Pinal QUADRANGLE Peppersauce Wash 1948
QUOTE PRIMARY REFERENCE located about 13.5 mi. east - southeast of Oracle,
(Direction and distance)

DESIGNATION { LISTED Sacaton 1947
STAMPED Sacaton 1947 TYPE OF MARK: BM _____ TT _____ TRIANG. XX

Lat. _____ ° _____ ' _____ "	CONDITION	ESTABLISHED BY
Long. _____ ° _____ ' _____ "	Disturbed <input type="checkbox"/>	USGS <input type="checkbox"/> USBR <input type="checkbox"/>
Elev. <u>2788 ft.</u> _____ feet	Destroyed <input type="checkbox"/>	USC&GS <input checked="" type="checkbox"/> State GS <input type="checkbox"/>
	Not Found <input type="checkbox"/>	USNPS <input type="checkbox"/> USNFS <input type="checkbox"/>
		USGLO <input type="checkbox"/> _____ <input type="checkbox"/>
		USBLM <input type="checkbox"/> (Other) <input type="checkbox"/>

Please prepare in triplicate and send to nearest (or indicated) address shown on reverse side.

REMARKS OR REVISED DESCRIPTION:
Located about 11.0 mi. air line southeast of Mammoth, about 5.5 mi. air line east of San Manuel, and about 2.0 mi. air line northwest of Bingham's Sacaton Ranch.

To reach from the US post office, San Manuel, Ariz. 85631, Drive NE along McNab Parkway 0.9 mi. to junction with state highway #76 south, turn right on highway, 3.9 mi. to rd. int. turn left on graveled road 2.6 mi. to a cattle guard and station. 27.0 ft. north of and approximately 1.0 ft. higher than the center line of road at cattle guard. A standard tablet, in a concrete post, stamped "Sacaton 1947"

SUBMITTED BY Terry A. Moyer
TITLE Cartographic Technician DATE March 1, 1972
AGENCY U.S. Geological Survey

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

16-54252-4

(OVER)

QUADS:
MAMMOTH
CLARK RANCA
CAMPO BONICO
PEPPERSAUCE WASH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

THIRD-ORDER TRIANGULATION
North American Datum of 1927

MAMMOTH QUADRANGLE
ARIZONA 93

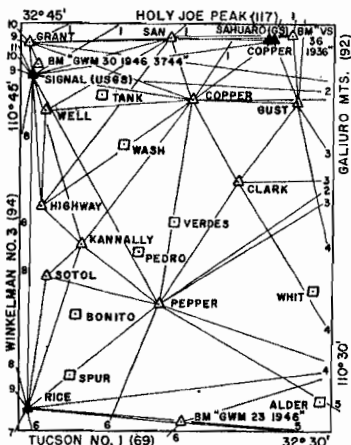
N3230-W1103015
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Pinal County

Edition of 3/1/56

Numbered lines indicate listed azimuths and distances to the following stations not on the quadrangle:

1. Table (C&GS)
2. Maverick (USGS)(C&GS)
3. Rhodes
4. Ridge
5. Redington (USGS)(C&GS)
6. Bigelow
7. Catalina 2 (USGS)(C&GS)
8. Oracle Hill
9. Black Mtn.(C&GS)
10. Hayden
11. Antelope (C&GS)



Station mark: USGS B.M. aluminum tablet stamped "VS 36 1936 4017" and "NO 3 VA 4010" set in large boulder.

Reference mark No. 1: Standard reference mark tablet stamped "4017 1946", set in boulder, 55.05 ft. from station mark in azimuth 225°49'23".

Reference mark No. 2: Standard reference mark tablet stamped "4017 1946", set in boulder, 24.91 ft. from station mark in azimuth 339°01'55".

Note by A.E.L., 1948: Station mark recovered as described.

SEE LATER VALUES Elevation 4016.395 ft. (Spirit leveling by V.S. Seward, 1946) (1936)

Latitude: 32°44'42.289" Longitude: 110°31'58.741"

To Station	Azimuth	Back Azimuth	Feet
Copper (C&GS)	74°26'17.0"	254°25'45.5"	5,153.9
Signal (USGS)(C&GS)	81 21 04.1	261 14 12.6	65,759.9
Grant	87 48 24.3	267 41 25.5	66,203.6
Table (C&GS)	188 41 43.2	8 42 11.2	29,207.3
Gust	355 39 02.2	175 39 09.7	15,577.6

NAD 83 VALUES AVAILABLE

▲ Positions determined by U.S.C. & G.S.

Books: D 3095-3103; PH 5-6; PH 63-64; PH 445-446

Recovered Mammoth Mountain Proj. PH 445-446 Year 1956

B.M. "GWM 23 1946" Pinal County ARIZONA

J. O. McCabe, 1946
A.G. 2261, 1956
Described in level line by G. W. Moore, 1946 (V-237a) as follows:

SEE LATER VALUES

"Interocean Ranch, 3.95 mi. E. of; 16 ft. N. of rd. fork S.; top of concrete post; standard tablet stamped "GWM 23 1946 3880", painted "3880.1".

Located about 15 mi. SE. of Oracle, 3 mi. E. of Interocean Ranch and 18 ft. N. of center of a very poor ranch rd.; on N. side of long ridge.

To reach from Oracle Post Office, drive S. on Mt. Lemon Road for 15.9 mi. to side rd. left; thence left (E.) 0.7 mi. to Interocean Ranch and gate on right; thence right through gate on poor rd. 3.7 mi. to station on left.

Station mark: Standard bench mark tablet stamped "3880 GWM 23 1946", set in concrete post projecting 12 inches.

Reference mark No. 1: Painted white square on rock, 52.38 ft. from station mark in azimuth 318°05'.

Reference mark No. 2: Chiseled cross on rock, 31.92 ft. from station mark in azimuth 28°22'.

Elevation 3875.027 ft. (Spirit leveling by G.W. Moore, 1946)

Latitude: 32°30'11.425" Longitude: 110°37'108.335"

To Station	Azimuth	Back Azimuth	Feet
Bigelow	42°29'44.9"	222°26'41.8"	43,292.4
Rice (C&GS)	94 35 05.6	274 30 53.4	40,819.4
Ridge	251 44 49.1	71 48 59.4	41,978.1
Redington (USGS)(C&GS)	274 12 02.6	94 16 51.2	46,142.7

B.M. "V.S. 36 1936" Pinal County ARIZONA

J. O. McCabe, 1946
C. R. Strang, 1947
A. E. Letey, 1948

SEE LATER VALUES

Described in level line by V. S. Seward, 1936 (Bk. B7230) as follows:

"Copper Creek Mine, 3.5 mi. SW. of; 7.1 mi. NE. of Mammoth; W. end of long E.-W. hill; 135 ft. W. of jct. of old rd. with present rd.; 5 ft. W. of cairn; top of outcropping boulder; aluminum tablet stamped "NO 3 VA 4010" and "VS 36 1936 4017" painted "US BM 4016.7".

Located about 7.0 mi. E. of Mammoth on the N. side of Copper Spring Road; 100 ft. N. of rd.; on flat top of ridge.

To reach from main intersection in Mammoth, drive E. across San Pedro River 0.7 mi. to X-rds.; cross N. and S. rd. and continue E. up wash onto ridge 6.1 mi. to station on left.

CLARK Pinal County ARIZONA

J. O. McCabe, 1946
C. R. Strang, 1947

Located about 6.0 mi. SSE. of Mammoth, 2.0 mi. E. of San Pedro River and 1.0 mi. E. of Clark Ranch at W. end of high ridge overlooking San Pedro River.

To reach from main intersection in Mammoth, drive E. crossing San Pedro River 0.7 mi. to X-rds.; thence right (S.) 5.9 mi. to point of ridge on left and end of rd.; from here pack up point of ridge (E.) 0.5 mi. to highest point and station.

Station mark: Standard tablet stamped "CLARK 1946", set in boulder.

Reference mark No. 1: Standard reference mark tablet set in boulder, 15.91 ft. from station mark in azimuth 71°20'.

Reference mark No. 2: Standard reference mark tablet set in boulder, 15.45 ft. from station mark in azimuth 148°36'.

Note: USC&GS station "CLARK 1947" is approximately 1 mi. NW. (not tied)

Elevation 2814.5 ft. (By Stadia Traverse)

Latitude: 32°39'14.776" Longitude: 110°34'31.619"

To Station	Azimuth	Back Azimuth	Feet
Pepper	35°00'52.5"	214°58'50.6"	33,713.3
Copper (USGS)	147 52 55.6	327 51 44.3	21,252.0
Gust	219 02 04.1	39 03 34.1	22,619.5
Rhodes	268 59 02.6	89 01 44.8	25,692.9
Ridge	327 39 59.0	147 42 45.4	49,445.3

COPPER Pinal County ARIZONA

J. O. McCabe, 1946
C. R. Strang, 1947

Located about 2.0 mi. SE. of Mammoth, 0.8 mi. E. of the San Pedro River and 0.6 mi. N. of Copper Creek Wash on the W. end of low ridge overlooking the San Pedro River and 40 ft. S. of edge of bluff.

To reach from the main intersection in Mammoth, drive E. crossing the San Pedro River to X-rds.; turn right (S.) 1.7 mi. to dim track left up wash; turn left 0.5 mi. to end of rd. at fence. Pack N. and E. up hill to top of ridge and station.

Station mark: Standard tablet stamped "COPPER 1946", welded to top of 2½-in. pipe set in concrete.

Reference mark No. 1: Standard reference mark tablet stamped "COPPER NO. 1 1946", welded to top of 2½-in. pipe set in concrete, 33.09 ft. from station mark in azimuth 323°24'.

Reference mark No. 2: Standard reference mark tablet stamped "COPPER NO. 2 1946", welded to top of 2½-in. pipe set in concrete, 38.80 ft. from station mark in azimuth 65°46'.

Note: USC&GS station COPPER 1947 is near USGS station SAHUARO.

Elevation 2600.9 ft. (By Stadia Traverse)

CONTINUED ON PAGE 2.

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Latitude: 32°42'12.857" Longitude: 110°36'43.842"

To Station	Azimuth	Back Azimuth	Feet
Pepper	9°59'01.3"	189°58'10.7"	46,315.0
Kannally	39 55 35.5	219 52 44.8	42,139.9
Highway	57 17 58.6	237 14 03.9	44,183.5
Well	85 53 31.6	265 49 42.6	36,305.6
Signal(USGS)(C&GS)	97 15 10.4	277 10 53.2	40,981.1
Grant	106 41 01.8	286 36 37.3	43,638.6
San	158 00 13.9	337 59 38.1	15,110.8
Table(C&GS)	213 09 54.3	33 12 56.6	52,546.1
Copper (C&GS)	234 42 16.0	54 44 18.7	23,754.0
Maverick(USGS)(C&GS)	269 47 52.8	89 54 02.8	58,512.9
Gust	270 56 35.5	90 59 17.0	25,548.0
Clark	327 51 44.3	147 52 55.6	21,252.0

COPPER (C&GS) ✓ Pinal County ARIZONA

C&GS, 1947
A. E. Letey, 1948

SEE LATER VALUES

Described by U. S. Coast and Geodetic Survey in description list No. 967, p. 9. *32 1104 - 1005*

Note by A.E.L., 1948: Station found as described.

USGS station SAHUARO is 27.3 ft. from C&GS station in azimuth 87°44'19". USGS station COPPER is about 4.5 mi. SW. See azimuth and distances listed below.

Elevation 3861.2 ft. (USGS, 1948, by level rod reading from USGS station SAHUARO)

*Latitude: 32°44'28.604" *Longitude: 110°32'56.867"

To Station	Azimuth	Back Azimuth	Feet
Copper (USGS)	54°44'18.7"	234°42'16.0"	23,754.0
*Signal(USGS)(C&GS)	81 55 42.49	261 49 22.51	60,646.6
San	90 41 17.6	270 38 39.0	25,048.9
*Table(C&GS)	197 13 03.67	17 14 03.16	31,675.2
B.M. "V.S. 36 1936"	254 25 45.5	74 26 17.0	5,153.9
Gust	336 30 45.2	156 31 24.1	15,427.3

*Azimuth and distances by USC&GS.

GRANT ✓ Pinal County ARIZONA

J. O. McCabe, 1946
A. E. Letey, 1948

Located about 6 mi. W. and 1 mi. N. of Mammoth, 2.5 mi. ESE. of Camp Grant Wash; at the southern and highest point of long broken ridge overlooking old Pearl Mining Camp which is 1 mi. to SE.

To reach from main intersection in Mammoth, drive N. on State Highway 77 for 1.35 mi. to dirt rd. left; turn left on dirt rd. 1.15 mi. to rd. forks; thence left fork 4.3 mi. to old mining camp buildings on left; continue 0.8 mi. to rd. forks; thence right fork 1.0 mi. to Pearl Mining Camp (abandoned). Station can be seen about 1 mi. due W. A 30-minute pack.

Station mark: Standard tablet stamped "GRANT 1946", set in rock.

Reference mark No. 1: Standard reference mark tablet stamped "GRANT NO 1 1946", set in rock, 10.39 ft. from station mark in azimuth 269°31'48".

Reference mark No. 2: Standard reference mark tablet stamped "GRANT NO 2 1946", set in rock, 7.74 ft. from station mark in azimuth 103°19'53".

Note by A.E.L., 1948: Station mark recovered. Located about 1.4 mi. (airline) N. of Signal Peak, a prominent dark colored lava cone peak.

ARIZ. ZONE CENTRAL
K = 859,321.8
X = 634,446.7
Latitude: 32°44'16.555" Longitude: 110°44'53.203"
V.A. elevation 4325.6 ft. (USGS, 1946)

To Station	Azimuth	Back Azimuth	Feet
Black Mtn.(C&GS)	102°46'15.0"	282°39'17.0"	67,632.4
Hayden	140 01 20.0	319 57 41.2	53,639.1
Table (C&GS)	245 53 37.1	66 01 04.5	77,243.1
San	267 34 38.6	87 38 27.4	36,172.3
BM "VS 36 1936"	267 41 25.5	87 48 24.3	66,203.6
Maverick(USGS)(C&GS)	276 55 45.4	97 06 20.0	101,068.1
Copper (USGS)	286 36 37.3	106 41 01.8	43,638.6
Well	339 39 00.8	159 39 36.2	16,128.4
Signal (USGS)(C&GS)	351 03 04.4	171 03 11.7	7,443.5

JUST ✓ Pinal County ARIZONA
J. O. McCabe, 1946

Located about 6.5 mi. ESE. of Mammoth, at the SW. end of high ridge at point where ridge drops sharply to the W. It is about midway between a branch of Mulberry Wash on the N. and a branch of Scanlon Wash on the S.

To reach from main intersection in Mammoth, drive E. crossing San Pedro River 0.7 mi. to X-rds.; turn right (S.) 3.2 mi. to Bunker Hill Road; turn left (E.) and drive about 3 mi. to crossing of Mulberry Wash about 300 yards SW. of windmill; continue eastward on Bunker Hill Road up ridge for about 2 mi. Station is on highest point of a spur ridge about 500 ft. S. of rd. and near a large lone sahuaro.

SEE LATER VALUES

Station mark: Standard tablet stamped "GUST 1946", set in rock.

Reference mark No. 1: Chiseled cross on large rock, 25.39 ft. from station mark in azimuth 337°49'.

Reference mark No. 2: Steel rod driven into center of a triangular blaze on large sahuaro, 21.39 ft. from station mark in azimuth 30°39'.

ARIZ. ZONE EAST
K = 388,481.76
X = 219,424.71
Latitude: 32°42'08.597" Longitude: 110°31'44.917"
V.A. elevation 3766.5 ft.

To Station	Azimuth	Back Azimuth	Feet
Clark	39°03'34.1"	219°02'04.1"	22,619.5
Copper (USGS)	90 59 17.0	270 56 35.5	25,548.0
Copper (C&GS)	156 31 24.1	336 30 45.2	15,427.3
BM "VS 36 1936"	175 39 09.7	355 39 02.2	15,577.6
Table (C&GS)	184 10 04.3	4 10 24.8	44,522.0
Rhodes	326 15 25.0	146 16 37.2	20,587.8
Ridge	348 24 30.9	168 25 47.6	60,589.8

HIGHWAY V ✓ Pinal County ARIZONA

J. O. McCabe, 1946

Located about 8.9 mi. SW. of Mammoth, 2.1 mi. NE. of Oracle on prominent hill about 300 yards E. of State Highway 77.

To reach from Oracle, drive NE. on State Highway 77 for 2.1 mi. to a cattle guard. Station is on hill to right.

To reach from Mammoth, drive SW. on State Highway 77 for 8.9 mi. to a cattle guard. Station is on hill to left. Pack up hill about 0.2 mi. to top and station.

Station mark: Standard tablet stamped "HIGHWAY 1946", set in rock.

Reference mark No. 1: Standard reference mark tablet stamped "HIGHWAY NO. 1 1946", set in rock 16.25 ft. from station mark in azimuth 188°21'.

Reference mark No. 2: Standard reference mark tablet stamped "HIGHWAY NO. 2 1946", set in rock 27.79 ft. from station mark in azimuth 85°31'.

ARIZ. ZONE CENTRAL
K = 864,390.1
X = 594,800.1
Latitude: 32°38'16.455" Longitude: 110°43'58.623"
V.A. elevation 4287.9 ft.

To Station	Azimuth	Back Azimuth	Feet
Oracle Hill	33°46'04.2"	213°44'53.8"	20,101.4
Signal (USGS)(C&GS)	173 07 00.7	353 06 38.5	29,250.6
Well	182 32 29.9	2 32 35.9	21,291.2
San	219 41 56.4	39 45 15.4	49,280.2
Copper (USGS)	237 14 03.9	57 17 58.6	44,183.5
Kannally	309 44 24.3	129 45 28.2	13,192.9

KANNALLY ✓ Pinal County ARIZONA

J. O. McCabe, 1946
C. R. Strang, 1947

Located about 8.5 mi. SW. of Mammoth and 4.0 mi. E. of Oracle at W. end of long low ridge on land owned and occupied by Kannally brothers.

To reach from Oracle Post Office, drive SE. on Mt. Lemon Road for 1.5 mi. to Kannally ranch rd.; turn left 0.9 mi. to Kannally ranch house; pass through gates and continue on poor rd. 3.0 mi. to hill on left. Pack up hill NW. to top and station.

Note: The Kannally brothers insist on guiding anyone visiting station.

Station mark: Standard tablet stamped "KANNALLY 1946", set in rock.

Reference mark No. 1: Standard reference mark tablet set in rock, 10.82 ft. from station mark in azimuth 40°18'.

CONTINUED ON PAGE 3.

3 KANNALLY

Reference mark No. 2: Standard reference mark tablet set in rock, 10.76 ft. from station mark in azimuth 154°43'.

Elevation 4144.1 ft. (By Stadia Traverse)

Latitude: 32°36'52.988" Longitude: 110°42'00.024"

Table with 4 columns: To Station, Azimuth, Back Azimuth, Feet. Rows include Rice (C&GS), Sotol, Oracle Hill, Highway, Signal (USGS) (C&GS), Copper (USGS), and Pepper.

PEPPER Pinal County ARIZONA
J. O. McCabe, 1946
C. R. Strang, 1947

Located about 9.2 mi. E. of Oracle, 4.5 mi. W. of San Pedro River; 0.2 mi. N. of dirt rd. on low hill.

To reach from Oracle Post Office, drive S. on Mt. Lemon Road 5.2 mi. to X-rds.; thence left (E.) 2.8 mi. to rd. forks; thence left fork 2.2 mi. to dim tracks left at cattle guard; thence left on dim tracks up hill 0.2 mi. to top and station.

Station mark: Standard tablet stamped "PEPPER 1946", set in top of concrete post.

Reference mark No. 1: Standard reference mark tablet stamped "PEPPER NO. 1 1946", set in top of concrete post, 19.51 ft. from station mark in azimuth 325°33'.

Reference mark No. 2: Standard reference mark tablet stamped "PEPPER NO 2 1946", set in top of concrete post, 19.0 ft. from station mark in azimuth 220°58'.

Note: USC&GS station "PEPPER 1947" is about 2 mi. SW. and 1500 ft. E. of rd. forks described above.

Elevation 3767.8 ft. (Stadia Traverse)

Latitude: 32°34'41.508" Longitude: 110°38'17.675"

Table with 4 columns: To Station, Azimuth, Back Azimuth, Feet. Rows include Bigelow, Rice (C&GS), Sotol, Kannally, Signal (USGS) (C&GS), Copper (USGS), Clark, Maverick (USGS) (C&GS), Rhodes, Ridge, and Redington (USGS) (C&GS).

RICE (C&GS) Pinal County ARIZONA
C&GS, 1936
J. O. McCabe, 1946
C. R. Strang, 1947
C&GS, 1948

Described by U. S. Coast and Geodetic Survey in description list No. 671, p. 6.

Note by J. O. McCabe, 1946: Station found as described. Horses were obtained from the "3 C Ranch" and ridden from the ranch to top of peak. (2-hr. ride) Horses and a packer were loaned by Mr. Cardenas, who owns the "3 C Ranch".

V.A. elevation 7576.7 (USGS, 1946)

*Latitude: 32°30'43.073" *Longitude: 110°44'57.654"

Table with 4 columns: To Station, Azimuth, Back Azimuth, Feet. Rows include Catalina 2 (USGS), Black Mtn. (C&GS), Oracle Hill, Signal (USGS) (C&GS), Sotol, Kannally, Pepper, Ridge, Redington (USGS) (C&GS), BM GWM 23 1946, and Bigelow.

*Azimuth and distances by USC&GS
(c) Values computed from USC&GS data

SAHUARO Pinal County ARIZONA
J. O. McCabe, 1946
USC&GS, 1948
A. E. Lety, 1948

Located about 5.8 mi. E. of Mammoth on long low ridge 60 ft. S. of center of Copper Creek Road.

To reach from intersection in Mammoth, drive E. across

San Pedro River 0.7 mi. to X-rds.; continue straight ahead up wash and onto ridge 5.1 mi. to station on right on small knoll.

Station mark: Standard tablet stamped "SAHUARO 1946" set in boulder.

Reference mark No. 1: Chiseled cross on boulder, 10.11 ft. from station mark in azimuth 19°03'.

Reference mark No. 2: Chiseled cross on boulder, 14.84 ft. from station mark in azimuth 103°29'.

Recovered by C&GS in 1948, see description list No. 964, p. 9.

Recovered by A.E.L., 1948: Station found as described.

Note: All observations from and to station SAHUARO have been reduced to station COPPER (USC&GS).

Elevation 3859.7 ft. (Stadia Traverse by USGS, 1946)

*Latitude: 32°44'28.593" *Longitude: 110°32'57.186"

Table with 4 columns: To Station, Azimuth, Back Azimuth, Feet. Row: Copper (C&GS) 267°44'19' 87°44'19' 27.30

*Azimuths and distances by USC&GS.

SAN Pinal County ARIZONA
J. O. McCabe, 1946
A. E. Lety, 1948

Located about 1.4 mi. NNE. of Mammoth, 0.9 mi. E. of San Pedro River; 12 ft. N. of center of ranch rd. running E. along ridge and 8 ft. S. of edge of low bluff.

To reach from main intersection in Mammoth, drive E. across San Pedro River 0.7 mi. to X-rds.; turn left (N.) for 1.4 mi. to track rd. up wash; turn right up wash about 100 yds. then bear right on track rd. up slope of ridge 0.5 mi. to station on left.

Station mark: Standard tablet stamped "SAN 1946", welded to top of 2 1/2-in. pipe set in ground and reinforced with concrete.

Reference mark No. 1: Standard reference mark tablet stamped "SAN NO 1 1946", set in boulder, 25.78 ft. from station mark in azimuth 248°30'.

Reference mark No. 2: Standard reference mark tablet stamped "SAN NO 2 1946", set in boulder, 49.77 ft. from station mark in azimuth 39°44'.

Note by A.E.L., 1948: Station mark recovered.

Elevation 2525.2 ft. (Stadia Traverse by USGS, 1946)

Latitude: 32°44'31.486" Longitude: 110°37'50.101"

Table with 4 columns: To Station, Azimuth, Back Azimuth, Feet. Rows include Highway, Well, Signal (USGS) (C&GS), Grant, Table (C&GS), Copper (C&GS), and Copper (USGS).

SIGNAL Pinal County ARIZONA
A. K. Andrews, 1937
USC&GS, 1937, 1948
J. O. McCabe, 1946
C. R. Strang, 1947
A. E. Lety, 1948

Located about 6.25 mi. W. of Mammoth on top of Signal Peak, which is a prominent lava cone much darker in color than the surrounding country.

To reach from Hale's store in Mammoth, drive N. on Winkleman Road 1.3 mi.; take left fork down San Pedro River on W. side for 1.1 mi.; thence W. up Tar Wash (Pearl mine rd.) for about 8 mi. to point where rd. crosses divide. Leave truck and walk SE. along ridge for about 0.75 mi. to Signal Peak.

Station mark: Standard tablet stamped "SIGNAL 1937", cemented in rock.

Reference mark No. 1: Standard reference mark tablet stamped "1", cemented in rock (under center of old cairn (small) which was removed) 40.35 ft. from station mark in azimuth 133°02'.

Reference mark No. 2: Standard reference mark tablet stamped "2", cemented in rock, 7.19 ft. from station mark in azimuth 106°39'.

Also described by U. S. Coast and Geodetic Survey in description list No. 964, p. 9. V.A. Elevation 4363.5 ft. (USGS, 1948)

*Latitude: 32°43'03.800"

*Longitude: 110°44'39.652"

To Station	Azimuth	Back Azimuth	Feet
(c)Rice (C&GS)	1°10'47.0"	181°10'37.3"	74,875.5
Oracle Hill	9 30 28.3	189 29 40.0	46,388.1
(c)Black Mtn.(C&GS)	108 23 01.7	288 15 56.4	70,725.8
Hayden	143 40 56.0	323 37 09.9	60,140.0
*Antelope (C&GS)	155 33 58.52	335 30 53.13	70,539.9
Grant	171 03 11.7	351 03 04.4	7,443.5
*Table (C&GS)	240 42 41.94	60 50 01.82	79,514.7
San	255 45 20.6	75 49 02.1	36,092.1
BM"VS 36 1936"	261 14 12.6	81 21 04.1	65,759.9
*Copper (C&GS)	261 49 22.51	81 55 42.49	60,646.6
*Maverick (USGS)(C&GS)	272 47 46.65	92 58 13.81	99,290.1
Copper (USGS)	277 10 53.2	97 15 10.4	40,981.1
Pepper	327 12 49.5	147 16 15.5	60,362.8
Well	330 11 36.5	150 12 04.6	8,953.5
Kannally	339 58 45.4	160 00 11.6	39,882.8
Highway	353 06 38.5	173 07 00.7	29,250.6

*Azimuth and distances by C&GS.
(c) Values computed by USGS.

SOTOL ✓ Pinal County ARIZONA

J. O. McCabe, 1946

Located about 3.0 mi. SE. of Oracle on highest point of a sharp rocky hill about 200 ft. N. of Mt. Lemon Road.

To reach from Oracle Post Office, drive S. on the Mt. Lemon Road for 3.2 mi. to station on left.

Station mark: Standard tablet stamped "SOTOL 1946", set in rock.

Reference mark No. 1: Standard level bench mark tablet set in 5-in. pipe, 163.18 ft. from station mark in azimuth 101°10'. Mark is 28 ft. N. of center of rd. and stamped "4503 NOGLES RESET 1946" (Elev. 4514.4 painted on side of pipe.)

Reference mark No. 2: Standard reference mark tablet stamped "SOTOL NO 2 1946", set in rock, 17.64 ft. from station mark in azimuth 356°19'.

ARIZ. ZONE CENTRAL

x = 866, 029.9

y = 582, 035.7

Elevation 4535.7 ft. (Determined by Spirit Level line from B.M. used as reference mark No. 1)

Latitude: 32°35'40.249" Longitude: 110°43'41.512"

To Station	Azimuth	Back Azimuth	Feet
Rice (C&GS)	12°14'58.3"	192°14'17.3"	30,732.2
Oracle Hill	85 49 25.7	265 48 06.1	12,670.6
Kannally	229 44 15.5	49 45 10.2	11,376.2
Pepper	282 04 06.0	102 07 00.4	28,337.9

WELL ✓ *New Description* Pinal County ARIZONA

J. O. McCabe, 1946

Located about 6.0 mi. WSW. of Mammoth and 1.7 mi. SSE. of Signal Peak; 1.0 mi. NE. of an old well at southern point of low sharp peak.

To reach from main intersection in Mammoth, drive N. on State Highway 77 for 1.35 mi. to dirt rd. left; thence 1.15 mi. to forks; thence left fork 4.3 mi. to an old mining camp on left; continue 0.8 mi. to rd. forks; thence left fork about 0.5 mi. up small wash to end of rd. Pack SW. up hill to top and station. A 20-minute pack. (Can also be reached from Tucson Wash on the S.)

Station mark: Standard tablet stamped "WELL 1946", set in rock.

Reference mark No. 1: Standard reference mark tablet stamped "WELL NO 1 1946", set in rock, 9.15 ft. from station mark in azimuth 263°39'.

Reference mark No. 2: Standard reference mark tablet stamped "WELL NO 2 1946", set in rock, 9.52 ft. from station mark in azimuth 359°09'.

ARIZ. ZONE CENTRAL

x = 865, 097.0

y = 619, 086.9

V.A. Elevation 3949.5 ft.

Latitude: 32°41'46.925" Longitude: 110°43'47.575"

To Station	Azimuth	Back Azimuth	Feet
Highway	2°32'35.9"	182°32'29.9"	21,291.2
Signal (USGS)(C&GS)	150 12 04.6	330 11 36.5	8,953.5
Grant	159 39 36.2	339 39 00.8	16,128.4
San	241 24 11.7	61 27 24.9	34,776.6
Copper (USGS)	265 49 42.6	85 53 31.6	36,305.6

The following secondary stations and/or intersected objects were not included in the adjustment of the basic third-order net. They are not recommended for use in the further extension of third-order horizontal control by triangulation.

ALDER ✓ Pinal County ARIZONA

J. O. McCabe, 1946

SEE LATER VALUES

Located about 16 mi. SE. of Oracle, 3 mi. S. of Rhodes Ranch (formerly Sacaton Ranch) and 1 mi. W. of San Pedro River on low ridge between Alder and Stratton Wash. Station is at S. edge of ridge.

To reach from Oracle Post Office, drive S. on Mt. Lemon Road 5.2 mi. to X-rds.; thence left (E.) 11.7 mi. to Rhodes Ranch on left; continue S. 5.2 mi. to point where rd. is washed out at large wash. From here pack SW. across wash; thence up hill to top of ridge and station. (Ridge is about 0.2 mi. long and drops off sharply to the river.) A 30-minute pack.

Station mark: Chiseled cross on rock.

Reference mark No. 1: Nail in blaze on large sahuaro, 9.20 ft. from station mark in azimuth 345°06'.

V.A. elevation 3035 ft.

Latitude: 32°31'06.47" Longitude: 110°30'29.80"

BM "GWM 30 1946 3744" ✓ Pinal County ARIZONA

A. E. Letey, 1948

Described in Level Line by G. W. Moore, 1946 (Book V-237A) as follows:

"Oracle, 10.65 mi. N. of, 8.8 mi. NW. of Mammoth, on point of small ridge, 12 ft. NW. of rd., top of concrete post; standard tablet stamped "GWM 30 1946 3744"."

Note by A.E.L., 1948: Located about 5 mi. W. of Mammoth.

Station mark: Standard bench mark tablet stamped "GWM 30 1946 3744" set in top of concrete post.

Note: Position computed from single closed triangle.

ARIZ. ZONE CENTRAL

x = 861, 851.8

y = 631, 938.8

Elevation 3744.081 ft. (Spirit leveling by G.W. Moore, 1946)

Latitude: 32°43'54.43" Longitude: 110°44'23.89"

BONITO ✓ Pinal County ARIZONA

J. O. McCabe, 1946
C. R. Strang, 1947

Located about 5 mi. ESE. of Oracle, 0.7 mi. E. of the Mt. Lemon Road; 300 ft. E. of cattle guard and 36 ft. S. of the center of dim rd.

To reach from Oracle Post Office, drive S. on Mt. Lemon Road 5.2 mi. to X-rds.; thence left (E.) 0.7 mi. to station on right.

Station mark: Chiseled cross on buried rock.

Reference mark No. 1: Chiseled cross on buried rock, 14.04 ft. from station mark in azimuth 337°47'.

Reference mark No. 2: Chiseled cross on buried rock, 13.86 ft. from station mark in azimuth 69°46'.

Elevation 4344.1 ft. (By Stadia Traverse)

Latitude: 32°34'22.33" Longitude: 110°42'14.61"

PEDRO ✓ Pinal County ARIZONA

J. O. McCabe, 1946

Located about 8.5 mi. E. of Oracle, 3.0 mi. SW. of San Pedro River and 3.0 mi. SE. of Smelter Wash; on small rise of low ridge running E. and W. and about 0.2 mi. N. of rd. running E. to San Pedro River. The ridge is densely covered with cholla. Station is near center of cholla covered ridge.

To reach from Oracle Post Office, drive SE. on Mt. Lemon Road for 5.2 mi. to X-rds.; turn left 0.3 mi. to rd. forks; thence left fork 4.6 mi. to dim tracks left; turn left cross country 0.2 mi. to station on low hill.

Station mark: Chiseled cross on buried boulder.

Reference mark No. 1: Chiseled cross on rock, 15.09 ft. from station mark in azimuth 267°05'.

Reference mark No. 2: Chiseled cross on rock, 21.33 ft. from station mark in azimuth 4°25'.

Elevation 3633.6 ft. (By Stadia Traverse)

Latitude: 32°36'39.74" Longitude: 110°39'16.12"

SPUR ✓ Pinal County ARIZONA

SEE LATER VALUES

J. O. McCabe, 1946
C. R. Strang, 1947

Located about 9.0 mi. SE. of Oracle, on the E. slope of the Santa Catalina Mts.; 0.25 mi. E. of the Mt. Lemon Road. It is on the E. end of spur overlooking the river valley.

To reach from Oracle Post Office, drive S. on the Mt. Lemon Road for 9.6 mi. to top of grade. Pack due E. about 500 yds. to end of spur and station.

Station mark: Chiseled cross on rock.

Reference mark No. 1: Chiseled cross on rock, 17.47 ft. from station mark in azimuth 322°46'.

Reference mark No. 2: Chiseled cross on rock, 21.16 ft. from station mark in azimuth 116°45'.

Elevation 4972.8 ft. (By Stadia Traverse)

Latitude: 32°32'05.65" Longitude: 110°42'28.10"

TANK ✓ (Not occupied) Pinal County ARIZONA

J. O. McCabe, 1946

Located in the NW. part of Tiger, Arizona, on the S. side and near the top of hill overlooking the town.

The tank is of all steel construction supported by four steel trusswork legs; it has a ball at the apex of the conical roof which is the object sighted. The tank is about 73 ft. high.

Station mark and signal: Ball at apex of conical roof of steel tank.

Latitude: 32°42'24.27" Longitude: 110°41'02.34"

VERDES ✓ Pinal County ARIZONA

C. R. Strang, 1946

Located 10.5 mi. E. of Oracle, 1.0 mi. SW. of San Pedro River on low ridge about 200 ft. N. of rd. running E. to river.

To reach from Oracle, drive SE. on Mt. Lemon Road 5.2 mi. to X-rds.; turn left for 0.3 mi. to rd. forks; take left fork and follow main traveled rd. 6.55 mi. to station on left about 200 ft. from rd.

Station mark: An 8d nail in crotch of stump of small palo verde tree.

Elevation 3145.3 ft. (By Stadia Traverse)

Latitude: 32°37'45.69" Longitude: 110°37'37.90"

WASH ✓ Pinal County ARIZONA

J. O. McCabe, 1946

Located about 3.5 mi. SW. of Mammoth, 2.0 mi. S. of Tiger and 1.25 mi. SE. of State Highway 77 on NE. end of low hill overlooking the San Pedro River near the S. head branch of Mammoth Wash.

To reach station from main intersection in Mammoth, drive SW. on State Highway 77 for 2.9 mi. to jct. with the rd. leading to Tiger; continue on main hwy. 1.45 mi. to top of hill. Station sight can be seen about 1 1/4 mi. to SE.

Station mark: A 1-in. drill hole in large boulder set flush with ground.

Reference mark No. 1: Chiseled cross on boulder, 26.02 ft. from station mark in azimuth 14°45'.

Reference mark No. 2: Chiseled cross on boulder, 14.56 ft. from station mark in azimuth 103°32'.

Note: C&GS station "WASH 1947" is approximately 4.4 mi. E.

V.A. elevation 3338 ft.

Latitude: 32°40'34.81" Longitude: 110°40'01.53"

WHIT ✓ Pinal County ARIZONA

C. R. Strang, 1947

Located about 15 mi. E. of Oracle, 2 mi. SE. of Whitlock Wash; 1.5 mi. NE. of the Sacaton Ranch; 0.75 mi. E. of San Pedro River on the highest of a group of low ridges.

To reach station from Sacaton Ranch, pack N. and across river for about 1.5 mi. to top of ridge. Station is about 400 ft. E. from point of ridge where it breaks sharply toward river.

Station mark: Nail in trunk of palo verde tree.

Latitude: 32°35'12.97" Longitude: 110°30'53.48"

COPIED
1947

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①

PRGU Form 25

DESCRIPTION

Supplementary Horizontal Control Station

Station ALDER USGS County Pinal State AZ Quad No. 93
 Project PH 6, PH 1576 Year 1946, 1972
 Surveyed by checked (X) or unchecked () methods

Description:

Located about 9.0 mi (airline) SE. of San Manuel, and about 4.0 mi S. of Bingham's Sacaton Ranch; about 1.0 mi W. of San Pedro River.

To reach from the U.S. Post Office at San Manuel, Arizona, drive NE. along McNab Parkway 0.9 mi to jct. with State Highway #76 S.; turn right on the hwy. for 3.9 mi to rd. intersection; turn left on graveled rd., 3.1 mi to rd. intersection; keep right (S.) on main rd. 5.2 mi; turn right across country with 4-wheel drive up ridge 0.5 mi to station on high top.

Station mark: A chiseled cross on boulder.

Paneled.

ARIZONA EAST ZONE
 X= 394703.3
 Y= 552493.4
 MAPPING ANGLE=-0 11 1

ELEV 3035.0 FT

NAD 83 VALUES AVAILABLE

ALDER USGS LAT 32 31 6.470 LONG 110 30 29.800

STATION	OBSERVED DIRECTION	DISTANCE	A-O	A-O FT
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STATIONS OBSERVED BY THIRD ORDER METHODS

RIDGE USGS	217 13 27.2	9494.6	0.6	
REDINGTON USGS	307 3 23.8	14890.4	-0.4	
1-17 A	341 27 44.5	12900.4	-2.4	

STATIONS OBSERVED BY THIRD ORDER METHODS FROM PH 6B COSM 1946

BM GWM 23 1946 3880	80 46 22.8	34579.6	-2.8	
SPUR USGS	(95 35 29.0)	61792.1	59.5	
PEPPER USGS	118 31 6.8	45566.8	4.7	
RIDGE USGS	217 13 25.8	9494.6	1.9	
REDINGTON USGS	307 3 32.5	14890.4	-9.1	

SEP 5 1972

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Form No. 9-3223 Rev. 1968

DESCRIPTION HORIZONTAL CONTROL STATION

32 110 42
DIAGRAM Tucson
USGS QUAD NO. 93

3rd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station BM 23 GWM USGS County Pinal PIMA State AZ
Established by USGS Year 1947 Project PH 6

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1956 Project PH 446

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
BIGELOW USGS				42°29'45.9"
RM 1		52.38		318 05
RM 2		31.92		28 22

Described in USGS Level Line by G.W. Moore, 1946 (V-237a) as follows:

Interocean Ranch, 3.95 mi E. of; 16 ft N. of rd. fork S.; top of concrete post; standard tablet stamped "GWM 23 1946 3880".

Located about 15 mi SE. of Oracle, 3 mi E. of Interocean Ranch; 18 ft N. of center of very poor ranch rd.; on north side of long ridge.

To reach from Oracle Post Office, drive S. on Mt. Lemon Rd. 15.9 mi to side rd. left; thence left (E.) 0.7 mi to Interocean Ranch and gate on right; thence right through gate on poor rd. 3.7 mi to station on left.

Station mark: Standard BM tablet stamped "3880 GWM 23 1946", set in concrete post projecting 1 ft.

RM No. 1: Painted white square on rock.

RM No. 2: Chiseled cross on rock.

USGS Adjusted 1956 Coordinates

ARIZONA CENTRAL ZONE

X= 900074.0

Y= 549197.1

MAPPING ANGLE=+0 41 51

ELEV 3879.027 FT

QUAD 32 110 42

BM 23 GWM USGS

LAT 32 30 11.425

LONG 110 37 8.335

NAD 83 VALUES AVAILABLE

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Form No. 9-322.3 Rev. 1968

DESCRIPTION
HORIZONTAL CONTROL STATION

DIAGRAM Tucson
USGS QUAD NO 93

4

3rd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station BM VS 36 USGS County Pinal State AZ
Established by USGS Year 1946 Project PH 6

Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by USGS Year 1972 Project PH 1576

Object	Bearing	Distance		Azimuth
		Feet	Meters	
COPPER				74°26'17.0"
RM 1		54.98		225 57 40
RM 2 not found in 1972		(24.91)		(339 01 55)

Described in USGS level line by V.S. Seward, 1936 (Bk. B7230) as follows:

"Copper Creek Mine, 3.5 mi SW. of; 7.1 mi NE. of Mammoth; west end of long E.-W. hill; 135 ft W. of jct. of old rd. with present rd.; 5 ft W. of cairn; top of outcropping boulder; aluminum tablet stamped "NO 3 VA 4010" and "VS 36 1936 4017" painted "US BM 4016.7"."

Located about 7.0 mi E. of Mammoth on the north side of Copper Spring Rd.; 100 ft N. of rd.; on flat top of ridge.

To reach from main intersection in Mammoth, drive E. across San Pedro River 0.7 mi to X-rds.; cross N. and S. rd. and continue E. up wash onto ridge 6.1 mi to station on left.

Station mark: USGS BM aluminum tablet stamped "VS 36 1936 4017" and "NO 3 VA 4010" set in large boulder.

Reference mark No. 1: Standard reference mark tablet stamped "4017 1946", set in boulder.

Reference mark No. 2: Standard reference mark tablet stamped "4017 1946" set in boulder, not found in 1972.

USGS Adjusted 1962 Coordinates

ARIZONA EAST ZONE
X= 387372.2
Y= 634960.1
MAPPING ANGLE=-0 11 53
ELEV 4016.412 FT

BM VS 36 USGS LAT 32 44 42.289 LONG 110 31 58.741

NAD 83 VALUES AVAILABLE

SEP 5 1972

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Form No. 9-322.3 Rev. 1968

DESCRIPTION

HORIZONTAL CONTROL STATION

DIAGRAM Tucson
USGS QUAD NO 93

3rd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station GUST USGS

County Pinal

State AZ

Established by USGS

Year 1946

Project PH 6

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1972 Project PH 1576

Object	Bearing	Distance		Azimuth
		Feet	Meters	
COPPER				156°31'23.4"
RM 1		25.39		338 47 05
RM 2		(21.39)		(30 39 00)

RM 2 not measured in 1972.

Located about 6.5 mi ESE. of Mammoth; at the southwest end of high ridge at point where ridge drops sharply to the W. It is about midway between a branch of Mulberry Wash on the N. and a branch of Scanlon Wash on the S.

To reach from main intersection in Mammoth, drive E. crossing San Pedro River 0.7 mi to X-rds.; turn right (S.) 3.2 mi to Bunker Hill Rd.; turn left (E.) and drive about 3 mi to crossing of Mulberry Wash about 300 yards SW. of windmill; continue eastward on Bunker Hill Rd. up ridge for about 2 mi. Station is on highest point of a spur ridge about 500 ft S. of rd. and near a large lone saguaro.

Station mark: Standard tablet stamped "GUST 1946", set in rock.

Reference mark No. 1: Chiseled cross on large rock.

Reference mark No. 2: Steel rod driven into center of a triangular blaze on large saguaro.

USGS Adjusted 1952 Coordinates

ARIZONA EAST ZONE

ELEV 3766.5 FT

X= 388499.8

Y= 619424.7

MAPPING ANGLE=-0 11 45

GUST USGS

LAT 32 42 8.597

LONG 110 31 44.917

NAD 83 VALUES AVAILABLE

SEP 5 1972

SMOKE STACK 14

Pinal County

FILE COPY

Arizona (93)

A. G. Dahl, 1955 (Not occupied)

1927 N.A.D. (Unadj.)

Books: PH 445-446

No description available.

*Not plotted
J-4*

Arizona Zone Central
X=898,508
Y=590,192

Elevation 3725 ft. (Top of stack)
(Adj. V.A.)

Latitude: 32°36'57.19"

Longitude: 110°37'20.80"

NAD 83 VALUES AVAILABLE

FILE COPY

5/28/56 mk *J. G. H.*

DESCRIPTION 32 110 42

Supplementary Horizontal Control Station

Station SPUR County Pinal State AZ Quad No. 93

Project PH 6 Year 1947

Surveyed by checked (X) or unchecked () methods

Description:

Located about 9.0 mi SE. of Oracle, 0.25 mi E. of Mt. Lemon Rd.; on east slope of Santa Catalina Mtns., on east end of spur overlooking river valley.

To reach from Oracle Post Office, drive S. on Mt. Lemon Rd. 9.6 mi to top of grade. Pack due E. about 500 yards to end of spur and station.

Station mark: Chiseled cross on rock.

RM No. 1: Chiseled cross on rock, 17.47 ft from station mark in azimuth 322°46'.

RM No. 2: Chiseled cross on rock, 21.16 ft from station mark in azimuth 116°45'.

ARIZONA CENTRAL ZONE

X= 872557.1

Y= 560418.8

MAPPING ANGLE=+0 39 1

PTT ELFV 4972.8 ft

QUAD 32 110 42

SPUR

LAT 32 32 5.650

LONG 110 42 28.100

STATION	OBSERVED DIRECTION	DISTANCE	A-0	A-0 FT
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STATIONS OBSERVED BY THIRD ORDER METHODS FROM PH 6 1947

RIGELOW USGS	2 24 57.4	43515.9	-5.9	
RICE	56 55 10.8	15285.8	-9.3	
PEPPER USGS	233 40 16.1	26599.8	-0.4	
RIDGE USGS	268 35 43.3	67257.2	2.6	
ALDER USGS	275 29 54.5	61792.1	7.9	
BM 23 GWM USGS	292 50 18.4	29715.0	-8.5	

NAD 83 VALUES AVAILABLE

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21

2-37 A

Pima County

Arizona (93)

A. G. Dahl, 1956

1927 N.A.D. (Unadj.)

Books: PH 445-446

Located about 9 mi. SE. of Oracle, 0.5 mi. NE. of Oracle-Mt. Lemon Road and 0.25 mi. S. of Pinal-Pima County line; on a flat-topped mesa near large, black, water tank.

Station mark: Nail in top of 2 by 2 driven flush with ground.

Signal: Fluorescent flag over white over red X-tgts. on 2 by 2 by 10 ft. pole centered over station mark.

Signal data:	Top fluorescent flag	12.2 ft.
	Bottom " "	10.6
	Top white X-tgts.	9.4
	Bottom " " "	6.3
	Top red X-tgts.	5.6
	Bottom red X-tgts.	2.7

Arizona Zone Central
X=883,058
Y=551,043

Elevation 4517 ft. (Adj. V.A.)

Latitude: 32°30'31.69"

Longitude: 110°40'26.74"

NAD 83 VALUES AVAILABLE

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5/28/56 mk / *Sw*

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Form No. 9-322.3 Rev. 1968

DESCRIPTION
HORIZONTAL CONTROL STATION

DIAGRAM Tucson
USGS QUAD NO 93

2nd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station COPPER County Pinal State AZ
Established by C&GS Year 1947 Project _____

Check one:
 New Station: Write full description below PH 64
 Recovery of Old Station: Recovered by USGS Year 1972 Project PH 1576

Object	Bearing	Distance		Azimuth
		Feet	Meters	
RM's checked in 1972.				

Described in U.S. Coast and Geodetic Survey description list 32 110 4, station 1008.

All marks in good condition.

C&GS Adjusted Coordinates

ARIZONA EAST ZONE ELEV 3861.2 FT
X= 382402.92
Y= 633594.72
MAPPING ANGLE=-0 12 25

COPPER LAT 32 44 28.6040 LONG 110 32 56.8670

DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 42
DIAGRAM Tucson
USGS QUAD NO. 93

2nd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station RICE Country Pinal PIMA State AZ
Established by NGS Year 1936 Project _____

Check one:
 New Station: Write full description below USGS PH 6
 Recovery of Old Station: Recovered by USGS Year 1976 Project PH 1778

Object	Bearing	Distance	
		Feet	Meters

Described in National Geodetic Survey Description List 32 110 4, station 1001. All marks in good condition.

Note by USGS, 1976: Station reached by helicopter. There is a helispot at station. Occupied only for EDVA traverse work.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE
X= 859844.20 ELEV 7576.7 FT
Y= 551929.75
MAPPING ANGLE=+0 37 39 QUAD 32 110 42

RICE LAT 32 30 43.0634 LONG 110 44 57.6606

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Form No. 9-3223 Rev. 1968

DESCRIPTION

HORIZONTAL CONTROL STATION

DIAGRAM Tucson
USGS QUAD NO 93

2nd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station SACATON County Pinal State AZ
Established by C&GS Year 1947 Project _____

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1972 Project PH 1576

Object	Bearing	Distance		Azimuth
		Feet	Meters	
RM's checked in 1972.				

Described in U.S. Coast and Geodetic Survey description list 32 110 4, station 1014.

All marks found in good condition.

C&GS Adjusted Coordinates

ARIZONA EAST ZONE

ELEV 2789.6 FT

X= 385292.75

Y= 577169.74

MAPPING ANGLE=-0 12 2

SACATON

LAT 32 35 10.3490

LONG 110 32 20.7150

SEP 5 1972