

33° 30'  
111° 00'

ARIZONA 168

Index

<u>Station</u>	<u>Project</u>
BM "A 20" (C&GS)	McDowell
Boulder Mountain	McDowell
Davis (C&GS) INACTIVE FILE	McDowell
Granite Mountain	McDowell
Grape (C&GS)	McDowell
Pinyon (C&GS)	McDowell
Roosevelt (C&GS)	McDowell
Windy Point	McDowell
1-66 A INACTIVE FILE	McDowell
1-117 A INACTIVE FILE	McDowell
6-118 A	- - - -
6-150 B	- - - -

McDowell Project Master in ARIZONA 165 - Book: PH 930

Arizona (188)

Gila County

BM"A 20' (C&GS)

1927 N.A.D.

USC&GS, 1946

R.W. Hendrickson, 1963

Book: PH 930

Found as described in U. S. Coast and Geodetic Survey  
Direction List No. ~~909~~, page 16. *33 1111 - 1001*

*Description*

Station reached by helicopter.

Signal: White flag over fluorescent cross-target  
centered over station mark.

Signal data:	TWF	10.8 ft.
	BWF	8.0
	TFXT	7.7
	BFXT	5.2

Photo No. Paneled

ARIZONA ZONE CENTRAL  
 \*X=716,910.7  
 Y=990,797.8

\*Elevation: 2264.215 ft.  
 (First-Order leveling by  
 C&GS)

ARIZONA ZONE EAST  
 \*X=184,795.7  
 Y=991,631.3

23 BM A 20 (C&GS)

\*LAT. 33° 43' 17.761"  
 STATION AZIMUTH

LONG. 111° 12' 11.860"

33 Dutchwoman (C&GS)

239° 41' 54.196"

BACK	AZIMUTH	DISTANCE
59° 45'	6.093"	33779.09
155° 57'	15.222"	50392.11
249° 50'	14.617"	39423.84

50 Pinyon (C&GS)

335° 55' .496"

36 Four Peaks Reset

69° 54' 17.724"

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\* = Values by USC&GS

4/24/63 dlw *dlw*

Arizona (188)

Maricopa County

BOULDER MTN

1927 N.A.D. (Adj.)

R.G. Thompson, 1946

W.R. Brown, 1963

Books: PH 2, PH 930

Located about 1.0 mi. (airline) NE. of Reeves Ranch; on prominent boulder-covered ridge; at highest point to S.

To reach from Reeves Ranch follow Campaign Creek Trail 1.5 mi. E. to saddle in low ridge between Reeves Creek and Pine Creek; climb left (N.) to summit and station. A 1 hours pack time with horses.

Station mark: Standard tablet stamped "BOULDER MTN 1946" cemented in boulder.

Reference mark No. 1: Drill hole in rock, 23.5 ft. from station mark in azimuth 83°29'.

Reference mark No. 2: Drill hole in rock, 39.9 ft. from station mark in azimuth 255°40'.

ARIZONA ZONE EAST

X= 202,277.96

Y= 911,471.77

ARIZONA ZONE CENTRAL

X= 735,744.88

Y= 910,949.30

V.A. Elevation: 5612 ft.

(Checked 1963)

Latitude 33°30'06.449"

Longitude 111°08'35.950"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Iron Mtn	17°41'31.68"	197°40'39.46"	26,409.63
Reevis	38 28 31.56	218 28 03.29	6,974.10
Black Cross (C&GS)	98 22 48.64	278 18 34.80	39,349.91
Mound Mtn	350 18 44.37	170 18 56.17	10,771.05

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*Slon*

Arizona (188)

Gila County

GRANITE Mtn

1927 N.A.D. (Adj.)

R.G. Thompson, 1946  
D.J. Winstead, 1963

Books: PH 2, PH 930

Located about 1.5 mi. (airline) NE. of Upper Horrell Ranch on Campaign Creek; on summit of decomposed granite mountain.

To reach from Upper Horrell Ranch, go down Campaign Creek (N.) to first canyon on right (E.); proceed up canyon for about 1.5 mi.; thence climb left (N.) to summit of ridge; follow ridge (E.) and (N.) to highest and most prominent cone shaped point and station. A 4 hours pack.

Station mark: USFS tablet, not stamped, cemented in boulder flush with ground.

ARIZONA ZONE CENTRAL  
X= 760,738.89  
Y= 917,941.33

ARIZONA ZONE EAST  
X= 227,386.88  
Y= 918,041.48

V.A. Elevation: 5106 ft.  
(Checked 1963)

Latitude 33°31'13.684"

Longitude 111°03'40.128"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Gov't Hill	12°07'59.54"	192°07'00.71"	43,031.49
Pinto	39 07 49.07	219 05 56.01	27,504.87
Pine	61 04 37.51	241 02 56.88	17,638.10
Pinyon (C&GS)	140 06 17.96	320 03 49.46	35,432.90
Windy Point	174 47 05.06	354 46 31.65	56,135.82
Horrell	311 40 02.00	131 41 27.89	17,641.15

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*Blair*

Arizona (188)

Gila County

GRAPE (C&GS)

1927 N.A.D.

USC&GS, 1947

C.C. Myers, 1963

Book: PH 930

Described in U. S. Coast and Geodetic Survey Description List  
331111 station 1010.

ARIZONA ZONE CENTRAL

ARIZONA ZONE EAST

V.A. Elevation: 2484 ft.

X= 763,259.72

\*X= 230,504.32

Y= 953,286.76

Y= 953,339.53

\*Latitude 33°37'03.156

Longitude 111°03'06.870"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Granite Mtn	4°33'27.41"	184°33'09.02"	35,435.97
*Pinyon (C&GS)	72 19 39.98	252 16 52.88	26,804.3
Windy Pt	158 58 02.24	338 57 10.36	22,049.01
*Dutchwomen (C&GS)	162 56 28.57	342 54 37.88	57,425.7
A-Cross	206 59 10.20	27 01 24.30	45,018.39
*Black (C&GS)	257 32 36.27	77 37 59.08	50,462.3
*Salt (C&GS)	303 27 43.62	123 31 46.47	44,541.23

\*= Values by USC&GS

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Arizona (188)

Maricopa County

PINYON (C&GS)

1927 N.A.D.

USC&GS, 1947

C.C. Myers, 1963

Book: PH 930

Z. Tolentino, Jr., 1963

Found as described in U.S. Coast and Geodetic Survey Booklet  
No. ~~909~~, page 16. *33 111 1 - 10 15*

Recovered by C.C. Myers, 1963.

Station reached by helicopter.

Signal: White flag over a fluorescent cross-target on a 2 x 2 pole centered over station mark.

Signal Data:	TWF	11.0 ft.
	BWF	8.0
	TFXT	7.7
	BFXT	5.2

Photo No. GS-VAOC 1-65 (Station was paneled for identification)

ARIZONA ZONE CENTRAL  
 \*X=737,789.9  
 Y=944,937.0

\*V.A. Elevation: 5269 ft.  
 (Checked 1963)

ARIZONA ZONE EAST  
 \*X=204,896.6  
 Y=945,421.4

50 Pinyon (C&GS)

\*LAT. 33° 35' 42.552"

LONG. 111° 8' 8.778"

STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
55 Roosevelt (C&GS)	182° 18' 7.350"	2° 18' 14.470"	27047.61
41 Grape (C&GS)	252° 16' 53.030"	72° 19' 40.132"	26804.36
40 Granite Mtn.	320° 4' 1.146"	140° 6' 29.640"	35432.62
25 Boulder Mtn.	3° 52' 44.251"	183° 52' 29.221"	34050.59
22 Black Cross (C&GS)	55° 35' 47.489"	235° 31' 18.321"	49971.42
36 Four Peaks Reset	119° 26' 46.742"	299° 20' 29.379"	66105.54
12 1-117A	146° 39' 30.225"	326° 36' 2.736"	57526.68
33 Dutchwoman (C&GS)	187° 48' 20.770"	7° 49' 17.542"	63632.93
73 1-66A	203° 37' 17.641"	23° 37' 48.676"	11831.82
65 Windy Point	211° 29' 39.272"	31° 31' 34.637"	33695.21

\* = Values by USC&GS

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Arizona (188)

Gila County

ROOSEVELT (C&GS)

1927 N.A.D.

USC&GS, 1946

L.B. Mansfield, 1963

Book: PH 930

Described in U. S. Coast and Geodetic Survey Description List  
31111 station 1019.

ARIZONA ZONE EAST

\*Elevation: 2231 ft.

\*X= 206,236.05

(PTL)

Y= 972,435.71

\*Latitude 33°40'09.924"

Longitude 111°07'55.924"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
*Pinyon (C&GS)	2°18'14.06"	182°18'06.94"	27,047.6
*Dutchwomen (C&GS)	191 50 59.63	11 51 49.32	36,801.5
Windy Pt	264 06 22.88	84 08 11.23	16,604.12

\*= Values by USC&GS

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Arizona (188)

Gila County

WINDY POINT

1927 N.A.D. (Adj.)

USFS, 1934-35  
D.J. Winstead, 1963

Book: PH 930

Located about 4 mi. E. of town of Roosevelt; about 1.5 mi. N. of Arizona State Highway 88; on the highest point of an L-shaped peninsula projecting into Roosevelt Lake from the S. shoreline.

Reached by helicopter.

Station mark: A USGS vertical angle bench mark stamped "VABM DATUM PHNX".

ARIZONA ZONE CENTRAL

ARIZONA ZONE EAST

V.A. Elevation: 2460 ft.

X= 755,174.66

X= 222,767.47

Y= 973,799.36

Y= 973,986.16

Latitude 33°40'26.748"

Longitude 111°04'40.502"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Pinyon (C&GS)	31°31'35.36"	211°29'40.00"	33,694.86
Roosevelt (C&GS)	84 08 11.23	264 06 22.88	16,604.12
A-Cross (USFS)	235 24 21.94	55 27 28.09	34,422.77
Grape (C&GS)	338 57 10.36	158 58 02.24	22,049.01
Granite Mtn (USGS)	354 46 31.65	174 47 05.06	56,135.82

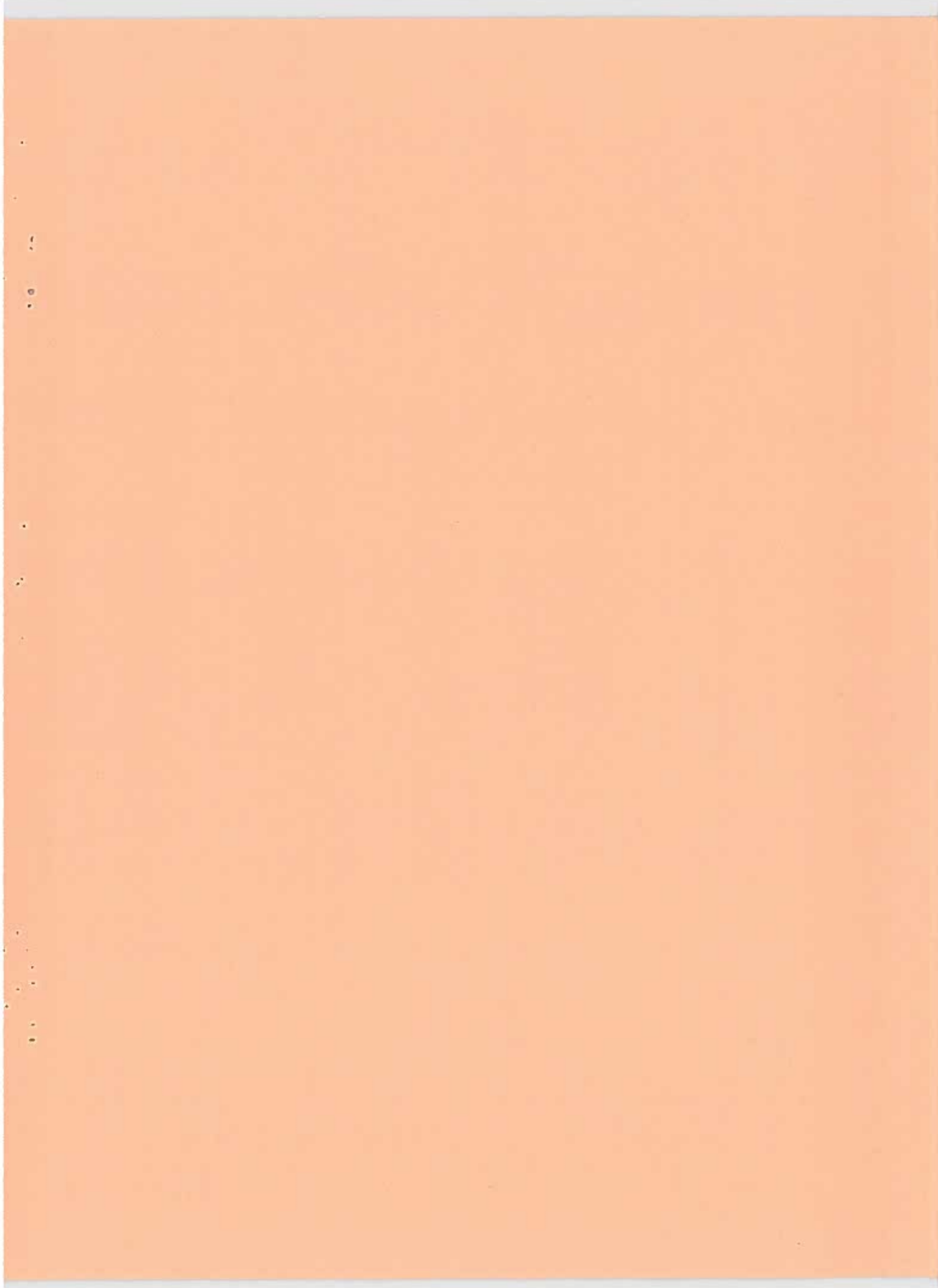
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*Blm*





Arizona (188)

Gila County

6-118 A

1927 N.A.D. (Sec.)

L.H. Hendrickson, 1948  
(n)

Book: PF 20

Located about 5.5 mi. (airline) ENE. of the Roosevelt Dam; 5.5 mi. WSW. of the A-Cross Ranger Station; 1.5 mi. N. of the Roosevelt Reservoir; on the N. end of a low barren hill.

To reach from the Globe P.O., go W. on Highway 60 for 3.3 mi.; turn right on the Apache Trail Rd. and go 14.9 mi. to a rd. forks; take the right fork toward Young and go 4.4 mi. to the Salt River Bridge; continue 9.1 mi. to a rd. forks just after crossing a cattle-guard; turn left and drive 7.0 mi. to a second cattleguard; continue 0.5 mi. and turn left (S.) on a dim track rd. and go about 1.5 mi. to end of truck travel; walk W. down into wash thence up to top of the northernmost of a group of low hills. A 20 minute walk from end of truck travel.

Station mark: A copper nail and washer cemented in solid rock outcrop.

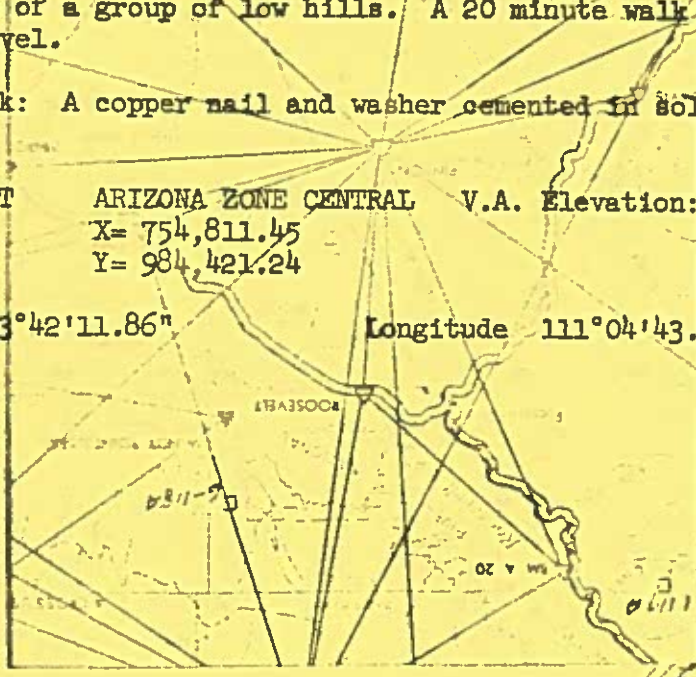
ARIZONA ZONE EAST  
X= 222,584.27  
Y= 984,612.80

ARIZONA ZONE CENTRAL  
X= 754,811.45  
Y= 984,421.24

V.A. Elevation: 2708 ft.

Latitude 33°42'11.86"

Longitude 111°04'43.78"



*ARIZONA 188*

n= Not Occupied

*FILE COPY 33° 111° 00*

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*Blum*

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Arizona (188)

Gila County

6-150 B

1927 N.A.D. (Sec.)

L.H. Hendrickson, 1948)  
(n)

Book: PH 930

Located about 13 mi. (airline) NW. of Miami; 11 mi. SE. of Roosevelt;  
on the highest point of a long rocky N-S. ridge.

To reach from the Globe P.O., go W. on Highway 60 for 3.3 mi.; turn  
right on to the Apache Trail Rd. and go 14.9 mi. to a rd. fork; take left  
fork and go 4.4 mi. to a side rd. on the left and the sign, "EARL E.  
HORRELL"; turn left and drive 1.8 mi. to the Horrell Ranch and end of  
truck travel; follow trail SW. and pass through a saddle at about 0.75 mi.;  
continue on trail SW. for 3.5 mi. to top of a low grassy ridge; turn SE.  
into creek bottom and follow creek about 1.75 mi. to it's source; turn  
N. up rocky hillside to the high point of the ridge and the station.  
A 2 hour horse pack.

Station mark: A copper nail and washer cemented in rock.

ARIZONA ZONE EAST

X= 236,881.24

Y= 921,695.55

ARIZONA ZONE CENTRAL

X= 770,170.24

Y= 921,755.04

V.A. Elevation: 4700 ft.

Latitude 33°31'50.63"

Longitude 111°01'48.35"

(n) = Not Occupied

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*Bem*

33 111 1

33°30'  
110°00'

ARIZONA 188

NAME

STATION

Bench Mark A 20  
Davis  
Grepe  
Pinto  
Pinyon  
Roosevelt

1001  
1006  
1010  
1014  
1015  
1019



JULY 1966  
 PUBLISHED AND PRINTED BY:  
 U. S. DEPARTMENT OF COMMERCE  
 COAST AND GEODETIC SURVEY  
 WASHINGTON D. C.

HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1001  
 ARIZ  
 LATITUDE 33°30' TO 34°00'  
 LONGITUDE 111°00' TO 112°30'  
 DIARRAM NI 12-8 MESA

ARIZONA

DESCRIPTION OF TRIANGULATION STATION

DEPARTMENT OF COMMERCE  
 COAST AND GEODETIC SURVEY  
 NAME OF STATION: B.M. A 20 (USCGS 1933) STATE: Arizona LOCALITY: Roosevelt COUNTY: Gila  
 YEAR: 1946  
 SURFACE AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE STATION

MARK	HOR. DISTANCE METERS	DIRECTION	ALTIMETER
DITCHCROWLEY 1947	11.273	00 00 00.00	
R.M. No. 1 NE	107 39 29.3		
As. Mk. 0.7 mile SSE	271 50 55.		
R.M. No. 2 NW			

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BENCH MARK A 20 YEAR: 1946  
 STATE: ARIZ LOCALITY: Tonto National Forest and Winkeiman to Winslow to Phoenix  
 Second-order Triangulation source: D-7605 FIELD SKETCH: ARIZ 24

GRID DATA	COORDINATES (feet)	PLANE AZIMUTH θ Ion. An. ANGLE	MARK
STATE: Ariz	x 184,795.60	347°55'155"	AZIMUTH MARK
ZONE: E	y 991,631.21	- 0 34 32	
STATE: Ariz	x 716,910.61	346 57 37	AZIMUTH MARK
ZONE: C	y 990,797.74	+ 0 23 46	
CODE: 0202			

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS
	LATITUDE	LONGITUDE		
	33°43'17".61	111 12 11.660		690.13
				2,264.2

TO STATION
 GEODETIC AZIMUTH (From zero) | THIRD-ORDER | DISTANCE METERS || AZIMUTH MARK | 347°21'23".1 |  |  |

CCCS BM

L.G. GUBDINE

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JULY 1966  
 PUBLISHED AND PRINTED BY:  
 U. S. DEPARTMENT OF COMMERCE  
 COAST AND GEODETIC SURVEY  
 WASHINGTON D. C.

# HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1002  
 ARIZ  
 LATITUDE 33°30' TO 34°00'  
 LONGITUDE 111°00' TO 111°30'  
 DIAGRAM NI 12-B MESA

DEPARTMENT OF COMMERCE  
 U. S. COAST AND GEODETIC SURVEY  
 WASHINGTON, D. C. 20540

## DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: **BU P 20** STATE: **ARIZONA** COUNTY: **Gila**  
 CHIEF OF PARTY: **C. A. DEERY** LOCALITY: **1.5 miles south southeast of**  
 Surface-station mark, **Underground-station mark,**  
 Reference mark, No. 1, **111° 22' 06" 06.7**  
 Reference mark, No. 2, **111° 22' 06" 06.7**  
 Azimuth mark, **111° 22' 06" 06.7**  
 Witness mark, **111° 22' 06" 06.7**  
 Height of light above station mark, **111° 22' 06" 06.7**  
 Height of telescope above station mark, **111° 22' 06" 06.7**  
 Detailed description:  
 Station is located 5 miles SSE of Tonto, Ariz., 1.3 miles N. of Roosevelt, 4 mile S of Glina Creek and on E side of the Roosevelt-Rayson Highway. To reach the station from the post office in Tonto, go S on the road to Roosevelt for 4.5 miles to the azimuth mark on the left or east side of road, continue on Roosevelt for 1.5 miles to the azimuth mark on left or east side of road. Station mark is a standard SGOSS bench mark stamped: P 20 1935, Elev. 2362.958 feet, and is set in the top of a 12" x 12" concrete post, top of which is 6 inches above the surrounding surface. This mark is approx. 12 meters east of centerline of the Roosevelt-Rayson Road, 6 meters east of a fence corner, 4 meter south of fence line, and approx. on same level with road.  
 Reference mark No. 1 is a standard reference mark stamped: BU P 20 No. 1 1946, and is cemented into a drill hole in a boulder, top of which is 7 inches above the surrounding surface. This mark is NE of station and approx. 1 ft. below station.  
 Reference mark No. 2 is a standard reference mark stamped: BU P 20 No. 2 1946, and is cemented into a drill hole in a boulder, top of which projects 3 inches above the surrounding surface. This mark is NW of station and approx. on same level with station.  
 Azimuth mark is a standard azimuth mark stamped: BU P 20 1946, and is cemented into a drill hole in a boulder. This mark is approx. 3/4 mile NNW of station, approx. 30 meters east of centerline of Roosevelt-Rayson Highway, 2 meters west of a N-S fence line, and approx. 30 meters west of a N-S telephone line.

## ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: **BENCH MARK F 20** YEAR: **1946**  
 STATE: **ARIZ** LOCALITY: **Tonto National Forest and Winkelman to Winslow to Phoenix**  
 Second-order Triangulation source: **G-7605** FIELD SKETCH: **ARIZ 23, 24**

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (CONJUG ANGLE)	MARK
STATE: <b>ARIZ</b>	<b>X 160,847.60</b>	<b>156°14'08"</b>	<b>AZIMUTH MARK</b>
ZONE: <b>E</b>	<b>Y 1,023,810.50</b>	<b>- 0 37 17</b>	
CODE: <b>0201</b>			
STATE: <b>ARIZ</b>			
ZONE: <b>E</b>			
CODE: <b>0201</b>			

POSITION	SECOND IN METERS	ELEVATION
LATITUDE: <b>33°48'33".612</b>	<b>NORTH</b>	<b>720.23</b>
LONGITUDE: <b>111 16 59.473</b>	<b>WEST</b>	<b>2,363.0</b>

TO STATION	GEODETIC AZIMUTH (From mark)	DISTANCE
<b>AZIMUTH MARK</b>	<b>THIRD-ORDER</b>	
	<b>155°36'51.43</b>	

HORIZONTAL CONTROL DATA  
 by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1005  
 ARIZ 33°30' TO 34°00'  
 LATITUDE 111°00' TO 111°30'  
 LONGITUDE 112-8 MESA  
 DIAGRAM NI 12-8

DESCRIPTION OF TRIANGULATION STATION

DEPARTMENT OF COMMERCE  
 U.S. COAST AND GEODETIC SURVEY  
 NAME OF STATION: CANYON  
 STATE: ARIZONA  
 COUNTY: MARICOPA  
 LOCALITY: Apache Junction, 10 miles northeast of Phoenix  
 YEAR: 1946  
 DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PREVIOUS CONTROL WHICH CAN BE SEEN FROM THE STATION

MARK	DISTANCE	DIRECTION	AZIMUTH
12c	0 00 00.0		
12a	84 31 58		
12b	67 58 58		
12d	52 38 28.8		
12e	27.050ft	8.24m	ARZ 84 31 58
12f	53.728ft	7.23m	SSR 67 58 58
12g	3/4 MI	RSM	SSZ 52 38 28.8

Height of telescope above station mark 1.0 meters.  
 Height of telescope above station mark 3 feet.  
 Detailed description:  
 The station is 10 miles air-line northeast of Apache Junction and is on one of many low hills about 1 mile west of Canyon Lake Reservoir and about 2 mile east southeast of State Route # 89.  
 To reach from Apache Junction on U.S. 60 & 70: go northwesterly on State Route # 89 for 5.6 miles to a cattle guard just before a sharp left turn across a wash. Continue for 6.5 miles on the main traveled road to a culvert and the azimuth mark on the left. Continue for 0.2 mile to the end of truck travel. From here peak easterly about 1/2 mile, keeping to the left of low knoll, to the highest point of the hill just beyond and the station.  
 The station is a standard triangulation disk stamped CANYON 1946 and is set in out-cropping bedrock at the highest point of the hill.  
 Reference mark no. 1 is a standard reference mark disk stamped CANYON NO 1 1946 and is set in a boulder projecting 3 inches and is about 8 feet below the station. The mark is east northeast of the station.  
 Reference mark no. 2 is a standard reference mark disk stamped CANYON NO 2 1946 and is set in bedrock 18 inches northeast of the edge of a small 4 foot rim and is about 18 inches below the station. The mark is south southeast of the station.  
 The azimuth mark is a standard azimuth mark disk stamped CANYON 1946 and is set in a large yellowish bedrock outcrop. The mark is 11 feet west of a 2 foot culvert and is 53 paces west of the center of State Route # 89 and is 1/2 mile east southwest of the station

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CANYON  
 LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix  
 SOURCE: G-7605  
 YEAR: 1946

MARK	PLANE AZIMUTH # FROM ANGLE	MARK	ELEVATION METERS
72°55'04"		AZIMUTH MARK	
- 0 42 30			
71 57 03		AZIMUTH MARK	
+ 0 15 31			

COORDINATES (Feet)	POSITION	RECORDS IN METERS	ELEVATION METERS
109,424.42			659.39
925,794.25			2,163.3
33°32'18".134			
111 26 54.383			

RECOVERY OF SURVEY STATION

AREAL QUAD	DESIGNATION OF STATION	TYPE OF MARK
Ariz. Br. 988 A.1	CANYON	DISK
Ariz. Br. 988 A.1	CANYON 1946	GOOD
Ariz. Br. 988 A.1	USE F&S	POS. BY IAGENCYH USC&FS

STATION MARK, AZIMUTH TEST & DISTANCE CHECKS RECORDED IN  
 VNL. 11 W 9.24

PA NO 61821-100

RECOVERED BY: D.E. ZIEHL  
 AGENCY: AMS  
 DATE: AUGUST 1967  
 RETURN TO: MAP SERVICE, DEPARTMENT OF GEOLOGY, WASHINGTON 25, D. C.

TO STATION	POSITION	RECORDS IN METERS	ELEVATION METERS
AZIMUTH MARK			
THIRD-ORDER 72°12'34".0			



188 ARIZONA

JULY 1966 U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY

33°30' 111°00'

HORIZONTAL CONTROL DATA

QUAD 331111 STATION 1006 ARIZ 33°30' TO 34°00' LONGITUDE 111°00' TO 111°30' DIAGRAM NI 12-8 MESA

by the Coast and Geodetic Survey NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

STATE: ARIZONA COUNTY: MARICOPA LOCALITY: ROOSEVELT

Table with columns: OBJECT, DISTANCE, BEARING, AZIMUTH. Includes entries for BLACK CROSS 1947, R.M. No. 2, R.M. No. 1, B.M. F 21.

The station is located about 8 miles air line southwest of Roosevelt on a sandy knoll. The station mark is stamped: "DAVIS 1946 and projects 3 inches. It is 110 feet south of a power line tower, 75 feet northwest of the Apache Trail and 45 feet east of a dirt road. Reference mark No. 1 is stamped: "DAVIS R M NO 1 1946 and projects 2 inches. It is 30 feet east of track road and is at the same elevation as the station mark. Reference mark No. 2 is stamped: "DAVIS R M NO 2 1946 and projects 4 inches. It is 30 feet east of track road and 18 inches lower than station mark. The azimuth mark is a U.S.G.S. bench mark stammped: "P 21 1933", set in a 10 inch square block of concrete, 50 feet north of the Apache Trail, 20 feet north of a cement bank and 15 feet northwest of a white post. To reach from station, continue westerly 0.9 mile to mark on right. To reach station from Roosevelt, go west on the Apache Trail 2.1 miles to a road right at Roosevelt Dam; continue straight ahead, left, 10.2 miles to bridge over Davis Wash; continue 1.35 mile to station on right. A drive station.

RECOVERY OF SURVEY STATION

Table with columns: AREA, DESIGNATION OF STATION, TYPE OF MARK, QUAD, STAMPING ON MARK, CONDITION, TOWN, AGENCY (LAST IN MARK), POL. BY AGENCY, ADDITIONAL AND/OR REVISIONS TO DESCRIPTION OR BASE DATA.

STATION MARK, REPS & AZ. MARK WERE RECOVERED AS DESCRIBED. AZIMUTH & CHECK DISTANCES RECORDED IN VOL. 12N Pg. 34

NO 112-11621-100

RECOVERED BY: C. C. DANCO AGENCY: DMS DATE: 1/15/67

RETURN TO ARMY MAP SERVICE, DEPARTMENT OF CEDESY, WASHINGTON 25, D.C.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DAVIS YEAR: 1946 LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix FIELD SKETCH: ARIZ 24 Second-order Triangulation source: 0-7605

Table with columns: GRID DATA, COORDINATES (Feet), PLANE AZIMUTH (for Az angle), MARK. Includes data for STATE: ARIZ, ZONE: E, CODE: 0201.

Table with columns: GEODETIC DATA, PORTION, SECONDS IN METERS, ELEVATION. Includes data for LATITUDE: 33°34'40".385, LONGITUDE: 111°13'41.250.

Table with columns: TO STATION, GEODETIC AZIMUTH (From mark), DISTANCE. Includes data for AZIMUTH MARK (BENCH MARK F 21), THIRD-ORDER 28°05'57".2.

C + GS B.M.

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JUN 1970

16-60800-231

JULY 1966  
 PUBLISHED AND PRINTED BY:  
 U.S. DEPARTMENT OF COMMERCE  
 COAST AND GEODETIC SURVEY  
 WASHINGTON D.C.

# HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1009  
 ARIZ  
 LATITUDE 33°30' TO 34°00'  
 LONGITUDE 111°00' TO 111°30'  
 DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE  
 U.S. COAST AND GEODETIC SURVEY  
 WASHINGTON, D.C. 20540

## DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: FISH CREEK  
 STATE: Arizona Locality: Boosevelt County: Maricopa  
 Year: 1946  
 Course of Party: D.H. Kitchcock  
 Underground-station mark: None  
 Reference mark, No. 1: No. 12A  
 Reference mark, No. 2: No. 12A  
 Witness mark: None  
 Height of light above station mark: meters  
 Height of telescope above station mark: 7 meters  
 Detailed description: The station is located about 13 miles air-line southwest of Roosevelt Dam, 100 yards southeast of where the Apache Trail crosses the first summit west of Fish Creek, on the highest point of a flat rocky ridge. The station mark is a bronze disk stamped, "FISH CREEK 1946", set in bedrock flush with ground level.  
 Reference mark No. 1 is a bronze disk stamped, "FISH CREEK NO 1 1946", set in bedrock flush with ground level. It is northeast of and 4 inches higher than station mark.  
 Reference mark No. 2 is a bronze disk stamped, "FISH CREEK NO 2 1946", set in bedrock flush with ground level. It is west of and 8 inches lower than station mark.  
 The azimuth mark is a bronze disk stamped, "FISH CREEK 1946", set in outcropping bedrock flush with ground level. It is 0.6 mile southeast of Roosevelt Dam, of the intersection of the Apache Trail and road to Fortilla Ranch. Reached from end of truck travel by continuing 1.1 mile to mark on left.

To reach station from the postoffice in Roosevelt, go west on the Apache Trail 2.1 miles to a road right at Roosevelt Dam; continue straight ahead, left, 15.6 miles to a highway maintenance camp on left; continue 3.0 mile to bridge over Fish Creek; continue up grade 1.4 mile to summit and end of truck travel. From here walk southeast up slope 100 yards to highest point and station as described above.

R.W. Wanner

## ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FISH CREEK  
 STATE: Ariz Locality: Tonho National Forest and Winkelman to Winslow to Phoenix  
 Second-order Triangulation source: G-7605  
 YEAR: 1946

GRID DATA	COORDINATES (FWM)	PLANE AZIMUTH @ IONOSPHERIC ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	X 150,905.37 Y 923,108.47	56°12'21" - 0 37 58	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	X 684,186.91 Y 921,717.08	55 14 21 + 0 20 02	AZIMUTH MARK

GEODEIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS FEET
	LATITUDE	LONGITUDE		
	33°31'56".369	111 18 44.054		930.3 3,052

GEODEIC DATA	TO STATION	GEODEIC AZIMUTH (From center)		DISTANCE METERS
		NORTH WEST	LOG ARITHM (Meters)	
AZIMUTH MARK		THIRD-ORDER 55°34'23".0		

188

ARIZONA  
JULY 1966  
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U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

QUAD 331111 STATION 1010  
ARIZ  
LATITUDE 33°30' TO 34°00'  
LONGITUDE 111°00' TO 111°30'  
DIAGRAM NI 12-8 MESA

by the  
Coast and Geodetic Survey  
NORTH AMERICAN 1927 DATUM

NAME OF STATION: GRAPE  
STATE: ARIZ  
Second order Triangulation  
LOCALITY: Tonto National Forest and  
Winkelman to Winslow to Phoenix  
FIELD NUMBER: ARIZ 24  
YEAR: 1947  
SOURCE: G-7605

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: GRAPE STATE: ARIZONA COUNTY: GILA

YEAR	LOCALITY	DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE STATION	BEARING	AZIMUTH
1947	Roosevelt			
1947	SR	13.476	03 00 00	00
1947	SR	271.01	34	
1947	SR	13.262	55 27	
1947	SR	42.59.8		

The station is located about 5.8 miles southeast of Roosevelt and about 2.5 miles south of the Roosevelt Lake. It is on the south side of the highway and opposite a side road which goes north to the lake. It is 15 paces south-southwest of and approximately the same elevation as the highway, set in top of a concrete post which projects 3 inches and is stamped "GRAPE 1946".

Reference mark No. 1 is approximately 0 inches lower than the station, 24 paces southwest of the center line of highway, set in top of a concrete post which projects 2 inches and is stamped "GRAPE NO 1 1946".

Reference mark No. 2 is approximately the same elevation as the station, 28 paces west-southwest of the center line of highway, set in top of a concrete post which projects 3 inches and is stamped "GRAPE NO 2 1946".

The azimuth mark is approximately 0.3 mile southeast of the station, 20 paces south of the center line of highway, 12 paces northwest of the center line of a dirt track road, set in the top of a concrete post which projects 2 inches and is stamped "GRAPE 1946".

To reach from the post office and store in Roosevelt; go south on highway # 88 toward Globe for 6.8 miles to a side road left and the station on the right as described above. A drive station.

ADJUSTED HORIZONTAL CONTROL DATA

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (FORWARD ANGLE)	MARK
STATE: ARIZ ZONE: E CODE: 0201	X 230,504.32 Y 953,339.53	294°32'04" - 0 29 24	AZIMUTH MARK
STATE: ARIZ ZONE: C CODE: 0202	X 763,259.71 Y 953,286.80	293 33 56 + 0 28 44	AZIMUTH MARK

GEODEIC DATA	PORTION	SECONDS IN METERS		ELEVATION METERS
		NORTH	WEST	
LATITUDE: LONGITUDE:	33°37'03"156 111 03 06.870			755.9 2,480

TO STATION	GEODEIC AZIMUTH (From above)		DISTANCE METERS
	THIRD-ORDER	294°02'39"8	
AZIMUTH MARK			

V.A. Elev.: 2484 ft (4505 1963)

C.F. BUDWINE

FILE COPY

HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 33111 STATION 1013  
 ARIZ 33°30' TO 34°00'  
 LONGITUDE 111°00' TO 111°30'  
 DIAGRAM N1 12-8 MESA

DESCRIPTION OF TRIANGULATION STATION

DEPARTMENT OF COMMERCE  
 K. R. COULT AND GEODETIC SURVEY  
 DATE: OCT. 1955

NAME OF STATION: PICTURE  
 Chief of Party: D. H. Kondchek

STATE: Arizona LOCALITY: Tonto COUNTY: GILA  
 YEAR: 1947

Distances and directions to reference marks and prominent objects which can be seen from the monument:

OBJECT	DIR.	DISTANCE	DIRECTION	AZIMUTH
Underground-station mark		Mets. 4		
Reference mark, No. 1		Mets. 12c		
Reference mark, No. 2		Mets. 12c		
Witness mark		Mets. 12c		
Height of light above station mark		1.1 meters		
Height of light above station mark		1.1 meters		

Detailed description: The station is located about 23 miles airline south-southeast of Payson and about 9.5 miles airline east-northeast of Tonto on the most westerly of several brush covered peaks known locally as Picture Mountain. The station mark is a bronze disk stamped, "PICTURE 1946", set in a boulder flush with ground level 8 feet east of cliff.

Reference mark No. 1 is a bronze disk stamped, "PICTURE NO 1 1945", set in a boulder which projects 6 inches and is same elevation as station mark. Reference mark No. 2 1945, set in a boulder which projects 18 inches and is 18 inches lower than station mark.

The azimuth mark is a bronze disk stamped, "PICTURE 1946", set in a boulder which projects 8 inches. It is on the west bank of a wash, 75 feet south of a concrete water tank at the end of truck travel.

To reach station from the post office in Tonto, go east on the Green Back Valley road crossing Tonto Creek, 3.8 mile to a cattle guard; continue 2.4 miles to a road left at a sign, "RED ROCK SPRING 7-MINUTE CAMP 3"; turn left and follow only road 2.6 miles to a fence line; pass through opening in fence and go 0.25 mile to end of truck travel on west bank of wash. From here walk easterly down into wash to remains of a burnt building; thence follow trail northeast on east side of wash about 1 mile to a brush and grass covered ridge to right; walk right up ridge to summit then across saddle and up second ridge to summit; bear left to highest point and station. A 2 hour and 30 minute pack.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: PICTURE  
 ESTABLISHED BY: USGS  
 RECOVERED BY: USGS  
 YEAR: 1964  
 STATE: ARIZ.  
 COUNTY: GILA  
 BENCH MARKED ALSO:

Detailed statement as to the fitness of the original description, including marks found, samples, changes made, and other pertinent facts:

Station was recovered.

Revised To Reach: From the post office in Tonto Basin, go East on the Greenback Valley Road crossing Tonto Creek, 3.8 miles to a cattle guard; continue 2.4 miles to a road left at sign, "J-SHASH-X"; turn left and follow only road 2.6 miles to a fence line and loading chute; pass through fence and follow road uphill 2.0 miles; leave truck on road and climb 0.4 mile East to saddle; turn South and follow ridge 0.3 miles to highest point and station. A 40 minute pack.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PICTURE LOCALITY: Tonto National Forest and Winkelman to Hinklow to Phoenix Field sketch ARIZ 23, 24

STATE: ARIZ

First-order Triangulation SOURCE: D-7605

YEAR: 1947

ORD DATA	COORDINATES (F-M)	PLANE AZIMUTH # (MONUMENT ANGLE)	MARK
STATE: ARIZ ZONE: E COORD: 0201	X 197,701.48 Y 1,067,058.95	69°34'56" - 0 33 23	AZIMUTH MARK
STATE: ZONE: COORD:	X Y		

GEODETTIC DATA	POSITION		SECONDS IN NEVERS	ELEVATION METERS
	LATITUDE	LONGITUDE		
TO STATION	33°55'45".179	111°09'47".728		1,965.5 6,448

AZIMUTH MARK

THIRD-ORDER  
69°01'32".6

LOGARITHM  
(Meters)  
DISTANCE  
METERS

R

33 30

# HORIZONTAL CONTROL DATA

by the  
Coast and Geodetic Survey  
NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1014  
ARIZ  
LATITUDE 33°30' TO 34°00'  
LONGITUDE 111°00' TO 111°30'  
DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
NAVY COL. 1952

## DESCRIPTION OF TRIANGULATION STATION

STATE: Arizona COUNTY: Gila  
 YEAR: 1947 LOCALITY: Roosevelt  
 DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE STATION

MARK	BEARING	DISTANCE	DIRECTION	REMARKS
BLM 1938	SE	06 00 00.00		
1/3 mile	SE	61 44 01.0		
R.M. No. 1	SW	13.055 - 169 27 26.		
R.M. No. 2	NW	0.446 - 277 28 04.		

Height of light above station mark meters.  
 Detailed description: Station is located about 9 miles air-line east-southeast of Roosevelt and 0.2 mile west of the bridge where the Apache Trail crosses Pinto Creek. The station mark is stamped: "PINTO 1946", set in outcropping bedrock which projects 2 inches. It is 15 paces northwest of a cattle guard and 4 feet west of a fence line.  
 Reference mark No. 1 is stamped: "PINTO NO 1 1946", set in outcropping bedrock which projects 2 inches and is at the same elevation as station mark.  
 Reference mark No. 2 is stamped: "PINTO NO 2 1946", set in outcropping bedrock which projects 4 inches and is at the same elevation as station mark.  
 The azimuth mark is stamped: "PINTO 1946", set in outcropping bedrock 75 feet east of and 30 feet higher than centerline of road at first curve of road east of the Pinto Creek bridge.  
 To reach the station from Globe, go west on U.S. Highway #60 & 70, 3.3 miles to the Apache Trail to right; turn right, go 14.9 miles to a junction; turn left, go 3.9 miles to azimuth mark on right as described above; continue 0.3 mile to bridge across Pinto Creek; continue 0.2 mile to cattle guard and station on left. A drive station.

## ADJUSTED HORIZONTAL CONTROL DATA

YEAR: 1947

NAME OF STATION: PINTO  
STATE: Ariz  
LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix  
FIELD SKETCH: ARIZ 24  
Second-order Triangulation source: G-7605

GRID DATA	COORDINATES (F&D)	PLANS & ANGLES (CONGRUENCE)	MARK
STATE: Ariz ZONE: E CODE: 0201	x 245,305.62 y 947,952.45	305°52'42" - 0 27 47	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 778,165.27 y 947,250.83	304 54 35 + 0 30 20	AZIMUTH MARK

GEODETIC DATA	POSITION		ELEVATION	
	LATITUDE:	LONGITUDE:	SECONDS IN METERS	METERS
	33°36'02".175	111°00'11.256	NORTH	711.5
			WEST	2,334

AZIMUTH MARK	TO STATION		LOGARITHM (distance)	METERS
	GEODETIC AZIMUTH (Plane Azimuth)	DISTANCE		
	305°24'54".7			

R.M. Hattner

FILE COPY



JULY 1966  
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 COAST AND GEODETIC SURVEY  
 WASHINGTON D. C.

# HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1016  
 ARIZ 33°30' TO 34°00'  
 LATITUDE 111°00' TO 111°30'  
 LONGITUDE DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE  
 U. S. COAST AND GEODETIC SURVEY  
 WASHINGTON, D. C. 20540

## DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: REED COUNTY: ARIZONA  
 COURSE OR PARTY: G. S. 2 LOCALITY: Tonto, 7 1/2 miles north of  
 DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH  
 CAN BE SEEN FROM THE POINT

MARK	DISTANCE	DIRECTION	AZIMUTH
GLASS	1 mile	S 11 22 49.7	00 00 00.0
RE. 12	21.026 ft	S 41 43 19.0	01 00 00.0
RE. 11	24.089 ft	S 34 12 52.5	01 00 00.0

Witness mark, 11 ft. high  
 Height of telescope above station mark 1.1 meters  
 Detailed description:  
 The station is located 2 1/2 miles north of Tonto, 3 1/2 miles south of the #76 Ranch, 150 yards west of Tonto Creek, on a small knoll 150 yards east of the Tonto-Payson Highway, on the extreme eastern end of ridge formed by Reed Creek to the SW and Gold Creek to the NE. To reach the station from the post office in Payson, Ariz., go south on the Payson-Roosevelt Highway for 19.6 miles to a side road right at Felton Service Station and store, thence, continue south on highway for 1.5 miles to a concrete bridge over Tonto Creek, cross bridge and continue 0.85 miles to top of Grade. From here pack easterly to top of small knoll and station.  
 The station mark is a standard triangulation disk stamped: REED 1946, and is cemented into a drill hole in outcropping bedrock, top of which projects approx. 3 inches above the surrounding surface.  
 Reference mark No. 1 is a standard reference mark stamped: REED No. 1 1946, and is cemented into a drill hole in outcropping bedrock, top of which is 3 inches above the surrounding surface. This mark is 8 1/2 inches above the top of station mark with station. Reference mark No. 2 is a standard reference mark stamped: REED No. 2 1946, and is cemented into a drill hole in outcropping bedrock, top of which is 2 inches above the surrounding surface. This mark is 8 1/2 inches above the top of station mark with station. Azimuth mark is a standard USGS concrete post, stamped: REED No. 2 1946, and is set in the top of a 12"x12" concrete post, top of which is approx. 8 inches above the surrounding surface. This mark is approx. 1 mile SW of station, 30 meters east of Roosevelt-Payson Highway and approx. 25 meters north of a prominent Saguaro Cactus which is located on east edge of highway. A fence line running in a N-S direction is located approx. 45 meters east of station.

## ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: REED YEAR: 1946  
 STATE: ARIZ LOCALITY: Tonto National Forest and  
 Winkelman to Winslow to Phoenix  
 Second-order Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23,24

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (for Δα angle)	MARK
STATE: ARIZ ZONE: E CODE: 0201	x 155,150.49 y 1,086,570.47	47°26'12" - 0 38 09	AZIMUTH MARK (BENCH MARK N 20)
STATE: ARIZ ZONE: C CODE: 0202	x 685,656.95 y 1,085,211.44	46 27 31 + 0 20 32	AZIMUTH MARK (BENCH MARK N 20)

GEODETIC DATA	POSITION		ELEVATION METERS
	LATITUDE	LONGITUDE	
	33°58'53"807 NORTH	111 18 15.216 WEST	895.4 2,938 METERS FEET

TO STATION	GEODETIC AZIMUTH (From point)	DISTANCE METERS
AZIMUTH MARK (BENCH MARK N 20)	THIRD-ORDER 46°48'02"7	

JMM

JULY 1966  
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 COAST AND GEODETIC SURVEY  
 WASHINGTON D. C.

HORIZONTAL CONTROL DATA

Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1019  
 ARIZ  
 LATITUDE 33°30' TO 34°00'  
 LONGITUDE 111°00' TO 111°30'  
 DIAGRAM NI 12-8 MESA

ARIZONA

DEPARTMENT OF COMMERCE  
 U. S. COAST AND GEODETIC SURVEY  
 STATE: Arizona LOCALITY: Roosevelt COUNTY: Gila

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ROOSEVELT	STATE: Arizona	LOCALITY: Roosevelt	COUNTY: Gila
NAME OF PARTY: D. H. Kondchek	Year: 1946	DISTANCES AND DIRECTIONS CAN BE READ FROM THE GROUND	
Surface-station mark, Nels. 1a			
Underground-station mark, Nels. 7a			
Reference mark, No. 1 Nels. 91a			
Reference mark, No. 2 Nels. 91a			
Asimuth mark, Nels. 9			
Witness mark, Nels. 9			
Height of light above station mark meters	PIXTON 1947	MM	10.555
Height of telescope above station mark 1.0 meters	R.M. No. 2	NMS	11.312
	R.M. No. 1	ESR	282 53 34.0
	As. MK.		

**Detailed description:**  
 The station is located on the highest point of the ridge which extends northerly to the lake from the store and post office in Roosevelt. The station mark is stamped: "ROOSEVELT 1946" and projects 2 inches. It is 37 yards northeast of a square, concrete water reservoir.  
 Reference mark No. 1 is stamped: "ROOSEVELT NO 1 1946", projects 4 inches, and is 6 inches lower than the station mark.  
 Reference mark No. 2 is stamped: "ROOSEVELT NO 2 1946", projects 4 inches, and is 12 inches lower than the station mark.  
 The azimuth mark is a bronze disk stamped: "ROOSEVELT 1946", set in the north edge of a concrete flume 6 feet from the east end.  
 To reach station from the store and post office in Roosevelt, go 0.15 mile north on the Freasier Landing road to a fence corner; turn right, go 0.1 mile to top of ridge and station site. A drive station.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ROOSEVELT	LOCALITY: Tonio National Forest and Winkelman to Winklow to Phoenix	YEAR: 1946	
STATE: Ariz	SOURCE: G-7605		
Second-order Triangulation	FIELD SKETCH: ARIZ 24		
GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH ANGLE	MARK
STATE: Ariz	X 206,236.05	285°43'55"	AZIMUTH MARK
ZONE: E 201	Y 972,435.71	- 0 32 07	
CODE: 0201			
STATE: Ariz	X 738,672.23	284 45 42	AZIMUTH MARK
ZONE: C	Y 971,969.20	+ 0 26 06	
CODE: 0202			

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION METERS
LATITUDE: 33°40'09".924			680.0
LONGITUDE: 111 07 55.924			2,231

TO STATION	GEODETIC AZIMUTH (From station)	LOCALITY (From station)	DISTANCE METERS
AZIMUTH MARK	285°11'48".5		

R. W. Warner

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JAN 1967



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 COAST AND GEODETIC SURVEY  
 WASHINGTON D. C.

# HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1020  
 ARIZ 33°30' TO 34°00'  
 LONGITUDE 111°00' TO 111°30'  
 DIAGRAM NO 12-8 MESA

## DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SUN COUNTY: Maricopa  
 YEAR: 1946 LOCALITY: Sunflower, 1 mile south of  
 DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE STATION

MARK	DISTANCE	DIRECTION	AZIMUTH
MT. ORD	00 00 00.0		
RM #1 12.693ft.	3.667m.	ENE	73 10 51
RM #2 20.688ft.	6.504m.	N	314 17 15
Azimuth mark	3 mile	NE	351 42 02.9

Notes: 500  
 Note: Below  
 Note: 12c  
 Note:  
 Height of light above station mark  
 Height of telescope above station mark: 1.68 meters  
 Detailed description:  
 The station is located 36 miles airline NE of Mesa, Arizona, and 1 mile south of Sunflower. To reach the station from 'The Buckhorn Mineral Baths', a resort located about 7.7 miles east of Mesa, Arizona, on US Highway 60 and 70, go east 1.05 miles to a cross road and sign 'Sahuaro Lake Ranch 1/2'. Here turn left, north, on graded gravel road and go 6.85 miles to a fork. Take the right fork which passes over a cattle guard, and follow the main traveled graded road for 7.3 miles to the bridge that crosses the Salt River. Cross bridge and continue for 2.4 miles to a fork. Take left fork, on the main traveled road and go 18.5 miles to a fork, the left fork of which leads to the 'DOS S RANCH'. Take right fork on main traveled road for 2.55 miles to a cattle guard, continue on this road for 6.1 miles to highest point on road. From here pack westerly up small hill to the highest point of the first bare ridge and station site. Estimated packing time 5 min. The station is a standard triangulation station mark stamped: SUN 1946, and is welded to the top of a 2-inch iron pipe, which projects 3 inches above the surrounding surface. Reference mark No. 1 is a standard reference mark stamped: SUN No. 1 1946, and is welded to the top of a 2-inch iron pipe, which is flush with the surrounding surface. This mark is ESE of station and 16 inches below station. Reference mark No. 2 is a standard reference mark stamped: SUN No. 2 1946, and is welded to the top of a 2-inch iron pipe, which is flush with the surrounding surface. This mark is N. of station and 14 inches below station. The azimuth mark is a standard azimuth mark stamped SUN 1946, and is cemented into a drill hole in an outcrop slab, 50 ft by 20 ft in size. This mark is 3 mile NE of station, approx. 160 ft. NE of road, and 31 ft. NNE of a 2 ft. rock cairn. To reach the vicinity of the azimuth mark from the highest point of road below station, continue on the main traveled road 0.1 mile in the direction of Sunflower.

## ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SUN YEAR: 1946  
 STATE: ARIZ LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix  
 Second-order Triangulation source: G-7605 FIELD SKETCH: ARIZ 24

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (LONG ANGLE)	MARK
STATE: Ariz ZONE: E CODE: 0201	X 102,704.56 Y 1,038,935.42	217°22'45" - 0 43 44	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	X 634,037.07 Y 1,036,695.64	216 24 17 + 0 14 45	AZIMUTH MARK

GEODETIC DATA	POSITION		ELEVATION METERS FEET
	LATITUDE: LONGITUDE:	NORTH WEST	
	33°50'56".445 111 28 30.690		1,159.7 3,805

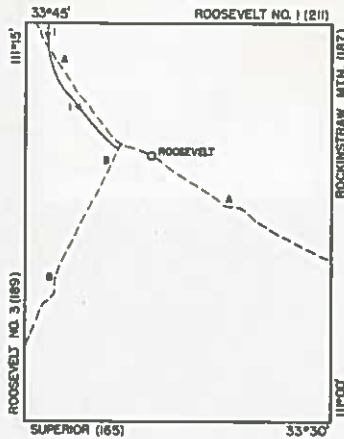
TO STATION	GEODETIC AZIMUTH (Four digits)		DISTANCE METERS
	THIRD-ORDER 216°39'02"3		
AZIMUTH MARK			

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

THIRD-ORDER LEVELING  
Sea Level Datum of 1929

ROOSEVELT NO. 4 QUADRANGLE  
ARIZONA 188  
N3330-W11100/15

Gila and  
Maricopa Counties  
Edition of 3/27/57  
Only the standard  
tablets are listed  
for lines run more  
than 25 years be-  
fore the above  
edition date



FILE COPY

USC&GS Leveling Lines

- A. Bowie to Clemenceau, Arizona (No. 5) First order
- B. Roosevelt to Maricopa, Arizona (No. 46) First and Second order

Feet

LINE 1.

FROM ROOSEVELT NO. 1 QUADRANGLE (211) SOUTHEAST ALONG TONTO ROAD TO ROOSEVELT (by R. Phillips, 1905; Book 6624) P 25

Roosevelt, 5.0 mi. N. of; 2.0 mi. S. of Botticher Ranch; 10 ft. E. of rd.; in stone; aluminum tablet stamped "2028 PHNX"

2027.297

*Under water*

Roosevelt, 3.0 mi. N. of; at foot of hill; 20 ft. E. of rd.; in boulder; aluminum tablet stamped "1991 PHNX"

1991.066

*Under water*

Roosevelt, at N. entrance to temporary powerhouse; 1 ft. from N. wall; standard iron post with bronze cap stamped "1986 PHNX"

1984.901

*Destroyed*

FILE COPY

*This line is not reliable*

ARIZONA 188



ARIZ 188

U.S. DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
FORM 9-332.6

AREA OFFICE

AIRPORT ELEVATION

FILE COPY

STATE Arizona COUNTY Gila QUADRANGLE Roosevelt # 4 NE

AIRPORT NAME Roosevelt Airport PRIMARY REFERENCE Landing Strip 6 miles SE from Roosevelt, Ariz.

BM DESIGNATION AND ELEVATION X-19 2248.860 FEET (if located) ELEVATION HIGH POINT 2361.3 FEET (On runway)

APPROXIMATE LATITUDE 31° 30' 30"

ELEVATION DETERMINED BY: LEVELS

APPROXIMATE LONGITUDE 111° 03' 30"

CLOSED STADIA TRAVERSE

IDENTIFICATION ON PHOTO # 1-67 ROLL # 1

(Other)

BRIEF DESCRIPTION OF HIGH POINT:

Runway is a North-South direction, highpoint is at the extreme South end of strip, and in the center.

SKETCH OF HIGHEST POINT WITH REFERENCE TO RUNWAYS:

SCALE \_\_\_\_\_ ORIENTATION:



*High point at runway  
Elev. 2361.3  
Strips 6 miles SE of Roosevelt*

(Please prepare in triplicate)

SUBMITTED BY: Frank Aochert

DATE 2-19-63

TITLE Civil Engineering Tech

FIELD BOOK 1 *unrecorded*

CHECKED BY: [Signature]

PAGE 3

TITLE Civil Eng (Tech)

Airports or landing fields having existing bench marks need not be reported.