

33° 30'
111° 00'

ARIZONA 168

Index

<u>Station</u>	<u>Project</u>
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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"

LONG. 111° 12' 11.860"

STATION	AZIMUTH	BACK	AZIMUTH	DISTANCE
33 Dutchwoman (C&GS)	239° 41' 54.196"	59° 45' 6.093"		33779.09
50 Pinyon (C&GS)	335° 55' .496"	155° 57' 15.222"		50392.11
36 Four Peaks Reset	69° 54' 17.724"	249° 50' 14.617"		39423.84

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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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cjl

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

4/1/69 cjl

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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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4/24/63 sb *ms*

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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Sim

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.

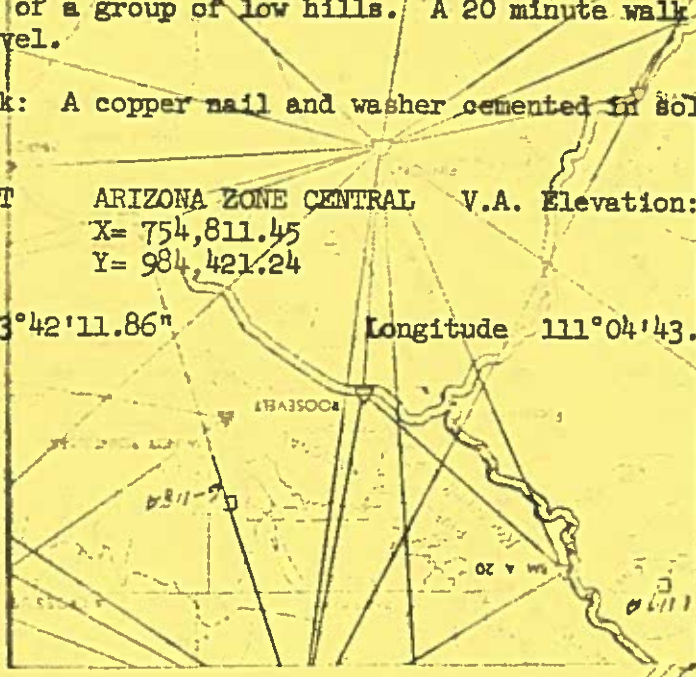
ARIZONA ZONE EAST
X= 222,584.27
Y= 984,612.80

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

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3/25/69 cjl

Handwritten signature

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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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4/2/69

cjl

Ben

33 111 1

33°30'
110°00'

ARIZONA 188

<u>NAME</u>	<u>STATION</u>
Bench Mark A 20	1001
Davis	1006
Grape	1010
Pinto	1014
Pinyon	1015
Roosevelt	1019

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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

ARIZONA

188

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

33 30
 110 00

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 Form 538
 Rev. Oct., 1952

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: B.M. A 20 (USC&GS 1933) STATE: Arizona COUNTY: Gila
 CHIEF OF PARTY: D.H. Konichek YEAR: 1946 LOCALITY: Roosevelt

Surface-station mark, Note,*
 Underground-station mark, Note,*
 Reference mark, No. 1 Note,* 11a
 Reference mark, No. 2 Note,* 11a
 Azimuth mark, Note,* 11a
 Witness mark, Note,*
 Height of light above station mark meters.
 Height of telescope above station mark 1.50 meters.

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND				
OBJECT	HOR.	DISTANCE	DIRECTION	AZIMUTH
DUTCHWOMAN 1947		Meters	00 00 00.00	
R.M. No. 1	NE	11.273	00 02 39.	
As. Mk. 0.7 mile SSE			107 39 20.3	
R.M. No. 2	NW	11.975	271 50 55.	

Detailed description:
 This station is a U.S.C.&G. Survey Bench Mark located about 12.5 miles south-south-east of Tonto, on the east side of the Roosevelt-Tonto road. It is near the southern end of a level area about 0.3 mile before reaching Sycamore Creek, 60 feet east of center line of main traveled road, 60 feet northeast of the intersection of main traveled road and dim track road, 33 feet north of a dim track road, set in the top of a 12x12 concrete post which projects 8 inches and is stamped: "A 20 1933".

Reference mark No. 1 is approximately 12 inches lower than the station, set flush with the ground and stamped: "BM A 20 NO 1 1946".

Reference mark No. 2 is approximately 12 inches lower than the station, set flush with the ground and stamped: "BM A 20 NO 2 1946".

The azimuth mark is approximately 0.7 mile south-southeast of the station, it is 50 paces west-northwest of a black and white road curve sign, 33 paces north of the center-line of road, 15 paces south of the north brim, set in top of a concrete post flush with the ground surface and is stamped "BM A 20 1946".

To reach from the post office in Roosevelt; go north on the Tonto road for 2.1 miles to Roosevelt Dam and forks; take right fork (crossing dam) the Payson road and go 8.25 miles to a dim track road right(E) at the top of a hill where the road becomes straight for approximately 0.25 mile, there is a large black and white road curve sign on the right just before reaching dim track road; the station is 20 yards northeast of the intersection of the main traveled road and the dim track road. A drive station.

L.G. BURDINE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BENCH MARK A 20 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 FOR ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 184,795.60 y 991,631.21	347°55'55" - 0 34 32	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 716,910.61 y 990,797.74	346 57 37 + 0 23 46	AZIMUTH MARK

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	METERS FEET
	LATITUDE:	LONGITUDE:			
	33°43'17".761	111°12'11.860		690.13 2,264.2	

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

CGCS BM

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 12-8 MESA

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 535
 Rev. Oct., 1953

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: **BM F 20**
 CHIEF OF PARTY: **C. A. Egner**
 STATE: **Arizona** COUNTY: **Gila**
 YEAR: **1946** LOCALITY: **Tonto, 5 miles south southeast of**

Surface-station mark, Note, 1a
 Underground-station mark, Note, 12c
 Reference mark, No. 1, Note, 12c
 Reference mark, No. 2, Note, 12c
 Azimuth mark, Note, 12c
 Witness mark, Note, 12c
 Height of light above station mark, meters
 Height of telescope above station mark, meters

OBJECT	DISTANCE	DIRECTION	AZIMUTH
LT. CHD		00 00 00.0	
Azimuth mark, 1/4 mile	1.177	23 06 06.1	
RM #1 70.327 ft	21.437m	NE 87 53 20	
RM #2 62.759 ft	19.128m	NW 94 9 20 36	

Detailed description:
 Station is located 5 miles SSE of Tonto, Ariz., 13 miles N. of Roosevelt, 3 miles S of Cline Creek and on E side of the Roosevelt-Payson 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 0.3 miles to vicinity of station on left or east side of road.
 Station mark is a standard USC&GS bench mark stamped: F 20 1933, 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-Payson Road, 6 meters east of a fence corner, 2 meters south of fence line, and approx. on same level with road.
 Reference mark No. 1 is a standard reference mark stamped: BM F 20 No. 1 1946, and is cemented into a drill hole in a boulder, top of which is 4 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: BM F 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 NNW of station and approx. on same level with station.
 Azimuth mark is a standard azimuth mark stamped: BM F 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-Payson Highway, 2 meters west of a N-S fence line, and approx 30 meters west of a N-S telephone line.

J.H.M.

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 FOR Δαα ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 160,847.60 y 1,023,810.50	156°14'08" - 0 37 17	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE:	NORTH WEST		METERS	FEET
	33°48'33".612			720.23	
	111°16'59".473			2,363.0	

TO STATION	GEODETIC AZIMUTH (From 0000)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 155°36'51".3		

JULY 1966
 U. S. DEPARTMENT OF COMMERCE
 ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
 COAST AND GEODETIC SURVEY
 REVISED APRIL 1970

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA

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

188

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 522
 Rev. Oct., 1959

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CANYON STATE: Arizona COUNTY: Maricopa
 CHIEF OF PARTY: C. A. Egner YEAR: 1946 LOCALITY: Apache Junction, 10 miles northeast
 Surface-station mark, Note, 2
 Underground-station mark, Note, 2
 Reference mark, R.M.#1, Note, 12c
 Reference mark, R.M.#2, Note, 12a
 Azimuth mark, Note, 12a
 Witness mark, Note, 2
 Height of light above station mark 1.0 meters.
 Height of telescope above station mark .6 meters.
 Detailed description:

OBJECT	DISTANCE	DIRECTION	AZIMUTH
HILLS			0 00 00.0
R.M.#1	27,060ft	8.247m SNE	84 31 58
R.M.#2	23,728ft	7.233m SSE	167 56 52
Azimuth mark	3/4 mi	WSW	262 38 26.8

The station is 10 miles airline northeast of Apache Junction and is on one of many low hills about 1 mile west of Canyon Lake Reservoir and about 1/2 mile east southeast of State Route # 88.

To reach from Apache Junction on U.S. 60 & 70: go northeasterly on State Route # 88 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 cairn and the azimuth mark on the left. Continue for 0.2 mile to the end of truck travel. From here pack 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 cairn and is 53 paces west of the center of State Route # 88 and is 1/2 mile west southwest of the station.

RECOVERY OF SURVEY STATION

AREA: <u>MARICOPA Co. ARIZONA</u>	DESIGNATION OF STA: <u>CANYON</u>	TYPE OF MARK: <u>DISK</u>
QUAD: <u>331111 BK. 989 A. 1</u>	STAMPING ON MARK: <u>CANYON 1946</u>	CONDITION: <u>GOOD</u>
TOWN: <u>ARMY JCT. ARIZONA</u>	AGENCY (LAST IN MARK): <u>USCGS</u>	POS. BY (AGENCY): <u>USCGS</u>

ADDITIONS AND/OR REVISIONS TO DESCRIPTION OR SKETCH:

STATION MARK, AZ. MARK & R.M.'S. RECOVERED IN GOOD
 CONDITION. AZIMUTH TEST & DISTANCE CHECKS RECORDED IN
 VOL. 11 N Pg. 24

PD NO 61521-100

RECOVERED BY D.E. ZIEHL
 AGENCY AMS
 DATE AUGUST 1967

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

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CANYON 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 & (ORDINAL) ANGLE	MARK
STATE: <u>Ariz</u> ZONE: <u>E</u> CODE: <u>0201</u>	x <u>109,424.42</u> y <u>925,794.25</u>	<u>72°55'04"</u> <u>- 0 42 30</u>	<u>AZIMUTH MARK</u>
STATE: <u>Ariz</u> ZONE: <u>C</u> CODE: <u>0202</u>	x <u>642,671.78</u> y <u>923,702.21</u>	<u>71 57 03</u> <u>+ 0 15 31</u>	<u>AZIMUTH MARK</u>

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE:	NORTH WEST		METERS	FEET
	<u>33°32'18"134</u>			<u>659.39</u>	
	<u>111 26 54.383</u>			<u>2,163.3</u>	

TO STATION	GEODETTIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
<u>AZIMUTH MARK</u>	<u>THIRD-ORDER</u> <u>72°12'34"0</u>		

*FORM 284 (2-51-58)

USCOMM-DC 5287

188

ARIZONA

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

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

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

33030'
111°00'

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 505
Rev. Oct., 1952

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: **DAVIS**
CHIEF OF PARTY: **D.H. Konichek**
Surface-station mark, Note, 1a
Underground-station mark, Note, 7a
Reference mark, No. 1, Note, 11a
Reference mark, No. 2, Note, 11a
Azimuth mark, Note, 9
Witness mark, Note, 9
Height of light above station mark, meters.
Height of telescope above station mark, meters.
Detailed description:

OBJECT	Hor.	DISTANCE	DIRECTION	AZIMUTH
BLACK CROSS	1947	Meters	00 00 00.00	
R.M. No. 2	WNW	6.190'	74 33 33.	
R.M. No. 1	S	9.888'	317 51 25.	
B.M. F 21	SW	0.6 mi.	357 20 13.0	

The station is located about 8 miles air line southwest of Roosevelt on a small 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 dim road.

Reference mark No. 1 is stamped: "DAVIS R M NO 1 1946" and projects 2 inches. It is 35 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.C.&G.S. bench mark stamped: "F 21 1933", set in a 10 inch square block of concrete, 50 feet north of the Apache Trail, 20 feet north of a cement tank 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

AREA:	DESIGNATION OF STA:	TYPE OF MARK:
DODD-COOL CO. ARIZONA	DAVIS	DISK
QUAD:	STAMPING ON MARK:	CONDITION:
75C563 DE. 929 A-15	DAVIS 1946	GOOD
TOWN:	AGENCY (CAST IN MARK):	POS. BY (AGENCY):
ROOSEVELT ARIZONA	USC&GS	USC&GS

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

PD 4251621-100

RECOVERED BY C.S. CHANCE
AGENCY DAVIS
DATE 11/5/67

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

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: **DAVIS** 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 @ IOR. ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 176,708.22 y 939,413.57	28°41'11" - 0 35 14	AZIMUTH MARK (BENCH MARK F 21)
STATE: Ariz ZONE: C CODE: 0202	x 709,708.64 y 938,454.08	27 43 06 + 0 22 51	AZIMUTH MARK (BENCH MARK F 21)

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	33°34'40".385	NORTH WEST	778.01
LONGITUDE:	111 13 41.250		2,552.5	

TO STATION	GEODETTIC AZIMUTH (Feet north)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK (BENCH MARK F 21)	THIRD-ORDER 28°05'57".2		

C + GS B.M.

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JUN 1970

USCGM-DE 331

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 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
 FORM 520
 REV. OMB, 1952

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: FISH CREEK
 CHIEF OF PARTY: D.H.Konichek
 Surface-station mark, Note,* 2
 Underground-station mark, Note,*
 Reference mark, No.1, Note,* 12A
 Reference mark, No.2, Note,* 12A
 Azimuth mark, Note,* 12A
 Witness mark, Note,*
 Height of light above station mark, meters.
 Height of telescope above station mark, 7meters.

STATE: Arizona COUNTY: Maricopa				
YEAR: 1946 LOCALITY: Roosevelt				
DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND				
OBJECT	Hor.	DISTANCE	DIRECTION	AZIMUTH
BLACK CROSS 1947			0 00 00	
Az. Mk. 1946 SW		0.6 mile	122 18 59.6	
R.M.No.2 1946 W		5.404 M.	149 56 25	
R.M.No.1 1946 NNE		5.032 M.	260 26 20	

Detailed description: The station is located about 13 miles airline 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 southwest of station, 150 yards south of the intersection of the Apache Trail and road to Tortilla 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. Warner

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FISH CREEK 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 (Foot)	PLANE AZIMUTH & HOR. ANG. 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

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE:	LONGITUDE:		NORTH WEST	METERS FEET
	33°31'56"369	111 18 44.054		930.3	
				3,052	

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 55°34'23"0		

ARIZONA

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

DESCRIPTION OF TRIANGULATION STATION

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 Form 532
 Rev. Oct., 1953

NAME OF STATION: GRAPE
 CHIEF OF PARTY: D.H. Konichek
 Surface-station mark, Note, 4a
 Underground-station mark, Note, 7a
 Reference mark, No. 1, Note, 11a
 Reference mark, No. 2, Note, 11a
 Azimuth mark, Note, 11a
 Witness mark, Note, *
 Height of light above station mark, meters.
 Height of telescope above station mark, meters.
 Detailed description:

STATE: Arizona COUNTY: Gila

YEAR: 1947 LOCALITY: Roosevelt

OBJECT	DISTANCE METERS	DIRECTION	AZIMUTH
PIYON 1947		00 00 00.00	
H.M. No. 1 1947 SSE	13.435	271 01 34	
H.M. No. 2 1947 SW	13.262	352 55 27	
Az. Mk. 1947 SE 0.3 mile air line		221 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 dim 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

NAME OF STATION: GRAPE

YEAR: 1947

STATE: Ariz

LOCALITY: Tonto National Forest and

Second-Order Triangulation

Winkelman to Winslow to Phoenix

SOURCE: G-7605

FIELD SKETCH: ARIZ 24

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ FOR Δα 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

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE:	LONGITUDE:		METERS	FEET
	33°37'03".156	111 03 06.870		755.9	
				2,480	

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 294°02'39".8		

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

L.G. BURDINE

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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 1013
 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
 FORM 510
 Rev. Oct. 1953

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PICTURE
 CHIEF OF PARTY: D.H.Konichek
 Surface-station mark, Note,* 4
 Underground-station mark, Note,*
 Reference mark, No.1, Note,* 12c
 Reference mark, No.2, Note,* 12c
 Azimuth mark, No.2, Note,* 12c
 Witness mark, Note,*
 Height of light above station mark, meters.
 Height of telescope above station mark, meters.

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

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND				
OBJECT	Hor.	DISTANCE	DIRECTION	AZIMUTH
MJ FADDER 1938	Meters	0 00 00		
R.M.No.2 1947 SE		7.525	24 53 44	
Az. Lk. 1947 NSW	2.0 Mile		152 28 12.0	
R.M.NO.1 1947 N		5.130	261 05 56	

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 edge of cliff.

Reference mark No.1 is a bronze disk stamped, "PICTURE NO 1 1946", set in a boulder which projects 0 inches and is same elevation as station mark.

Reference mark No.2 is a bronze disk stamped, "PICTURE NO 2 1946", 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 sign, "RED ROCK SHRING 7-JUNIPER 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: D.H.K. YEAR: 1947 STATE: Ariz. BENCH MARK(S) ALSO
 RECOVERED BY: USGS YEAR: 1964 COUNTY: Gila

AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN:

Detailed statement as to the fitness of the original description; including marks found, stampings, 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-SLASH-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 YEAR: 1947
 STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
 First -ORDER Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23, 24

GRID DATA	COORDINATES (Foot)	PLANE AZIMUTH @ IONOSPHERIC ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 197,701.48 y 1,067,058.95	69°34'56" - 0 33 23	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	33°55'45"179	111 09 47.728		1,965.5 6,448
	TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE
	AZIMUTH MARK		THIRD-ORDER 69°01'32"6	LOGARITHM (Meters) METERS

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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

33 30
 111 20

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 535
 REV. DEC. 1952

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PINTO
 CHIEF OF PARTY: D.H.Konichek
 Surface-station mark, Note,* 2
 Underground-station mark, Note,*
 Reference mark, No. 1, Note,*12a
 Reference mark, No. 2, Note,*12a
 Azimuth mark, Note,*12a
 Witness mark, Note,*
 Height of light above station mark, meters.
 Height of telescope above station mark, meters.

OBJECT	Hor.	DISTANCE	DIRECTION	AZIMUTH
BLANK 1938		00 00' 00.00		
Az. Mk. SE		0.3 mile	61 44 01.0	
R.M. No. 1 SW		3.055	163 27 26.	
R.M. No. 2 NW		0.446	257 28 04.	

Detailed description: Station is located about 9 miles airline 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.

R.W.Warner

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PINTO YEAR: 1947
 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 (ON & ANGLE)	MARK
STATE: Ariz ZONE: E CODE: 0201	x 245,305.62 y 947,052.45	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		SECONDS IN METERS	ELEVATION	
	LATITUDE:	LONGITUDE:		NORTH WEST	METERS FEET
	33°36'02".175	111 00 11.256		711.5 2,334	

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 305°24'54".7		

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 COAST AND GEODETIC SURVEY
 WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA

QUAD 331111 STATION 1015
 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
 Form 588
 Rev. Oct. 1957

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PINYON
 CHIEF OF PARTY: D. H. Konichek
 Surface-station mark, Note, 2
 Underground-station mark, Note,
 Reference mark, No. 1, Note, 12a
 Reference mark, No. 2, Note, 12a
 Azimuth mark, Note, 12a
 Witness mark, Note,
 Height of light above station mark, meters,
 Height of telescope above station mark, 6 meters,
 Detailed description:

STATE: Arizona COUNTY: Maricopa

YEAR: 1947 LOCALITY: Roosevelt

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND				
OBJECT	HOP	DISTANCE	DIRECTION	AZIMUTH
BLACK CROSS	1947	Meters	00 00' 00.00	" "
Az. Mk.	SW	.15 mi.	03 52 49.9	" "
R.M. No. 1	E	8.318	220 18 50.	" "
R.M. No. 2	SSW	7.300	322 17 40.	" "

The station is located about 5 miles airline south of Roosevelt on the highest point of a cone shaped mountain known locally as Pinyon Mountain. The station mark is stamped: "PINYON 1946", set in outcropping bedrock which projects 6 inches.

Reference mark No. 1 is stamped: "PINYON NO 1 1946", set in outcropping bedrock which projects 4 inches and is 6 inches lower than the station mark.

Reference mark No. 2 is a bronze disk stamped: "PINYON NO 2 1946", set in outcropping bedrock which projects 6 inches and is 12 inches lower than the station mark.

The azimuth mark is a bronze disk stamped: "PINYON 1946", set in outcropping bedrock which projects 16 inches. It is on the most westerly point of the ridge that runs south-west from the station.

To reach the station from Globe, go west on U. S. Highway #60 & 70, 3.2 miles to the Apache Trail to right; turn right, go 14.9 miles to junction; turn left, go 3.9 miles to bridge over Pinto Creek; continue 2.5 miles to a road left; turn left, go 2.6 miles to a fence corner and dirt road left just before reaching ranch buildings; turn left then right up sandy wash 0.15 mile to a gate; pass through gate, continue up wash 0.5 mile to another wash to right; turn right up wash, go 1.4 mile to a gate and small corral on right; pass through gate and follow wash 1.1 mile to concrete tank; continue 0.5 mile to end of truck travel at water fall in main canyon. Walk up canyon to a trail right just after passing second wash on right; follow trail to right up steep grade to crest of a ridge, thence up ridge westerly to highest point of mountain and station. A 2 hour pack.

R.W. Warner

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PINYON

YEAR: 1947

STATE: Ariz

LOCALITY: Tonto National Forest and

First -ORDER Triangulation SOURCE: G-7605

FIELD SKETCH: ARIZ 24

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (DRAG ANGLE)	MARK
STATE: Ariz ZONE: E CODE: 0201	x 204,896.47 y 945,421.31	60°00'49" - 0 32 11	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 737,789.88 y 944,936.94	59 02 42 + 0 25 56	AZIMUTH MARK

GEODETIC DATA	POSITION		RECORDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:	NORTH WEST	METERS FEET
	33°35'42".552	111 08 08.778		1,606.1 5,269

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 59°28'37".6		

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HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1016
 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
 FORM 502
 Rev. Oct. 1953

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: REED
 CHIEF OF PARTY: S. A. Beyer
 Surface-station mark, Note* 2
 Underground-station mark, Note*
 Reference mark, No. 1, Note* 12a
 Reference mark, No. 2, Note* 12a
 Azimuth mark, Note* 11a
 Witness mark, Note*
 Height of light above station mark, meters
 Height of telescope above station mark, meters

OBJECT	DISTANCE	DIRECTION	AZIMUTH
GREEN			00 00 00.0
RM N-20 1 mile	SW	11 22 49.7	
RM #2 21.016 ft 6.407 m	SW	00 01 06	
RM #1 24.089 ft 7.341 m	SW	195 32 51	

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-Fayazn Highway, on the extreme eastern end of ridge formed by Reed Creek to the SW and Gold Creek to the NW. 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 Gold 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 NW of station and approx. on same level 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 SW of station and approx. 1 ft. below station.

Azimuth Mark is a standard USCGS bench mark stamped: N 20 1933, elev. 2544.841 ft. 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. 65 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.

JHM

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 & (ORDINATE 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)	
GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°58'53"807 LONGITUDE: 111 18 15.216	NORTH WEST		895.4 2,938 METERS FEET
TO STATION		GEODETTIC AZIMUTH (From bench)	DISTANCE	
AZIMUTH MARK (BENCH MARK N 20)		THIRD-ORDER 46°48'02"7	LOGARITHM (Meters)	METERS

JULY 1966
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 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 1019
 ARIZ
 LATITUDE 33°30' TO 34°00'
 LONGITUDE 111°00' TO 111°30'
 DIAGRAM NI 12-8 MESA

33 30
 111 00

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM NO. 581
 Rev. Oct., 1953

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ROOSEVELT
 CHIEF OF PARTY: D.H. Konichek
 Surface-station mark, Note, 1a
 Underground-station mark, Note, 7a
 Reference mark, No. 1, Note, 11a
 Reference mark, No. 2, Note, 11a
 Azimuth mark, Note, 9
 Witness mark, Note, 9
 Height of light above station mark, meters.
 Height of telescope above station mark 1, (meters.)

STATE: Arizona COUNTY: Gila
 YEAR: 1946 LOCALITY: Roosevelt

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND				
OBJECT	HOR.	DISTANCE	DIRECTION	AZIMUTH
PINTON 1947		Meters	00 00 00.	
R.M. No. 2	WNW	10.555	105 04 13.	
R.M. No. 1	NNE	11.312	199 58 10.	
Az. Mk.	0.5 mile ESE		282 53 34.0	

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 Frasier Landing road to a fence corner; turn right, go 0.1 mile to top of ridge and station site. A drive station.

R.W. Warner

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ROOSEVELT 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 (Foot)	PLANE AZIMUTH θ FOR Δ ON ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 206,236.05 y 972,435.71	285°43'55" - 0 32 07	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 738,672.23 y 971,969.20	284 45 42 + 0 26 06	AZIMUTH MARK

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

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 285°11'48".5		

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HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 331111 STATION 1020
 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
 FORM 533
 Rev. Oct., 1953

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SUN
 CHIEF OF PARTY: C. A. Egner

STATE: Arizona COUNTY: Maricopa
 YEAR: 1946 LOCALITY: Sunflower, 1 mile south of

Surface-station mark, Note,* See
 Underground-station mark, Note,* Note
 Reference mark, No. 1, Note,* Below
 Reference mark, No. 2, Note,*
 Azimuth mark, Note,* 12c
 Witness mark, Note,*
 Height of light above station mark, .meters.
 Height of telescope above station mark, .meters.

OBJECT	DISTANCE	DIRECTION	AZIMUTH
MT. ORD			00 00' 00.0
RM #1 12.693ft. 3.867m.	ESE	73 10 51	
RM #2 20.688ft. 6.304m.	N	314 17 15	
Azimuth Mark $\frac{1}{4}$ mile	NE	351 42 02.9	

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 90, go east 1.05 miles to a cross road and sign "Sahuaro Lake Ranch 17". 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 18.3 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 18 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 $\frac{1}{4}$ 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 (FOR ANG. ANGLE)	MARK	
STATE: Ariz ZONE: E CODE: 0201	x 102,704.56 y 1,038,935.42	217°22'46" - 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		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°50'56".445 LONGITUDE: 111 28 30.690	NORTH WEST		1,159.7 3,805 METERS FEET
TO STATION	GEODETIC AZIMUTH (From center)	DISTANCE		
		LOGARITHM (Meters)	METERS	
AZIMUTH MARK	THIRD-ORDER 216°39'02".3			