FT. McDOWELL

Lat. 33°30'
Long. 111°30'

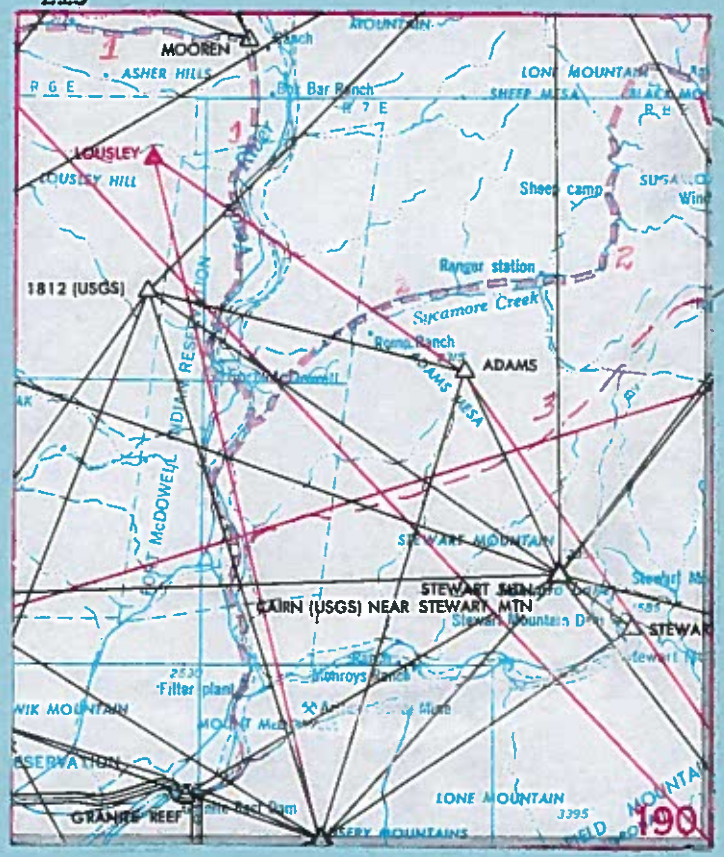
ARIZONA 190

C&GS 33 111 4

See Ariz. Hwy. - Job 269

(1)	R. Philips	1905	6624
(2)	"	"	"
(3)	H. R. Poulsen	1963	PV 484

213



167

A.H.D. line
Payson to Phoenix along State Highway 87
Filed in "Outside Control"

Index

Station	Project
Adams (C&GS)	McDowell
Fort BM "1812" (C&GS)	McDowell
Lousley	McDowell
Mooren (C&GS)	McDowell
Stewart Mtn. (C&GS)	McDowell
Texas	- - - -
Usery (USGS)	McDowell
VABM 2000	McDowell
VABM 3125	McDowell
1-44 A	McDowell
5-8 A	McDowell

McDowell Project Master in ARIZONA 165 - Book: PH 930

Arizona (190) Maricopa County ADAMS (C&GS)

1927 N.A.D. USC&GS, 1935
W.R. Brown, 1963

Book: PH 930

Found as described in U. S. Coast and Geodetic Survey ~~Publication No. 224, page 101.~~ Description list 331114-1005

Station was reached by helicopter.

A tie was made to USGS station "TEXAS" as follows: Standard tablet stamped "TEXAS" cemented in drill hole in rock 5.44 ft. from station in an azimuth of 219°52'22".

Signal: White flag over red cross-target on 2 x 2 x 8 pole centered over station mark.

Signal data:

TWF	10.8 ft.
BWF	8.0
TRXT	7.7
BRXT	5.2

Photo No. Paneled

ARIZONA ZONE CENTRAL
*X=599,245.6
Y=962,056.1

*V.A. Elevation: 2516 ft.

ARIZONA ZONE EAST
*X= 66,645.0
Y=964,883.6

21 Adams (C&GS) * LAT. 33° 38' 39.257" LONG. 111° 35' 26.013"

STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
60 Stewart Mtn. (C&GS)	335° 55' 32.976"	155° 56' 39.037"	24750.35
63 Usery (USGS) (C&GS)	16° 2' 42.715"	196° 1' 4.405"	54471.28
44 Lousley	123° 34' 57.922"	303° 31' 17.720"	40274.60
46 Mooren (C&GS)	146° 4' 25.043"	326° 1' 49.802"	42344.02
47 Otero (C&GS)	189° 44' 43.076"	9° 45' 43.386"	54173.79
5 VABM 3125	194° 49' 33.933"	14° 50' 20.249"	27570.63
54 Rolls (C&GS)	256° 51' 3.437"	76° 54' 50.725"	35598.37
70 1-56A	285° 48' 34.593"	105° 51' 44.473"	30131.42
1 VABM 2000	36° 20' 29.440"	216° 19' 50.166"	10119.29

* = Values by USC&GS

4/24/63 dlw

Arizona (190) Maricopa County FORT BM "1812" (C+GS)

1927 N.A.D (Unadj.)

USC&GS, 1935, 1946
D.J. Winstead, 1963

Book: PH 930

Original description in Special Publication No. 224, page 174.

Found as described in U. S. Coast and Geodetic Survey Direction List No. ~~909, page 2.~~ 331114—1010

Reached by helicopter.

Signal: White flag over a fluorescent cross-target on a 2x2 pole centered over station mark.

Signal data:

TWF	10.7 ft.
BWF	8.0
TFXT	7.7
BFXT	5.2

Photo No. Paneled

ARIZONA ZONE CENTRAL
X=564,277.7
Y=969,634.9

V.A. Elevation: 1811 ft.

ARIZONA ZONE EAST
X= 31,802.6
Y=973,055.1

35 Fort (C&GS) * LAT. 33° 39' 55.141" * LONG. 111° 42' 19.466"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
60	Stewart Mtn. (C&GS)	303° 51' 12.465"	123° 56' 7.487"	54278.95
63	Usery (USGS)(C&GS)	341° 36' 21.533"	161° 38' 31.893"	63248.32
64	Verde (C&GS)	34° 15' 19.641"	214° 12' 52.795"	39867.90
8	4-99A	50° 25' 44.139"	230° 23' 32.341"	26100.51
21	Adams (C&GS)	282° 20' 45.391"	102° 24' 34.523"	35783.05
1	VABM 2000	298° 37' 21.261"	118° 40' 31.039"	33000.84

* = Values by C+GS

4/25/63 dlw

33 30
111 30

Station: LOUSLEY County: Maricopa State: Ariz.(190)

Observer: T. M. Bannon Year: 1904-5 Datum: 1927 N.A.D.(unadjusted) (Revised 1953)

Description:

Books: 3776-3779

Described in U.S.G.S. Bulletin 276, page 173, as follows:

"On the highest point north of the low hills on the west side of the Verdi River and about 4 miles north of old Fort McDowell.

"Station mark: A tablet cemented in a large boulder centered under a large rock monument."

FILE COPY

[Latitude 33 42 19.420 Longitude 111 42 03.140]

To Station—	Azimuth ° ′ ″	Back Azimuth ° ′ ″	Distance Log. Meters	Distance ~~Miles~~ Feet
Texas	303 30 49	123 34 29	4.08901	40,271
Usery	346 01 04	166 03 06	4.36983	76,879

3/19/53 cg

Form 9-107a

U. S. GOVERNMENT PRINTING OFFICE 16--55572-1

Arizona (190) Maricopa County LOUSLEY

~~USGS~~ T.M. Bannon, 1904-5
D.J. Winstead, 1963

1927 N.A.D. (Unadj.)

Book: PH 930

Found as described in U.S. Geological Survey Bulletin No. 276, page 173.

Station reached by helicopter.

Signal: White flag over 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. Paneled

ARIZONA ZONE CENTRAL
X=565,626.3
Y=984,225.6

V.A. Elevation: 2044 ft.

ARIZONA ZONE EAST
X= 33,398.6
Y=987,624.5

44 Lousley

LAT. 33° 42' 19.475" LONG. 111° 42' 3.149"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
46	Mooren (C&GS)	217° 35' 12.794"	37° 36' 17.913"	16238.97
5	VABM 3125	263° 47' 21.264"	83° 51' 48.032"	40842.22
21	Adams (C&GS)	303° 31' 17.721"	123° 34' 57.925"	40274.60
37	Fraesfield	117° 7' 21.952"	297° 3' 46.132"	36875.88
8	4-99A	34° 33' 23.646"	214° 31' 2.735"	37902.60
2	East	72° 49' 12.241"	252° 45' 54.873"	31471.99
7	5-8A	139° 1' 51.459"	319° ' 30.766"	18719.90

4/24/63 sb

Arizona (190) Maricopa County MOOREN (C&GS)

1927 N.A.D. USC&GS, 1946
W.F. McElwain, 1963

Book: PH 930

Found as described in U.S. Coast and Geodetic Survey Description List No. ~~909, page 2.~~ 33 1114 – 1018.

Station reached by helicopter.

Signal: White flag over red cross-target on a 2 x 2 x 8 pole centered over station mark.

Signal Data:

TWF	10.9 ft.
BWF	8.0
TRXT	7.8
BRXT	5.2

Photo No. Paneled

ARIZONA ZONE CENTRAL V.A. Elevation: 1571 ft.
*X=575,503.6
Y=997,113.3

ARIZONA ZONE EAST
*X= 43,495.4
Y=1,000,345.8

46 Mooren (C&GS) *LAT. 33° 44' 26.766" LONG. 111° 40' 5.860"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
39	Gran (C&GS)	110° 38' 4.932"	290° 33' 33.896"	43988.42
26	Buford (C&GS)	150° 58' 33.970"	330° 54' 43.499"	71918.31
47	Otero (C&GS)	240° 51' 30.255"	60° 55' 6.181"	37541.53
6	1-127A	255° 53' 23.942"	75° 55' 8.056"	16318.02
44	Lousley	37° 36' 17.888"	217° 35' 12.771"	16238.97

* = Values by USC&GS

4/24/63 sb

Arizona (190) Maricopa County STEWART MTN. (C&GS)

1927 N.A.D. USC&GS, 1935, 1946
F.L. Aschert, 1963

Book: PH 930

Found as described in U.S. Coast and Geodetic Survey Description ~~List No. 909, page 1~~ 331114-1024, except as noted:

Note by F.L. Aschert, 1963: Station found as described with the following exceptions:

Reference mark No. 1 was measured to be 32.53 ft. from the station mark and not 34.36 ft. as described.
Reference mark No. 2 was measured to be 28.75 ft. from the station mark and not 28.99 ft. as described.

Station reached by helicopter.

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

Signal Data:		
	TWF	17.6 ft.
	BWF	14.8
	TFXT	14.5
	BFXT	12.0

Photo No. Paneled

ARIZONA ZONE CENTRAL V.A. Elevation: 2988 ft.
*X=609,412.0
Y=939,492.5

ARIZONA ZONE EAST
*X= 76,430.4
Y=942,146.8

60 Stewart Mtn. (C&GS)
* LAT. 33° 34' 55.678" LONG. 111° 33' 26.682"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
54	Rolls (C&GS)	218° 41' 32.329"	38° 44' 13.354"	39317.31
70	1-56A	232° 43' 47.815"	52° 45' 51.500"	23750.09
69	1-44A	340° 2' 26.134"	160° 3' 36.238"	31474.99
21	Adams (C&GS)	155° 56' 39.051"	335° 55' 32.992"	24750.35

* = Values by USC&GS

4/25/63 sb

FILE COPY

33 30
111 30

Station: TEXAS (See ADAMS, C&GS) County: Maricopa State: Ariz.(190)

Observer: T. M. Bannon Year 1904-5 Datum: 1927 N.A.D. (Revised 1953, unadjusted)

Description: U.S.C.&G.S. 1935

Books: 3776-3779

Described in U.S.G.S. Bulletin 276, page 175, as follows:

"A 3-point station on the highest point of the center of three malpais hills on the south side of Sycamore, 6 miles east of old Fort McDowell.

"Station mark: A bronze tablet cemented into solid rock under a large rock monument."

5 ft from

NOTE: This station is ~~also known as~~ the station "ADAMS" by U.S C.&G.S. Following is the description for station "ADAMS" from U.S.C.&G.S. Special Pub. No. 224, page 101:

"On the highest point of Adams Mesa , about 4 miles, airline, east of Verde Rive and about 6 miles, airline, north of the Salt River. Marked by a standard bronze dis Reference mark No. 1, a standard bronze reference disk, 6.643 meters (21.79 feet) from station in azimuth 296°37'. Reference mark No. 2, a standard bronze reference disk is 8.500 meters (27.89 feet) from station in azimuth 33°26'. The azimuth mark, a standard bronze disk, is 1/4 mile from station in azimuth 322°19'32".

"Plane coordinates: (C), x=599,245.53 feet; y=962,056.43 feet; the grid azimuth to the azimuth mark=322°08'41"."

FILE COPY

*[Latitude 33 38 39.257 * Longitude 111 35 26.013]

To Station—	Azimuth ° ′ ″	Back Azimuth ° ′ ″	Distance Log. Meters	Distance ~~Miles~~ Feet
*Usery (USGS)	16 02 42.79	196 01 04.48	4.2201836	54,471.3
~~Usery~~	~~16 02 44.27~~	~~196 01 05.95~~	~~4.220137~~	~~54,472~~
~~Superstition~~	~~325 34 43.93~~	~~145 41 02.68~~	~~4.4961625~~	~~102,836~~
* = Values by U. S.C.&G.S.			3/19/53 cg	

Form 9-107a

U. S. GOVERNMENT PRINTING OFFICE 16—85573-1

Arizona (190) Maricopa County USERY (USGS)

1927 N.A.D. (Unadj.)

T.M. Bannon, 1904-5
USC&GS, 1935, 1946
R.W. Hendrickson, 1963

Book: PH 930

Original description ~~in~~ U. S. Geological Survey Bulletin No. 276, page 175.

Found as described in U. S. Coast and Geodetic Survey Description Book ~~No. 909~~, except as noted.
33111 4-1027.

Station reached by helicopter.

Note: Reference Mark No. 1 was searched for but not found.

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

Signal data:

TWF	10.8 ft.
BWF	8.0
TFXT	7.8
BFXT	5.2

Photo No.: Paneled with velon for identification.

ARIZONA ZONE CENTRAL
X=584,356.2
Y=909,664.5

V.A. Elevation: 2972 ft.

ARIZONA ZONE EAST
X= 50,869.4
Y=912,739.8

63 Usery (USGS) (C&GS)
LAT. 33° 30' 1.313" LONG. 111° 38' 23.795"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
60	Stewart Mtn. (C&GS)	220° 11' .404"	40° 13' 44.571"	38958.67
57	Sawik (USGS) (C&GS)	109° 41' 54.280"	289° 37' 53.360"	39227.49
64	Verde (C&GS)	122° 35' 15.222"	302° 30' 38.490"	50300.76
8	4-99A	137° 18' 32.480"	317° 14' 10.686"	59066.64
1	VABM 2000	191° 33' 20.652"	11° 34' 19.735"	45117.04
21	Adams (C&GS)	196° 1' 4.415"	16° 2' 42.727"	54471.28

FILE COPY

4/24/63 dc

Arizona (190) Maricopa County VABM 2000

1927 N.A.D. (Unadj.) W.F. McElwain, 1963

Book: PH 930

Located about 6 mi. (airline) NW. of Stewart Dam, about 6 mi. NE. of the junction of the Verde and Salt Rivers, and about 4 mi. E. of Fort McDowell on the N. end of a low N.-S. ridge.

Reached by helicopter.

Station mark: An old aluminum tablet stamped "VA 2000" cemented in drill hole in rock outcrop.

Reference marks: None set.

Signal: White flag over red cross-target on 2 x 2 x 8 pole centered over station mark.

Signal Data:

TWF	10.8	ft.
BWF	8.0	
TRXT	7.6	
BRXT	5.2	

Photo No. Paneled

ARIZONA ZONE CENTRAL
X=593,275.2
Y=953,886.9

ARIZONA ZONE EAST
X= 60,536.0
Y=956,814.9

V.A. Elevation: 1998 ft.

1 VABM 2000

LAT. 33° 37' 18.611" LONG. 111° 36' 36.923"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
21	Adams (C&GS)	216° 19' 50.206"	36° 20' 29.483"	10119.29
60	Stewart Mtn. (C&GS)	311° 54' 11.897"	131° 55' 57.181"	21625.86
63	Usery (USGS) (C&GS)	11° 34' 19.722"	191° 33' 20.641"	45117.04
57	Sawik (USGS) (C&GS)	56° 2' 22.125"	235° 57' 21.711"	55434.54
64	Verde (C&GS)	71° 36' 37.421"	251° 31' 1.107"	54192.07
8	4-99A	89° 5' 51.524"	269° ' 30.138"	49093.95
35	Fort (C&GS)	118° 40' 31.039"	298° 37' 21.262"	33000.83
44	Lousley	137° 49' 32.270"	317° 46' 31.438"	41051.33

4/24/63 ss

Arizona (190) Maricopa County VABM 3125

1927 N.A.D. (Unadj.) D.J. Winstead, 1963

Book: PH 930

Located about 8 mi. (airline) NNE. of Fort McDowell; about 4 mi. E. of the Verde River; about 4 mi. N. of Sycamore Creek, and about 0.5 mi. SE. of Sheep Mesa; on the N. end and highest point of a prominent, dark, rocky ridge.

Reached by helicopter.

Station mark: A USGS standard aluminum BM tablet stamped "VA 3125" set in concrete; in drill hole; in bedrock.

Reference mark No. 1: Chiseled cross on bedrock, 11.97 ft. from station mark and about 1 ft. higher and in azimuth 308°39'.

Reference mark No. 2: Chiseled cross on rock, 11.20 ft. from station mark in azimuth 66°58' and about level with station mark.

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

Signal Data:

TWF	10.9	ft.
BWF	8.0	
TRXT	7.8	
BRXT	5.2	

Photo No. Paneled

ARIZONA ZONE CENTRAL V.A. Elevation: 3132 ft.
X=606,215.7
Y=988,728.6

ARIZONA ZONE EAST
X= 74,067.4
Y=991,439.5

5 VABM 3125

LAT. 33° 43' 2.928" LONG. 111° 34' 2.497"

STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
21 Adams (C&GS)	14° 50' 20.227"	194° 49' 33.912"	27570.63
6 1-127A	129° 58' 3.020"	309° 56' 25.311"	19384.93
3 West	132° 58' 53.969"	312° 54' 48.201"	51003.36
47 Otero (C&GS)	184° 32' 7.265"	4° 32' 21.228"	26822.85
44 Lousley	83° 51' 48.024"	263° 47' 21.257"	40842.22
54 Rolls (C&GS)	303° 54' 53.441"	123° 57' 54.619"	33265.47

4/24/63 ss

Arizona (190) Maricopa County 1-44A

1927 N.A.D. (Unadj.) W.R. Brown, 1963

Book: PH 930

Located about 6 mi. (airline) NNE. of Apache Junction, about 4.5 mi. SSE. of Stewart Mtn. Dam, and on the highest point of the lower one of three prominent tops on the SE. side of the Goldfield Mountains.

Station reached by helicopter.

Station mark: 1/2 in. reinforcing rod driven in ground and protruding 0.8 ft. above ground. (Elevation is on ground.)

Signal: White flag over red cross-target on 2x2x8 pole centered over station mark.

Signal data:

TWF	10.8 ft.
BWF	8.0
TRXT	7.7
BRXT	5.2

Photo No.: Paneled

ARIZONA ZONE CENTRAL
X=620,257.6
Y=909,948.0

V.A. Elevation: 3047 ft.

ARIZONA ZONE EAST
X= 86,777.7
Y=912,418.0

69 1-44A

LAT. 33° 30' 2.970" LONG. 111° 31' 19.811"

	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
60	Stewart Mtn. (C&GS)	160° 3' 36.251"	340° 2' 26.150"	31474.99
68	1-40A	272° 23' 25.045"	92° 28' 28.999"	46682.29

4/25/63 dc

Arizona (190) Maricopa County 5-8A

1927 N.A.D. (Unadj.) L.B. Mansfield, 1963

Book: PH 930

Located about 20 mi. NE. of Camelback Mountain, 17.5 mi. NW. of Stewart Mountain Dam and 8 mi. SW. of Bartlett Dam. Station is along a dirt rd. at the NE. side of rd. fork.

Station reached by helicopter.

Station mark: Ground at 1/2 in. steel rod projecting 0.5 ft. above.

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

Signal Data:

TWF	11.0	ft.
BWF	8.0	
TRXT	7.7	
BRXT	5.2	

Photo No. 5-8A GS-VAOB

ARIZONA ZONE CENTRAL V.A. Elevation: 2155 ft.
X=553,324.2
Y=998,333.2

ARIZONA ZONE EAST
X= 21,334.5
Y=1,001,942.3

7 5-8A

LAT. 33° 44' 39.287" LONG. 111° 44' 28.490"

STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
39 Gran (C&GS)	126° 48' 18.592"	306° 46' 13.506"	23727.35
44 Lousley	319° ' 30.759"	139° 1' 51.454"	18719.91
2 East	37° 11' 30.542"	217° 9' 33.742"	29421.53
37 Fraesfield	97° 24' 1.769"	277° 21' 46.583"	20720.62

4/24/63 ss

Station: USERY County: Maricopa State: Ariz.(190)

Observer: T.M. Bannon Year 1904-5 Datum: 1927 N.A.D.

Description: U.S.C.&G.S. 1935, 1946

Original description in U.S.G.S. Bulletin No. 276, page 175.

Described in U.S.C.&G.S. Description Book No. 909, page 1, as follows:

"The station is located on the highest point of the Usery Mountains which are in approx. airline distances 2 mi. S. of the jct. of the Salt and Verde Rivers, 16 mi. NE. of Mesa, and 3 mi. SE. of the Granite Reef Dam in the Salt River. The Usery Mountains run in a N.-S. direction and the station is on the second prominent point from the N.; a large rock is about 10 ft. E. by S. of the station.

"To reach the station from "The Buckhorn", a resort located about 7½ mi. E. of Mesa, Arizona on US 60 and 70, go E. on US 60 and 70 for 1.0 mi. to a X-rd. Turn left onto the graded rd. as per sign "BUSH HIGHWAY" and go 0.4 mi. to a X-rd. and two cattle guards. Turn right here through a cattle guard and follow the main traveled rd. for 5.3 mi. to a side rd. right, keep straight ahead on the main rd. for 0.3 mi. to a dim track rd. left and a triangle blaze on a 3½ ft. cactus which is about 30 yds. off the main rd. Turn left on the track rd. which passes just left of the triangle blazed cactus(Another dim rd. angle back along the main rd.), and follow it for 0.65 mi. to the end of the track rd., a triangles blazed cactus, the Azimuth Mark, and the end of truck travel. From here pack across minor drainage to the highest point of the right of two peaks lying NW. of the end of truck travel and the station.

"The station is a standard USGS bench mark stamped 29 VA with 2970 scratched on the mark. It is set in a boulder which projects 2 inches above the surrounding surface.

"Reference Mark No. 1 is a standard reference mark stamped USERY 1935 NO 1, set in a boulder, which projects 3 inches above the surrounding surface and about 15 ft. below the station. It is located W. of the station, 6.902 meters (22.647 ft.) W. from station in true azimuth 98°25'. Reference Mark No. 2 is a standard reference mark stamped USERY 1935 NO 2, set in a boulder, which projects 11 inches above the surrounding surface and is about 10 ft. below the station. It is located N. of the station, 12.660 meters (41.533 ft.) N. from station in true azimuth 177°06'. The cross on the rock is a regular cross with the long leg on arrow pointing toward the station. It is scratched on a boulder which projects 2 ft. above the surrounding surface and is about 6 inches below the station. It is located N. of the station, 4.715 meters (15.469 ft.) N. from station in true azimuth 174°07'.

[Latitude ° ′ ″ Longitude ° ′ ″]

To Station—	Azimuth ° ′ ″	Back Azimuth ° ′ ″	Distance Log. Meters	Distance Miles

(Continued on page 2.)

Form 9-107a

U. S. GOVERNMENT PRINTING OFFICE 16—55572-1

Station: USERY County: Maricopa State: Ariz.(190)

Observer: T.M. Bannon Year 1904-5 Datum: 1927 N.A.D.

Description: U.S.C.&G.S. 1935, 1946

(Continued from page 1)

"The Azimuth Mark is a standard azimuth mark stamped USERY USGS 1946," set in a boulder, which projects 2½ ft. above the surrounding surface. It is located about ½ mi. SE. of the station, 70 ft. NW. of the blazed cactus at the end of truck travel, 38 ft. N. of a wash, and 1 ft. S. of a small rock cairn, 1/2 mi. SE. from station in true azimuth 318°37'44".

* [Latitude 33 30 01.313 * Longitude 111 38 23.795]

To Station—	Azimuth ° ′ ″	Back Azimuth ° ′ ″	Distance Log. Meters	Distance ~~Miles~~ Feet
* Superstition	293 54 15.29	114 02 11.34	4.3874867	80,070.2

* = Values by U. S. Coast and Geodetic Survey.

3/19/53 cg

Form 9-107a

U. S. GOVERNMENT PRINTING OFFICE 16—88572-1

NAME	STATION
Adams	1005
Fort Bench Mark 1812 USGS	1010
Granite Reef	1012
Mooren	1018
Stewart Dam	1023
Stewart Mountain	1024
Cairn USGS	1024
Usery USGS	1027
Cross on Rock	1027

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 190
QUAD 331114 STATION 1005
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

33°30'
111°30'

Adams (Maricopa County, E. B. Latham, 1935).—On the highest point of Adams Mesa, about 4 miles, air line, east of Verde River and about 6 miles, air line, north of the Salt River. Marked by a standard bronze disk as described in note 2a. Reference mark No. 1, a standard bronze reference disk, note 12a, is 6.643 meters (21.79 feet) from station in azimuth 296°37'. Reference mark No. 2, a standard bronze reference disk, note 12a, is 8.500 meters (27.89 feet) from station in azimuth 33°26'. The azimuth mark, a standard bronze disk, note 12a, is one-fourth mile from station in azimuth 322°19'32".

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ADAMS — YEAR: 1935
STATE: Ariz — LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
Second ORDER Triangulation — SOURCE: G-7605 — FIELD SKETCH:

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 66,644.99 y 964,883.60	323°06'51" - 0 47 20	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 599,245.54 y 962,056.13	322 08 41 + 0 10 50	AZIMUTH MARK

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°38'39"257	NORTH		METERS
	LONGITUDE: 111 35 26.013	WEST		FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD-ORDER 322°19'31"2		

USCOMM—ESSA—ASHEVILLE

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 331114 STATION 1006
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

Buford (Maricopa County, W. Mussetter, 1924).—About 35 miles north-northeast of Phoenix, 3 miles northeast of the Sears ranch on Camp Creek, 1½ miles northwest of a branding corral on the Camp Creek-Verde River wagon road, and on the highest point of a prominent mountain known on General Land Office maps as Mount Buford, to the Forest Service as Kentuck Mountain, and at the Sears ranch as Buck Basin Mountain. This peak is the highest in the vicinity and can be recognized from the south as the pointed peak with the long slope to the west and steep slope to the east. Marked by a standard bronze disk as described in note 2. The reference mark, a standard bronze reference disk, note 12a, is 5.778 meters (18.96 feet) from station in azimuth 130°03'.

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 256

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BUFORD STATE: Arizona COUNTY: Maricopa
ESTABLISHED BY: W. Mussetter YEAR: 1924 LOCALITY: Cave Creek, 11 miles northeast of
RECOVERED BY: C. A. Egner YEAR: 1946

Detailed statement as to the fitness of the original description:

The station was recovered and all the marks were found to be in good condition. A new reference mark, (No 2), and a Azimuth Mark were added and stamped as described below. The new measurement to Reference Mark No 1 was checked and therefore supersedes the old measurement.

The station is located on the highest point of a prominent mountain, which is the highest in the vicinity, and is known on General Land Office maps as Mount Buford, and to the Forest Service as Kentuck Mountain. This peak can be recognized from the south as the pointed peak with the long slope to the west and steep slope to the east. In approximate airline distance it is located about 40 miles north-northeast of Phoenix, about 38 miles north of Mesa, 16 miles west-northwest of Sunflower, 11 miles northeast of Cave Creek, and is located within the Tonto National Forest.

To reach the station from the Cave Creek Post Office, go south and east on the Horse Shoe and Bartlett Dam road for 1.15 miles to the end of the macadam road, here continue on the well graded road for 2.4 miles to the cattle guard marking the entrance into the Tonto National Forest. Cross over this cattle guard and continue on the well graded road for 3.96 miles to a fork. Take the left fork as per sign "TO CAMP CREEK" and continue on the main traveled road for 2.35 miles to where the road crosses "BLUE WASH", here continue straight ahead on the main traveled road for 0.1 miles to a fork. Take the right fork as per sign "KAY RANCH 3/4" going 0.75 miles to the bottom of a canyon and a fork. Take the right fork going for 50 feet to a gate, here turn sharp left before going through the gate and follow the dim track road along the fence, across the wash and up out of the canyon, going for 0.9 miles to a wash. Turn left up this wash, going for 0.1 mile and then turn right on a dim road up a small wash and go 0.2 miles to where the track road leaves the wash on the left. Turn left here and follow this track road for 0.4 miles to a fork, take the left fork and follow this track road for 3.5 miles to where it makes a left turn and a dim track road turns off to the right. Take the dim right fork and follow the dim track road up the ridge for 0.3 miles to a group of large boulders and the Azimuth Mark. Continue on up the ridge, following the trail for 0.2 miles to the end of truck travel. From here pank up the trail to the top of the low saddle to the left of the highest peak on the ridge between the end of truck travel and the station. From this saddle angle right and follow the ridge to the highest point and station.

The station is a standard triangulation mark stamped BUFORD 5005 VA, set in out-cropping bedrock, note 2, flush with the surrounding surface. It is located 10½ feet south-southwest of the highest point of the mountain.

Reference Mark No 1 is a standard reference mark stamped BUFORD, set in out-cropping bedrock which projects 6 inches above the surrounding surface and is about 1 foot higher then the station. It is located northwest of the station.

Reference Mark No 2 is a standard reference mark stamped BUFORD NO 2 1946, set in out-cropping bedrock, note 12a, which projects about 10 inches above the surrounding surface and is about 1½ feet below the station. It is located east-northeast of the station.

The Forest Service mark is a standard Department of Agriculture Forest Service mark stamped FIRE CONTROL VISIBLE AREA MAP POINT KENTUCK 5 17 38, set in out-cropping bedrock which projects about 6 inches above the surrounding surface and is about 1 foot above the station. It is located northeast of the station.

The Azimuth Mark is a standard azimuth mark stamped BUFORD 1946, set in a boulder note 12a, which projects about 5 feet above the surrounding surface. It is located about 3/4 mile south-southeast of the station, 40 feet north-northeast of the highest boulder on the small rise, and about 3 feet west of a 4 inch square white witness post.

OBJECT	DISTANCE		DIRECTION
MT ORD			0 00 00.0
Azimuth Mark 3/4 mile		SSE	73 53 07.9
RM NO 1 18.899ft	5.760m	NW	227 39 26
Humbolt Lookout	5.982ft		258 46 32.5
Forest Service Mark	1.793m	NE	515 09
RM NO 2 15.922ft	4.244m	ENE	336 31 32

JHM.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BUFORD YEAR: 1924
STATE: Ariz LOCALITY: Maricopa-Yavapai Co. Boundary
First -ORDER Triangulation SOURCE: 81625 FIELD SKETCH: ARIZ 6

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ORIGIN ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 540,462.37 y 1,059,909.57	+ 0 04 28	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°54'48".705	NORTH		1,529.0 METERS
	LONGITUDE: 111 46 59.865	WEST		5,016 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
MT ORD	271°28'38".32	4.540 2946	34,697.21

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FOREST SERVICE MARK YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
First -ORDER Traverse SOURCE: G-7605 FIELD SKETCH:
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ORIGIN ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 9,523 y 1,063,749	- 0 54 08	
STATE: Ariz ZONE: C CODE: 0202	x 540,467 y 1,059.914	+ 0 04 28	

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°54'48".745	NORTH		METERS
	LONGITUDE: 111 46 59.814	WEST		FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station BUFORD			

JULY 1966
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COAST AND GEODETIC SURVEY
WASHINGTON D.C.
Revised AUG 1974

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1009
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Oct., 1933

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: END
STATE: Arizona COUNTY: Maricopa
YEAR: 1946 LOCALITY: Cave Creek, 5 miles southwest of
CHIEF OF PARTY: C.A. Egner
Surface-station mark, Note.* 1a
Underground-station mark, Note.* 7a
Reference mark, NO 1 Note.* 11a
Reference mark, NO 2 Note.* 11a
Azimuth mark, Station CAVE CREEK Note.*
Witness mark, Note.*
Height of light above station mark 1.2 meters.
Height of telescope above station mark 1.6 meters.†

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND

OBJECT	DISTANCE	DIRECTION	AZIMUTH
MESA 1924		0 00 00.0	
RM NO 1 21.210ft 6.465m	NNE	31 32 53	
RM NO 2 21.538ft 6.566m	W	284 42 08	

Detailed description:
The station is located 33 feet northwest of the center of the Cave Creek-Phoenix highway and in approximate airline distances is 22½ miles north-northeast of Phoenix and 5 miles southwest of Cave Creek.

To reach the station from the Cave Creek Post Office, go west and southerly on the Phoenix highway for 0.45 miles to a cattle guard, thence cross this cattle guard and continue straight ahead for 0.35 miles to another cattle guard. Cross this cattle guard and continue on the Phoenix highway for 4.2 miles to a mail box on the left or southeast and the station on the right.

The station is a standard triangulation mark stamped END 1946, set in a square concrete post which projects about 4 inches above the surrounding surface. It is located 76 feet southwest of the center point of the intersection of a bladed road and the Cave Creek-Phoenix highway, 61½ feet west-southwest of the mail box with "BAKER BOLCOM BOX 75" printed on its side, 21 feet north of a triangle blazed cactus, and 11.0 feet south-southeast of a 4 inch square white witness post.

Reference Mark No 1 is a standard reference mark stamped END NO 1 1946, set in a square concrete post which projects about 8 inches above the surrounding surface and is about 1½ feet above the station. It is located north-northeast of the station.

Reference Mark No 2 is a standard reference mark stamped END NO 2 1946, set in a square concrete post which projects about 8 inches above the surrounding surface and is about the same level as the station. It is located west of the station.

Station CAVE CREEK is the Azimuth Mark for this st-tion.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: END YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
Second -ORDER Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 480,349.33 y 1,007,597.51	325°52'30" - 0 03 09	AZIMUTH MARK RM 4
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
LATITUDE:	33°46'11".335	NORTH		582.6	METERS
LONGITUDE:	111 58 52.789	WEST		1,911	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
MESA	180°56'09".92	4.232 2828	17,071.94
AZIMUTH MARK RM 4	325 50 21.2		

RECOVERY NOTE, TRIANGULATION STATION 331114 R

NAME OF STATION: END
ESTABLISHED BY: C.&G.S. YEAR: 1946 STATE: Arizona BENCH MARK ALSO ☐
RECOVERED BY: Charles Novak YEAR: 1974 COUNTY: Maricopa
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 5 miles southwest of Cave Creek
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 5 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
CAVE CREEK 1946				0 00 00.0
RM 4 0.45 mile	S			169 02 42.6
RM 2	W	21.54	6.566	248 50 13
RM 3	N	23.18	7.065	327 41 15

The station mark and reference mark 2 were recovered in good condition. Reference mark 1 was in place at edge of grader bank and exposed for about 2 feet on the east side. The mark was reset in a safe location as reference mark 3. Station MESA 1924 which is listed for an azimuth mark is a long pack and reference mark 4 was establisned.

The station mark is a standard disk stamped, END 1946. It is set in top of a 12 inch concrete monument which projects about 5 inches. The mark is 63 feet south of the intersection of Cave Creek Road and Lone Mountain Road, 28 feet west of the center of Cave Creek Road and 1 1/2 feet east of the witness post and sign.

Reference mark 2 is a standard disk stamped, END NO 2 1946. It is set in top of a 12 inch concrete monument which projects about 8 inches. It is 20 feet south of the south bank of a wash and 19 feet west of the witness post.

Reference mark 3 is a standard disk stamped, END NO 3 1946 1974. It is set in top of a 12 inch concrete monument which projects about 6 inches. It is 40 feet west of the center of Cave Creek Road, 38 feet south of a repair box for undergroung cable and 23 feet north of the witness post.

Reference mark 4 is a standard disk stamped, END NO 4 1946 1974. It is set in top of a 12 inch concrete monument which projects about 2 inches. It is 29 feet east of the center of Cave Creek Road, 19 feet south of the south 1 of 4 large steel culverts and 1 foot west of witness post and sign which is set in the east right of way fence line.

To reach the station from Cave Creek School in Cave Creek, go west and south along Cave Creek Road for 5.6 miles to intersection with Lone Mtn Road on the left and the station on the right.

[illegible]

AZ 190

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 331114 STATION 1010
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

33 30
111 30

Fort (B. M. 1812 U. S. G. S.) (Maricopa County, E. B. Latham, 1935).—About 3 miles, air line, northwest of Fort McDowell, about 3 miles west of the Verde River on the south end of the most southern ridge of the Lousely Mountains. Marked by a standard U. S. Geological Survey bench mark disk set in bedrock. Reference mark No. 1, a standard bronze reference disk, note 12a, is 12.615 meters (41.39 feet) from station in azimuth 250°20'. Reference mark No. 2, a standard bronze reference disk, note 12a, is 12.86 meters (42.2 feet) from station in azimuth 107°03'. No azimuth mark established. Other stations visible from the ground.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: FORT BM 1812 USGS STATE: Arizona COUNTY: Maricopa
ESTABLISHED BY: E.B. Latham YEAR: 1935 LOCALITY: Fort McDowell, 3 miles northwest of
RECOVERED BY: U.A. Egner YEAR: 1946

Detailed statement as to the fitness of the original description: Station and one reference mark found and recovered in good condition as described.

To reach from the Valley National Bank in Mesa go west on US 60, 70, and 89 for 0.3 mile to Mesa Boulevard. Here turn right, or north and go 3.8 miles to a graded gravel road right just after a long left turn in the paved road. Turn right and go north on the graded road for 2.1 miles to a cross road. Here turn right or east and go 1.4 miles; then left, north for 0.5 mile; then right, east for 0.6 mile to dam in canal. Continue east on main traveled road for 3.7 miles. Cross canal and continue northerly on the main traveled road for 8.8 miles to a fork in road. Keep right on main traveled road for 1.8 miles to cross roads. (Fort McDowell Indian Agency is on the left) Then continue north for 0.1 mile and thence left for 50 yards to a fork. Keeping right fork go 0.9 mile (Keep main traveled road or straight ahead for intervening forks) to a fork. Here leave main traveled road and take left fork westerly on track road for 1.0 mile to gate. Pass through and go 0.65 mile to bottom of small hill. (Azimuth is 0.1 mile beyond this point) Here leave the road and go northerly across small washes where convenient for 0.2 mile to dim tracks leading northwest. Follow dim tracks for 0.2 mile and then bear right across country again to base of low ridge and end of truck travel. From here pack up to top of ridge and station site. A pack of about 5 minutes.

The station is a standard Geological Survey Bench mark stamped:1812 (elevation) and is set in the top of outcropping boulder that projects about 8 inches above the surface. It is located approximately 17 feet southwest of the highest point.

R.M. #1 is a standard reference disk stamped: FORT NO. 1 1935 and is set in outcropping boulder that projects about 3 inches above the ground and is about 3 feet lower than station.

R.M. #3 (newly established) is a standard reference disk stamped: FORT BM USGS NO 3 1946 and is set in outcropping boulder that projects about 10 inches and is about 2½ feet lower than station.

The azimuth mark is a standard reference disk stamped: FORT BM USGS 1946 and is set in outcropping boulder that projects about 4 inches above the ground and is located 14½ feet south-southwest of the center of the road and 5 feet west-northwest of a 3 foot rock cairn and is approximately ½ mile south of station.

OBJECT OBSERVED	DISTANCE		DIRECTION
OTERO			00 00 00.00
R.M. #1	12.597m 41.325ft	ENE	26 24 23
Azimuth mark	½ mile	S	144 53 18.0
R.M. #3	22.315m 73.210ft	WNW	260 27 03

R.M. #2 apparently has been removed. No trace was found.
Distance on R.M. #1 was checked and is believed to be more nearly correct than published distance. W. Earle Kolbe

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: FORT BENCH MARK 1812 USGS
ESTABLISHED BY: YEAR: 1935 STATE: Ariz. BENCH MARK(S) ALSO ☐
RECOVERED BY: Army Map Service YEAR: 1967 COUNTY: Maricopa
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:

All marks were found in good condition.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FORT BENCH MARK 1812 USGS YEAR: 1935
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman
Second -ORDER Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR ∠θ) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 564,277.64 y 969,634.89	8 41 46 + 0 07 02	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°39'55"141	NORTH		553.1	METERS
	LONGITUDE: 111 42 19.466	WEST		1,815	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD-ORDER 8°48'47"5		

VA Elev 1811 ft. (USGS 1963)

FORM 284 (3-31-55)

USCOMM-DC 9287

FILE COPY
JUN 2 1975

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 331114 STATION 1011
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Oct., 1952

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: GRAN
CHIEF OF PARTY: C. A. Ezner
Surface-station mark, Note.° 2
Underground-station mark, Note.° –
Reference mark, #1 Note.° 12a
Reference mark, #2 Note.° 12a
Azimuth mark, Note.° 12a
Witness mark, Note.°
Height of light above station mark meters.
Height of telescope above station mark 1.6 meters.†

STATE: Arizona COUNTY: Maricopa
YEAR: 1946 LOCALITY: Cave Creek, 9 miles ESE of

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND

OBJECT	DISTANCE	DIRECTION	AZIMUTH
		° ' "	° ' "
END		00 00 00.0	
RM #1, 49.222ft 15.003m	W	02 14 51	
RM #2, 39.813ft 12.135m	NNW	83 22 01	
Azimuth Mark, 2 miles	W	358 20 40.8	

Detailed description: Station is on a rocky hill known locally as Granite Mountain. It is the highest point in the vicinity, and by approximate airline distances is located 9 miles east-southeast of Cave Creek, 8½ miles west of the Verde River, and 2 miles east of Brown's Well.

To reach the station from the post office in Cave Creek: go easterly on the Horseshoe and Bartlett Dam road for 8.1 miles to a fork just after crossing a cattle guard. Here take the right fork for 0.05 mile to a side road right. Turn right as per the sign, "BROWN'S WELL 7" and follow the main travelled road for 2.9 miles to a gate. Pass through gate, keep the right fork and continue on the main road for 3.0 miles to another gate. Pass through, keep the left fork and go 0.2 miles to a gate, thence continue 1.0 mile to the Brown ranch house on the right and corrals on the left. (The azimuth mark is 48 yards southwest of the road just after it crosses a small wash and before it enters the area between the ranch house and the corrals.) Continue straight ahead for 0.35 mile to a dim side road left. Turn left and follow the dim road which goes in and out of the washes along the south side of the fence line for 1.6 miles to a gate on the left into a lane. Turn left into the lane for 0.15 mile to a gate; pass through and go 0.05 mile, past earth reservoir, to another gate. Pass through and drive cross country north-northeast toward the hill for about 0.3 mile. A truck with high clearance can be driven to the base of the hill - about a mile from the gate. From the base of the hill it is about a ½ hour pack to the top and the station.

The station, which is a standard triangulation station disc stamped GRAN 1946, is set in a drill hole in a bedrock pinnacle which forms the highest point on the hill, and which projects about 12 feet above the surrounding ground.

Reference mark #1, which is a standard reference disc stamped GRAN RM 1 1946, is set in a drill hole in outcropping bedrock which projects about 4 feet above the ground, and is located west of the station and about 15 feet lower.

Reference mark #2, which is a standard reference disc stamped GRAN RM 2 1946, is set in a drill hole in outcropping bedrock which projects about 6 feet above the ground, and is located north-northwest of the station and about 7 feet lower.

The azimuth mark, which is a standard azimuth disc stamped GRAN 1946, is set in a drill hole flush with the surface of a bedrock ledge and near a small rock cairn.

(Ariz.H.D.,1972)--Station and RM1 and RM2 were recovered in good condition.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GRAN YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
Second -ORDER Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 534,303.89 y 1,012,514.53	83°08'14" + 0 03 46	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°46'59"859	NORTH		1,075.9	METERS
	LONGITUDE: 111 48 13.560	WEST		3,530	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 83°12'00"3		

USCOMM-DC 9367

A Z 190

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

REVISED JUNE 1969;AUG 1974

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1012
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

33 30
111 30

Granite Reef (Maricopa County, E. B. Latham, 1935).—On the south end of the Granite Reef Dam, which is about 10 miles up the Salt River from the city of Mesa. Station mark is a standard disk set in the concrete of the dam just north of the south gatehouse. Reference Mark No. 1, a standard disk set in the concrete of the dam just east of the south gatehouse, is 16.342 meters (53.62 feet) from station in azimuth 316°09'. Reference mark No. 2, a U. S. Bureau of Reclamation bench mark (elevation 1,325.6), set in the concrete of the dam just west of the gatehouse, is 14.390 meters (47.21 feet) from station in azimuth 19°53'. The azimuth mark is U. S. Bureau of Reclamation bench mark No. 0, set in the concrete siding of the spillway on the north side of the dam, and in azimuth 165°44'03''.

Form 526
(11-8-65)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION R

NAME OF STATION: [illegible]
ESTABLISHED BY: [illegible] YEAR: [illegible] STATE: Arizona
RECOVERED BY: [illegible] YEAR: [illegible] COUNTY: [illegible]

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

[illegible] as described.
[illegible] point 1 is 51 feet [illegible] of [illegible] house.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
(Rev. Feb. 1961)

RECOVERY NOTE, TRIANGULATION STATION R

NAME OF STATION: Granite Reef
ESTABLISHED BY: C&GS YEAR: 1935 STATE: Arizona
RECOVERED BY: Carl N. Davis YEAR: 1967 COUNTY: Maricopa

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

The station mark was searched for but not recovered. A portion of the concrete base has been broken off and repaired. Evidently the mark was destroyed.

R.M. 1, stamped "GRANITE REEF NO 1 1935", is about 1.0 mile east along U.S. Highways 60, 70, 80 and 89 from the post office at Buckhorn, thence 6.5 miles north along Bush Highway, thence 0.55 mile northwest along a graveled road, in S 13, T 2 N, R 6 E, at the south end of Granite Reef Dam, set in the top and 1.2 feet south of the north edge of a concrete walk over the dam, 0.7 foot north of the north edge of a catwalk, 24 feet east of the northeast corner of the concrete control building, and 51.5 feet west of bench mark 1325.24 (U.S.R.S.).

RECOVERY NOTE, TRIANGULATION STATION 331114 R

NAME OF STATION: GRANITE REEF
ESTABLISHED BY: E.B.L. YEAR: 1935 STATE: Arizona BENCH MARK ALSO ☐
RECOVERED BY: Charles Novak YEAR: 1973 COUNTY: Maricopa
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: About 6 miles north of Buckhorn
HEIGHT OF TELESCOPE ABOVE STATION MARK 4 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 4 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
USERY (USGS) 1935 1973				0 00 00.0
RM 1	SE	53.62	16.342	28 03 31
RM 2 (USBR)	SSW	47.23	14.395	91 48 22
Azimuth mark (USBR) 0.2 mile	NNW			237 39 09.9

The station mark was destroyed by construction or repair of pier. Reference marks 1 and 2 and the azimuth mark were recovered in good condition. The 1935 description of reference mark 2 and the azimuth azimuth mark contains errors in stamping. A new station mark was set on the original position at this time using the angles and distances to the reference marks and the azimuth mark.

The station mark is a standard disk stamped, GRANITE REEF 1935 1973. It is set in top of the north end of the pier at the south gate house. 4 feet east of the west side of the pier and 2 1/2 feet south of the north end of the pier.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GRANITE REEF YEAR: 1935
STATE: Ariz LOCALITY: Yuma to Stewart Dam
Second ORDER Triangulation SOURCE: G-3022 FIELD SKETCH: ARIZ 8-II

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 568,907.20 y 914,671.62	165°36'34" + 0 07 29	AZIMUTH MARK (USBR NO 6)
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°30'51".226	NORTH		403.82 METERS
	LONGITUDE: 111 41 26.109	WEST		1,324.9 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK (USBR NO 6)	THIRD-ORDER 165°44'03".0		

Reference mark 1 is a standard disk stamped, GRANITE REEF NO 1 1935. It is set in a drill hole in top of the dam, just east of the gate house. The mark has been painted.

Reference mark 2 is a Bureau of Reclamation bench mark stamped, 10(at top of cross) 1325.16 (elevation) PHX (Datum). The mark is set in a drill hole at the northwest corner of the gate house platform.

The 1935 azimuth mark is a Bureau of Reclamation bench mark atamped 6 (at top of cross) 1314.04 (elevation) PHX (Datum). The mark is set in a drill hole in the top of a concrete headwall which leads west from the north gate house.

The route to the station in the 1967 recovery note was checked and found completely adequate.

FILE COPY

[signature]

JUN 2 1975

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

ARIZONA

QUAD 331114 STATION 1018
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

190

33° 30'
111° 30'

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Oct., 1932

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MOOREN
STATE: Arizona COUNTY: Maricopa
CHIEF OF PARTY: C. A. Egner
YEAR: 1946 LOCALITY: Fort McDowell, 7½ miles north of

Surface-station mark, Note,* 1a
Underground-station mark, Note,* 7a
Reference mark, Note,* 11a
Reference mark, Note,* 11a
Azimuth mark, Note,* 11a
Witness mark, Note,*
Height of light above station mark meters.
Height of telescope above station mark 1.6 meters.†

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND

OBJECT	DISTANCE	DIRECTION	AZIMUTH
		° ' "	° ' "
ORAN feet	meters	0 00 00.0	
Az. Mk. NW 300 yds		29 56 00.1	
RM No. 2 NNW 32.040	9.766	48 40 22	
RM No. 1 WSW 30.830	9.396	310 48 13	

Detailed description: Station is located by airline distances about 7½ miles north of Fort McDowell and 17 miles east-southeast of Cave Creek. It is in the Tonto National Forest, about 3/4 mile west of the Verde River, in southwest angle of crossroads. Sign at crossroads indicates Moore Ranch 1/2 mile east and Gauging Station 2½ miles north.

To reach from the Valley National Bank in Mesa, go west 0.3 mile and turn right on North Mesa Blvd. Follow this paved street and road northerly 3.8 miles to gravel road right just after making a left curve. Turn right and follow gravel road northerly 2.1 miles to crossroads; turn right and follow main road 2.6 miles to canal locks; continue easterly on main road 3.7 miles to bridge over canal; Cross bridge and follow main road 8.8 miles to fork in wash; take right fork 1.9 miles; keep straight ahead at crossroad (road to left leads to Fort McDowell Agency) for 0.1 mile; turn left 50 yards to fork; take right fork northerly, keeping straight ahead at all forks, following main traveled road, 3.5 miles to fork; take left fork down into wash and continue on main traveled road 4.3 miles to crossroads and station.

The station is marked by a standard triangulation station disk, stamped MOOREN 1946, set in top of square concrete monument which projects 1 inch above ground. It is 55 feet west of centerline of north-south road, 60 feet south of east-west road, 114 feet south of lone tree in north wye of intersection and 85 feet southwest of lone bush in south wye.

Reference Mark No. 1 is west-southwest of the station; a standard reference mark disk, stamped MOOREN NO 1 1946, set in top of concrete monument which projects 2 inches above ground. It is the same elevation as station mark.

Reference Mark No. 2 is north-northwest of the station, 28 feet south of the road; a standard reference mark disk, stamped MOOREN NO 2 1946, set in top of concrete monument which projects 2 inches above ground. It is the same elevation as station mark.

The azimuth mark is northwest of the station; a standard azimuth mark disk, stamped MOOREN 1946, set in top of square concrete monument which projects 2 inches above ground. Area in vicinity heavily brushed so that more distant location of mark was not visible.

[illegible]

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MOOREN YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
Second -ORDER Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 575,503.54 y 997,113.33	140°25'48" + 0 08 17	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°44'26".766	NORTH		480.0	METERS
	LONGITUDE: 111 40 05.860	WEST		1,575	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD-ORDER 140°34'05".2		

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JULY 1966
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WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1019
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Oct., [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: OTERO
CHIEF OF PARTY: G.A. [illegible]
STATE: Arizona COUNTY: Maricopa
YEAR: 1946 LOCALITY: Sunflower, 7 miles southwest of
Surface-station mark, Note,* 4
Underground-station mark, Note,*
Reference mark, NO 1 Note,* 12c
Reference mark, USGS BM Note,*
Azimuth mark, Note,* 12c
Witness mark, Note,*
Height of light above station mark 1.4 meters.
Height of telescope above station mark 1.8 meters.†

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND

OBJECT	DISTANCE	DIRECTION	AZIMUTH
MT ORD		0 00 00.0	
RM NO 1 9.210ft 2.806m.	E	32 00 17	
Azimuth Mark 3/4 mile	E	36 53 20.8	
USGS BM 43.438ft. 13.24m	NW	279 18 11	

Detailed description:

The station is located on the highest part of a prominent mountain know as Granite Mountain. In approximate airline distances it is about 15 miles north of the Stewart Mountain Dam, 7 miles southwest of the Sunflower Store and Post Office, 5 miles east of the Verde River, and about 4 miles west of the Sunflower-Stewart Mountain Dam road.

To reach the station from 'The Buckhorn', a resort located on US 60 and 70 about 7.5 miles east of Mesa, Arizona, go east on US 60 and 70 for 1.0 miles to a intersection. Take the left road here as per sign "BUSH HIGHWAY" and follow the main graded road for 6.25 miles to a fork. Take the right fork which passes over a cattle guard, and once again following the main traveled graded road go for 6.85 miles to the bridge across the river at the Blue Point Forest Service Picnic Grounds. Cross the river and follow the highway for 2.2 miles to a fork. Take the left fork up the hill as per sign "TO PAYSON" and follow the main traveled graded road for 19.55 miles to a cattle guard across the road at the top of a small pass. Cross this cattle guard and continue on the graded road for 0.4 mile to a dim track road going off to the left. Turn left off the graded road here and follow this track road for 0.1 miles to a gate, pass through the gate and continue on the track road, past the corrals, to the edge of the wash and the end of truck travel. This point is 0.5 miles beyond the gate. From here either pack or take a jeep across the wash and down the wash for 0.25 miles to another wash coming into the main wash on the right. Turn right here and go up this wash for 0.5 miles to an excellent spring. Continue on up the wash over some real rocky places going for 0.15 miles to a fork in the washes. Take the left wash and go for 0.1 mile to a gate. Pass through this gate and go 0.1 mile further up the wash to a corral. Pass by this corral and continue for 0.8 miles to another fork. Take the left main traveled wash and go 0.2 miles to the Azimuth Mark on the small rocky knoll about 100 feet to the left. Continue on up the wash for 1.9 miles; thence turn left up a fairly steep wash and go 0.1 miles to the endof jeep travel. (The station can be seen directly ahead up the wash after passing the first fork in the wash after the spring.) From the end of jeep travel pack east up to the top of a small ridge, then turn right and follow this ridge up the mountain to the highest point and the station.

The station is a standard triangulation mark stamped OTERO 1946, set in a boulder which projects about 6 feet above the surrounding surface. It is located about 40 feet south-southeast of the highest boulder on the top of the mountain.

Reference Mark No 1 is a standard reference mark stamped OTERO NO 1 1946, set in a boulder which projects about 7 feet above the surrounding surface and is about 4 inches lower than the station. It is located east of the station.

Reference Mark No 2 is a standard USGS Bench Mark stamped 4687 VA, set in a boulder which projects 6 feet above the surrounding surface and is 1.23 meters above the station mark. It is located northwest of the station.

The Azimuth Mark is a standard azimuth mark stamped OTERO 1946, set in a boulder which projects 3 feet above the surrounding surface. It is located 3/4 mile east of the station, and is 5 feet north and 5 feet below a rock cairn which is on the highest point of the knoll.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: OTERO YEAR: 1946
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 (Feet)	PLANE AZIMUTH θ ION Δα ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 76,551.75 y 1,018,149.91	265°42'31" - 0 46 31	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 608,245.93 y 1,015,472.20	264 44 07 + 0 11 53	AZIMUTH MARK

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°47'27".456	NORTH		1,433.7	METERS
	LONGITUDE: 111 33 37.367	WEST		4,704	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD-ORDER 264°55'59".5		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: USGS BENCH MARK YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
First -ORDER Traverse SOURCE: G-7605 FIELD SKETCH: ARIZ 23, 24
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ ION Δα ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 76,529 y 1,018,187	- 0 46 31	
STATE: Ariz ZONE: C CODE: 0202	x 608,222 y 1,015,509	+ 0 11 53	

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°47'27".818	NORTH			METERS
	LONGITUDE: 111 33 37.645	WEST			FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station OTERO			

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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

190

QUAD 331114 STATION 1022
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 528
Rev. Dec., 1953

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION SEVEN
CHIEF OF PARTY: C. A. Egner
Surface-station mark, Note, 3
Underground-station mark, Note, 4
Reference mark, #1 Note, 1 2c
Reference mark, #2 Note, 1 2c
Azimuth mark, Note, 1 2c
Witness mark, Note, 5
Height of light above station mark meters.
Height of telescope above station mark 1.5 meters.

STATE: Arizona COUNTY: Maricopa
YEAR: 1946 LOCALITY: Cave Creek, 10½ miles NNE of

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND

OBJECT	DISTANCE	DIRECTION	AZIMUTH
ROVER 1924		00 00 00.0	
RM #1, 16.593ft 5.058m	NE	09 22 24	
Humboldt L.O.		41 49 40.5	
Azimuth mark, 1 mile	NNW	303 17 00.2	
RM #2, 36.609ft 11.230m	N	312 32 17	

Detailed description:

Station is located on a low hill, by approximate airline distances 10⅛ miles north-northeast of Cave Creek, 1 mile east-northeast of the Ashdale Ranger Station, and ¼ mile east of the road where it passes through Seven Springs Park.

To reach from the post office in Cave Creek: go easterly on the Horseshoe and Bartlett Dam road for 8.0 miles to a fork just after crossing a cattle guard. Take the left fork as per sign "BLOODY BASIN 30" and follow the main travelled road 9.5 miles to a side road right to the Humboldt Lookout. Here keep straight ahead for 2.3 miles to a side road left to the Ashdale R.S.; thence continue straight ahead 0.05 mile to a gate in the fence on the right just after passing a triangular blazed tree on the left. (To reach the azimuth continue on the main road 1.8 mile to a left turn northward in the road as it goes up a long grade. The mark is about 50 feet west-northwest of this left turn and about 25 feet higher.) To reach station go through gate on east side of road and peak easterly up steep slope for about 15 minutes to top and station.

The station, which is a standard triangulation station disc stamped SEVEN 1946, is set in a drill hole in a boulder which projects about 8 inches above the ground, and is located 37 feet south of the boulder which forms about the highest point on the hill.

Reference mark #1, which is a standard reference disc stamped SEVEN NO 1 1946, is set in a drill hole in a boulder which projects about ½ foot above the ground and is located northeast of the station and about 1½ feet lower.

Reference mark #2, which is a standard reference disc stamped SEVEN NO 2 1946, is set in a drill hole in a large boulder which projects about 5 feet above the ground, and located north of the station and about 4 feet higher. It is about the highest point on the hill.

The azimuth mark, which is a standard azimuth disc stamped SEVEN 1946, is set in a drill hole in a boulder which projects about 1 foot above the ground, and is located 3½ feet east-southeast of a 4 x 4 inch white witness post. It is north-northwest of the station.

ENS

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SEVEN YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
Second -ORDER Triangulation SOURCE: G-7605 FIELD SKETCH: ARIZ 23

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (or Arc ANGLE)	MARK
STATE: Ariz ZONE: C CODE: 0202	x 516,964.28 y 1,080,324.53	159°12'07" + 0 01 53	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°58'10".899	NORTH		1,156.1	METERS
	LONGITUDE: 111 51 38.566	WEST		3,793	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK	THIRD-ORDER 159°14'00".3		

190

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COAST AND GEODETIC SURVEY
WASHINGTON D.C.

ARIZONA

33°30'
111°30

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1023
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

Stewart Dam (Maricopa County, E. B. Latham, 1935).—On a small hill about one-half mile southeast of the east end of the Stewart Dam which is located about 24 miles east of Mesa. Marked by a standard bronze disk as described in note 4. Reference mark No. 1, a standard bronze reference disk, note 12c, is 12.800 meters (41.99 feet) from station in azimuth 293°59'. Reference mark No. 2, a standard bronze reference disk, note 12c, is 20,230 meters (66.37 feet) from station in azimuth 138°07'. The azimuth mark, a small cross made in the floor of the walk on the east side of the dam, is in azimuth 108°30'51".

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: STEWART DAM YEAR: 1935

STATE: Ariz LOCALITY: Yuma to Stewart Dam

Second-ORDER Triangulation SOURCE: G-3022 FIELD SKETCH: ARIZ 8-II

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ OR Δα OR ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 617,696.10 y 933,383.01	108°18'02" + 0 12 49	AZIMUTH MARK (RM NO 3)
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 33°33'54".935 NORTH LONGITUDE: 111 31 49.029 WEST			METERS FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
AZIMUTH MARK (RM NO 3)	THIRD-ORDER 108°30'50".6		

AZ 190

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WASHINGTON D.C.

HORIZONTAL CONTROL DATA

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NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1024
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

33 30
111 30

Stewart Mountain (Maricopa County, E. B. Latham, 1935).—About 20 miles, air line, northeast of Mesa, about 6 miles, air line, east of the Verde River, about 1½ miles, air line, northwest of the Stewart Dam, on the Salt River, on the most western and highest of the three peaks which form the summit of Stewart Mountain. Marked by a standard bronze disk as described in note 2a. Reference mark No. 1, a standard bronze reference disk, note 12a, is 10.472 meters (34.36 feet) from station in azimuth 291°14'. Reference mark No. 2, a standard bronze reference disk, note 12a, is 8.835 meters (28.99 feet) from station in azimuth 138°02'. A rock cairn (U. S. G. S.) is 9.3 meters (31 feet) from station in azimuth 186°. No azimuth mark established. Other stations visible from the ground.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 536

RECOVERY NOTE, TRIANGULATION STATION

2
R

NAME OF STATION: STEWART MOUNTAIN — STATE: Arizona — COUNTY: Maricopa
ESTABLISHED BY: E.B. Latham — YEAR: 1935 — LOCALITY: Fort McDowell, 8 miles southeast of
RECOVERED BY: C.A. Egner — YEAR: 1946

Detailed statement as to the fitness of the original description: Station recovered and all marks found in good condition. An azimuth mark was established as noted below.

To reach from the Buckhorn Mineral Baths, a resort 7.7 miles east of Mesa on U.S. Highways 60 and 70 go 1.05 miles to a cross road and sign "Sahuaro Lake Ranch 17" Here turn left, north, on graded gravel road and go 14.0 miles on the main traveled road to a bridge across the Salt River. Cross bridge and continue for 2.4 miles to a fork. Keep left fork, main traveled road and go 0.9 mile to azimuth mark on the right. Continue for 1.35 miles to a side road right at the top of a divide, and end of truck travel. From here pack westerly to saddle between two prominent peaks and thence southwesterly across flat and up highest peak to station site. A pack of 1 hour 15 minutes.

The station is a standard triangulation disk stamped: STEWART MT. 1935 and is set in outcropping bedrock that is flush with the ground and is located on the most western and highest of three peaks overlooking Sahuaro Lake and Stewart Dam to the southeast and is located 28½ feet south of the highest point marked by old rock cairn.

R.M. # 1 is a standard reference disk stamped: STEWART MT. NO. 1 1935 and is set in outcropping bedrock that projects about 10 inches on the lower side and is about 8 feet lower than station.

R.M. #2 is a standard reference disk stamped: STEWART MT. NO. 2 1935 and is set in outcropping bedrock that projects about 20 inches on the lower side and is about 3 feet lower than station.

The azimuth mark is a standard azimuth disk stamped: STEWART MOUNTAIN 1946 and is set in a large boulder that measures 10½ feet by 7½ feet and sets 3 feet above the ground and is located 70 feet east-southeast of the center of the road and 15½ feet east-southeast of a 4x4 inch white witness post and is by airline about ¼ mile southeast of station.

OBJECT OBSERVED	DISTANCE			DIRECTION
OTERO				00 00 00.00
R.M. # 1	31.494 ft	9.598m	ESE	111 54 16
Stewart Dam, NW corner of building				127 07 20.4
Azimuth mark	¼ mile		SE	138 09 32.2
R.M. # 2	28.582 ft	8.712 m	NW	318 44 10

All stations except OTERO are visible from the ground.
Discrepancy in distances to reference marks noted and checked.

Form 536
(11-8-48)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: STEWART MOUNTAIN
ESTABLISHED BY: E.B.L. — YEAR: 1935 STATE: Arizona
RECOVERED BY: A.E.J. — YEAR: 1956 COUNTY: Maricopa

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

Station recovered as described.
Reference marks 1 and 2 found in good condition.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: STEWART MOUNTAIN — YEAR: 1935
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 (Feet)	PLANE AZIMUTH & (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 76,430.32 y 942,146.78	318°14'54" - 0 46 10	AZIMUTH MARK
STATE: Ariz ZONE: C CODE: 0202	x 609,411.93 y 939,492.51	317°16'49" + 0 11 55	AZIMUTH MARK

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°34'55".678	NORTH		912.2	METERS
	LONGITUDE: 111 33 26.682	WEST		2,993	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD-ORDER 317°28'44".4		

VA Elev. 2988 ft (USGS 1963)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CAIRN USGS — YEAR: 1935
STATE: Ariz — LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
Third -ORDER Traverse (No check on this postion) — SOURCE: G-7605 — FIELD SKETCH: ARIZ 23, 24

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: E CODE: 0201	x 76,434 y 942,177	- 0 46 10	
STATE: Ariz ZONE: C CODE: 0202	x 609,415 y 939,523	+ 0 11 55	

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°34'55".978	NORTH			METERS
	LONGITUDE: 111 33 26.645	WEST			FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station STEWART MTN			

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Revised AUG 1974

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1025
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

33 30
111 45

U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Oct., 1922

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: THUNDER
STATE: Arizona COUNTY: Maricopa
CHIEF OF PARTY: D.H.Konichek
YEAR: 1947 LOCALITY: Phoenix
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.* 11a
Witness mark, Note.*
Height of light above station mark meters.
Height of telescope above station mark 1.6 meters.

DISTANCES AND DIRECTIONS TO REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND

OBJECT	Hor.	DISTANCE	DIRECTION	AZIMUTH
MC DOWELL 1924			0 00 00	° ' "
Azi.Mk. 1947	S	0.3 Mi.	62 04 50.4	
R.M.No.1 1947	WSW	10.528m	144 28 19	
R.M.No.2 1947	N	17.600m	241 08 06	

Detailed description:

The station is located about 19 miles northeast of Phoenix and 14 mile north of Scottsdale in the flat area west of the Mc Dowell Mountains. The station mark is a bronze disk set 12 paces west of the centerline of a road, 11 paces southwest of a cattle guard, 4 paces northwest of a fence corner and 3 paces north of a witness post. It projects 2 inches and is stamped,"THUNDER 1947".

Reference mark No.1 is a bronze disk set 8 inches lower than the station mark, 2 feet north of a fence line, projects 2 inches and is stamped,"THUNDER NO 1 1947".

Reference mark No.2 is a bronze disk set at the same elevation as the station mark, 11 paces northwest of a cattle guard, projects 2 inches and is stamped,"THUNDER NO 2 1947".

The azimuth mark is a bronze disk set 15 paces east of center line of road, projects 6 inches and is stamped,"THUNDER 1947".

To reach the station from the post office in Scottsdale; go north 13.8 miles to azimuth mark on right; continue 0.3 mile north to buildings on right and a cattle guard and the station on left. A drive station.

RECOVERY NOTE, TRIANGULATION STATION 331114 R

NAME OF STATION: THUNDER
ESTABLISHED BY: D.H.K. YEAR: 1947 STATE: Arizona BENCH MARK ALSO ☐
RECOVERED BY: Charles Novak YEAR: 1974 COUNTY: Maricopa
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 13 1/2 miles north of Scottsdale
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 5 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
MCDOWELL 1924				0 00 00.0
RM 1	WSW	34.56	10.535	144 28 38
RM 3 0.25 mile	W			158 25 37.4
RM 2	N	58.46	17.820	241 07 51

The station mark and reference marks 1 and 2 were recovered in good condition. The azimuth mark was destroyed by road construction. Reference mark 3 was established at this time.

The station mark is a standard disk stamped, THUNDER 1947. It is set in top of a 12 inch concrete monument which is about flush with the ground surface. It is in the southwest angle of the intersection of Scottsdale Road and Pinnacle Peak Road. It is 39 feet west of the center line of Scottsdale Road, 22 feet south of the center of Pinnacle Peak Road, 6 feet southwest of a stop sign and 44 feet east of a cattle guard over Pinnacle Peak Road.

Reference mark 1 is a standard disk stamped, THUNDER NO 1 1947. It is set in top of a 12 inch concrete monument which projects about 1/2 inch. It is 28 feet south of Pinnacle Peak Road, 19 feet east of a railroad tie fence corner and 18 feet southeast of the cattle guard.

Reference mark 2 is a standard disk stamped, THUNDER NO 2 1947. It is set in top of a 12 inch concrete monument which projects about 2 inches. It is 34 feet north of Pinnacle Peak Road, 18 feet northwest of a junction power pole number 10 4, 8 feet southeast of a railroad tie fence corner and 5 feet southeast of a Bell System repair box.

Reference mark 3 is a standard disk stamped, THUNDER 1947 NO 3 1974. It is 1/4 mile west of the station along Pinnacle Peak Road, at entrance to Stepheys Shotyard (trapshooting). It is 41 feet west of the entrance road, 37 feet north of the center of Pinnacle Peak Road, 5 feet northwest of a power pole, 1 foot south of the south leg of a sign and 1 foot east of a witness post and sign.

To reach the station from Scottsdale, go north along Scottsdale Road for about 13 1/2 miles to Rawhide on the right, continue north for 1/4 mile to Pinnacle Peak Road and the station on the left.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: THUNDER YEAR: 1947
STATE: Ariz LOCALITY: Phoenix to Parker
Second -ORDER Triangulation SOURCE: G-8347 FIELD SKETCH: ARIZ 26

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 497,528.76 y 981,678.19	356°25'58" - 0 00 16 92 46 46	AZIMUTH MARK AZIMUTH MARK RM 3
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°41'54".948	NORTH		561	METERS
	LONGITUDE: 111 55 29.251	WEST		1,841	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
	THIRD-ORDER		
AZIMUTH MARK	356°25'41".7		
AZIMUTH MARK RM 3	92 46 30.5		

FORM 284 (10-61-961) USCOMM-DC 8817

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AZ 190

JULY 1966
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COAST AND GEODETIC SURVEY
WASHINGTON D.C.
Revised AUG 1974

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1027
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

33 30
111 30

USERY (U.S.G.S.) (Maricopa County,Ariz.,E.B.L.,1935)--Station is on highest point of Usery Mts., and is about 3 miles SW of Stewart Mt. Dam, and about 13 miles NW of Mesa, Arizona.

Reference marks are standard bronze disks in boulders as described in note 12c.

Station reached from Mesa by following U.S.80 E 8.5 miles to Harvey G. Bush Highway leading N; turn L on this road and follow it 6.5 miles and turn L off road on a dim road following this 0.6 mile to end of truck travel. Some rocks on S side of another hill painted white will be seen from here and passed. From end of truck travel follow wash N and a little E to saddle after reaching saddle head W for highest point of mountain where station will be found.

OBJECT		DISTANCE	DIRECTION
VAL VISTA		meters	0°00'00!0
R.M.No.1	WSW	7.962	23 46 34.0
R.M.No.2	N	13.11	102 29 02.3

USERY(U.S.G.S.) (Maricopa County,Ariz.,E.B.L.,1935;recovered, F.G.J.,1938)--Station is on highest point of Usery Mts. which are about S by 2 miles of junction of Salt and Verde Rivers and about 3 miles SE of Granite Reef Dam in Salt River; and about 16 miles NE of Mesa. These mountains run in a N and S direction and station is on second prominent point from N.

Station is best reached from Mesa by going E on U.S.60, 70, 80, and 89, 8.6 miles to Harvey G. Bush Highway; turn L, N, and go 0.5 mile, turn R and follow main, graded road northerly 5.85 miles. Turn L intersecting dim track road and follow W and S 0.9 mile. Just before reaching small rocky butte on L, turn R, following first ridge, then wash toward saddle visible to N (station may be seen from here, appearing as a large cairn is a large rock which sits about 10 feet E by S of station mark) 1.4 miles to a wire fence with iron post. This is end of truck travel. From fence pack N up wash to saddle, then W to highest point and station; it is about a 1-hour pack.

Station mark is a U.S.G.S. BM (ELE. 2970 initialed by V.A.); it is set in a granite rock about 1-foot square which is loose, and mark is loose in rock. However, there does not appear to have been any movement of either rock or mark.

Reference mark No.1 is a standard U.S.C.& G.S. reference mark set in a granite boulder about 12 feet lower than station on W slope of hill. Reference mark No.2 is a standard U.S.C.& G.S. mark set in a large granite boulder about 6 feet lower than station to N. Distances below are computed and do not check 1935 measurements which are believed to be ground distances. Difference should not be considered grounds for believing station mark has moved.

Azimuth mark in 1935 was station GRANITE REEF, angle was not checked in 1938 as 16 positions were taken in 1935.

<u>Note</u>: this description does not follow 1935 or reconnaissance descriptions.

OBJECT	DISTANCE		DIRECTION
SUPERSTITION	feet	meters	0°00'00!0
R.M.No.1	22.65	6.904	164 30 42
R.M.No.2	41.52	12.656	243 11 46

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: USERY USGS STATE: Arizona COUNTY: Maricopa
ESTABLISHED BY: E.B. Letham YEAR: 1935 LOCALITY: Mesa, 16 miles northeast of
RECOVERED BY:* C.A. Egner YEAR: 1946

The station was recovered and all marks were found to be in good condition. A new
Detailed statement as to the fitness of the original description. Azimuth Mark was established.

The station is located on the highest point of the Usery Mountains, which are in approximate airline distances 2 miles south of the junction of the Salt and Verde Rivers, 16 miles northeast of Mesa, and 3 miles southeast of the Granite Reef Dam in the Salt River. The Usery Mountains run in a north-south direction and the station is on the second prominent point from the north; a large rock is about 10 feet east by south of the station.

To reach the station from "The Buckhorn", a resort located about 7½ miles east of Mesa, Arizona on US 60 and 70, go east on US 60 and 70 for 1.0 miles to a crossroad. Turn left onto the graded road as per sign "BUSH HIGHWAY" and go 0.4 miles to a crossroad and two cattle guards. Turn right here through a cattle guard and follow the main traveled road for 6.3 miles to a side road right, keep straight ahead on the main roadfor 0.3 miles to a dim track road left and a triangle blaze on a 3½ feet cactus which is about 50 yards off the main road. Turn left on the track road which passes just left of the triangle blazed cactus (Another dim road angles back along the main road), and follow it for 0.65 miles to the end of the track road, a triangled blazed cactus, the Azimuth Mark, and the end of truck travel. From here pack across minor drainage to the highest point of the right of two peaks, lying northwest of the end of truck travel, and the station.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: USERY USGS YEAR: 1935
STATE: Ariz LOCALITY: Yuma to Stewart Dam
First -ORDER Triangulation SOURCE: G-3022 FIELD SKETCH: ARIZ 8-II

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 584,356.11 y 909,664.44	318°21'51" + 0 09 10 318 28 34	AZIMUTH MARK RM3 AZIMUTH MARK 1946
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°30'01".313	NORTH		906.6	METERS
	LONGITUDE: 111 38 23.795	WEST		2,974	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK RM 3 [illegible]	318°31'00".8	3.[illegible] 646	[illegible]
AZIMUTH MARK 1946	318 37 44.1		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CROSS ON ROCK YEAR: 1946
STATE: Ariz LOCALITY: Tonto National Forest and Winkelman to Winslow to Phoenix
First -ORDER Traverse SOURCE: G-7605 FIELD SKETCH: ARIZ 23, 24
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	x 584,354 y 909,680	+ 0 09 10	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 33°30'01".465	NORTH			METERS
	LONGITUDE: 111 38 23.814	WEST			FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station USERY USGS			

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JULY 1966
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by the
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NORTH AMERICAN 1927 DATUM

QUAD 331114 STATION 1027
ARIZ
LATITUDE 33°30' TO 34°00'
LONGITUDE 111°30' TO 112°00'
DIAGRAM NI 12-8 MESA

USERY USGS (Continued)

The station is a standard USGS bench mark stamped 2966 VA with 2970 scratched on the mark. It is set in a boulder which projects 2 inches above the surrounding surface.

Reference Mark No 1 is a standard reference mark stamped USERY 1935 NO 1, set in a boulder, note 12c, which projects 3 inches above the surrounding surface and about 16 feet below the station. It is located west of the station.

Reference Mark No 2 is a standard reference mark stamped USERY 1935 NO 2, set in a a boulder, note 12c, which projects 11 inches above the surrounding surface and is about 10 feet below the station. It is located north of the station.

The cross on the rock is a regular cross with the long leg an arrow pointing toward the station. It is scratched on a boulder which projects 2 feet above the surrounding surfa and is about 6 inches below the station. It is located north of the station.

The Azimuth Mark is a standard azimuth mark stamped USERY USGS 1946, set in a boulder, note 12c, which projects 2½ feet above the surrounding surface. It is located about ½ mile southeast of the station, 70 feet northwest of the blazed cactus at the end of truck travel, 38 feet north of a wash, and 1 foot south of a small rock cairn.

OBJECT	DISTANCE		DIRECTION
VERDE 1935			0 00 00.0
Pole Target approx. 264 yards	NNW		32 39 24
Cross on rock 15.469ft. 4.716m	N		51 31 57
RM NO 2 41.653ft 12.664m	N		54 30 21
Azimuth Mark ½ mile	SE		196 02 28.9
Windsock, Falcon Field			296 30 27.6
RM NO 1 22.647ft 6.902m	W		335 50 04

RECOVERY NOTE, TRIANGULATION STATION 331114 R

NAME OF STATION: USERY (USGS)
ESTABLISHED BY: C.B.L. YEAR: 1935 STATE: Arizona BENCH MARK ALSO ☐
RECOVERED BY: Charles Novak YEAR: 1973 COUNTY: Maricopa
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 9 miles East-Northeast of Mesa
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 5 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	'	"
VERDE 1935 1973				0	00	00.0
Cross on rock 1946	N	15.47	4.715	51	32	16
RM 2	N	41.49	12.647	54	30	31
RM 3 Azimuth mark (1/2 mile)	SE			195	55	46.5
RM 1	WNW	22.65	6.905	335	50	20

The station mark and boulder in which it was set were removed by vandals. Reference marks 1 and 2 and the cross on rock were recovered in good condition. A RM 3 azimuth mark believed set in 1935 was found and cut in at this time, however a long search was made for the 1946 azimuth mark without finding the mark. The station was remonumented on the original position at this time and the angles and distances checked.

The station mark is a standard disk stamped, USERY USGS 1935 1973. It is set in a drill hole in a boulder which is buried 10 inches below the ground surface.

Reference mark 1 is a standard disk stamped, USERY NO 1 1935. It is set in a drill hole in a large boulder which is about 10 feet lower than the station.

Reference mark 2 is a standard disk stamped, USERY NO 2 1935. It is set in a drill hole in a large boulder which projects 1 foot and is about 10 feet lower than the station.

Cross on rock is about a 4 inch cross chiped into a large boulder which is about the same elevation as the station.

Reference mark 3 is a standard reference mark disk stamped, USERY AZIMUTH NO 3 1935. It is set in top of a long low rock outcrop which is at the northwest end of a 10 foot high broken outcrop.

To reach the station from Country Club Street and U.S. Highways 80, 89 and 60 in Mesa, go east along Highways 80, 89 and 60 for 9 1/2 miles to Bush Highway. Turn left along Bush Highway for 0.5 mile to Usery Pass Road on the right (this is just north of University Dr). Turn right and go northeast and north for 6 miles to a paved road left at sign, Micro-Wave station. Turn left for 0.6 mile to the azimuth mark on the left at a road cut. This point is just past the word PHOENIX written on the mountain, continue ahead 0.5 mile to top of pass near the Micro-Wave Station. Pack in a northwest direction to the top of the second peak and the station. (a 40 minute pack with a load).