

AVONDALE

Lat. 33° 15'
Long. 112° 15'

ARIZONA 170

O&G 33 112 2 109

- (1) H. E. Harris 1946 PV 234
- (2) " " " " " " " "
- (3) " " " " " " " "
- (4) " " " " " " " "
- (5) " " " " " " " "
- (6) " " " " " " " "
- (7) D.O. Richardson 1973 PV 874

193



147

Conversion from state plane to geodetic coordinates

1	Station = T T EEM 1956	State Plane Zone = 202
	Lat = 33 29 36.6564	Lon = 112 17 22.6486
	X = 386,298.8300	Y = 907,264.2500
2	Station = T T 2 EEM 1956	State Plane Zone = 202
	Lat = 33 28 45.6764	Lon = 112 15 48.1970
	X = 394,280.2300	Y = 902,084.1100
3	Station = THOMAS RD & 107	State Plane Zone = 202
	Lat = 33 28 44.0105	Lon = 112 17 21.0656
	X = 386,413.8000	Y = 901,942.9700
4	Station = THOMAS RD& 91ST	State Plane Zone = 202
	Lat = 33 28 46.0953	Lon = 112 18 48.5697
	X = 379,003.1000	Y = 902,181.1300

NAD 83 VALUES AVAILABLE

North American Datum Conversion
 NAD 27 to NAD 83
 NADCON Program Version 1.01

AZ170

=====
 Transformation #: 1 Region: Conus

Station name: BM H 26 USGS

	Latitude	Longitude
NAD 27 datum values:	33 15 41.308	112 20 23.894
NAD 83 datum values:	33 15 41.472	112 20 26.452
NAD 83 - NAD 27 shift values:	.164	2.558(secs.)
	5.047	66.215(meters)
Magnitude of total shift:		66.407(meters)

Transformation #: 2 Region: Conus

Station name: GOODYEAR

	Latitude	Longitude
NAD 27 datum values:	33 22 58.693	112 21 56.627
NAD 83 datum values:	33 22 58.848	112 21 59.194
NAD 83 - NAD 27 shift values:	.155	2.567(secs.)
	4.768	66.355(meters)
Magnitude of total shift:		66.526(meters)

Transformation #: 3 Region: Conus

Station name: LIBERTY 2

	Latitude	Longitude
NAD 27 datum values:	33 22 50.680	112 29 10.200
NAD 83 datum values:	33 22 50.831	112 29 12.783
NAD 83 - NAD 27 shift values:	.151	2.583(secs.)
	4.665	66.773(meters)
Magnitude of total shift:		66.935(meters)

Transformation #: 4 Region: Conus

Station name: PERRY

	Latitude	Longitude
NAD 27 datum values:	33 29 36.818	112 25 .223
NAD 83 datum values:	33 29 36.964	112 25 2.802
NAD 83 - NAD 27 shift values:	.146	2.579(secs.)
	4.500	66.580(meters)
Magnitude of total shift:		66.732(meters)

Transformation #: 5 Region: Conus

Station name: T T EEM 1956

	Latitude	Longitude
NAD 27 datum values:	33 29 36.656	112 17 22.649
NAD 83 datum values:	33 29 36.806	112 17 25.211
NAD 83 - NAD 27 shift values:	.149	2.562(secs.)
	4.595	66.133(meters)
Magnitude of total shift:		66.293(meters)

Transformation #: 6 Region: Conus

Station name: T T 2 EEM 1956

	Latitude	Longitude
NAD 27 datum values:	33 28 45.676	112 15 48.197
NAD 83 datum values:	33 28 45.827	112 15 50.755
NAD 83 - NAD 27 shift values:	.151	2.558(secs.)
	4.646	66.035(meters)
Magnitude of total shift:		66.199(meters)

Transformation #: 7 Region: Conus

Station name: THOMAS RODA AND 107 th AVE.

	Latitude	Longitude
NAD 27 datum values:	33 28 44.011	112 17 21.066
NAD 83 datum values:	33 28 44.161	112 17 23.627
NAD 83 - NAD 27 shift values:	.150	2.561(secs.)
	4.627	66.126(meters)
Magnitude of total shift:		66.288(meters)

Transformation #: 8 Region: Conus

Station name: THOMAS ROAD AND 91th. AVE.

	Latitude	Longitude
NAD 27 datum values:	33 28 46.095	112 18 48.570
NAD 83 datum values:	33 28 46.245	112 18 51.134
NAD 83 - NAD 27 shift values:	.150	2.565(secs.)
	4.607	66.212(meters)
Magnitude of total shift:		66.372(meters)

33°15'
112°15'

ARIZONA 170

Index

<u>STATION</u>	<u>PROJECT</u>
BM "H 26 1946"	Luke
Bradley (C&GS)	Luke
Estrella Mountains, Highest Summit <i>INACTIVE FILE</i>	- - - -
Goodyear	Luke
Initial Monument (C&GS)	Luke
Liberty 2	Luke
Perry	Luke
Spur (C&GS)	Luke
"TT 1 EEM 1956"	Luke (TT)
"TT 2 EEM 1956"	Luke (TT)

Luke Master in Ariz. 170 - Book: PH 442

Luke (Transit Traverse) Master in Ariz. 169 - Book: PH 440

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 Geological Survey
 Form No. 9-3223 Rev. 1968
 3rd Order

DESCRIPTION

HORIZONTAL CONTROL STATION

DIAGRAM Phoenix
 USGS QUAD NO 170

Triangulation Electronic - Distance Traverse Intersected Object

Station BM H 26 USGS County Maricopa State Arizona
 Established by USGS Year 1949 Project PH 74

Check one:

New Station: Write full description below
 Recovery of Old Station: Recovered by USGS Year 1956 Project PH 442

Object	Bearing	Distance		Azimuth
		Feet	Meters	
ORA				50°46'01.0"

Described in level line by E.E. Harris, 1946, Book V 235 as follows:

T2S, RLW, near southeast corner sec 10, 53 ft N. and 13 ft W. of center of T-rd. W.; 33 ft N. and 3 ft E. of fence corner; in conc. post; standard tablet stamped "H 26 1949 1305".

Station mark: Standard bench mark tablet stamped "H 26 1946 1305" set in conc. post.

USGS Adjusted 1951 Coordinates

ARIZONA CENTRAL ZONE ELEV 1305.568 F
 X= 370606.9
 Y= 822897.7
 MAPPING ANGLE=-0 13 56

BM H 26 USGS LAT 33 15 41.308 LONG 112 20 23.894

NAD 83 VALUES AVAILABLE

FILE COPY

MAY 25 1973

Arizona (170)

Maricopa County

GOODYEAR

1927 N.A.D. (Adj., 1957)

W. F. McIntosh, 1956

Books: PH 441-442

Located about 8 mi. S. of Litchfield, on the E. edge of a public park, on top of a low hill.

To reach from Litchfield Post Office, drive S. along Litchfield Road for 4.6 mi. to U.S. Highway 80; continue straight ahead (S.) for 2.6 mi.; take right fork 0.6 mi.; take left fork 0.1 mi. and end of rd. Pack E. to top and station. A 10-min. pack.

Station mark: Standard tablet stamped "GOODYEAR 1956" set in top of boulder.

Reference mark No. 1: Copper nail and washer set in top of rock, 24.68 ft. from station mark in azimuth 177°33'.

Reference mark No. 2: Standard tablet stamped " 2 GOODYEAR 1956" set in top of boulder, 24.55 ft. from station mark, in azimuth 287°22'.

ARIZONA ZONE CENTRAL

X=362,923.4

V.A. elevation 1199. ft.

Y=867,134.8

Latitude: 33°22'58.693"

Longitude: 112°21'56.627"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Bradley (C&GS)	75°56'23.1"	255°54'50.9"	14,659.6
Perry	158 52 30.6	338 50 49.4	43,144.1
Initial Monument(C&GS)	276 33 19.1	96 35 18.5	18,525.5

NAD 83 VALUES AVAILABLE

9/18/57 ew

FILE COPY

FILE COPY

Arizona (170)

Maricopa County

LIBERTY 2

1927 N.A.D. (Adj., 1957)

W. F. McIntosh, 1956

Books: PH 441-442

Located about 1,000 ft. N. of Liberty School in Liberty, 110 ft. S. of an E-W. ditch, and 29 ft. W. of center of N-S. rd.

Station mark: Standard tablet stamped "LIBERTY 2 1956" set in top of concrete post.

Reference mark No. 1: Standard reference mark tablet stamped "1 LIBERTY 2 1956" set in top of concrete post, 32.86 ft. from station mark in azimuth 5°23'. (Tablet is 29 ft. W. of center of N-S. rd.)

Reference mark No. 2: Standard reference mark tablet stamped "2 LIBERTY 2 1956" set in top of concrete post, 50.78 ft. from station mark in azimuth 271°40'. (Tablet is 23 ft. E. of center of N-S. rd.)

ARIZONA ZONE CENTRAL

X=326,154.8

Y=866,504.7

V.A. elevation 873. ft.

Latitude: 33°22'50.680"

Longitude: 112°29'10.200"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Mica (C&GS)	18°55'43.6"	198°54'36.8"	31,828.7
White (C&GS)	138 51 32.2	318 48 21.8	44,496.9
Bradley	276 56 40.2	96 59 06.5	22,717.3

NAD 83 VALUES AVAILABLE

9/18/57 ew

FILE COPY

FILE COPY

Arizona (170)

Maricopa County

FERRY

1927 N.A.D. (Adj., 1957)

W. F. McIntosh, 1956

Books: PH 441-442

Located about 3.5 mi. W. of Litchfield, 228 ft. E. of center intersection of X-rds. and 37 ft. S. of center of Indian School rd.

To reach from Litchfield Post Office, drive W. along Indian School Road for 3.3 mi. to X-rds., and station.

Station mark: Standard tablet stamped "FERRY 1956" set in top of concrete post.

Reference mark No. 1: Standard reference mark tablet stamped "1 FERRY 1956" set in top of concrete post, 85.65 ft. from station mark in azimuth 89°56'. (Tablet is 37 ft. S. of center of Indian School Road.)

Reference mark No. 2: Standard reference mark tablet stamped "2 FERRY 1956" set in top of concrete post, 80.60 ft. from station mark in azimuth 272°10'. (Tablet is 37 ft. S. of center of Indian School Road.)

ARIZONA ZONE CENTRAL

X=347,549.5

V.A. elevation 1057. ft.

Y=907,443.2

Latitude: 33°29'36.818"

Longitude: 112°25'00.223"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
White (C&GS)	81°31'44.5"	261°26'16.0"	51,007.8
White Tank(C&GS)	121 58 32.4	301 53 52.2	50,604.3
Litchfield (C&GS)	240 06 17.4	60 08 07.7	19,498.8
Initial Monument (C&GS)	321 15 27.8	141 19 08.5	54,283.1
Goodyear	338 50 49.4	158 52 30.6	43,144.1
Bradley (C&GS)	358 14 04.1	178 14 12.9	43,826.3

NAD 83 VALUES AVAILABLE

9/19/57 ew

FILE COPY

Arizona (170)

Maricopa County

SPUR (C&GS)

1927 N.A.D.

USC&GS, 1936

W. L. Settlemyer, 1949

W. F. McIntosh, 1956

Books: PH 73-74 PH 441-442

Described by U.S. Coast and Geodetic Survey in ~~Special Publication~~
No. 224, p. 157. 331122 - ~~1101~~

Note by W.L.S., 1949: Found as described in good condition with the following exception: Reference mark No. 1 is 18.45 ft. from station mark instead of 18.36 ft., reference mark No. 2 is 2154 ft. from station mark instead of 21.61 ft.

Recovered by W.F.M., 1956:

ARIZONA ZONE CENTRAL

*X=372,674.25

*Y=832,636.95

V.A. elevation 2968.ft.

*Latitude: 33°17'17.755"

*Longitude: 112°20'00.005"

<u>TO STATION</u>	<u>AZIMUTH</u>	<u>BACK AZIMUTH</u>	<u>FEET</u>
BM "28 WF 1948 RM"	11°50'44.79"	191°49'29.27"	57,116.5
*Ora (C&GS)	44 27 15.6	224 22 58.3	56,975.
*Section: (C&GS)	348 18 30.2	168 19 25.5	42,291.

*=Values by USC&GS

9/9/57 ew

NAD 83 VALUES AVAILABLE

FILE COPY

FILE COPY

Arizona (170)

Maricopa County

BRADLEY (C&GS)

1927 N.A.D.

USC&GS, 1934

W. F. McIntosh, 1956

Books: PH 441-442

Described by U.S. Coast and Geodetic Survey in Special Publication No. 224, p. 98.

35 112 2 - 1008

Note by W.F.M., 1956: Recovered as described. All marks in good condition.

FILE COPY

ARIZONA ZONE CENTRAL

*X=348,688.74

V.A. elevation 1282. ft.

*Y=863,635.25

*Latitude: 33°22'23.426"

*Longitude: 112°24'44.302"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
*Mica (C&GS)	50°16'18.2"	230°12'45.2"	42,772.
Beloat	84 20 31.1	264 16 21.8	38,625.2
Liberty 2	96 59 06.5	276 57 40.2	22,717.3
*White (C&GS)	125 01 01.20	304 55 24.38	63,249.4
Perry	178 14 12.9	358 14 04.1	43,826.4
*Litchfield (C&GS)	196 12 22.46	16 14 03.73	55,738.1
Goodyear	255 54 50.9	75 56 23.1	14,659.6
*Initial Monument (C&GS)	267 26 08.42	87 29 40.05	32,656.9

*=values by USC&GS

NAD 83 VALUES AVAILABLE

FILE COPY

Arizona (170)

Maricopa County

INITIAL MONUMENT (C&GS)

1927 N.A.D.

USC&GS, 1935

W. F. McIntosh, 1956

Books: PH441-442

Described by U.S. Coast and Geodetic Survey in Special Publication No. 224, p. 98 and ~~description list 837, p. 1. 33 112 2 - 1011~~

Note by W.F.M., 1956: Recovered as described. All marks in good condition.

FILE COPY

ARIZONA ZONE CENTRAL

*X=381,316.94

V.A. elevation 1159. ft.

*Y=814,940.97

*Latitude: 33°22'37.716"

*Longitude: 112°18'19.608"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
*Bradley (C&GS)	87°29'40.05"	267°26'08.42"	32,656.9
Goodyear	96 35 18.5	276 33 19.1	18,525.5
Perry	141 19 08.5	321 15 27.8	54,288.1
*Litchfield (C&GS)	161 54 28.07"	341 52 37.30	54,788.5

*=Values by USC&GS

NAD 83 VALUES AVAILABLE

9/18/57 ew

FILE COPY

AVONDALE (170)

Arizona

E. E. Moe, 1956

Book: PH 439

Latitude 33°15' Longitude 112°15'

FROM USGS "T T 1 EEM 1956" NEW RIVER NO. 3 QUADRANGLE (193) TO INTERSECTION OF THOMAS ROAD AND 91ST AVENUE, GLENDALE, ARIZONA

Note: Line continues from New River No. 3 quadrangle (193)

	(Y)	(X)
8 = "T T EEM 1956" - Glendale P.O., 3.1 mi. S. of along 59th Ave., thence 5.7 mi. W. along Indian School Road, 30 ft. S. of center of Indian School Road, 46 ft. W. of center of 107th Ave., on SW. corner of concrete irrigation structure; standard tablet stamped "T T 1 EEM 1956"	907,264.25	386,298.83✓
13. Center of intersection of Thomas Road and 107th Ave.	901,942.97	386,413.80
19 = "T T 2 EEM 1956" - Glendale P.O., 4.1 mi. S. of along 59th Ave., thence 4.3 mi. W. along Thomas Road, 46 ft. W. of a field rd. S., 30 ft. S. of center of Thomas Road, 5 ft. N. of center of concrete ditch, in concrete post; standard tablet stamped "T T 2 EEM 1956"	902,084.11	394,280.23

Note: This station was originally established for a triangulation station, and two reference marks were set.

22+a. Center of intersection of Thomas Road and 91st Avenue	902,181.13	397,003.10
---	------------	------------

LINE ENTERS PHOENIX QUADRANGLE (169)

NAD 83 VALUES AVAILABLE

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929
 Book: V 235
 Latitude 33°15' Longitude 112°15'

- (1) FROM LITCHFIELD PARK WEST ALONG ROAD NEAR NORTH BORDER OF QUADRANGLE TO POK TRIANGULATION STATION, THENCE SOUTH ALONG ROAD NEAR WEST BORDER OF QUADRANGLE BY WAY OF LAKE TRIANGULATION STATION INTO NORTHWEST CORNER OF HEATON NO. 3 QUADRANGLE (by E.E. Harris, 1946; Book: V 235)
- Litchfield Park, 1.0 mi W. of, in northeast corner of X-rds., in root on north side of prominent cottonwood tree; copper nail and washer 1031.48
- Litchfield Park, 1.4 mi W. of, 16 ft S. of centerline of rd., in center of conc. headwall of culvert; standard tablet stamped "19 H 1946 1028" 1028.229 ✓
- Reference mark, 195 ft W. of tablet, in base on north side of 15-inch cottonwood tree; rail spike 1025.08
- Litchfield Park, 2.5 mi W. of, in northeast corner of X-rds., at a Mexican settlement, on north end of a stone and conc. culvert; chiseled square 1041.010
- Litchfield Park, 3.5 mi W. of, 40 ft N. and 42 ft E. of centerline of X-rds., 2 ft S. and 28 ft E. of corner fencepost, in conc. post; standard tablet stamped "20 H 1946 1058" 1057.608 ✓
- Reference mark, 56 ft W. of tablet, on conc. headwall of culvert; chiseled square 1058.58
- Litchfield Park, 4.0 mi W. of, 1050 ft E. of a store and service station, in the northeast corner of X-rds., in base on north side of telephone pole; rail spike 1066.94
- Litchfield Park, 5.0 mi W. of, in northeast corner of X-rds., at the stables of Floating W. Ranch, on conc. headwall of culvert; chiseled square 1083.93
- Litchfield Park, 6.0 mi W. of, 31 ft S. of centerline of rd. and 27 ft W. of gate across dim rd. leading S., 2 ft N. of fence, in conc. post; standard tablet stamped "21 H 1946 1111" 1110.957
- Reference mark, 38 ft NW. of tablet, on northwest corner of conc. block foundation of steel flume; chiseled square 1112.17

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929
 Book: V 235

- (1) Perryville, 1.0 mi W. of, at right angle bend in Jack Rabbit Rd. from W. to S., 39 ft E. and 17 ft N. of centerline of X-rds., in west end of conc. headwall of culvert over canal; standard tablet stamped "24 H 1946 990" (New conc. headwall over canal) 990.172
- Reference mark, 75 ft W. of tablet, on west end of conc. headwall of culvert; chiseled square 988.99
- Perryville, 1.0 mi W. thence 1.0 mi S. from, 1.6 mi N. of Liberty RR. station, in northeast corner of X-rds., at a sub-station, on conc. headwall of culvert; chiseled square 957.69
- Liberty RR. station, 0.6 mi N. of, in northeast corner of X-rds., on conc. headwall of culvert; chiseled square 917.17
- "Z 55 1934" About 24 mi W. along the Southern Pacific Co. RR. from the Union station in Phoenix, Maricopa County, about 250 yards E. of the station Liberty, 5 ft E. of milepost 882, 32 ft NW. of block signal 8820, 27 ft N. of the centerline of the track, and in line with a row of poles. A standard disk, stamped "Z 55 1934" and set in the top of a conc. post (273.444 meters or 897.124 ft) 897.414
- Note: Post has all the appearances of having been moved from original position, measurements now read 19 ft E. of centerline of paved rd., 31 ft N. of centerline of the track and 2 ft W. of milepost 882. The large closure error of 0.376 was not considered in the adjustment.
- Liberty RR. Station, 0.7 mi S. of, on west edge of Jack Rabbit Rd. opposite ranch house, on north end of conc. headwall of culvert; chiseled square 881.34
- Liberty RR. Station, 1.3 mi S. of, 0.5 mi E. of Liberty School, in the northwest corner of intersection of U.S. Highway No. 80 and Jack Rabbit Rd., CLO standard cap on iron post, stamped "AP WC TR 49 TR 54 1931" (Not Found) 879.74
- LANE TRIANGULATION STATION 880.044
- Reference mark No. 3 879.147
- Liberty School, 0.5 mi E. thence 2.2 mi S. from 0.5 mi S. of ford of Gila River, 26 ft N. and 73 ft W. of centerline of X-rds., and in line with fence to W., on conc. post; standard tablet stamped "25 H 1946 909" 908.869
- Reference mark, 275 ft S. of tablet, in base on east side of prominent mesquite tree, rail spike 910.62

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929
 Book: V 235

- (1) Litchfield Park, 7.0 mi W. of, 250 ft NW. of angle in rd. from W. to NW., on southwest edge of rd., in crotch of palo verde tree; copper nail and washer 1160.19
- POKE TRIANGULATION STATION (USCGS, 1936)
 Lat. 33°30'00.139" Long. 112°29'23.288" (C&GS Values) 1214.309
- Reference mark No. 1 1212.366
- Reference mark No. 2 1213.839
- Azimuth mark stamped "POK 1936" 1191.231
- Litchfield Park, 8.0 mi W. thence 0.6 mi SW. of Pok Triangulation Station, 235 ft S. of rd. leading E., 60 ft E. of rd., on southwest bank of dry creek, 3 ft higher than surrounding ground, in crotch of large palo verde tree; copper nail and washer 1207.92
- Litchfield Park, 8.0 mi W. thence 1.1 mi S. from, on west edge of rd., north edge of dim diagonal rd. in base on southeast side of center pole of three powerline poles; rail spike 1198.95
- Litchfield Park, 8.0 mi W. thence 2.0 mi S. from, 30 ft E. of centerline of rd. and 25 ft S. of dim diagonal rd. running NW.-SE., in conc. post; standard tablet stamped "22 H 1946 1141" (Not Found, 1957) 1140.947
- Litchfield Park, 8.0 mi W. thence 2.6 mi S. from, 1300 ft W. of right angle bend in rd. from S. to W., 2.0 mi W. and 2.0 mi N. of Perryville, 140 ft SE. of forks of dim rd., in base on east side of leaning mesquite tree; rail spike 1100.14
- Perryville, 2.0 mi W. thence 1.0 mi N. from, 67 ft S. of rd. leading E. and 50 ft W. of centerline of N.-S. rd., 34 ft S. and 2 ft E. of fence corner, in conc. post; standard tablet stamped "23 H 1946 1045" 1044.822 ✓
- Reference mark, 80 ft E. of tablet, in base on west side of angle pole in powerline; rail spike 1045.38
- Perryville, 2.0 mi W. thence 0.5 mi N. from, 75 ft E. of centerline of rd. and 50 ft S. of a ditch, on northwest corner of conc. foundation of pump; chiseled square 1027.18

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929
 Book: V 235

- (1) General Land Office standard cap on iron post, stamped "1/4 SECS 8 AND 17 1931", and surrounded with a conc. collar 902.05
- General Land Office standard cap on iron post, stamped "T15 R2W SECS 7 8 17 AND 18 1923" and surrounded with a conc. collar (Destroyed, 1957) 886.728
- General Land Office standard cap on iron post, stamped "1/4 SECS 17 AND 18 1931" 901.59
- General Land Office standard cap on iron post, stamped "T15 R2W SECS 17 18 19 AND 20 1931" and surrounded with a conc. collar 914.063
- General Land Office standard cap on iron post, stamped "1/4 SECS 19 AND 20 1931" (Not Found, 1956) 928.80
- General Land Office standard cap on iron post, stamped "T15 R2W SECS 19 20 29 AND 30 1931" and surrounded with a conc. collar 940.271
- General Land Office standard cap on iron post, stamped "T15 R2W SECS 29 30 31 AND 32 1931" and surrounded with a conc. collar (Disturbed, 1956) 949.077
- General Land Office standard cap on iron post, stamped "T15 R2W CC SECS 31 AND 32 1916" and surrounded with a conc. collar 958.933
- General Land Office standard cap on iron post stamped "1/4 SECS 5 AND 6 1916" and surrounded with a conc. collar (Not Found) 975.06
- General Land Office standard cap on iron post, stamped "T25 R2W SECS 5, 6, 7 AND 8 1916" and surrounded with a conc. collar 991.636
- General Land Office standard cap on iron post, stamped "1/4 SECS 7 AND 8 1916" 1008.72
- General Land Office standard cap on iron post, stamped "T25 R2W SECS 7 8 17 AND 18 1916" and surrounded with a conc. collar 1026.426
- General Land Office standard cap on iron post, stamped "1/4 SECS 17 AND 18 1916" 1048.43

FILE COPY
SEP 1972

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 235a

- (2) FROM LITCHFIELD PARK, EAST ALONG PAVED ROAD TO WEST END THENCE SOUTH ALONG ROAD TO POINT 4.0 MILES SOUTH OF TOLLESON THENCE WEST TO AGUA FRIA SCHOOL THENCE SOUTHWEST TO INITIAL POINT OF SURVEY OF GILA AND SALT RIVER BASE AND MERIDIAN (by E.E. Harris, 1946; Book: V 235a)

Litchfield Park, 1.0 mi E. of, 150 ft S. and 19 ft E. of centerline of X-rds., in center of conc. headwall of culvert; standard tablet stamped "28 H 1946 1023" (Reset) 1023.60 ✓

Reference mark, 163 ft N. of tablet, in existing conc. block below surface with covered pipe surface opening; copper bolt 1021.90

Litchfield Park, 2.1 mi E. of, on south side of rd., 3 ft S. of fence, on northeast corner of conc. catch basin; chiseled square 1010.51

Litchfield Park, 2.8 mi E. of, in center of rd. in wash, in existing conc. block below surface with covered pipe surface opening; copper bolt 1008.01

Litchfield Park, 3.0 mi E. of, in existing conc. block below surface, with covered pipe surface opening; copper bolt 1010.27

Litchfield Park, 3.5 mi E. of, 27 ft S. of centerline of rd., 8 ft N. and 80 ft E. of a T-angle in fence, in conc. headwall of culvert; USBR standard disk (not stamped) 1018.371 ✓

Litchfield Park, 4.0 mi E. of, in existing conc. block below surface, with covered pipe surface opening; copper bolt 1021.79

Litchfield Park, 4.0 mi E. of, in southwest corner of X-rds., in northeast corner of conc. catch basin; USBR (remains of) standard disk 1022.282

Litchfield Park, 5.0 mi E. of, in southwest corner of X-rds., in center of conc. headwall of culvert under rd. W.; chiseled square (Destroyed) 1033.63

Litchfield Park, 5.0 mi E. of, in conc. catch basin; USBR standard disk (remains of) (not stamped) (Destroyed, 1957) 1033.49

Litchfield Park, 6.0 mi E. of, along paved rd., at West End, in southeast quadrant of X-rds., in top near southwest end of conc. island of gasoline pumps in front of store; standard tablet stamped "29 H 1946 1049" 1049.474 ✓

Reference mark, 120 ft NW. of tablet, on conc. headwall of culvert; chiseled square 1050.58

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 235

- (2) West End, 1.0 mi S. of, 2.0 mi N. of Tolleison, in southwest corner of X-rds., on east end of conc. headwall of culvert under rd. S.; chiseled square 1039.36

Tolleison, 1.0 mi N. of, 11 ft S. and 35 ft E. of centerline of X-rds., in center of conc. parapet wall of culvert over canal; standard tablet stamped "30 H 1946 1028" 1028.368 ✓

Reference mark, 40 ft NW. of tablet, on conc. headwall of culvert; chiseled square 1026.34

Tolleison, in southwest corner of X-rds., on southeast corner of conc. headwall of culvert; chiseled square 1015.90

Tolleison, 0.8 mi S. of, 22 ft W. of centerline of rd., and 14 ft E. of fence, in northeast corner of conc. catch basin; USGS aluminum tablet (not stamped) stamped by this party "31 H 1946 1006" 1005.708 ✓

Tolleison, 1.0 mi S. of, 2.5 mi E. of Cashion, in southwest corner of intersection with U.S. Highway No. 80, on east end of conc. headwall of catch basin; chiseled cross 1001.98

Tolleison, 1.3 mi S. of, 24 ft W. of centerline of rd., and 13 ft E. of fence, in northeast corner of conc. catch basin; USBR standard disk (not stamped) 999.234

Tolleison, 1.5 mi S. of, 25 ft W. of centerline of rd., and 10 ft E. of fence, in northeast corner of conc. catch basin; USGS aluminum tablet (not stamped) stamped by this party "32 H 1946 997" 997.128 ✓

Tolleison, 2.0 mi S. of, in southwest corner of X-rds., in center of conc. headwall of culvert; chiseled square 992.35

Tolleison, 3.0 mi S. of, at jog in N.-S. rd., 29 ft S. and 22 ft E. of centerline of T-rd. S., 7 ft S. and 3.5 ft W. of fence corner, in top of conc. post; standard tablet stamped "33 H 1946 982" (Destroyed, 1957) 982.151

Reference mark, 225 ft W. of tablet, in northeast corner of T-rd. N., on conc. headwall of culvert; chiseled square 983.50

Tolleison, 4.0 mi S. of, about 3.0 mi E. of Agua Fria School, 275 ft S. of house, on east edge of rd., in center of conc. headwall of culvert; chiseled square 971.19

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 235a

- (2) Agua Fria School, 2.0 mi E. of, 23 ft S. and 20 ft E. of centerline of T-rd. W., in conc. headwall of culvert over canal; standard tablet stamped "42 H 1946 960" 960.305 ✓

Reference mark, 40 ft W. of tablet, on conc. headwall of culvert; chiseled square 960.13

Agua Fria School, 1.0 mi E. of, in northwest corner of X-rds., on conc. headwall of culvert; chiseled square 951.49

Agua Fria School, 165 ft N. and 31 ft W. of centerline of X-rds., in conc. retaining wall at the school drinking fountain, 4.5 ft from the south end of wall; standard tablet stamped "41 H 1946 943" 942.997 ✓

Reference mark, 165 ft SE. of tablet, in base on SW. of powerline pole; rail spike 942.67

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 234b

Latitude 33°15' Longitude 112°15'

- (3) FROM INITIAL POINT OF SURVEY OF GILA AND SALT RIVER BASE AND MERIDIAN SOUTHWEST ALONG DIM ROADS TO T. 1 S., R. 1 S., SECS. 19, 20, 29 AND 30, THENCE SOUTH 2 MILES, THENCE EAST AND SOUTHWEST BY ROAD AND ACROSS COUNTRY TO 1/4 CORNER SECS. 10 AND 11 T. 2 S., R. 1 W., THENCE SOUTH INTO HEATON NO. 3 QUADRANGLE (by E.E. Harris, 1946; Book: V 234b)

Agua Fria School, 0.5 mi S. thence 1.9 mi SW. from, 750 ft E. of a corral, 30 ft N. of rd., in stump of palo verde tree; copper nail and washer 926.30

Agua Fria School, 0.5 mi S. thence 2.9 mi SW. from, in forks of a dim Y-rd., 60 ft from the intersection and midway of each rd., in conc. post; standard tablet stamped "40 H 1946 982" 981.745 X

Agua Fria School, 0.5 mi S. thence 3.5 mi SW. from, 1400 ft NE. of a gate across rd., on east edge of rd., on rock outcrop; chiseled square 1041.22

T. 1 S., R. 1 W., near 1/4 corner secs. 10 and 15, about 0.8 mi SW. of a gate and 1.0 mi NE. of divide, 60 ft NE. of point where rd. drops off into creek bottom, on east edge of rd. on boulder; chiseled square 1152.13

T. 1 S., R. 1 W., SE. 1/4 sec. 16, 8 ft SE. of centerline of rd. in low divide, in boulder 1 ft higher than the surrounding ground; standard tablet stamped "39 H 1946 1256" 1256.194 ✓

Reference mark, 32 ft W. of tablet, on boulder; chiseled square 1234.09

T. 1 S., R. 1 W., center sec. 20, 100 ft E. of wash X-ing rd., on south edge of rd., in palo verde stump; copper nail and washer 1176.75

General Land Office standard cap on iron post, stamped "T1S RIW SECS. 19 20 29 AND 30 1913" surrounded with a conc. collar 1149.630

General Land Office standard cap on iron post, stamped "1/4 SECS 29 AND 30 1913" 1159.96

General Land Office standard cap on iron post, stamped "T1S RIW SECS 29 30 31 AND 32 1913" and surrounded with a conc. collar 1161.943

General Land Office standard cap on iron post, stamped "1/4 CORNER SECS 31 AND 32" 1159.78

FILE COPY

SEP 1972

6/26/72 s1b

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 234b

(3) General Land Office standard cap on iron post, stamped "T15 RIW SECS 31 AND 32 T25 RIW SECS 5 AND 6 1913" and surrounded with a conc. collar 1169.828

General Land Office standard cap on iron post, stamped "1/4 SECS 5 AND 32 1913" 1187.95

General Land Office standard cap on iron post, stamped "T15 RIW SECS 32 AND 33, T25 RIW SECS 4 AND 5 1913" and surrounded with a conc. collar 1219.636

General Land Office standard cap on iron post stamped "T25 RIW SECS 3 & 9 and 10 1916" and surrounded with a conc. collar 1257.503

General Land Office standard cap on iron post, stamped "1/4 SECS 3 AND 10 1916" 1290.24

General Land Office standard cap on iron post, stamped "1/4 SECS 10 AND 11 1916" 1324.86

T. 2 S., R. 1 W., near southeast corner sec. 10, 53 ft N. and 13 ft W. of centerline of T-rd. W., 33 ft N. and 3 ft E. of fence corner, in conc. post; standard tablet stamped "26 H 1946 1305" Latitude 33°15'41.308" Longitude 112°20'23.894" 1305.537

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 234c Bull. 573

(4) Cashion, 2.5 mi W. of, on northwest edge of U.S. Highway No. 80, in conc. headwall of culvert; Arizona State Highway Department standard disk stamped "959.64 1936 867 00" (Destroyed, 1957) 958.831

Cashion, 2.6 mi W. of, on northwest edge of U.S. Highway No. 80, 250 ft SW. of a service station, in conc. headwall of culvert; Arizona State Highway department standard disk stamped "961.42 1936 861 00" (Destroyed, 1957) 960.633

Cashion, 2.9 mi WSW. of, on north edge of U.S. Highway No. 80, in conc. headwall of culvert; Arizona State Highway Department standard disk stamped "970.69 1936 848 00" 969.883

Cashion, 3.0 mi WSW. of, on north edge of U.S. Highway No. 80, in conc. headwall of culvert; Arizona State Highway Department standard disk stamped "971.42 1936 840 00" (Destroyed, 1957) 970.624

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 234c Bull. 573 Latitude 33°15' Longitude 112°15'

(4) FROM POINT 3.0 MILES EAST OF LITCHFIELD PARK SOUTH ALONG ROAD TO U.S. HIGHWAY NO. 80 THENCE WEST ALONG HIGHWAY 2.6 MILES (by E.E. Harris, 1946; Book: V 234c & Bull. 573)

Litchfield Park, 3.0 mi E. thence 1.0 mi S. from, 0.5 mi W. of Cashion thence 3.0 mi N., in southwest corner of X-rds., in conc. catch basin, USBR standard disk (remains of) (not stamped) 1009.354

T. 1 N., R. 1 W., in northwest corner sec. 6, east side of rd., 7 ft from fence (S.) corner; iron post stamped "1000 PHNX" (Bull. 573 page 53) 999.221

Reference mark, 52 ft W. of tablet, on conc. headwall of culvert; USBR standard disk (remains of) 999.71

Cashion, 0.5 mi W. thence 1.5 mi N. from, on west edge of rd., in northeast corner of conc. catch basin; USBR standard disk (not stamped) 996.173

Cashion, 0.5 mi W. thence 1.0 mi N. from, in southwest corner of X-rds., on east conc. headwall of culvert; circle inside upper part of the letter "P" cut in headwall 996.24

Cashion, 0.5 mi W. thence 0.5 mi N. from, on west edge of rd., in northeast corner of conc. catch basin; USBR standard disk (remains of) (not stamped) 991.215

Cashion, 0.5 mi W. of, at Fowling Point Siding, 30 ft N. and 24 ft W. of intersection with U.S. Highway No. 80, in center of conc. headwall of culvert; standard tablet stamped "27 H 1946 986" 986.096

Reference mark, 80 ft NE. of tablet, on conc. headwall of culvert; chiseled square 986.68

Cashion, 1.5 mi W. of, on south edge of U.S. Highway No. 80, 80 ft E. of T-rd. S., on conc. headwall of culvert; chiseled square 969.58

Cashion, 1.9 mi W. of, in the northeast corner of conc. hwy. bridge over Agua Fria River; Arizona State Highway Department standard disk (not stamped) 970.412

Cashion, 2.1 mi W. of, in the northwest corner of conc. hwy. bridge over Agua Fria River; Arizona State Highway Department standard disk (not stamped) 970.376

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 234c Latitude 33°15' Longitude 112°15'

(5) FROM POINT 4.0 MILES SOUTH OF TOLLESON SOUTH ALONG ROAD TO NEAR NORTHWEST CORNER SECTION 21, T. 1 S., R. 1 E. (Double run spur line by E.E. Harris, 1946; Book: V 234c)

Salt River, at ford, surface of water March 7, 1946 948.62

Tolleson, 5.0 mi S. of, in southeast part of sec. 33, T. 1 N., R. 1 E., 25 ft N. and 50 ft W. of centerline of T-rd. N., at base line, 2 ft E. of fence corner, in conc. post; standard tablet stamped "34 H 1946 966" (Destroyed, 1957) 966.021

Reference mark, 160 ft N. of tablet, on drain pipe; chiseled square 966.76

Tolleson, 6.2 mi S. of, near northeast corner sec. 9, T. 1 S., R. 1 E., on west edge at south end of graded rd., south bank of ditch, in root on east side of 24-inch cottonwood tree; copper nail and washer 967.76

Tolleson, 7.1 mi S. of, near southeast corner sec. 9, T. 1 S., R. 1 E., 33 ft E. and 26 ft W. of centerline of X-rds., in conc. post; standard tablet stamped "35 H 1946 968" 968.061

Tolleson, 7.8 mi S. of, near center sec. 16, T. 1 S., R. 1 E., 90 ft N. of forks of dim rd. to SW., in base on east side of prominent mesquite tree; rail spike 965.57

Tolleson, 8.8 mi S. of, near northwest corner sec. 21, T. 1 S., R. 1 E., 10 ft E. and 13 ft W. of forks of dim trail leading to Salt River, in conc. post; standard tablet stamped "36 H 1946 962" 961.861

AVONDALE (170) Arizona E.E. Harris, 1946

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: V 234a Latitude 33°15' Longitude 112°15'

(6) FROM POINT ON U.S. HIGHWAY NO. 80 1 MILE SOUTH OF TOLLESON AND 2.5 MILES EAST OF CASHION WEST ALONG HIGHWAY 1 MILE THENCE SOUTH 0.5 MILE (Double run spur line by E.E. Harris, 1946; Book: V 234a)

Cashion, 1.5 mi E. of, in southwest corner of X-rds., in southeast corner of conc. catch basin; USGS aluminum tablet (not stamped) stamped by this party "37 H 1946 994" 993.672

Cashion, 1.5 mi E. thence 0.25 mi S. from, on west edge of rd., in northeast corner of conc. catch basin; USGS aluminum tablet (not stamped) stamped by this party "38 H 1946 990" 990.182

Cashion, 1.5 mi E. thence 0.5 mi S. from, on west edge of rd., in northeast corner of conc. catch basin; USGS aluminum tablet (not stamped) stamped by this party "43 H 1946 987" 986.689

FILE COPY

BENCH MARK DESCRIPTIONS, FIELD SUMMARY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
9-1128

Page	Quads.	Miles	State	By	Date	Altitude by Field Book
Bk.—Page			Adj.			
	AVONDALE (170)		Arizona	D.O. Richardson,	1973	
	Third Order		Field Elevations			
	Book: PV 874		Latitude 33°15'	Longitude 112°15'		
	(7)		FROM A POINT NEAR THE SOUTHEAST CORNER OF SECTION 10 TOWNSHIP 2 SOUTH RANGE 1 WEST SOUTH INTO THE NORTH EDGE OF MOBILE QUADRANGLE (147)			
b/2	0.00		BM "H 26 1946" TRIANGULATION STATION (USGS): Near southeast corner of section 10, T2S, R1W; in a conc. post; standard tablet stamped "26 H 1946 1305" (Described in USGS Line 3)			1305.537
			Latitude 33°15'41.308" Longitude 112°20'23.894"			<i>Quad 170</i>
	1.01		Liberty School, 0.5 mi E. of, along State Highway 80 to Jackrabbit Rd., thence 2.0 mi S. to Elliot Rd., thence 0.5 mi E. to Rainbow Valley Rd., thence 6.7 mi S., SE. and S. to Queen Creek Rd., (located just N. of Waterman Wash) thence 1.0 mi E. to a rd. S., thence 1.0 mi S. to a rd. E., thence 2.5 mi E. to a gate, thence 2.5 mi E. to a dim rd. N.; 75 ft N. of the rd., 50 ft N. of a dry wash, 23 ft W. of the dim rd.; set on a copper-coated rod enclosed by a fiber pipe; a standard tablet stamped "1 DOR 1973 1260"			1260.426
						<i>Quad 147</i>

RESEARCH REPORTS IN CHEMISTRY

1950

10

10

10

1. The first part of the report deals with the synthesis of a new class of compounds.

2. The second part describes the physical and chemical properties of these compounds.

3. The third part discusses the mechanism of the reaction.

4. The fourth part contains the experimental details and the results obtained.

5. The fifth part is a conclusion.

6.

1950

**NAD 83 VALUES AVAILABLE
PHOENIX**

<u>NAME</u>	<u>STATION</u>
✓KING	1005
✓BENCH MARK Y 264	1005
✓COTTON	1006
✓GIN	1007
✓BRADLEY	1008
✓CANAL	1009
✓SHOT	1010
✓INITIAL MONUMENT	1011
✓TT ZW 9 (AMS)	1012
✓PIN & TIS RIE GRW SECS 1,6,31,36	1012
✓PUMP	1013
✓GOODYEAR, GOODYEAR AIRCRAFT CORP	
WATER TANK	1075
✓LITCHFIELD PARK NAF CONTROL TOWER	1076
✓LITCHFIELD PARK NAF BEACON	1077
✓LEBAZ	1078
✓LITCHFIELD PARK NAF UHF ANTENNA	1079
✓LITICH	1080
✓BROWN	1083
✓CASHION	1084
✓LANE	1089
✓SPUR	1101
✓SHERIDAN MOUNTAINS HIGHEST	
SUMMIT	1102
✓MARE	1103

FILE COPY

IND 83 VITNES AVHTBGE

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA

QUAD 331122 STATION 1005
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

U. S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY

NAME OF STATION: KING
 CHIEF OF PARTY: G.A. AMBIS
 STATE: ARIZONA
 COUNTY: MARICOPA
 YEAR: 1962
 DESCRIBED BY: R.P.K.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: KING
 STATE: Arizona
 LOCALITY: Arizona Hwy. Survey
 Ehrenberg to Phoenix to Casa Grande
 Second-order Triangulation and Traverse
 source: G-12917
 FIELD SKETCH: Ariz. 49-II
 YEAR: 1962

NOTE:	HEIGHT OF TELESCOPE ABOVE STATION MARK	HORIZONTAL DISTANCE FROM STATION MARK TO AZIMUTH MARK, REFERENCE MARKS AND OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	BEARING	DISTANCE	DIRECTION
1b SURFACE-STATION MARK					
7a UNDERGROUND-STATION MARK					
16a	GOODYEAR AIRCRAFT CORP. WATER TANK	07 00 00.0	07 00 00.0	07 00 00.0	07 00 00.0
16b	GOODYEAR AIRCRAFT CORP. WATER TANK	03 16 20.7	03 16 20.7	03 16 20.7	03 16 20.7
	GOODYEAR AIRCRAFT CORP. WATER TANK	26 16 46.4	26 16 46.4	26 16 46.4	26 16 46.4

Detailed Description:
 Station is located about 9 miles west of Avondale, about 7 miles northeast of Buckeye and about 1 1/4 miles southwest of Perryville. To reach from the city hall in Avondale, go west on Western Ave. for 0.9 mile to crossroad at Scapilite, continue west on Yuma Road for 6.5 miles to Perryville Road at Perryville, continue west on Yuma Road for 1.0 mile to crossroad (Jack Rabbit Road and S.195th Avenue), turn left and go south on Jack Rabbit Road and S.195th Avenue for 1.0 mile to Y. Lower Buckeye Road and station in the northeast corner of crossroads as described.

Station mark, a standard traverse disk stamped KING 1962, is set in the top of a concrete cylinder which projects about 5 inches above the ground. The mark is 66 feet east of the center of Jack Rabbit Road, 45 feet north of center of W. Lower Buckeye Road, 28 feet west of center of road, 27 feet south of the south one of a row of trees and 4.5 feet north of the witness post.

Reference mark 1, a standard reference disk stamped KING NO 1 1962, is cemented in a drill hole in the northeast corner of a 5 feet square concrete irrigation pump foundation which projects about 5 inches above the ground. The mark is 49 feet south of the center of W. Lower Buckeye Road.

Reference mark 2, a geodetic bench mark stamped Y 264 1962, is set in top of a 5 inch square concrete post which is set flush with the surface of the ground. The mark is 40 feet west of the center of Jack Rabbit Road, 39 feet south of the center of W. Lower Buckeye Road, 14 feet east of a witness post and 1 foot north of the fence.

Azimuth mark, a standard azimuth disk stamped KING 1962, is set in the top of a concrete cylinder which projects about 8 inches above the surface of the ground. The mark is 25 feet east of center of Jack Rabbit Road, 2.8 feet southwest of the witness post, 2.2 feet west of the fence and 2 feet north of a telephone pole.

To reach the azimuth mark from station, continue south on Jack Rabbit Road for 0.35 mile to mark on left as described.

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ADJ ANGLE	MARK
STATE: Ariz.	388,764.34	1° 42' 22"	AZIMUTH MARK
ZONE: G	881,217.07	- 0 18 33	
CODE: 0202			
STATE: ARIZONA			
ZONE: G			
CODE: 0202			

GEODEIC DATA	POSITION		SECOND IN METERS	ELEVATION METERS
	LATITUDE	LONGITUDE		
Y 264	33° 25' 16"	112° 28' 40"	41.226	5,621.939*
NOAM			88 28 51.49	6,500.173*
COYTON			255 54 21.38	6,488.155*
GIN			277 44 30.88	8,099.914*
SHADLEY			311 07 01.69	

GEODEIC DATA	POSITION		SECOND IN METERS	ELEVATION METERS
	LATITUDE	LONGITUDE		
Y 264	33° 25' 16"	112° 28' 40"	41.226	5,621.939*
NOAM			88 28 51.49	6,500.173*
COYTON			255 54 21.38	6,488.155*
GIN			277 44 30.88	8,099.914*
SHADLEY			311 07 01.69	

*Refer to serials in schedule of triangulations and state publications of triangulations. 1-Direct-reading measured distances, referred to National Standard. If necessary, refer to serials in schedule of triangulations and state publications of triangulations. 1-Direct-reading measured distances, referred to National Standard. If necessary, refer to serials in schedule of triangulations and state publications of triangulations.

FILE COPY

JAN 1967

330 151
 1120 151
 170

170
 JULY 1966
 ARIZONA
 PUBLISHED AND PRINTED BY:
 U. S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY
 WASHINGTON D. C.

KING (Continued) · 330151
 1120151

HORIZONTAL CONTROL DATA

QUAD 331122 STATION 1005
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BENCH MARK Y 264 YEAR: 1962
 STATE: Arizona LOCALITY: Arizona Hwy. Survey
 Ehrenberg to Phoenix to Casa Grande
 Second-order Traverse source: G-12917 field sketch: Ariz. 49-II

(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (FOR $\Delta\theta$ ANGLE)	MARK
STATE: Ariz.	X 328,658.26		
ZONE: C	Y 881,133.17	-0 18 34	
CODE: 0202			
STATE:	Z		
ZONE:	Y		
CODE:			

GEODETIC DATA	POSITION LATITUDE: 33°25'15.5471 NORTH LONGITUDE: 112°28'41.6106 WEST	SECONDS IN METERS	ELEVATION METERS FEET
		TO STATION KING (TAPED LENGTH)	GEODETIC AZIMUTH (From south) (231°21')
			SECOND-ORDER 41.226

FORM 211 (11-24-64) USE GOMC 1031-P1

FILE COPY

JAN 1967

170
 JULY 1966
 ARIZONA
 PUBLISHED AND PRINTED BY:
 U. S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY
 WASHINGTON D. C.

330/15
 112° 15'

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 331122 STATION 1007
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

U.S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY
 DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: G1H STATE: Arizona COUNTY: Maricopa YEAR: 1962 DESCRIBED BY: H. D. Ellis

CHIEF OF PARTY: C. A. Annis

NOTE: HEIGHT OF TELESCOPE ABOVE STATION MARK 1.0 METERS; HEIGHT OF LIGHT ABOVE STATION MARK METERS.
 SURFACE-STATION MARK, DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT UNDERGROUND-STATION MARK OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	FEET	METERS	DIRECTION
BRADLEY 1934				
R. N. No. 1	N	124.74	38.023	0 06 00.0
R. N. No. 2	N 114°	79.09	24.289	62 03 32
Goodyear, Goodyear Aircraft Corp., Water Tank	N 118°	approx. 3 miles		165 57 54
COTTON 1935				240 52 16.0
				172 54 03.39

The station is located about 4 miles west-southwest of Avondale, about 3 miles southeast of Perryville and 0.5 mile north of U. S. Highway 80.

To reach the station from the City Hall in Avondale, go west on Western Avenue for 0.85 mile to crossroad and stoplight in Goodyear, turn left, go south for 0.75 mile to U. S. Highway 80, turn right, go southwest on U. S. Highway 80 for 3.3 miles to a side road right, turn right, go north on gravel road for 0.5 mile to station on left.

Station, a standard traverse disk set in the top of a round concrete post which is flush with the surface of the ground and stamped G1H 1962. The mark is 112 feet east of the northeast corner of house, 74 feet southeast of an irrigation pump, 14.5 feet south of power pole with transformer and 30 feet west of center of road.

Reference mark 1, a standard reference disk set in a drill hole in the southeast corner of a concrete foundation of scales and stamped G1H NO 1 1962. The mark is 144 feet west of center of road and 23 feet south-southwest of the southeast corner of house.

Reference mark 2, a standard reference disk set in the top of a round concrete post which is flush with the surface of the ground and stamped G1H NO 2 1/62. The mark is 144 feet west of center of road, 28 feet northeast of an irrigation pump and 2.5 feet south of power pole with three transformers.

Station COTTON 1935 to be used for azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

YEAR: 1962

NAME OF STATION: G1H LOCALITY: Arizona Hwy. Survey
 Shrenberg to Phoenix to Casa Grande
 Second-order Triangulation source: 0-12917
 and Traverse field sketch: Ariz. 49-II

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (MOR (G)) ANGLE	MARK
STATE: Ariz. ZONE: C CODE: 0202	X 349,839.61 Y 878,236.00	177° 24' 29" - 0 16 16	AZIMUTH MARK STATION COTTON
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION		ELEVATION	
	LATITUDE: LONGITUDE:	33° 24' 47" 94.33 NORTH 112 24 31.5450 WEST	SECONDS IN METERS	BENCH METERS FEET
BRADLEY KING COTTON CANAL	TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE (Meters)
			SECOND-ORDER 4° 14' 09" 56 97 46 47.91 177 08 12.59 302 58 57.45	4,464.459 6,488.155 2,460.065 3,805.565
GOODYEAR NAP BEACON NAP CONTROL TOWER	GOODYEAR AIRCRAFT CORP WATER TANK LITCHFIELD PARK LITCHFIELD PARK		THIRD-ORDER 245 06 23.2 247 54 16.9 248 29 55.7	4,864.06 4,331.65 4,070.81

* Tellurimeter length

References to marks in manuals of triangulation and other publications of triangulation. 1 Direction-measure measured clockwise, referred to local meridian. 2 To correct for earth curvature, when no trigonometric leveling is being done.

FILE COPY

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA

QUAD 331122 STATION 1008
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

ADJUSTED HORIZONTAL CONTROL DATA

33° 15'
 112° 15'
 1934, 1936,
 1962

Bradley (Maricopa County, E. H. Latham, 1884: 1088).—About 10 1/2 miles east of the village of Buckeye, in sec. 1, T. 1 S., R. 2 W., on the highest and most northerly one of a group of low hills lying just south of the Gila River and about 1 mile southeast of the J. L. Bradley ranch, near the south end of the summit, on ridge line, about 50 feet south-southeast of the high point. Marked by a standard bronze disk as described in note 2. Reference mark No. 1, a standard bronze reference disk, note 12a, is on high point of summit, in sharp rock outcrop, 12,282 meters (40,283 feet) from station in azimuth 171°19'. Reference mark No. 2, a standard bronze reference disk, note 12a, is down the west slope of the summit, in ledge, 9,758 meters (32,011 feet) from station in azimuth 60°38'. Station Cotton may be used as the azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

U.S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY

NAME OF STATION: BRADLEY
 ESTABLISHED BY: E. B. L.
 RECOVERED BY: C. A. Anliar
 YEAR: 1934
 STATE: ARIZONA
 COUNTY: Maricopa

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
R.H. No. 1 Goodyear Aircraft Corp., Waste Tank R.H. No. 2 Azimuth Mark	N NE SW E	40.21 approx. 6 32.05 approx. 0.5	12.257 1.9762 9.762 0.5	08 00' 10 54' 84 57' 27 06' 15 46.7'

The station mark, reference mark number 1 and reference mark number 2 were recovered and found to be in good condition. The distance and directions to the reference marks checked. An azimuth mark was established at this time.

A new and complete description follows.
 The station is located about 10 miles east of Buckeye, 8 miles southwest of Avondale and just south of the Gila River near the south end of a summit, about 50 feet south-southeast of the highest point of summit.

To reach the station from the Avondale City Hall, go west on Western Avenue for 0.85 mile to traffic light and crossroad in Goodyear, turn left and go south for 0.75 mile to U.S. Highway 80, turn right and go west-southwest on U.S. Highway 80 for 4.4 miles to Cotton Lane, turn left on Cotton Lane for 1.0 mile to house on right, continue south for 0.2 mile to fork, keep left fork for 0.1 mile to fork, keep right fork for 0.6 mile to a track crossroad, continue south between fences for 0.5 mile to three small yellow houses and fork, turn left and go east passing between the first and second house and continue east and northeast following track road to a reverse fork for 0.5 mile, keep right for 0.1 mile to a white iron gate on right, turn right through gate and go southerly on gas line road for 0.65 mile to a track road left, turn left off gas line road and go 0.1 mile to a dirt fork, keep left fork and go east-northeast for 0.25 mile to the Azimuth Mark on the left and end of track travel. From here pack easterly up trail to top of hill and station. This is about 20 minute pack.

Station mark, a standard triangulation station disk set in a drill hole in outcropping bedrock and is stamped BRADLEY 1934. The mark is 50 feet south-southeast of the highest part of hill.
 Reference mark 1, a standard reference disk set in a drill hole in outcropping bedrock and is stamped BRADLEY NO 1 1934. The mark is on the highest point of hill and projects about 18 inches.
 Reference mark 2, a standard reference disk set in a drill hole in outcropping bedrock which is about 12 feet lower in elevation than the station and is stamped BRADLEY NO 2 1934. The mark is on a ledge on the west side of hill.
 Azimuth mark, a standard azimuth disk set in a drill hole in outcropping bedrock and is stamped BRADLEY 1934. The mark is 54 feet north of a track road, 10 feet north-west of a cairn and 5 feet northeast of a witness post.

B. P. Brunetti

*Name of chief of party should be inserted here. The officer who actually visited the station should sign his name of the recovery note.
 NOTE - One of these forms must be used for every station recovered.

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ANGLE	MARK
STATE: Ariz ZONE: G CODE: 0202	348,688.75 863,635.23	94° 41' 20" - 0 16 21	AZIMUTH MARK 1962

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION METERS
STATE: Ariz ZONE: G CODE: 0202	LATITUDE: 33° 22' 23.4258" NORTH LONGITUDE: 112° 24' 44.3019" WEST	94° 24' 58.9"	390.6 1281

AZIMUTH MARK 1962	THIRD-ORDER	DISTANCE (feet)
	94° 24' 58.9"	

N.A. Elev. 1282 FT (was 1952)

FILE COPY

JAN 1967

170

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

HORIZONTAL CONTROL DATA

QUAD 331122 STATION 1008
APIZ 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NI 12-7 PHOENIX

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

BRADLEY (Continued)

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BRADLEY
ESTABLISHED BY: E.B.J.
RECOVERED BY: D.J. FLOWICK
YEAR: 1934
STATE: ARIZONA
COUNTY: MARICOPA
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN:
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
BENCH MARK ALSO

HEIGHT OF LIGHT ABOVE STATION MARK 4 FEET.

OBJECT	DISTANCE		DIRECTION
	BEARING	FEET	
WHITE 1934	N	40.179	00 00 00.00
Reference Mark No. 1		12.247	46 18 21
Reference Mark No. 2	SW	32.040	9.767 295 33 38
Azimuth Mark	W	(approx. 0.3 mi.)	329 23 57.5

The station mark, reference mark No. 1, reference mark No. 2 and the azimuth mark were recovered and found to be in good condition. The directions to both reference marks and the azimuth mark were checked, but a slight discrepancy was noted in the distances to the reference marks. The measurement to reference mark No. 1 is 10 mm. shorter than the 1962 measurement, and that to reference mark No. 2 5 mm. longer. A new and complete description follows:

The station is located on the summit of a low, rocky hill about 10 miles east of Buckeye, 8 miles southwest of Avondale and just south of the Gila River.

To reach the station from the City Hall in Avondale, Co west on Western Avenue for 0.85 mile to Litchfield Road. Turn left and go south on Litchfield Road for 0.75 mile to U.S. Highway 80. Turn right and go westerly on U.S. Highway 80 for 4.4 miles to Cotton Lane. Turn left and go southerly on Cotton Lane for 1.2 miles to a fork. Take the left fork and continue south along a bladed road for 0.45 mile to an intersection of 5 bladed roads. Take the extreme left road and go northeast for 0.35 mile to the north end of a concrete irrigation ditch. Turn right and follow bladed road south for 0.25 mile to a "u" intersection. Turn left and go east for 0.15 mile to another "u" intersection. Turn left and go southerly for 0.65 mile to a track road on the left. Turn left and follow track road for 0.1 mile to a fork. Take the left fork and follow dim track road for 0.25 mile to the azimuth mark on the left and the end of track travel. Pack easterly up steep hill for about 0.3 mile to the summit and the station mark. Fudging time is about 20 minutes.

The station mark is a standard disk, stamped BRADLEY 1934, cemented in a drill hole in outcropping bedrock. It is about 50 feet south of the highest point of the hill. Reference mark No. 1 is a standard disk, stamped BRADLEY NO 1 1934, cemented in a drill hole in outcropping bedrock that projects 18 inches. It is on the highest point of the hill. Reference mark No. 2 is a standard disk, stamped BRADLEY NO 2 1934, cemented in a drill hole in outcropping bedrock about 12 feet below the elevation of the station mark.

The azimuth mark is a standard disk, stamped BRADLEY 1934, cemented in a drill hole in outcropping bedrock. It is 54 feet north of the center of a track road, 10 feet northwest of a cairn and 5 feet northeast of a metal witness post.

FILE COPY

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA
 QUAD 331122 STATION 1009
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

NAME OF STATION: CANAL
 TRAVERSE
 STATE: ARIZONA
 COUNTY: Maricopa

CHIEF OF PARTY: C. A. Amlis
 YEAR: 1962
 DESCRIBED BY: R. D. S. JR.

ADJUSTED HORIZONTAL CONTROL DATA
 YEAR: 1962

NAME OF STATION: CANAL
 STATE: Arizona
 LOCALITY: Arizona Hwy. Survey
 Ehrenberg to Phoenix to Casa Grande
 Second-order Triangulation source: 0-12911
 and Traverse
 FIELD SKETCH: ATLE. 49-II

NOTE	HEIGHT OF TELESCOPE ABOVE STATION MARK	HEIGHT OF LIGHT ABOVE STATION MARK	ANGLE OF VISION TO STATION MARK	REFERENCE MARK AND PROGRAM	
1b	SURFACE STATION MARK	DISTANCE TO OBJECT WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	BEARING	FEET	DIRECTION
7a	UNDERGROUND STATION MARK				
	BRADLEY 193H			00	00
	Goodyear, Goodyear Aircraft Corp., Water Tank		NE'	approx. 3 miles	140
	R. M. No. 1		ESE'	82.80'	225
	R. M. No. 2		SE'	62.02'	18.90'
	Azimuth Mark (Corps. of Eng. BW) 5'			1.262	56
				298	06
				57.7'	22

Detailed description:
 Station is located about 3 miles southwest of Avondale, about 1 1/4 mile south of U. S. Highway 80 and is just northwest of a small concrete bridge over a canal.
 To reach the station from the city half in Avondale, go west on Western Avenue for 0.85 mile to a crossroad and traffic light in Good-year, turn left, go south for 0.75 mile to U. S. Highway 80, turn right, go southwest on U. S. Highway 80 for 1.2 mile to a side road left, turn left, go south on Bullard Avenue for 0.6 mile to a crossroad (W Bullard + Broadway), continue south on Bullard Avenue for 0.5 mile to bridge over canal and the station on the right.
 Station mark, a standard traverse disk set in top of a round concrete post which projects about 2 inches and is stamped CANAL 1962. The mark is 38 feet north-northwest of the northwest corner of concrete bridge, 30 feet north of the north edge of canal, 26 feet west of center of road, 6.5 feet north of power line pole and 3.7 feet south of witness post.

Reference mark 1, a standard reference disk set in top of a round concrete post which projects about 8 inches and is stamped CANAL NO 1 1962. The mark is 83.8 feet east of witness post, 56 feet east of center of road, 55 feet north of the north edge of canal and 50 feet north-northeast of the northeast corner of bridge.
 Reference mark 2, a standard reference disk set in a drill hole in the northeast corner of concrete bridge and is stamped CANAL NO 2 1962. The mark is 65.2 feet southeast of witness post and 14 feet east of center of road.
 Azimuth mark, a U. S. Army Corps of Engineers bronze disk set in top of a round concrete post which projects about 4 inches and is stamped T L ZS 8 1960. The mark is encircled by black painted rocks, is 79 feet east of center of road and 7.3 feet west of witness post.
 To reach the azimuth mark from the station, go south for 0.2 mile to the mark on the left.
 Distance from R. M. No. 1 to R. M. No. 2 is 50.91 feet or 15.517 meters.

REPORT ON CONDITION OF SURVEY MARK

Name or Designation: CANAL Year Established: 1962 Form Approved Budget Bureau No. 41-8193

State: ARIZONA County: Maricopa Organization Established by: USCGS

Distance and direction from nearest town: 3 mi. southwest of Phoenix

Description published in: (Name, book, or geographic number): Quadr. Station 1009

Mark searched for or recovered by: Name: Earl M. Brackler

Organization: US Army Engineer District Los Angeles

Date of report: 24 Jan 1972 Address: Lab Box 2711, Los Angeles, Cal.

Condition of marker: List letters and numbers found stamped in form cast in each mark.

Mark stamped:	Condition:
<u>CANAL 1962</u>	<u>Good</u>
<u>CANAL NO 1 1962</u>	<u>Good</u>
<u>CANAL NO 2 1962</u>	<u>Good</u>

Mark accessible? Yes No

Property owner contacted? Yes No

Please report on the thoroughness of the check in case a mark was not recovered, suggested changes in description, and the repairing or missing the mark, or other pertinent facts:

Description is adequate

OSM DATA	COORDINATES (F-M)	PLANE AZIMUTH FROM ADJ. MARK	MARK
STATE: ATLE.	360.279.82	354° 19' 54"	AZIMUTH MARK
ZONE: C	871,390.17	- 0 15 07	TL ZS 8 USE
CODE: 0202			
STATE: E			
ZONE: Y			
CODE:			

GEODETTIC DATA	POSITION		GEODETTIC AZIMUTH (from mark)	DISTANCE (feet/m)
	LATITUDE	LONGITUDE		
BRADLEY	33° 23' 40".6804	112 22 20.0229		
OSM				
TY ZMG AMS				

GEODETTIC DATA	POSITION		GEODETTIC AZIMUTH (from mark)	DISTANCE (feet/m)
	LATITUDE	LONGITUDE		
BRADLEY	33° 23' 40".6804	112 22 20.0229		
OSM				
TY ZMG AMS				

GEODETTIC DATA	POSITION		GEODETTIC AZIMUTH (from mark)	DISTANCE (feet/m)
	LATITUDE	LONGITUDE		
BRADLEY	33° 23' 40".6804	112 22 20.0229		
OSM				
TY ZMG AMS				

* Tellurometer length

FILE NOW

SEP 24 1974

USCOMA-NOAA-ASHVILLE

JULY 1966

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY
REV: MAR 1973

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331122 STATION 1010
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NI 12-7 PHOENIX

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SHOT
CHIEF OF PARTY: C. A. Annis
STATE: Arizona
COUNTY: Maricopa
YEAR: 1962
DESCRIBED BY: B. P. B.

NOTE	HEIGHT OF TELESCOPE ABOVE STATION MARK	1 METERS	HEIGHT OF LIGHT ABOVE STATION MARK	1 METERS
1b	SURVEILLATION MARK	DISTANCE AND BEARING TO REFERENCE MARK AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION		
11b	R. H. No. 2	CAVAL	00 00	00.00
16b	Litchfield, NAF Beacon		27 35	39
11b	Azimuth Mark		59 00	24.8
	R. H. No. 1		88 47	50.8
			331	51 04

The station is located about 2 1/2 miles south of Avondale, about 4 miles southwest of Cashion and on the east side road in the road right-of-way line. To reach the station from the post office in Cashion, go west on U.S. Highway 80 for 1.5 miles to a side road left (El Mirage Road) turn left and go south on El Mirage road for 1.0 mile to a crossroad (Lower Buckeye Road), turn right on Lower Buckeye road and go west and southwest for 1.5 miles to the Lakin Cattle Co. on right, continue south on backtop road for 0.7 mile to a house on the left and azimuth mark on the right at a driveway, continue south for 0.15 mile to the station on the left side of road as described.

Station mark, a standard traverse disk set in the top of a round concrete post which projects about 3 inches and stamped SHOT 1962. The mark is 31 feet east of the center of road, 4 feet north-northwest of the witness post and 2 feet west of fence. Reference mark 1, a standard reference disk set in the top of a round concrete post which projects about 6 inches and stamped SHOT NO 1 1962. The mark is 40 feet west of the center of road and 1.3 feet east of fence.

Reference mark 2, a standard reference disk set in the top of a round concrete post which projects about 6 inches and stamped SHOT NO 2 1962. The mark is 40 feet west of the center of road and 1.3 feet east of fence.

Azimuth mark, a standard azimuth disk set in the top of a round concrete post which projects about 3 inches and stamped SHOT 1962. The mark is 39 feet west of the center of road, 11 feet north of the center of a driveway, 2.2 feet south of the witness post and 2 feet northeast of a gate post.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: SHOT
ESTABLISHED BY: C. A. Annis
RECOVERED BY: C. A. Annis
YEAR: 1962
STATE: Arizona
COUNTY: Maricopa

Detailed statement as to the status of the original description, including marks found, stampings, changes made, and other pertinent facts.
The station mark, reference mark number 2 and the azimuth mark were recovered and found in good condition. Reference mark number 1 has been destroyed.
This original description to reach the station is adequate.

REPORT ON CONDITION OF SURVEY MARK

Name of Designation: SHOT
County: Maricopa
Year Established: 1962
Firm Approved: Federal Bureau No. 41-1193

Distance and direction from nearest town: 2 1/2 miles south of Avondale
Organization: U.S. Army
Description published in: (Name, book, or serial number) Quad 331122 Station 1010
Mark searched for or recovered by: Name: Earl M. Bruckler

Date of report: 24 May 1972
Address: P.O. Box 2711 Los Angeles, Cal.
Condition of marks: List letters and numbers found stamped in feet east (in) east mark.
Mark stamped: Condition: Description is adequate

SHOT 1962
SHOT NO 1, 1962
SHOT NO 2, 1962
Marks accessible? Yes
Property owner contacted? No

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SHOT
STATE: Arizona
LOCALITY: Arizona Hwy. Survey
Shrenberg to Phoenix to Casa Grande
Second-order Triangulation source: G-12917
FIELD SKETCH: Ariz. 49-II
and Traverse

GRID DATA	COORDINATES (F.M.D.)	PLANE AZIMUTH HOR. ANGLE	MARK
STATE: Ariz.	370,907.99	175° 21' 47"	AZIMUTH MARK
ZONE: C	872,027.96	0 13 58	
CODE: 0202			
STATE: Arizona			
ZONE: C			
CODE: 0202			
GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION METERS FEET
LATITUDE: 33° 23' 47"	NORTH	22.6955	BENCH MARK
LONGITUDE: 112° 20'	WEST		
TO STATION	GEODETIC AZIMUTH (From same)	DISTANCE (Meters)	
CANAL	86° 19' 58.76"	3,245.559*	SECOND-ORDER
PUMP	258 49 31.75	5,600.542*	
TT 2W9 AMS	304 00 55.15	3,838.602*	
NAF BEACON LITCHFIELD PARK	145 20 16.3	4,246.60	THIRD-ORDER
AZIMUTH MARK	175 07 49.4		

* Tellurometer length

RECOVERY NOTE, TRIANGULATION STATION TRAVERSE

NAME OF STATION: SHOT
ESTABLISHED BY: C. A. Annis
RECOVERED BY: L. F. Smith
YEAR: 1962
STATE: Arizona
COUNTY: Maricopa
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 1/2 miles south of Avondale
HEIGHT OF TELESCOPE ABOVE STATION MARK: 5 FEET
HEIGHT OF LIGHT ABOVE STATION MARK: 5 FEET

OBJECT	DISTANCE AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	
	BEARING	DISTANCE METERS
Azimuth mark 1962	N	83.04
RH 3	SW	25.310
RH 2	NW	77.57
		298 54 56

The station mark, reference mark 2 and the azimuth mark were recovered as described and found in good condition. Reference mark 1 had been graded out and was laying on the surface. The monument was reset and stamped. SHOT 1962 NO 3 1972 and reestablished. A witness post and sign was placed by the mark. The route to the station is adequate.

FILE COPY

SEP 24 1974

HORIZONTAL CONTROL DATA

Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 331122 STATE ON 1011
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

ARIZONA 170

ADJUSTED HORIZONTAL CONTROL DATA

330 151
 1120 151

NAME OF STATION: INITIAL MONUMENT LOCALITY: Yuma to Stewart Dam
 STATE: Ariz YEAR: 1935
 FIELD SECTION: ARIZ 9, 8-II
 SOURCE: G-3022

GRID DATA	COORDINATES (FEET)	PLANE ANGLE OF TORSION ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	X 381,316.94 Y 864,940.97	192°12'12" - 0 12 50	AZIMUTH MARK (CASHION)
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS
	LATITUDE	LONGITUDE		
AZIMUTH MARK (CASHION)	33°22'37".716	112 18 19.608	NORTH	
			WEST	
			GEODETIC AZIMUTH (From station)	
			LOCALITY (Meters)	DISTANCE METERS

Initial Monument (Maricopa County, E. B. Latham, 1885).—On a low butte, near the General Land Office corner marking the corner of T. 1 N., and T. 1 S., R. 1 E., and R. 1 W., just south of the confluence of the Gila and Salt Rivers and about one-half mile west and 4 miles south of Cashion. (This butte is known locally as Monument Hill.) Marked by a standard bronze disk as described in note 2. Reference mark No. 1, a standard bronze reference disk, note 12a, is 6.673 meters (18.61 feet) from station in azimuth 89°4'06". Reference mark No. 2, a standard bronze reference disk, note 12a, is 10.090 meters (18.02 feet) from station in azimuth 119°30". No azimuth mark established. Other stations visible from the ground.

INITIAL MONUMENT (Maricopa County, Ariz.; E. B. L., 1835; G.L.O., 1944)
 Southwestern District, Los Angeles, California, dated December 7, 1944:
 A connection was made by a party of General Land Office to the U.S. G.L.O. Initial Monument.
 The G.L.O. station is 14.78 feet, in azimuth 292°, from the C. & G.S. station INITIAL MONUMENT.
 There seems to be some discrepancy in the distance to reference mark 2.

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
 RECOVERY NOTE, TRIANGULATION STATION

Name of Station: INITIAL MONUMENT
 Established by: E. B. Latham Year: 1835 State: Arizona
 Recovered by: C. H. Annis Year: 1962 Country: Maricopa

Detailed statement as to the status of the original description: (including marks found, attempts, changes made, and other pertinent facts)

The station INITIAL MONUMENT 1935 is declared lost after a thorough search was made for same. The copies of engineers established a new station TITZM 9 (ANS), in 1961 after being unable to locate our original station. Reference mark 2 was the only U.S.G. & G.S. mark that was recovered and now serves as a reference to TITZM 9 (ANS).

*Name of field party should be inserted here. The office to which the station should refer the name of the recovery work.
 Note.—Class of station should be noted for every station recovered.

4/4 R

Handwritten: 21.0. Elev. 1159 ft - (21885-1952)

FILE COPY
 JAN 1967



11
12
13
14

15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200

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

HORIZONTAL CONTROL DATA

Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 33122 STATION 1012
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 PHOENIX
 DIAGRAM NI 12-7

ARIZONA 170

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: TP ZW 9 (AMS) STATE: Arizona COUNTY: Maricopa

CHIEF OF PARTY: O.A. Anshs YEAR: 1962 DESCRIBED BY: R.P.K.

MARK	HEIGHT OF TELESCOPE ABOVE STATION MARK 1	BENCHMARK	WEIGHT OF LIGHT ABOVE STATION MARK 1	METERS
12a	BRADLEY 1934 R.N. No. 2 (INITIAL MON. RM 2) Goodyear, Goodyear Aircraft Corp. Water Tank	NR	approx. 5 miles	51 53 42.7
16b	Azimuth Mark deso. R.N. No. 3 (TIN-T13, RIE-R14, Secs. 1, 6, 31, 36)	R	4.69 4.479 203 09 16.4	91 49 21.0

Station is located about 15 miles west-southwest of Phoenix, about 1.5 miles south-southeast of Avondale and about 4 miles south of Gashon. To reach from the post office in Gashon, go west on U.S. Highway 80 for 0.4 mile to S. 115th Avenue, turn left and go south on S. 115th Avenue for 3.1 miles to crossroad W. Southern Avenue, continue south for 0.5 mile to the Azimuth Mark on right where road curves right, turn right and follow dirt road westerly for 0.95 mile to the Gila River, ford river and continue westerly on main dirt road for 0.15 mile to fork, keep left and go southerly 0.1 mile to fork, keep left and follow main road easterly 0.15 mile to truck road right, continue straight ahead at all crossroads and go 0.3 mile to fork, keep left and follow main track road easterly for 0.6 mile to two abandon buildings on right, continue east on main track road along the south edge of field for 0.15 mile to "Y" road, turn right and go south then east for 0.45 mile to rock quarry, keep to left of rock quarry and go easterly up hill for 0.1 mile to fence, turn left and go north 0.05 mile to end of truck travel. From here pack north to top of hill and station. (5 minute pack)

Station mark, a Corps of Engineers Survey disk stamped TP-ZW-9 Army Map Service 1961, is set in top of a 8 inch square concrete cylinder which is set flush with the surface of the ground. The mark is surrounded by a circle of white painted rocks, is 4.5 feet east of fence and 20 feet west-northwest of an outcropping bedrock formation which projects about 2 feet above the ground.
 Reference mark 2, a standard reference disk stamped INITIAL NO 2 1934, is set in a drill hole in outcropping bedrock which projects about 4 inches above the ground. This mark is 30 feet northwest of the north-west edge of rock circle and 27 feet west of the fence.
 Reference mark 3, a U.S. Dept. of Interior Cadastral Survey Monument which has a bronze cap which is stamped TIN-R14-R1E-T13, 336-331-31-36 1962. This mark is 18 feet east of station and 6 feet west of an outcropping bedrock formation which projects about 2 feet above the ground.
 Azimuth mark, is a standard azimuth disk stamped TP ZW 9 AMS 1962, is set in the top of a concrete cylinder which projects about 3 inches above the ground. The mark is 31 feet west of center of road, 6.5 feet south of a east-west irrigation ditch, 5 feet west of a north-south irrigation ditch and 2 feet southwest of the witness post.

(Continued on next page)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TP ZW 9 AMS

YEAR: 1962, 1963

LOCALITY: Arizona Hwy. Survey
 Ehrenberg to Phoenix to Casa Grande
 First-order Triangulation SOURCE: 0-12917
 G-13304
 G-13620

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (from Az)	MARK
STATE: Ariz. ZONE: C CODE: 0202	X 381,317.29 Y 864,941.04	179° 31' 50" - 0 12 50	AZIMUTH MARK
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION METERS
LATITUDE: 33° 22' 37.167 LONGITUDE: 112 18 19.6038	NORTH WEST	353.4	1159
TO STATION			
AZIMUTH MARK		719° 18' 59" 5	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TIN & T13 R1E & R1W SECS 1, 6, 31, 36

YEAR: 1962

LOCALITY: Arizona Hwy. Survey
 Ehrenberg to Phoenix to Casa Grande
 First-order Traverse SOURCE: 0-12917

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (from Az)	MARK
STATE: Ariz ZONE: C CODE: 0202	X 381,331.02 Y 864,935.80	-0 12 50	
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION METERS
LATITUDE: 33° 22' 37.16654 LONGITUDE: 112 18 19.4416	NORTH WEST		
TO STATION			

TP ZW 9 AMS	(TAPED LENGTH)	INST-OORDER	4.479
	(110° 39')		

FILE COPY

JAN 1967

170 ARIZONA

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

HORIZONTAL CONTROL DATA

QUAD 331122 STATION 1012
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM MI 12-7 PHOENIX

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

TT ZW 9 (AMS) (Continued)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: TT ZW 9 (AMS)
ESTABLISHED BY: C.A. Annis YEAR: 1962 STATE: Arizona
RECOVERED BY: C.A. Annis YEAR: 1963 COUNTY: Maricopa

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

Station was recovered as described in the 1962 description and all marks were found to be in good condition. Because this station was occupied less than a year ago, the direction was not taken to the reference marks. The distance was measured to the reference marks and checked. The direction to the azimuth mark checked. The distance to reach is adequate.

1963 Observations Follow:

OBJECT	BEARING	DISTANCE feet meters	DIRECTION
Phoenix, Western Cotton Products Co. Water Tank	NE	approx. 10 miles	00 00 00.0
Phoenix, KPHO Relay Tower	NE	approx. 14 miles	19 36 07.2
Azimuth Mark	N	approx. 0.5 mile	25 31 35.0
R.M. No. 2	WNW	35.65	10.869 316 43 36.5
R.M. No. 3	E	34.69	4.479

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: TT ZW 9 (AMS)
ESTABLISHED BY: C.A.A. YEAR: 1962 STATE: Arizona
RECOVERED BY: D.J. FLOWICK YEAR: 1965 COUNTY: Maricopa
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 4 miles south of Cashion
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK 4 FEET.

OBJECT	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	
	BEARING	DIRECTION
BRADLEY 1934	111	00 00' 00.00
Reference Mark No. 2	N	35.646 10.864 32 05 24
Azimuth Mark	N	approx. 0.5 mi. 91 49 19.8
Reference Mark No. 3	ESE	14.699 4.480 203 09 30

The station mark, reference mark No. 2, reference mark No. 3 and the azimuth mark were recovered and found to be in good condition. The distances and directions to both reference marks and the direction to the azimuth mark were verified, but a new road has been built in the vicinity of the station. A new and complete description follows: The station is located on the summit of a low, rocky hill that overlooks Phoenix International Freeway to the west-southwest, about 15 miles west-southwest of Phoenix, 5 miles south-southeast of Avon-

dale and 4 miles south of Cashion.
To reach the station from the U.S. Post Office at Cashion, go west on U.S. Highway 80 for 0.4 mile to 115th Avenue. Turn left and go south on 115th Avenue for 3.1 miles to the intersection with West Southern Avenue. Continue straight ahead, south, on 115th Avenue for 0.5 mile to the azimuth mark on the right. Continue straight ahead, south, on 115th Avenue for 0.25 mile to a truck road on the left. Turn left and go easterly on truck road for 0.05 mile to the end of truck travel. Pack south and west up hill for about 0.2 mile to the summit and the station mark. Packing time is about 10 minutes.
The station mark is an Army Map Service disk, stamped TT-ZW-9 1961, cemented in a drill hole in outcropping bedrock that is flush with the surface of the ground. It is 3-1/2 feet east of a wire fence and inside a ring of white rocks.
Reference mark No. 2 is a standard disk, stamped INITIAL NO 2 1934, cemented in a drill hole in outcropping bedrock that projects 3 inches above the surface of the ground. It is 27 feet west of the wire fence and 1 foot east of a cairn.

Reference mark No. 3 is a U.S. Department of Interior, Bureau of Land Management disk, stamped TIN RIV RIF TIS S36 S31 S1 S6 1962, set in the top of a 6-inch square concrete post that projects 1 foot above the surface of the ground. It is 18 feet east of the wire fence and on the highest point of the hill.

The azimuth mark is a standard disk, stamped TT ZW 9 AMS 1962, set in the top of a 12-inch diameter concrete post that projects 3 inches above the surface of the ground. It is 41 feet west of the painted centerline of 115th Avenue, 8.6 feet north of a Maricopa County Engineering Department disk, 3.5 feet south of a concrete irrigation ditch, 5 feet west of another concrete irrigation ditch and 2 feet southwest of a metal witness post.

FILE COPY

JAN 1967

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA

170

QUAD 331122 STATION 1013
 ARIZ
 LATITUDE 33° 00' TO 33° 30'
 LONGITUDE 112° 00' TO 112° 30'
 DIAGRAM NO. 12-7 PHOENIX

330 151
 1120 15

U.S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY
 DESCRIPTION OF ADJUSTED HORIZONTAL CONTROL STATION

NAME OF STATION: PUMP LOCALITY: Arizona
 STATE: ARIZONA COUNTY: Maricopa
 CHIEF OF PARTY: C. A. Amis YEAR: 1962 DESCRIBED BY: H. D. Ellis

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PUMP LOCALITY: Arizona Hwy. Survey
 STATE: Arizona SOURCE: Kiltberg to Phoenix to Casa Grande
 Second-order Traverse SOURCE: G-15911 FIELD SKETCH: ARIZ. 49-II
 G-13304

MARK	HEIGHT OF TELESCOPE ABOVE STATION MARK	DISTANCE AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PERMANENT OBJECTS WHICH CAN BE SEEN FROM THE STATION	BEARING	DISTANCE		DIRECTION
				FEET	METERS	
11b	4 1/2	R. M. No. 2 Azimuth Mark (AHD) Goodyear, Goodyear Aircraft Corp. Water Tank	N	34.71	10.580	0 00 00.0
7a	1	R. M. No. 1	E	39.34	11.991	75 02 18.2

Detailed description:
 The station is located about 2 1/2 miles south-southeast of Gashion, about 2 miles south of U. S. Highway 80 on the south right-of-way of Host Broadway.
 To reach the station from the post office in Gashion, go east on U. S. Highway 80 for 0.55 mile to crossroad (107th Ave.), turn right, go south on 107th Avenue for 2.0 miles to crossroad (W. Broadway) and azimuth mark on right, turn left, go east on West Broadway for 0.5 mile to station on right.

Station mark, a standard traverse disk set in the top of a round concrete post which projects 4 inches and stamped PUMP NO 1 1962. The mark is 32 feet south of center of Host Broadway, 9 feet southeast of a power pole, 5.6 feet north of north edge of canal and 3.8 feet south of witness post.
 Reference mark 1, a standard reference disk set in the top of a round concrete post which projects 4 inches and stamped PUMP NO 1 1962. The mark is 39.5 feet east-southeast of witness post, 32 feet east-south-east of a power pole, 31 feet south of center of Host Broadway and 6 feet north of north edge of canal.
 Reference mark 2, a standard reference disk set in the top of a round concrete post which projects 2 inches and stamped PUMP NO 2 1962. The mark is 4.3 feet west-southwest of a power pole, 31.9 feet west of witness post, 32 feet south of center of West Broadway and 5.6 feet north of north edge of canal.
 Azimuth mark, a Arizona Highway Department bronze traverse disk set in the top of a 6 inch square concrete post which is flush with the surface of the ground and stamped 101 Z 1962. The mark is 38 feet north of center of West Broadway, 38 feet west of center of South 107th Avenue, 19 feet northwest of a brace pole and 1.7 feet east of witness post.

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ANGLE	MARK
STATE: ARIZ.	388,945.90	91° 13' 36"	AZIMUTH MARK 101 Z AHD 1
ZONE: G	875,515.32	0 12 01	
CODE: 0202			
STATE: ARIZ.			
ZONE: G			
CODE: 0202			

GEODETIC DATA	POSITION		SECONDS IN LETTERS	ELEVATION METERS
	LATITUDE	LONGITUDE		
AZIMUTH MARK 101 Z AHD	33° 24' 22"	112 16 50.0667	NORTH	91.013475

TO STATION	GEODETIC AZIMUTH (From mark)	DISTANCE (Feet)
AZIMUTH MARK 101 Z AHD	91° 01' 34" 5	

Refer to notes in manuals of triangulation and traverse publications of triangulation. Instructions and suggested check lists. Information on the use of theodolite and transit. To obtain more data, when an instrument is being used.

FILE COPY

JAN 1967

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 331122 STATION 1014
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NL 12-7 PHOENIX

DESCRIPTION OF TRANSFORMATION STATION

NAME OF STATION: TWIN
 STATE: ARIZONA
 COUNTY: Maricopa
 DESCRIBED BY: S. P. B.
 YEAR: 1962

OBJECT	BEARING	FEET	METERS	DIRECTION
11b R. M. No. 1 PUMP	N	21.94	6.683	00 00 00.00
11b R. M. No. 2 Phoenix, Ariz., Pub. Serv. Co. Water Tank	E	21.32	6.499	138 47 35.8
desc azimuth mark (TL 8 (USE))	S			182 39 49

approx. 0.6 mile

The station is located about 4 1/2 miles southeast of Cashion, about 10 miles west-southwest of Phoenix, and on the east side of a north and south road at a fence corner and irrigation ditch.

To reach the station from the post office in Cashion, go east on U.S. Highway 101 for 3.5 miles to South 83 rd. Ave., turn right and go south on South 83 rd. Ave. for 2 miles to West Broadway, turn left and go east for 0.05 mile to a side road right, turn right and go south on dirt road for 0.55 mile to a track road left and irrigation ditch and station on left. Continue south for 0.6 mile to azimuth mark on right.

Station mark, a standard traverse disk set in the top of a 12 inch round concrete post which projects about 2 inches and stamped TWIN NO 1 1962. The mark is northeast of witness post and 2.8 feet east of fence.

Reference mark 1, a standard reference disk set in the top of a 12 inch round concrete post which projects about 3 inches and stamped TWIN NO 1 1962. The mark is 27 feet east of the center of road, 23 feet north of the witness post and 1 foot east of fence.

Reference mark 2, a standard reference disk set in the top of a 12 inch round concrete post which projects about 3 inches and stamped TWIN NO 2 1962. The mark is 23 feet east of fence, 22.6 feet east of the witness post and 22 feet north of the center of irrigation road.

Azimuth mark, a Corps of Engineers Survey disk set in the top of a 10 inch round concrete post which is about flush with the ground and stamped TL-8 1960 RHY M.P SERVICES. The mark is 74 feet west of the center of road, 13 feet east of fence, 6.6 feet northeast of center of gate in irrigation ditch and 1 foot east of witness post.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TWIN
 STATE: Arizona
 LOCALITY: Arizona Hwy. Survey
 Ehrenberg to Phoenix to Casa Grande
 Second-order Traverse source: G-12917
 FIELD SKETCH: Ariz. 49-II
 G-13304
 YEAR: 1962

GRID DATA	COORDINATES (F&M)	PLANE AZIMUTH FROM BENCHMARK	MARK
STATE AZIM.:	402,481.63	1° 28' 17"	AZIMUTH MARK TL-8 USE
ZONE: C	873,236.30	- 0 10 33	
CODE: 0202			
STATE:			
ZONE:			
CODE:			

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION
LATITUDE:	33° 21' 00.5058		BENCH METERS
LONGITUDE:	112 14 10.3606		FEET

TO STATION	GEODETIC AZIMUTH (From bench)	DISTANCE (Meters)
AZIMUTH MARK TL-8 USE	THIRD-ORDER 1° 17' 43.6"	

*Refers to marks in manual of triangulation and near publications of triangulation. † Direction was measured clockwise, referred to meridian of date. ‡ To nearest meter only, unless trigonometric leveling is being used.

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA

QUAD 331122 STATION 1073
 ARIZ 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

Power plant west of Phoenix, chimney, Maricopa County, E. B. Latham,
 1934.

RECOVERY NOTE, TRIANGULATION STATION

Power plant west of Phoenix, chimney, Maricopa County, Arizona, E. B. Latham, 1934; 1941. This intersection position is tall white concrete stack at power plant of Central Arizona Light & Power Company, situated about 6.5 miles west of business section of Phoenix. Plant may be reached by several highways. Chimney is conspicuous landmark and is about 100 feet north of elevated steel tank.

Detailed statement as to the status of the original description:

Good joint, excellent condition in summer of 1941.
 Not described in 891 Pub.

R

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: POWER PLANT WEST OF PHOENIX CHIMNEY
 STATE: ARIZ LOCALITY: Phoenix to Parker
 YEAR: 1934
 THIRD-ORDER TRIANGULATION SOURCE: G-8347
 FIELD SKETCH: ARIZ 26

GRID DATA	COORDINATES (7-41)	PLANE ANGLE \$ (ON DEN. ANGLE)	MARK
STATE: ARIZ	Z 427,509.36	- 0 07 51	
ZONE: G	Y 888,340.02		
CODE: 0202			
STATE: X			
ZONE: Y			
CODE:			

GEODETIC DATA	POSITION	RECORD IN METERS	ELEVATION METERS
LATITUDE: 33°26'35"559			381
LONGITUDE: 112°09'15"518			1,250
	TO STATION		
	COMPUTED FROM STATIONS QIENDALE 2, CAMERIS BACK 2, PHOENIX BASELINE WEST		

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 (FORM NO. 100)
 NAME OF STATION: POWER PLANT West of Phoenix, chimney, Maricopa County, Arizona
 RECOVERED BY: E. B. Latham
 YEAR: 1934
 RECOVERED BY: D. H. Kondchek
 YEAR: 1947

R

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 (FORM NO. 100)
 NAME OF STATION: POWER PLANT, West of Phoenix, chimney, Maricopa County, Arizona
 RECOVERED BY: E. B. Latham
 YEAR: 1934
 RECOVERED BY: L. V. Q.
 YEAR: 1953

R

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 (FORM NO. 100)
 NAME OF STATION: POWER PLANT WEST OF PHOENIX CHIMNEY
 RECOVERED BY: A. M. S.
 YEAR: 1960

R

NAME OF STATION	RECOVERY NOTE	RECOVERED BY	YEAR
POWER PLANT WEST OF PHOENIX CHIMNEY	INTERSECTION	E. B. Latham	1934
POWER PLANT, West of Phoenix, chimney	INTERSECTION	E. B. Latham	1934
POWER PLANT WEST OF PHOENIX CHIMNEY	INTERSECTION	A. M. S.	1960

*Name of other party should be inserted here. The office to the authority, within the station should sign the name at the end of the recovery note.
 Note:—Date of check should be used for every station recovered.

170 ARIZONA

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

33015
112015

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331122 STATION 1074,1075
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NI 12-7 PHOENIX

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PHOENIX WESTERN COTTON PROD CO WATER TANK YEAR: 1962, 1963

STATE: Arizona LOCALITY: Arizona Hwy. Survey, Papago Freeway

Third-order Triangulation source: G-12917 FIELD SKETCH: Ariz. 49-II, 50

G-13304

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GOODYEAR AIRCRAFT CORP WATER TANK YEAR: 1962

STATE: Arizona LOCALITY: Arizona Hwy. Survey

Ehrenberg to Phoenix to Casa Grande
FIELD SKETCH: Ariz. 49-II

Third-order Triangulation source: G-12917

GRID DATA		COORDINATES (Feet)	PLANE AZIMUTH FOR SIGHT ANGLE	MARK	
STATE: Ariz.	Z	42 47 46	0 0 18		
ZONE: C	7	886 776.39	- 0 08 18		
CODE: 0202					
STATE: Arizona	Z				
ZONE: C	7				
CODE: 0202					
GEODETIC DATA		POSITION		SECONDS IN METERS	ELEVATION METERS FEET
		LATITUDE: 33° 26' 17" 026	NORTH WEST		
		LONGITUDE: 112 10 03.084			
TO STATION		GEODETIC AZIMUTH (From south)		DISTANCE (Meters)	
STATION COMPUTED FROM: HAUL, TWIN, FT 2W 9 AMS, EVANS, VAN, MACK, HOPS, EATON, COOL, LOWER					

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

DESCRIPTION OF TRIANGULATION INTERSECTION STATION

NAME OF STATION: Phoenix, Western Cotton Products Co., Meter Tank

CHIEF OF PARTY: C. A. Annis YEAR: 1962 STATE: Arizona COUNTY: Maricopa

Description, including sketch of object: Station is located at the southwest part of Phoenix, approximately 200 yards northeast of the junction of West Buckeye Road and 51 st. Avenue. Station has 4 legs is painted silver and is approximately 140 feet high. The point intersected was the top and center of tank.

U. S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: Phoenix, Western Products Co., Water Tank 1962
ESTABLISHED BY: C. A. Annis Year: 1962 State: Arizona
RECOVERED BY: C. A. Annis Year: 1963 County: Maricopa

Detailed statement as to the status of the original description, including marks found, stampings, changes made, and other pertinent facts:
Station was recovered as described.

GRID DATA		COORDINATES (Feet)	PLANE AZIMUTH FOR SIGHT ANGLE	MARK	
STATE: Ariz.	Z	364,345.65	0 1 11		
ZONE: C	7	884,884.28	-0 14 42		
CODE: 0202					
STATE: Arizona	Z				
ZONE: C	7				
CODE: 0202					
GEODETIC DATA		POSITION		SECONDS IN METERS	ELEVATION METERS FEET
		LATITUDE: 33° 25' 54" 369	NORTH WEST		
		LONGITUDE: 112 21 40.747			
TO STATION		GEODETIC AZIMUTH (From south)		DISTANCE (Meters)	
CANAL BRADLEY GIN KING COTTON PUMP TT 2W9 AMS		THIRD-ORDER { 16° 31' 22" 3 { 36 08 20.5 { 65 07 57.3 { 83 52 14.2 { 95 11 10.8 { 290 36 12.8 { 319 21 27.0			4,295.99 8,045.62 4,864.06 10,903.45 4,553.49 8,024.50 7,982.53

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

DESCRIPTION OF TRIANGULATION INTERSECTION STATION

NAME OF STATION: Goodyear, Goodyear Aircraft Corp., Water Tank

CHIEF OF PARTY: C. A. Annis YEAR: 1962 STATE: Arizona COUNTY: Maricopa

Description, including sketch of object: Station is located in the west edge of the town of Goodyear, 0.25 mile south of Western Ave., 0.2 mile west of Litchfield Rd., and west of the main buildings of the Goodyear Aircraft Corp.

The station has 4 legs and is painted white with GOODYEAR printed on it, and is approximately 100 feet high.
The point intersected was the top and center of tank.

FILE COPY

Described by: *[Signature]*

JAN 1967

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 331122 STATION 1076.1077
 ARIZONA
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LITCHFIELD PARK MAP CONTROL TOWER
 LOCALITY: Arizona Hwy. Survey
 Phoenix to Casa Grande
 Third-order triangulation source: G-12917
 YEAR: 1962
 STATE: Arizona
 FIELD STATION: Ariz. 49-11

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ANGLE	MARK
STATE: Ariz. ZONE: C CODE: 0202	X 362,287.90 Y 883,071.92	-0 14 55	
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION		SECONDS IN METERS	GEODETIC AZIMUTH (from zero)	ELEVATION	
	LATITUDE	LONGITUDE			NORTH	FEET
	33°25'36".350	112°22'04".936				
	TO STATION					

NAME OF STATION	DESCRIPTION OF TRIANGULATION INTERSECTION STATION	THIRD-ORDER	
		GEODETIC AZIMUTH (from zero)	DISTANCE (feet)
CANAL		9°30'18".7	3,613.11
BRADLEY		34 43 50.3	7,230.96
GIN		68 31 16.4	4,070.81
KING		86 35 03.9	10,234.38
COTTON		103 53 03.0	4,027.71
TP 2MG AMS		313 21 59.1	8,012.02

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
 DESCRIPTION OF TRIANGULATION INTERSECTION STATION

NAME OF STATION: Litchfield Park N.A.P., Control Tower
 CHIEF OF PARTY: C.A. Annis
 YEAR: 1962
 STATE: Arizona
 COUNTY: Maricopa

Description, including sketch of object:
 Station is about 2 miles west-southwest of Avondale, about 1 mile southwest of Goodyear and in Litchfield Park Air Base. The station is on the west side of Aircraft Hangers, is a glassed in control station atop a square concrete foundation which is painted red and white and is approximately 65 feet high. Point intersected was top and center of control tower.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LITCHFIELD PARK MAP BEACON
 LOCALITY: Arizona Hwy. Survey
 Phoenix to Casa Grande
 Third-order triangulation source: G-12917
 YEAR: 1962
 STATE: Arizona
 FIELD STATION: Ariz. 49-II

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ANGLE	MARK
STATE: Ariz. ZONE: C CODE: 0202	X 363,031.46 Y 883,518.85	-0 14 50	
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION		SECONDS IN METERS	GEODETIC AZIMUTH (from zero)	ELEVATION	
	LATITUDE	LONGITUDE			NORTH	FEET
	33°25'40".803	112°21'56".185				
	TO STATION					

NAME OF STATION	DESCRIPTION OF TRIANGULATION INTERSECTION STATION	THIRD-ORDER	
		GEODETIC AZIMUTH (from zero)	DISTANCE (feet)
CANAL		12°32'06".4	3,791.07
BRADLEY		35 33 25.2	4,473.30
GIN		67 55 42.5	4,331.65
KING		85 54 35.3	10,468.94
COTTON		101 20 19.0	4,218.40
SHOT		325 19 25.4	4,246.60

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
 DESCRIPTION OF TRIANGULATION INTERSECTION STATION

NAME OF STATION: Litchfield Park N.A.P., Beacon
 CHIEF OF PARTY: C.A. Annis
 YEAR: 1962
 STATE: Arizona
 COUNTY: Maricopa

Description, including sketch of object:
 Station is about 2 miles west-southwest of Avondale, about 3/4 mile southwest of Goodyear and in Litchfield Park Air Base. Station is a beacon on east end of roof of aircraft hanger and the total height of beacon light above the ground is approximately 75 feet. Point intersected was center of light.

Checked by *Robert P. Kennedy*
 C. S. Smith

FILE COPY

JAN 1967

Checked by *Robert P. Kennedy*
 USCOMM-ESSA-ASHVILLE

ARIZONA 170

330151
 112015

170

ARIZONA
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 331122 STATION 1078
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NI 12-7 PHOENIX

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ELRAZ STATE: ARIZONA COUNTY: Maricopa
CHIEF OF PARTY: D.J. Flotwiok YEAR: 1965 DESCRIBED BY: R.M.M.

NOTE	HEIGHT OF TELESCOPE ABOVE STATION MARK	METERS	HEIGHT OF LIGHT ABOVE STATION MARK	METERS
1	33.15'		5	
2	112°15'			
	OBJECT	BEARING	FEET	DIRECTION
	TT 2W9 (AMS) 1962	SE	(0.6 mile)	00 00 00.0
	Litchfield Park UHF Antenna			07 18 26.2

The station is located 1.4 miles northeast of the southwest end of the runway, 0.9 mile northwest of the main gate, 0.5 mile west of the northeast end of the runway, at the Litchfield Park U.S. Naval Air Facility.

To reach the station from the main gate at the Litchfield Park U.S. Naval Air Facility, go northwest on Central Avenue for 0.15 mile to the intersection of 2nd Street. Turn right and go northeast on 2nd Street for 0.15 mile to the intersection of A Avenue. Continue straight ahead following a graveled road which parallels the security fence for 1.15 miles to the station as described in a fence corner.

The station mark, a punch mark on a plain bronze disk stamped ELRAZ 1965, set in the top of a 10-inch round concrete monument which projects 1 inch above the surface of the ground. It is 8 feet east of the security fence, 7 feet south of a fence which encloses an electric transformer and 1.8 feet southeast of a power pole with a witness sign nailed to it. The mark is set directly under the center of a screw which is located in the closed end of a small triangular shaped metal box which is mounted on the power pole.

Detailed description:

*Refers to notes in manuals of triangulation and state publications of triangulation. †Direction-angle measured clockwise, referred to initial station. ‡To accept meter only, when no trigonometric leveling is being done.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ELRAZ
STATE: ARIZONA YEAR: 1965 FIRST -ORDER
LOCALITY: LITCHFIELD PARK
SOURCE: 0-13620 FIELD SKETCH: ARIZ. 54

GEODETIC LATITUDE:	33 26 01.52064	ELEVATION,	BENCH MARK
GEODETIC LONGITUDE:	112 22 28.91506		

STATE COORDINATES (FWS)			
STATE & ZONE	CODE	X	Y
ARIZ. C	202	360,266.85	885,624.78
			- 0 15 08

TO STATION OR OBJECT	GEODETIC AZIMUTH (From mark)	PLANE AZIMUTH (From mark)	CODE
TT 2W9 AMS	314 14 39.8	314 29 48	202

FILE COPY

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 331122 STATION 1079
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGONAL N1 12-7 PHOENIX

ARIZONA

170

330151
 1120151

DEPARTMENT OF COMMERCE
 U.S. COAST AND GEODETIC SURVEY
 FORM NO. 563-B

DESCRIPTION OF TRIANGULATION INTERSECTION STATION
 NAME OF STATION: Litchfield Park MAP, VEP Antenna
 CHIEF OF PARTY: D.J. Flotwick YEAR: 1965 STATE: Arizona COUNTRY: Maricao

Description, including sketch of object: The station is located on the control tower at the south corner of the tower with a cylindrical can at the top that is painted gray. It is the tallest structure on the tower. Point observed was the center of the can.

Described by *Kathleen L...*

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LITCHFIELD PARK MAP VEP ANTENNA
 STATE: ARIZONA LOCALITY: Litchfield Park
 Third-order Triangulation SOURCE: G-13620 FIELD SKETCH: ARIZ. 54
 YEAR: 1965

GRID DATA	COORDINATES (Feet)	BLAZE AZIMUTH FROM AN. ST. NO.	MARK
STATE: ARIZ. ZONE: C CODE: 202	X 362,285.50 Y 883,059.16	- 0 14 55	
STATE: ZONE: CODE:	X Y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS FEET
	LATITUDE:	LONGITUDE:		
	33°25'36.2232 NORTH	112°22'04.9633 WEST		
	TO STATION		GEODETTIC AZIMUTH (from center)	DISTANCE (feet)

Station computed from TT ZH 9 AMS, BRADLEY, LITTON, ELMAZ

FORM 563-B (REVISED)

UNRECORDED TERRITORY

FILE COPY

JAN 1967

170

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

33015'
112015

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331122 STATION 1060
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NI 12-7 PHOENIX

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LITCH COUNTY: Maricopa
CHIEF OF PARTY: D.J. Flotwick STATE: Arizona DESCRIBED BY: J.E.S.
YEAR: 1965

OBJECT	DISTANCE		DIRECTION	
	FEET	METERS	BEARING	DEGREES
TT ZW9 (AMS) 1962				
Reference Mark No. 2	71.000	21.639	S	00 00 00.00
Reference Mark No. 1	50.867	15.504	E	56 41 16
R.M. 1 to R.M. 2	89.561	27.299		323 34 09

The station is 1.3 miles southwest of the main gate at Litchfield Park U.S. Naval Air Facility, 0.5 mile northwest of U.S. Highway 80, 0.35 mile north of the southwest end of the runway, 0.2 mile northwest of the center of the runway and on the property of the Litchfield Park U.S. Naval Air Facility.

To reach the station from the Main Gate at the Litchfield Park U.S. Naval Air Facility, go northwest on Central Avenue for 0.15 mile to the intersection of 2nd Street. Turn right, northeast, on 2nd Street for 0.15 mile to the intersection of A Avenue. Continue straight ahead following a gravelled road which parallels the security fence for 1.75 miles to a yellow guard tower. Continue southwest and west on a paved road that parallels the security fence for 0.65 mile to a point just before a curve in the road. Turn left, south, across a bladed area for 0.05 mile to the station.

The station mark is a standard disk, stamped LITCH 1965, set in the top of a 12-inch round monument that is flush with the surface of the ground. It is 214 feet south of a security fence and 142 feet east of the center of an oiled road.

Reference mark No. 1 is a standard disk, stamped LITCH NO 1 1965, set in the top of a 12-inch round concrete monument that projects 4 inches above the surface of the ground. It is 214 feet south of a security fence and 3.6 feet west of a metal witness post and sign.

Reference mark No. 2 is a standard disk, stamped LITCH NO 2 1965, set in the top of a 12-inch round concrete monument that projects 4 inches above the surface of the ground. It is 142 feet east of the center of an oiled road and 2.6 feet north of a metal witness post and sign.

*Refer to notes in manuals of triangulation and state publications of triangulation. Direction-angle measured clockwise, referred to signal station. †To secure merit only, when no trigonometric leveling is better done.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LITCH
STATE: ARIZONA YEAR: 1965 FIRST OBSERVATION
LOCALITY: LITCHFIELD PARK
SOURCE: G-13620 FIELD SKETCH: ARIZ. 54

GEODETIC LATITUDE	33 25 13.28204	ELEVATION	BENCH MARK
GEODETIC LONGITUDE	112 22 56.40188		

STATE COORDINATES (feet)			
STATE & ZONE	CODE	X	Y
ARIZ. C	202	357,915.70	880,759.79
			- 0 15 23

TO STATION OR OBJECT	GEODETIC AZIMUTH (from north)		PLANE AZIMUTH (from north)		CODE
TT ZW9 AMS	303 48 04.1		304 03 27		202

FILE COPY

JAN 1967

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 33112
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NO 12-7 PHOENIX

ARIZONA
 170

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BROWN
 LOCALITY: Yuma to Stewart Dam
 STATE: ARIZ
 FIELD NO: Triangulation source: G-3022
 FIELD SHEET: ARIZ 8-11
 YEAR: 1934

Brown (Maricopa County, E. B. Latham, 1884; 1888).—About 5 1/2 miles west-southwest of the village of Litchfield, 7 1/2 miles north-northeast of Liberty, 1 1/2 miles east of the main canal of the Maricopa County Municipal Water Conservation District No. 1, 1 mile south of the county road west from Litchfield, 0.4 mile west of T-road intersection at section corner, 80 feet north of lateral No. 16 of district No. 1 and 14.6 feet south of the center of the section line road. Marked by a standard bronze disk set in top of a concrete post, as described in note 1a. Reference mark No. 1, a standard bronze reference disk, note 11a, is 18.672 meters (44.86 feet) from station in azimuth 290°51'. Reference mark No. 2, a standard bronze reference disk, note 11a, is 11.122 meters (38.49 feet) from station in azimuth 188°38'. The original azimuth mark set in 1884 having been destroyed, a new one was set in 1888. It is a standard bronze disk, note 11a, in the southwest angle of the intersection of the county road west from Litchfield and a section line road 100 feet south of the county road, 90 feet west of the section road, and about 1 mile from station in azimuth 208°18'17".

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 RECOVERY NOTE, TRIANGULATION STATION

Name of Station: BROWN 1934
 Recovered by: E. B. L. Year: 1934
 D. H. K. Locality: Litchfield Park
 State: Arizona
 County: Maricopa

Detailed statement as to the status of the original description:

The surface station mark and azimuth mark has been destroyed. A new azimuth mark and a reference mark No. 3 was set and the underground station mark was used.
 The station is located about 7 miles northwest of Litchfield and about 5.5 miles west-southwest of Litchfield Park in the right of way of a section line road. The station mark is bronze disk as described in note 7a, set 20 inches below ground level, 8 paces north of center line of road, 12 paces south of a fence line. It is stamped, "BROWN 1934".
 Reference mark No. 1 is a bronze disk as described in note 11a, set flush 8 inches south of a fence line, is 4 feet higher than the station mark and is stamped, "BROWN NO 1 1934".
 Reference mark No. 2 is a bronze disk as described in note 11a, set flush 18 inches south of a fence line, is 4 feet higher than the station mark and is stamped, "BROWN NO 2 1934".
 Reference mark No. 3 is a bronze disk as described in note 11a, projects 4 inches, is 18 inches south of a fence line, 4 feet higher than the station mark and is stamped, "BROWN NO 3 1947".
 The azimuth mark is a bronze disk set in the concrete base of a pump, 13 paces north of the center line of road. It is stamped, "BROWN 1947". Mark is reached from station by going west on road 0.6 mile to mark on right.
 To reach the station from Litchfield Park: go west 5.0 mile to crossroad at the flat-ting W ranch; turn left, go 1.0 mile to road right; turn right, go 0.4 mile to station.

OBJECT	HDR. DISTANCE	DIRECTION
LITCHFIELD 1935	0.6 MI.	0 00 00
Azi. Mk. 1947 W	11.119m	209 29 14.0
R. M. No. 2 1934 N. W.	8.337m	257 14 14
R. M. No. 3 1947 N. E.	13.665m	301 35 49
R. M. No. 1 1934 NE		349 30 51

Observations made from a 1.2 m tripod.

U. S. DEPARTMENT OF COMMERCE
 RECOVERY NOTE, TRIANGULATION STATION

R

Name of Station: BROWN
 Established by: E. B. L. Year: 1934
 Recovered by: U. S. G. S. Year: 1956
 County: Maricopa

Detailed statement as to the status of the original description: including marks found, stampings, changes made, and other pertinent facts:
 Station has either been destroyed or is buried.
 Three reference marks were found uprooted and laying on the ground.

STATION DATA	COORDINATES (Feet)	PLANE AZIMUTH \$ (ONLAND ANGLE)	NAME	POSITION		ELEVATION
				LATITUDE	LONGITUDE	
STATE: ARIZ ZONE: G CODE: 0202	337,059.69 902,261.18	269°55'02" - 0 17 41	AZIMUTH MARK	33°28'45"027	112 27 03.770	
STATE: ZONE: CODE:	X Y					

AZIMUTH MARK	SECOND IN METERS		DISTANCE METERS
	THIRD-ORDER 269°37'21"1	LOGARITHM (Feet)	

FILE COPY

JAN 1967

170

JULY 1966
 PUBLISHED AND PRINTED BY:
 U.S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY
 WASHINGTON D.C. 330151
 1120151

HORIZONTAL CONTROL DATA

QUAD 331122 STATION 1084
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

Cashion (Maricopa County, E. B. Latham, 1885).—About 13.0 miles west of Phoenix and 0.3 mile east of Cashion; about 30 feet north of U. S. Highway No. 80, midway between it and tracks of the Southern Pacific Railroad and about 150 paces west of railroad signals 8833 and 8834. Marked by standard bronze disks as described in notes 1a and 7a. Reference mark No. 1, a standard bronze reference disk, note 11a, is 18.780 meters (61.61 feet) from station in azimuth 90°44'. Reference mark No. 2, a standard bronze reference disk, note 11a, is 17.078 meters (56.03 feet) from station in azimuth 8°48'. Azimuth mark (reference mark No. 3), a standard bronze disk, note 11a, is located at Cashion, about 0.28 mile west from the station, on the south side of U. S. Highway No. 80 and in the fence line about 10 feet from the edge of the pavement in azimuth 88°13'22".

U. S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
 RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: CASHION
 ESTABLISHED BY: E. B. L.
 RECOVERED BY: U. S. G. S.
 YEAR: 1945 STATE: ARIZONA
 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 has probably been destroyed by road widening.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CASHION
 STATE: ARIZ
 LOCALITY: Yuma to Stewart Dam
 Second-order Triangulation source: G-3022
 FIELD SKETCH: ARIZ 8-II
 YEAR: 1935

GRID DATA	COORDINATES (Foot)	PLANE AZIMUTH θ (Degrees)	MARK
STATE: ARIZ ZONE: C CODE: 0202	2 385,906.63 7 886,162.71	88°25'44" - - 0 12 22.	AZIMUTH MARK (RM NO 3)
STATE: ZONE: CODE:	2 7		

GEODETIC DATA	PORTION	SECONDS IN METERS	ELEVATION
LATITUDE: LONGITUDE:	33°26'07.858 112 17 26.383	NORTH WEST	METERS FEET
TO STATION		GEODETIC AZIMUTH (From north)	DISTANCE METERS
AZIMUTH MARK (RM NO 3)		THIRD-ORDER 88°13'22.72	

FILE COPY

JAN 1967

* Name of date of party should be inserted here. The office to which returned the station should sign its name at the end of the recovery note.
 Note—One of three forms must be used for every station recovered.

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

HORIZONTAL CONTROL DATA

Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 1518A - STATION 11089
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGONAL N1 12-1 PHOENIX

ARIZONA

170

ADJUSTED HORIZONTAL CONTROL DATA

YEAR: 1934

NAME OF STATION: LANE
 LOCALITY: Yuma to Stewart Dam
 STATE: Ariz
 Second-order Triangulation SOURCE: G-3022
 FIELD SKETCH: ARIZ 8-11

Lane (Maricopa County, E. B. Latham, 1894).—On the west side of a lane 0.1 mile south of U. S. Highway No. 80 and 4 feet east of the fence line running north and south. To reach from Buckeye: Follow the highway east for about 6.5 miles to the Blue Bonnet sign and turn right, going 0.1 mile to the station. Marked by standard bronze disks as described in notes 1a and 7a. Reference mark No. 1, a standard bronze reference disk, note 11a, is 15,730 meters (51,61 feet) from station in azimuth 94°59'. Reference mark No. 2, a standard bronze reference disk, note 11a, is 18,700 meters (61,57 feet) from station in azimuth 262°27'. Azimuth mark (reference mark No. 3), a standard bronze disk, note 11a, is on the north side of Highway No. 80 just at the head of the lane and about 0.15 mile from station in azimuth 100°37'32".

U. S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
 RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: LANE
 ESTABLISHED BY: EDU
 RECOVERED BY: U. S. G. S.
 YEAR: 1934 BY: ARTZ
 YEAR: 1967 COVERT: HARLCOOP

Detailed statement as to the fitness of the original description, including marks found, sketches, changes made, and other pertinent facts.
 Station has evidently been buried due to farm improvements.

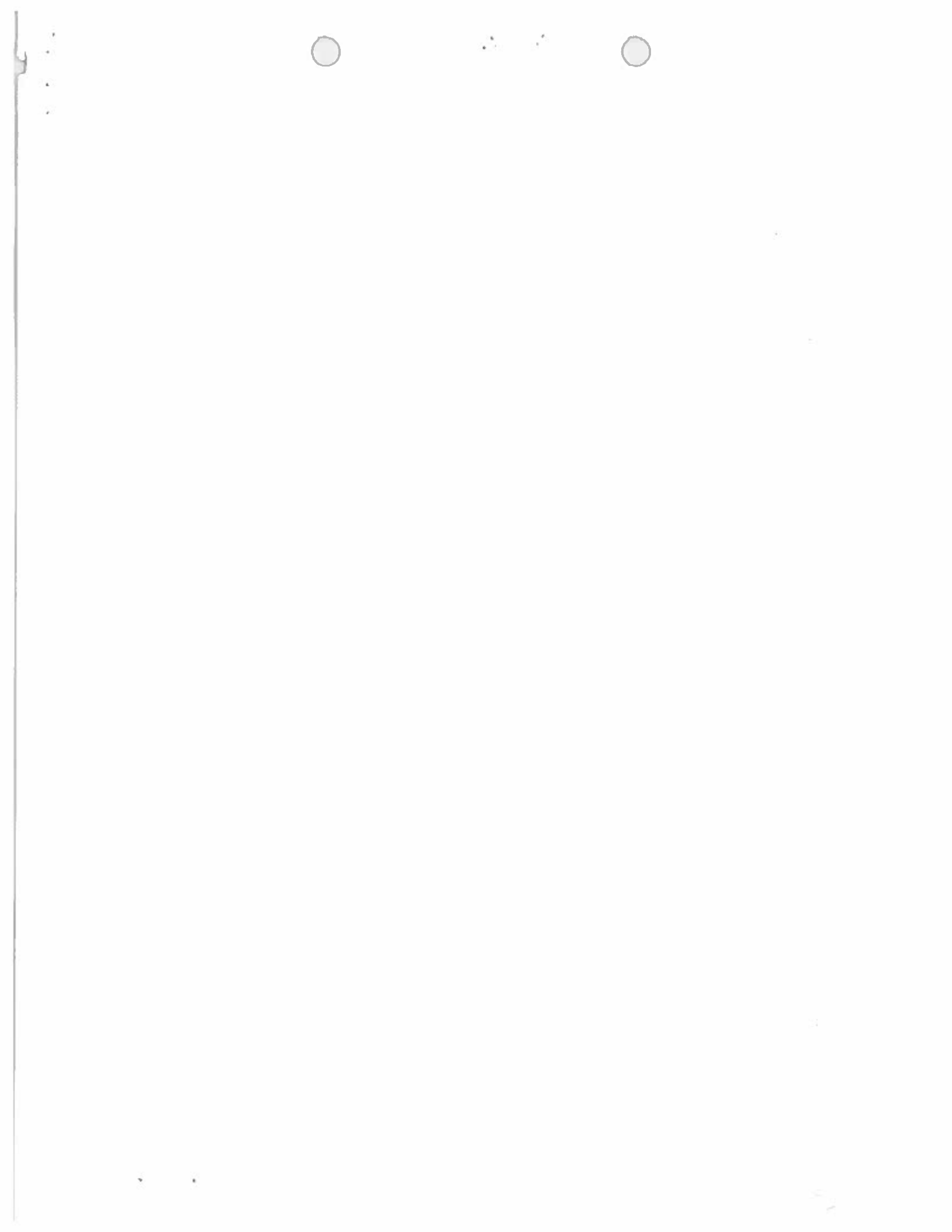
GRID DATA	COORDINATES (Feet)	NAME AZIMUTH (From mark)	MARK	POSITION		ELEVATION	
				NORTH	WEST	IN METERS	IN FEET
STATE: Ariz ZONE: C CODE: 0202	330,160.13 864,686.97	100°55'53" - 0 18 22	AZIMUTH MARK (RM NO 3)	33°22'32"	112°28'22"	906	854
STATE: ZONE: CODE:	X Y	X Y					
TO STATION	AZIMUTH MARK (RM NO 3)		THIRD-ORDER 100°37'31".5				

* Names of cities or ports should be inserted here. The office of the authority which the station should refer to is at the end of the recovery note.
 ** If a class of station is used, the class should be inserted here.

FILE COPY

JAN 1967

33°15'
112°15'



HORIZONTAL CONTROL DATA

Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

ARIZONA
 QUAD 331122 STATION 1100
 ARIZ. LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX

ADJUSTED HORIZONTAL CONTROL DATA

33° 15'
 112° 15'

Section (Maricopa County, J. Bowle, Jr., 1886).—About 8 1/2 miles north by west of the railroad station at Mobile and 7 1/2 miles southeast of the Rainbow Valley store, on the low brush-covered flat lying west of the Patricia Mountains and north of the Southern Pacific Railroad, 46 feet east of the center of the section road along the line between ranges 1 E and 1 W. Station and reference marks are standard bronze disks welded to tops of 3/4-foot shanks, set in concrete. Reference mark No. 1 is about 100 feet east of the center of the section road and 21.502 meters (71.20 feet) from station in azimuth 823°08'. Reference mark No. 2 is 25 feet east of the center of the section road, 13.043 meters (42.79 feet) from station in azimuth 30°08'. T. J. S., R. 1 W., sec. 12, southeast corner is 27.052 meters (89.171 feet) from station in azimuth 24°43'53". The azimuth mark, a standard bronze disk, note 11a, is 25 feet north of the center of the dim section line road between sections 12 and 13, T. 3 S., R. 1 W., about 300 yards south of an abandoned shack, 100 feet west of a dim trail leading north, and 0.35 mile from station in azimuth 87°59'42".

RECOVERY OF SURVEY STATION

AREAL JURISDICTION	DESIGNATION OF STATION	TYPE OF MARK
ARIZONA COUNTY	A SECTION	DISK
QUAD, EASING, STA NO.	STATION ON MAP	CONDITION
MOBILE	SECTION, 1956	GOOD
TOWN	AGENCY (CITY OR COUNTY)	FORM OR REFERENCE
MOBILE, ARIZONA	USCGS	USCGS

STR AND RM'S RECOVERED IN GOOD CONDITION
 92 MK FOUND IN GOOD CONDITION BUT LINE OF SIGHT BETWEEN STR AND 92 MK OBSTRUCTED BY TREES.
 DIST AND DIRECTION TO RM'S MEASURED.

61821-100

RECOVERED BY H.C. KING
 AGENCY USCGS
 DATE APR 1968
 RETURN TO: ARMY MAP SERVICE, DEPARTMENT OF GEOGRAPHY, WASHINGTON 25, D. C.
 REPLACES AND FORM 3489a, 3 APR 51, WHICH IS OBSOLETE
 AUG FORM 4401 - 3
 1 JUL 59

FILE COPY
 AUG 1969

NAME OF STATION	SECTION	YEAR	STATE COORDINATES (ft)	ELEVATION (feet)
ARIZONA	PHOENIX TO CASA GRANDE	1936		
ARIZ. C.	0202	381,073.40	791,193.36	0 12 46

STATE & ZONE	CODE	X	Y	Z	PLANE AZIMUTH (from mark)	CODE
ARIZ. C.	0202	381,073.40	791,193.36	0 12 46	88 12 28	0202

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION	YEAR	STATE COORDINATES (ft)	ELEVATION (feet)
ARIZONA	1936		
PHOENIX TO CASA GRANDE	1936		
ARIZ. C.	0202	381,073.71	791,110.23

STATE & ZONE	CODE	X	Y	Z	PLANE AZIMUTH (from mark)	CODE
ARIZ. C.	0202	381,073.71	791,110.23	0 12 46		

STATE & ZONE	CODE	X	Y	Z	PLANE AZIMUTH (from mark)	CODE
ARIZ. C.	0202	381,073.71	791,110.23	0 12 46		

POSITION DETERMINED BY TRAVERSE FROM STATION SECTION.
 THESE DATA OBTAINED FROM READJUSTMENT OF 12-67.
 T. J. S., R. 1 W., sec. 12, southeast corner (Hima County, J. Bowle, Jr., 1886).
 See description of Section.
 USCOM-55A-ASHVILLE

ARIZONA

JULY 1966

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

REVISED JUNE 1969

33° 15'
112° 15'

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 331122 STATION 1101
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NO. 12-7 PHOENIX

Spur (Maricopa County, J. Bowie, Jr., 1036).—About 4½ miles east and 2¼ miles north of Rainbow Valley grocery store, in sec. 2, T. 2 S., R. 1 W., on the middle one of three peaks on a spur extending west from the Sierra Estrella Mountains. This peak appears to be very sharp and steep from the northwest or the southeast. Marked by a standard bronze disk as described in note 2. Reference mark No. 1, a standard bronze reference disk, note 12a, is 5.595 meters (18.36 feet) from station in azimuth 237°54'. Reference mark No. 2, a standard bronze reference disk, note 12a, is 6.688 meters (21.61 feet) from station in azimuth 303°49'. The azimuth mark, a standard bronze disk, note 12a, is on the southwest side of the canyon and flats where the canyon emerges into the flats, on a small rocky knoll at the end of a ridge and 1 mile from station in azimuth 357°41'11".

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SPUR
STATE: ARIZONA YEAR: 1936 SECOND ORDER
LOCALITY: PAPAGO INDIAN RESERVATION
SOURCE: G-3083 FIELD BATCH: ARIZ 14

GEODETIC LATITUDE	33 17 17.75536	ELEVATION	METERS
GEODETIC LONGITUDE	112 20 00.00399		FEET

STATE COORDINATES (M)			
STATE & ZONE	CODE	X	Y
ARIZ. C.	0202	372,674.34	832,636.95
			- 0 13 43

TO STATION OR OBJECT	GEODETIC AZIMUTH (From mark)	PLANE AZIMUTH (From mark)	CODE
AZIMUTH MARK	357 41 11.0	357 54 54	0202

U. A. ELEV. 2968.1 FT (1952 USGS)

FILE COPY

AUG 1969

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 170
 QUAD 331122 STATIONS 1102, 1103
 ARIZ
 LATITUDE 33°00' TO 33°30'
 LONGITUDE 112°00' TO 112°30'
 DIAGRAM NI 12-7 PHOENIX
 330151
 112015

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ESTRELLA MOUNTAINS HIGHEST SUMMIT
 YEAR: 1924
 STATE: Ariz LOCALITY: Maricopa-Yavapai Co. Boundary
 Third-order Triangulation SOURCE: 81625 FIELD SHEET: ARIZ 6

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH \$IONAD ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	E 388,941.95 N 827,163.61	- 0 11 58	
STATE: ZONE: CODE:	E N Y		

GEODETIC DATA	POSITION		ELEVATION	
	LATITUDE:	LONGITUDE:	SECONDS IN METERS	METERS FEET
	33°16'24"120	112 16 48.137		
TO STATION				
Computed from stations WHITEWANK, EUPFORD, MAZATZAI			GEODETIC AZIMUTH (From station)	LOGARITHM (Feet)
			DISTANCE	METERS

Estrella Mountains, highest summit (Maricopa County, W. Mussetter, 1924). —

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MARE
 YEAR: 1910
 STATE: Ariz LOCALITY: Texas-California Arc
 Third-order Triangulation SOURCE: 0-246 FIELD SHEET: ARIZ 3-B

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH \$IONAD ANGLE	MARK
STATE: Ariz ZONE: C CODE: 0202	E 388,948.37 N 827,155.50	- 0 11 58	
STATE: ZONE: CODE:	E N Y		

GEODETIC DATA	POSITION		ELEVATION	
	LATITUDE:	LONGITUDE:	SECONDS IN METERS	METERS FEET
	33°16'24"120	112 16 48.061		1,373.9 4,508
TO STATION				
Computed from stations WHITEWANK, TABLE Mare (Maricopa County, J. S. Hill, 1910)			GEODETIC AZIMUTH (From station)	LOGARITHM (Feet)
			DISTANCE	METERS

FILE COPY

JAN 1967

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 331122 STATIONS 1104, 1105
ARIZ
LATITUDE 33°00' TO 33°30'
LONGITUDE 112°00' TO 112°30'
DIAGRAM NO 12-7 PHOENIX

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PHOENIX EAST RADIO TOWER

YEAR: 1934

ADJUSTED HORIZONTAL CONTROL DATA

YEAR: 1934

STATE: ARIZ LOCALITY: Yuma to Stewart Dam

LOCALITY: Yuma to Stewart Dam

Third-order Triangulation source: G-3022

FIELD SKETCH: ARIZ 8-II

FIELD SKETCH: ARIZ 8-II

(No check on this position)

(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE ANGLE θ FOR ANGLE	MARK
STATE: ARIZ ZONE: C CODE: 0202	X 452,325 Y 890,925	- 0 05 10	
STATE: ZONE: CODE:	X Y		

GRID DATA	COORDINATES (Feet)	PLANE ANGLE θ FOR ANGLE	MARK
STATE: ARIZ ZONE: C CODE: 0202	X 452,159 Y 893,096	- 0 05 11	
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION		ELEVATION METERS FEET
	NORTH WEST	EAST WEST	
	LATITUDE: 33°26'56.65	LONGITUDE: 112 04 28.69	
	TO STATION		DISTANCE
	Computed from stations GLENDALE, RIVER		LOGARITHM (METERS)

GEODETIC DATA	POSITION		ELEVATION METERS FEET
	NORTH WEST	EAST WEST	
	LATITUDE: 33°27'18.13	LONGITUDE: 112 04 24.69	
	TO STATION		DISTANCE
	Computed from stations GLENDALE, RIVER		LOGARITHM (METERS)

Computed from stations GLENDALE, RIVER

Computed from stations GLENDALE, RIVER

Phoenix, east radio tower (Maricopa County, E. B. Latham, 1934)

Phoenix, Westward Ho Hotel, flagpole (Maricopa County, E. B. Latham, 1934)

PHOENIX, EAST RADIO TOWER (Maricopa County, Ariz., E. B. L., 1934;
L.W.Q., 1953) (No previous description) - The station was recovered
in good condition.

This is an intersection station.

PHOENIX HOTEL, WESTWARD HO FLAGPOLE (Maricopa Co., Ariz.,

E. B. L., 1934; L. A. H., 1941)
--This intersection station is prominent metal pole at top of
Hotel Westward Ho, situated at northwest corner of North Central
Avenue and West Fillmore Street, Phoenix. Building is about 16
stories high and is very prominent. Pole lighted with vertical
light at night. Should not be confused with small flagpole
several stories lower, on south cornice of building.

Name of building is Hotel Westward Ho, and not as printed
in S.P. 224. Mast is not strictly a flagpole. Flagpole is much
lower. Mast is undoubtedly what was sighted on, as flagpole not
visible from station GLENDALE. It is possible that mast on
top was a flagpole in 1934, and vertical light added later.

PHOENIX, WESTWARD HO HOTEL, FLAGPOLE (Maricopa County, Ariz.,
E. B. L., 1934; L. W. Q., 1953)
station has been destroyed. A television antenna for station
KPHO is now atop Westward Ho Hotel.

This is an intersection station.