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Ajo Project Master In Ariz. 23 - Book: PH 858

Arizona (41)

Pima County

BOUNDARY MONUMENT  
NO. 166 (C&GS)

1927 N.A.D.

USC&GS, 1936  
L.H. Lange, 1962

Book: PH 858

Station recovered as described in U.S. Coast and Geodetic Survey  
Special Publication No. 224, page 142. All marks found in good condition.  
*and 31124-1005*

Station was not occupied.

Reference mark No. 1: Standard bronze reference disk, 87.37 ft.  
from station mark in azimuth  $236^{\circ}42'$ .

Reference mark No. 2: Standard bronze reference disk, 85.02 ft.  
from station mark in azimuth  $160^{\circ}20'$ .

Identified by Plane Table Sketch.

ARIZONA ZONE CENTRAL

\*X= 234,899.03

Y= 315,971.77

Elev. RM No. 1 Mon. 166 1936: 1397.484 ft.  
~~(Unadj. Leveling by L.H. Lange, 1962)~~

Elev. RM No. 2 Mon. 166 1936: 1397.001 ft.  
~~(Unadj. Leveling by L.H. Lange, 1962)~~

\*Latitude:  $31^{\circ}51'57.076''$

Longitude:  $112^{\circ}46'14.155''$

\* = Values by C&GS

*OK 11/29/44  
GTT*

FILE COPY

5/1/62 lcl *dc*

Arizona (41)

Pima County

BOUNDARY MONUMENT  
NO. 168 ECC. (C&GS)

1927 N.A.D.

Book: PH 858

USC&GS, 1936  
S.B. Chan, 1962

Found as described in U.S. Coast and Geodetic Survey Special  
Publication No. 224, page 143. All marks in good condition.

Signal: White flag over red cross-target on 2 x 2 pole centered over  
station mark. *and 311124-1006*

Signal data:	TWF	11.0 ft.
	BWF	8.0
	TRXT	7.7
	BRXT	5.2

Image point No. 1: Center of tree, 35.5 ft. from and 2.3 ft. lower  
than station mark in azimuth  $60^{\circ}33'56''$ .

Image point No. 2: Center of tree, 64.6 ft. from and 6.6 ft. lower  
than station mark in azimuth  $121^{\circ}10'02''$ . X=212,581. Y=324,200.

Image point No. 3: Center of tree, 34.8 ft. from and 0.3 ft. higher  
than station mark in azimuth  $169^{\circ}06'45''$ .

Photo No. GS VAHP 6-104

ARIZONA ZONE CENTRAL

V.A. Elevation: 1868 ft.

\*X= 212,636.34

Y= 324,166.46

\*Latitude:  $31^{\circ}53'16.362''$

Longitude:  $112^{\circ}50'33.100''$

\* = Values by C&GS

5/1/62 lcl *etc*

FILE COPY

Arizona (41)

Pima County

BOUNDARY MONUMENT # 169

1927 N.A.D. (Unadj.)

D.C. McIntosh, 1962

Book: PH 858

Located about 5.7 mi. WNW. of Sonoyta, Custom House, about 4 mi. NW. of Sonoyta, Mexico, along Mexico Highway No. 2, about 300 ft. N. of highway, and about 200 ft. S. of U.S. Boundary Rd.

Station reached by helicopter.

Station mark: Center of metal pyramid, painted silver, pointed at top, and about 4 ft. square at the base.

Note: Position was obtained by Third-Order tellurometer T-2 traverse.

Photo No. Identified by planetable sketch on photo 6-107.

ARIZONA ZONE CENTRAL

X= 197,093.

Y= 329,851.

Elevation: 1311 ft.  
(PTL from BM "J 308")

Latitude:  $31^{\circ}54'11.26''$

Longitude:  $112^{\circ}53'33.96''$

*OK AM*  
*12/17/84*

**NAD 83 VALUES AVAILABLE**

**FILE COPY**

4/30/62 lcl *AMM*

Arizona (41)

Pima County

BOUNDARY MONUMENT # 170

1927 N.A.D. (Unadj.)

L.B. Mansfield, 1962

Book: PH 858

Located about 9.5 mi. W. of Lukeville along the rd. that parallels the U.S. and Mexican Border. Boundary Monument No. 170 is a large aluminum painted iron obelisk set on a concrete base approximately 12 ft. S. of a dirt rd. paralleling the border.

To reach from Lukeville drive W. along the Mexican Highway to a point in the highway opposite the boundary monument, thence across country (N.) approximately 300 ft. to the monument.

Station mark is to point of the obelisk approximately 6.5 ft. above the ground.

ARIZONA ZONE CENTRAL

X= 183,355.

Y= 334,889.

Elevation: 1243 ft.

(Concrete slab at base of monument) (PTL from BM "M 308")

Latitude: 31°54'59.87"

Longitude: 112°56'13.86"

ok 12/1/64  
GH

**NAD 83 VALUES AVAILABLE**

**FILE COPY**

4/30/62 lcl *mm*

Arizona (41)

Pima County

BOUNDARY MONUMENT # 171

1927 N.A.D. (Unadj.)

L.R. Curtis, 1962

Book: PH 858

Located about 10 mi. NW. of Lukeville and 3 mi. ESE. of Quitobaquito.

To reach from Lukeville Post Office, go S. into Mexico 1.9 mi. to Y-jct.; turn right (Mex. 2) 6.6 mi. to a small hill. Boundary monument is approximately 500 ft. N. of rd.

Station mark: Standard IBC iron obelisk approximately 7 ft. high.

No reference marks.

No signal.

Photo No. GS VAHP 2-153 Plane table sketch.

ARIZONA ZONE CENTRAL

X= 172,973.

Y= 338,697.

Elevation: 1257 ft.

(N. side of concrete slab)

(PTL from BM "C 308")

Latitude:  $31^{\circ}55'36.57''$

Longitude:  $112^{\circ}58'14.73''$

**NAD 83 VALUES AVAILABLE**

5/1/62 lcl *lcl*

**FILE COPY**

Arizona (41)

Pima County

LOW HILL (C&GS)

1927 N.A.D.

USC&GS, 1936

R.N. Gardner, 1962

Book: PH 858

Station recovered as described in U.S. Coast and Geodetic Survey  
Special Publication No. 224, page 142. All marks found in good condition.

Station reached by helicopter. *and 31 112 4-1008*

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

Signal data:	TWF	11.1 ft.
	TRXT	7.7
	BRXT	5.2

Photo No. Paneled.

ARIZONA ZONE CENTRAL

V.A. Elevation: 1996 ft.

\*X= 241,592.96

Y= 361,489.69

\*Latitude: 31°59'28.031"

Longitude: 112°45'00.599"

\* = Values by C&GS

5/1/62 lcl *dc*

FILE COPY

Arizona (41)

Pima County

*3rd order*  
SEC COR T17S R5W

1927 N.A.D. (Unadj.)

J.J. Hoganson, 1962

Book: PH 858

Located about 1 mi. N. of Lukeville, Arizona, and about 45 ft. E. of State Highway 85.

Station mark: Standard GLO brass tablet set in ground (W.C. sec. 31, T. 17 S., R. 5 W.)

Note: Position to be used for plotting.

Signal: Red cross-target on 2 x 2 pole centered over station mark.

Signal data: TRXT 8.0 ft.  
BRXT 5.4

Photo No. None.

ARIZONA ZONE CENTRAL  
X= 222,424.  
Y= 326,929.

V.A. Elevation: 1448 ft.

*Ground is 0.7 FT LOWER*

Latitude: 31°53'44.51"

Longitude: 112°48'39.86"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
5-88 X	240°32'33"	60°37'20"	53,551.
Shack (C&GS)	302 10 35	122 12 22	20,656.

*OK 11/20/64  
GH*

**NAD 83 VALUES AVAILABLE**

5/1/62 1c1 *dc*

**FILE COPY**

Arizona (41)

Pima County

SHACK (C&GS)

1927 N.A.D.

USC&GS, 1936

J.J. Hoganson, 1962

Book: PH 858

Station found as described in U.S. Coast and Geodetic Survey Special  
Publication No. 224, page 142. *31 112 4-1009*

All mark in good condition.

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

Signal data:	TWF	11.0 ft.
	TRXT	7.8
	BRXT	5.2

Image point No. 1: Lone tree, 55 ft. from and 6 ft. lower than station  
mark in azimuth  $291^{\circ}10'53''$ . X=239,867. Y=315,765.

Image point No. 2: Lone tree, 24 ft. from and 3 ft. lower than station  
mark in azimuth  $340^{\circ}25'24''$ .

Image point No. 3: Lone tree, 41 ft. from and 7 ft. lower than station  
mark in azimuth  $79^{\circ}09'09''$ .

Photo No. 7-12

ARIZONA ZONE CENTRAL  
\*X= 239,816.05  
Y= 315,785.09

*1542.431 ft. Adj*  
Elevation: ~~1542.426 ft.~~  
(Unadjusted leveling by  
~~L.H. Lange, 1962~~)

\*Latitude:  $31^{\circ}51'55.608''$

Longitude:  $112^{\circ}45'17.125''$

\* = Values by C&GS

5/1/62 lcl *WJW*

FILE COPY

Arizona (41)

Pima County

5-15 A

1927 N.A.D. (Unadj.)

W.T. Borgeson, 1962

Book: PH 858

Located about 26 mi. S. of Ajo, about 9 mi. NW. of Lukeville, 1.5 mi. S. of the main ridge of the Puerto Blanco Mountains, toward the W. end of a group of low hills, on a top about 10 ft. SW. and about 3 ft. lower than highest point of top.

Station reached by helicopter. A rd. from the S. was observed to be about 1 mi. S. of station and another rd. passes through a gap in the hills about 0.5 mi. E. of station.

Station mark: Chiseled cross in boulder in place. A nearby boulder projects about 0.7 ft. above station mark.

No reference marks set.

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

Signal data:	TWF	11.1 ft.
	BWF	8.0
	TRXT	7.8
	BRXT	5.25

Image point No. 1: Center of N. tree of two on sidehill, 90 ft. (reduced stadia) from station mark in grid azimuth  $64^{\circ}52'10''$  and 17.4 ft. below (N. side of tree). X=201,098. Y=358,204.

Image point No. 2: Center of small tree at N. end of short brush line, 40 ft. (taped) from and 3 ft. lower than station mark in grid azimuth  $240^{\circ}21'28''$ . (This is a doubtful image point) X=201,214. Y=358,262.

Image point No. 3: Center of large tree, 18 ft. (taped) from station mark in grid azimuth  $316^{\circ}35'27''$ . N. edge of tree is about 1 ft. lower than mark. This is the most accurate and certain image point.

Photo No. 5-15 Lat:  $31^{\circ}58'52.571''$  Long:  $112^{\circ}52'49.493''$

ARIZONA ZONE CENTRAL  
X=201,179.  
Y=358,242.

V.A. Elevation: 2284 ft.

## NAD 83 VALUES AVAILABLE

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
5-10 A	$96^{\circ}54'25''$	$276^{\circ}54'25''$	41,505.
Guady	124 27 35	304 27 35	36,222.

Conversion from state plane to geodetic coordinates

Station = 5-15 A	State Plane Zone = 202
Lat = 31 58 52.5702	Lon = 112 52 49.4932
X = 201,179.0000	Y = 358,242.0000

Arizona (41)

Pima County

5-94 X

1927 N.A.D. (Unadj.)

W.H. Kline, 1962

Book: PH 858

Located about 1.5 mi. NW. of the Headquarters of the Organ Pipe National Monument, on the highest point at the southerly end of the Puerto Blanco Mountains. The station is 10 ft. S. of a 4.7 ft. high cairn.

Station reached by helicopter.

Station mark: Shallow 3/4 in. drill hole in rock outcrop about 0.2 ft. above ground.

Reference mark: None set.

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

Signal data:	TWF	11.4 ft.
	BWF	8.6
	TRXT	7.9
	BRXT	5.3

Photo No. 4-94 Station pricked for vertical only.

Lat: 31° 57' 39.056" Long: 112° 49' 08.088"

ARIZONA ZONE CENTRAL

V.A. Elevation: 2615 ft.

X = 220,187.

Y = 350,649.

Grid Values

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Low Hill (C&GS)	243°08'29"	63°08'29"	23,995.
Shack (C&GS)	330 37 10	150 37 10	40,010.

Station = 5-94 X

Lat = 31 57 39.0552

X = 220,187.0000

State Plane Zone = 202

Lon = 112 49 08.0880

Y = 350,649.0000

**NAD83 VALUES AVAILABLE**

5/1/62 lcl *Wm*