

31°45'
112°30'

ARIZONA 40

Index

<u>STATION</u>	<u>PROJECT</u>
✓ Boundary Mon. 160 ECC. (C&GS)	Ajo ✓
✓ Boundary Mon. 162 ECC. (C&GS)	Ajo
✓ Boundary Mon. 163 ECC.	Ajo
✓ Boundary Mon. 164 (IBC) (C&GS)	Ajo ✓
✓ Boundary Mon. 165 (IBC) (C&GS)	Ajo ✓
→ Can	Ajo
✓ Gravel (C&GS)	Ajo ✓
5 Sec Cor T17-18S R4W (plotting only)	Ajo
✓ Sec Cor T17-18S; R5W	Ajo
✓ Sec Cor T18S R3W	Ajo
✓ Sec Cor T18S, R5-4W	Ajo
✓ Sweetwater (C&GS)	Ajo ✓
✓ 5 - 26 A	Ajo
✓ 5 - 88 X	Ajo
✓ 7 - 17 C	Ajo
✓ 7 - 22 A	Ajo

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

Arizona (40)

Pima County

BOUNDARY MON 163 ECC

1927 N.A.D. (Unadj)

L.B. Mansfield, 1962

Book: PH 858

Located about 11.5 mi. E. of Lukeville. Station is on the NW. edge of a black ridge that rises out of the valley floor and is approximately 75 ft. lower than the highest point of NW. end of ridge.

Station reached by helicopter.

Station mark: Shallow drill hole on side of rock, 14.09 ft. from Boundary Mon. 163 in azimuth.

Reference mark: None set.

Image point No. 1: Center of two lone trees, 119 ft. from station in grid azimuth 323°28'55" and is 18.3 ft. lower.

Image point No. 2: East end of group of trees, 140.8 ft. from station in grid azimuth 342°04'55" and is 13.2 ft. higher. X=278,689. Y=299,767.

Image point No. 3: South end of group of trees, 115 ft. from station in grid azimuth 60°05'55" and is 21.5 ft. lower.

Computer's Note: This position is for plotting only.

Photo No. GS-VAHP 2-246.

ARIZONA ZONE CENTRAL

V.A. Elevation: 2320 ft.

X=278,646.

Y=299,901.

GRID VALUES

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
7-17 C	174°49'45"	354°49'45"	21,380.
Boundary Mon. 162 Ecc. (C&GS)	290 08 04	110 08 04	6,452.

*MARK has been DIST 1/31/65
G.A.H.*

Conversion from state plane to geodetic coordinates

Station = B.MON. 163 ECC State Plane Zone = 202
 Lat = 31 49 21.1605 Lon = 112 37 45.6716
 X = 278,646.0000 Y = 299,901.0000

NAD 83 VALUES AVAILABLE

Arizona(40)

Pima County

CAN

1927 N.A.D. (Unadj.)

L.B. Mansfield, 1962

Book: PH 858

Located about 13 mi. NE. of Lukeville, 11 mi. ESE. of Organ Pipe National Monument Headquarters and 8.5 mi. N. of the International Border. Station is on the highest point of a high top in the N. end of the Santa Rosa Mountains.

Station reached by helicopter.

Station mark: Standard USGS tablet stamped "CAN 1962" cemented in drill hole in top of lava boulder in place.

Reference mark No. 1: Standard USGS reference mark tablet stamped "NO 1 1962" cemented in drill hole in top lava boulder in place, 44.69 ft. from station in azimuth 127°50'35".

Reference mark No. 2: Standard USGS reference mark tablet stamped "NO 2 1962" cemented in drill hole in top lava boulder in place, 12.62 ft. from station in azimuth 273°27'57".

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

Signal data:	TWF	11.0 ft.
	BWF	8.0
	TRXT	7.1
	BRXT	4.5

Photo No. Paneled.

ARIZONA ZONE CENTRAL

V.A. Elevation: 3041 ft.

X=286,353.

Y=344,740.

Latitude: 31°56'45.39"

Longitude: 112°36'19.65"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Sierra del Ajo (C&GS)	138°20'41"	318°18'00"	39,334.
Kerwo (C&GS)	186 36 41	6 37 16	49,576.

NAD 83 VALUES AVAILABLE

5/18/62 vrm *del*

FILE COPY

4th order

Arizona (40)

Pima County

SEC COR T17-18S R4W

1927 N.A.D. (Unadj.)

S.B. Chan, 1962

Book: PH 858

Located approximately 10 mi. (airline) NNE. of Lukeville, 12 mi. SSW. of Kerwo, and 23 mi. SW. of Pisinemo.

To reach from Lukeville Post Office, drive 6.15 mi. E. along U.S.-Mexico Border, thence 3.99 mi. NE. along ridge top to BM "5 LHL", thence 0.9 mi. E. across country to Section Corner.

Station mark: GLO iron pipe and cap stamped "T 17 S R 4 W S34 S35 S3 S2 T 18 S".

No reference marks.

This station is for plotting only.

Photo No. Not identified

ARIZONA ZONE CENTRAL
X=269,920.
Y=326,554.

Elevation: 1684 ft.

Elevation: 1681 ft.
(Ground)

(PTL from a suppl. vertical point)

Station = SC T17-18S R4W
Lat = 31 53 44.3468
X = 269,920.0000

State Plane Zone = 202
Lon = 112 39 28.9158
Y = 326,554.0000

NAD 83 VALUES AVAILABLE

6/1/62 lcl dc

FILE COPY

NP

4th order

Arizona (40)

Pima County

SEC COR T17,18S; R5W

1927 N.A.D. (Unadj.)

S.B. Chan, 1962

Book: PH 858

Station is located approximately 5 mi. (airline) NE. of Lukeville, Arizona, approximately 35 mi. SSW. of Ajo, Arizona, and approximately 15 mi. SW. of Gu Vo, Arizona.

To reach from Lukeville P.O., go 0.8 mi. N. of Highway 85 to Y-junction turn right 2.1 mi. to windmill, continue 1.9 mi. between two low hills, turn left from main dirt rd. to a faint tract rd., go 2.4 mi. to station mark. The section corner is approximately 75 ft. E. of tract rd.

Station mark: A GLO 2 in. iron pipe with cap, stamped "T17-18S R5W S35 S36 S2 S1 1931".

Reference marks: None

Signal and Signal data: None

Computer's Note: This position is not of Third order accuracy.

Photo No. GS VAHP 6-99.

ARIZONA ZONE CENTRAL
X=243,527.
Y=326,747.

Elevation: 1537 ft.
(PTL from BM "1 LL")

Latitude: 31°53'44.37"

Longitude: 112°44'35.07"

NAD 83 VALUES AVAILABLE

5/18/62 vrm *lcs*

FILE COPY

3rd order

Arizona (40)

Pima County

SEC COR T18S R3W

1927 N.A.D. (Unadj.)

J. R. Heiser, 1962

Book: PH 858

Station is located 40 mi. SE. of Ajo, Pima County; 14 mi. SE. of the Indian village of Kerwo and 5 mi. N. of the boundary between the United States and Mexico.

To reach from the post office at Ajo, Pima County, drive SE. along State Highway 85 for 11 mi. to Rocky Point Junction; take left fork and drive E. along State Highway 86 for 5.6 mi. to a gravel rd. intersection; turn right and drive SE. along gravel rd. for 12.8 mi. to the Indian village of Kerwo; turn right and drive S. for 11 mi. to track rd. intersection; take track rd. and continue S. for 3.5 mi. to end of track rd.; turn left and drive cross country 1 mi. to station.

Station mark: GLO brass cap, SE. Cor Sec 11, T. 18 S., R. 3 W.

Photo No. 7-21

~~DEST.~~
2-85

ARIZONA ZONE CENTRAL
X=306,748.
Y=315,751.

V.A. Elevation: 1819 ft.

Ground is 1.8' lower

Latitude: 31°51'59.73"

Longitude: 112°32'21.02"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Mesquite (C&GS)	251°51'33"	71°54'32"	30,828.
Boundary Monument 160 Ecc. (C&GS)	358 46 37	178 46 41	26,337.

NAD 83 VALUES AVAILABLE

5/11/62 dc *del*

FILE COPY

3rd order

Arizona (40)

Pima County

SEC COR T18S, R5-4W

1927 N.A.D. (Unadj.)

J.J. Hoganson, 1962

Book: PH 858

Located about 4.5 mi. E. of Lukeville, Arizona on the International Boundary.

Station mark: Standard GLO brass tablet SE. Cor Sec 13 T18S R5, 4W.

Described by L.H. Lange in U.S.G.S. Level Line Book No. 18.

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

Signal data: TRXT 8.0 ft.
BRXT 5.4

Photo No. 7-13.

ARIZONA ZONE CENTRAL
X=248,676.
Y=310,975.

V.A. Elevation: ~~1456.4~~ ^{1456.360}
*Ground is 1 ft lower.
level by L.H. Lange 1962*

Latitude: 31°51'08.67"

Longitude: 112°43'33.97"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Shack (C&GS)	118°04'19"	298°03'25"	10,082.
5-88 X	205 44 27	25 46 32	46,690.

SFK '84

NAD 83 VALUES AVAILABLE

5/18/62 vrm *ll*

FILE COPY

Arizona (40)

Pima County

5-26 A

1927 N.A.D. (Unadj.)

R.N. Gardner, 1962

Book: PH 858

Station is located on an isolated black butte about 6 mi. SW. of the Papago Indian village of Kerwo.

Station was reached by helicopter.

Station mark: A chiseled cross in small outcropping rock (bedrock) on the highest part of the top.

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

Signal data:	TWF	11.2 ft.
	TFXT	7.7
	BFXT	5.2

Image point No. 1: Center of small bush, 49 ft. in grid azimuth 210°51'39". X=278,436. Y=361,423.

Image point No. 2: Center of tree, 46 ft. in grid azimuth 266°08'21".

Image point No. 3: Center of tree, 38 ft. in grid azimuth 313°19'09".

Photo No. GS-VAHP 5-26

ARIZONA ZONE CENTRAL
X=278,411.
Y=361,381.

V.A. Elevation: 3262 ft.

GRID VALUES

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Sierra del Ajo (C&GS)	125°38'04"	305°38'04"	22,163.
Kerwo (C&GS)	203 20 41	23 20 41	35,145.

Conversion from state plane to geodetic coordinates

Station = 5-26 A	State Plane Zone = 202
Lat = 31 59 29.5638	Lon = 112 37 53.0937
X = 278,411.0000	Y = 361,381.0000

FILE COPY
NAD 83 VALUES AVAILABLE

Arizona (40)

Pima County

5-88 X

1927 N.A.D. (Unadj.)

R.N. Gardner, 1962

Book: PH 858

Station is located about 8 mi. E. of the Organ Pipe Cactus National Monument Headquarters; about 11 mi. NE. of Lukeville on the highest pinnacle S. of station Sierra del Ajo.

Station mark: The base of a star drill in rock cairn.

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

Signal data: TWF 11.2 ft.
TRXT 7.7
BRXT 5.2

Photo No. Not identified.

ARIZONA ZONE CENTRAL
X=269,267.
Y=352,877.

V.A. Elevation: 4024 ft.

Latitude: 31°58'04.80"

Longitude: 112°39'38.59"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Shack (C&GS)	38°03'20"	218°00'21"	47,364.
Sierra del Ajo(C&GS)	157 06 38	337 05 43	23,180.

NAD 83 VALUES AVAILABLE

5/18/62 vrm *led*

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Arizona (40)

Pima County

7-17 C

1927 N.A.D. (Unadj.)

N. Watkinson, 1962

Book: PH 858

Station is located about 5 mi. NW. of USA-Mexico Border Monument No. 162; and 10 mi. E. of Arizona State Highway 85, on a prominent, low hill.

Station reached by helicopter.

Station mark: Drill hole in rock.

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

Signal data:	TWF:	10.9 ft.
	BWF:	7.9
	TRXT:	7.8
	BRXT:	5.2

Image point No. 1: Bush, 43.74 ft. from station mark in grid azimuth 330°16'18" and 3 ft. lower.

Image point No. 2: Bush, 26.16 ft. from station mark in grid azimuth 20°30'18" and 2.5 ft. lower.

Image point No. 3: Bush, 46.11 ft. from station mark in grid azimuth 48°41'24" and 3 ft. lower. X=276,684. Y=321,164.

Photo No. 7-17.

ARIZONA ZONE CENTRAL
X=276,719.
Y=321,194.

V.A. Elevation: 1972 ft.

GRID VALUES

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Shack (C&GS)	81°39'41"	261°39'41"	37,297.
5-88 X	166 45 49	346 45 49	32,548.

Conversion from state plane to geodetic coordinates

Station = 7-17 C	State Plane Zone = 202
Lat = 31 52 51.7564	Lon = 112 38 09.6408
X = 276,719.0000	Y = 321,194.0000

FILE COPY

NAD 83 VALUES AVAILABLE

Arizona (40)

Pima County

7-22 A

1927 N.A.D. (Unadj.)

J.E. Kallbrier, 1962

Book: PH 858

Located about 27 mi. E. of Lukeville and about 9 mi. W. of Sells. On a small ridge between two washes in desert area known as "Great Plain."

Station reached by helicopter.

Station mark: 1/2 in. steel reinforcing rod projecting 6 in. above ground.

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

Signal data:	TWF	11.2 ft.
	TRXT	7.9
	BRXT	5.4

Image point No. 1: Center of small tree, 49 ft. from station mark, 0.7 ft. lower in grid azimuth 43°17'42".

Image point No. 2: Center of small tree, 54 ft. from station mark, and level with station, in grid azimuth 186°15'42". X=316,566. Y=324,902.

Image point No. 3: Center of small tree, 43 ft. from station mark, and level, in azimuth 277°37'31".

Photo No. 7-22

ARIZONA ZONE CENTRAL
X=316,560.
Y=324,848.

V.A. Elevation: 1939 ft.

GRID VALUES

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Boundary Mon. 160 Ecc. (C&GS)	14°51'46"	194°51'46"	36,656.
Mesquite (C&GS)	269 01 25	89 01 25	19,538.

Station = 7-22 A

Lat = 31 53 30.2995
X = 316,560.0000

State Plane Zone = 202

Lon = 112 30 27.8141
Y = 324,848.0000

2/10/02 VEM ✓

**FILE COPY
NAD 83 VALUES AVAILABLE**

Arizona (40)

Pima County

BOUNDARY MON. 160
ECC. (C&GS)

1927 N.A.D.

USC&GS, 1936
D.J. Winstead, 1962

Book: PH 858

Described in U.S. Coast and Geodetic Survey Special Publication No. 224,
page 174. *and in Arizona Vol. II, page 686 31 112 4-1001*

Station reached by helicopter.

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

Signal data:	TWF	11.3 ft.
	BWF	8.3
	TRXT	8.0
	BRXT	5.4

Image point No. 1: Center of bush, 24.8 ft. from station mark in
azimuth $134^{\circ}09'47''$.

Image point No. 2: Center of bush, 39 ft. from station mark in
azimuth $343^{\circ}16'55''$.

Image point No. 3: Center of bush, 39 ft. from station mark in
azimuth $32^{\circ}26'23''$. X=307,137. Y=289,385.

Photo No. 1-88

ARIZONA ZONE CENTRAL
*X=307, ~~157-87~~ 160.39
Y=289, ~~418-34~~ 421.10

V.A. Elevation: 2688 ft.

*Latitude: $31^{\circ}47'39.15''$ 1773

Longitude: $112^{\circ}32'14.52''$ 4910

* = Values by USC&GS

5/18/62 vrm. *del*

FILE COPY

Arizona (40)

Pima County

BOUNDARY MON 162
ECC. (C&GS)

1927 N.A.D.

USC&GS, 1920
N. Watkinson, 1962

Book: PH 858

Station found as described in U.S. Coast and Geodetic Survey Special
Bulletin No. 224, page 175. *and in Arizona Vol. II, page 687.*

Note: Boundary Monument 162 is pricked on the photo and is an 11
ft. obliisk.

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

Signal data:	TWF	11.0 ft.
	BWF	8.0
	TRXT	7.8
	BRXT	5.2

Image point No. 1: Small palo verde tree, 41.6 ft. from the station
in azimuth 132°52'37". X=284,699. Y=297,695.

~~Computer's Note: Geodetic coordinates published in Special Publication
No. 224, page 58 for this station should belong to station Boundary Mon. 162
and reversed.~~

Photo No.: GS-VAHP 2-247

ARIZONA ZONE CENTRAL
*X=284, ~~729~~ 722.15
Y=297, ~~667~~ 671.57

V.A. Elevation: 2459 ft.

*Latitude: 31°48'59. ~~44~~ 4861

Longitude: 112°36'35. ~~00~~ 0838

* = Values by USC&GS

FILE COPY

5/18/62 vrm *del*

Arizona (40)

Pima County

BOUNDARY MON. 164 (IBC
(C&GS)

1927 N.A.D.

USC&GS, 1936

S.B. Chan, 1962

Book: PH 858

Described in U.S. Coast and Geodetic Survey Special Publication No. 224,
page 143. *and 31124-1003*

Signal: White flag over red fluorescent cross-target on a 2 x 4 pole,
18.71 ft. ecc. from station mark.

Signal data:	TWF	14.4 ft.
	BWF	11.4
	TRXT	10.9
	BRXT	8.3

Image point No. 1: Center of bush, 92 ft. from station mark in
azimuth $232^{\circ}18'36''$.

Image point No. 2: Center of bush, 131 ft. from station mark in
azimuth $340^{\circ}18'32''$. X=262,715. Y=305,646.

Image point No. 3: Center of bush, 94 ft. from station mark in
azimuth $164^{\circ}58'12''$.

Note: Elevation and signal data refer to concrete slab next to
bolt on N. side. Ground elevation is approximately 0.5 ft. lower.

Photo No. GS VAHP 2-235

ARIZONA ZONE CENTRAL
*X=262,671.58
Y=305,769.71

Elevation: 1500 ft.
(PTL from BM 3 LHL)

*Latitude: $31^{\circ}50'18.164''$

Longitude: $112^{\circ}40'51.293''$

* = Values by USC&GS

OK -GH 12/84

5/18/62 vrm *del*

FILE COPY

Arizona (40)

Pima County

BOUNDARY MON 165 (IBC)
(C&GS)

1927 N.A.D.

USC&GS, 1936

P.H. Johnson, 1962

Book: PH 858

Station mark recovered as described in U.S. Coast and Geodetic Survey
~~Special Publication No. 224, page 143. Boundary mark is a regular iron~~
boundary monument, 7 ft. in height. *and 31124-1004*

Following is a new description for this station:

Located about 4.5 mi. ESE. of Lukeville along the rd. that parallels
the U.S. and Mexican Border.

To reach station from Lukeville drive N. along State Highway 85 for
0.9 mi. to side rd. Turn right and follow main bladed rd. for approximately
5 mi. to ranch house on W. side of wash. Proceed SW. for about 400 ft. to
fence line and rd. at top of small hill, and boundary mark.

Note: Station was not occupied.

Photo No. Identified by PT sketch on photo VAHP 7-13.

ARIZONA ZONE CENTRAL
*X=243,939.29
Y=312,657.51

N. bolt of Monument 165
Elevation: 1448.97² ft.
(Unadjusted leveling by
~~L.H. Lange, 1962~~)

*Latitude: 31°51'24.97"

Longitude: 112°44'29.04"

* = Values by USC&GS

OK AH 12/84

FILE COPY

5/18/62 vrm *del*

Arizona (40)

Pima County

GRAVEL (C&GS)

1927 N.A.D.

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

Book: PH 858

Station found as described in U.S. Coast and Geodetic Survey Special
Publication No. 224, page 143. ~~and 3111241007~~

A new to reach description is as follows: Lukeville, Port of Entry,
0.8 mi. N. along Highway 85 to Y-junction, turn right, 2.1 mi. along dirt
rd. to windmill, thence 1.9 mi. further to a point between two hills,
turn left, follow faint track rd. for 4.4 mi. to station mark, which is
approximately 100 ft. NW. of rd.

Signal: White flutter flag over red fluorescent cross-target on a
2 x 4 pole centered over station mark:

Signal data: TFF	14.8 ft.
BFF	12.0
TFXT	11.6
BFXT	9.0

Image point No. 1: Center of bush, 82.5 ft. from station mark, and
2.6 ft. lower in azimuth $149^{\circ}07'56''$. X=247,777. Y=335,936.

Image point No. 2: Center of tree, 26.5 ft. from station mark, 0.1 ft.
higher in azimuth $246^{\circ}54'15''$.

Image point No. 3: Center of bush, 47 ft. from station mark, 0.9 ft.
higher in azimuth $320^{\circ}27'23''$.

Photo No. GS VAHP 6-99.

ARIZONA ZONE CENTRAL
*X=247,818.57
Y=335,865.31

V.A. ELEVATION: 1658 ft.

*Latitude: $31^{\circ}55'14.924''$

Longitude: $112^{\circ}43'46.080''$

* = Values by USC&GS

5/18/62 vrm

FILE COPY

Arizona (40)

Pima County

SWEETWATER (C&GS)

1927 N.A.D.

USC&GS, 1936

Book: PH 858

J.J. Hoganson, 1962

Described in U.S. Coast and Geodetic Survey Special Publication No. 224,
page 141 and 31 112 4-1010

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

Signal data:	TWF	11.0 ft.
	TRXT	7.2
	BRXT	4.6

Image point No. 1: Center of lone tree, 24 ft. from station mark and 9 ft. lower in azimuth $299^{\circ}25'35''$. X=303,251. Y=351,168.

Image point No. 2: Center of lone tree, 74 ft. from station mark and 16 ft. lower in azimuth $329^{\circ}38'09''$.

Image point No. 3: Center of lone tree, 69 ft. from station mark and 17 ft. lower in azimuth $37^{\circ}08'13''$.

Photo No. None

ARIZONA ZONE CENTRAL
*X=303,229.53
Y=351,180.25

V.A. Elevation: 2565 ft.

*Latitude: $31^{\circ}57'50.147''$

Longitude: $112^{\circ}33'04.222''$

* = Values by USC&GS

5/18/62 vrm *ll*

FILE COPY