

32°00'
110°45'

Index

Station	Project
C.W.A. (AGS) (AGS)	Davis Montan, Nogales
S ET 1	Tucson, Nogales
Magnetic (AGS)	Davis Monthan, Nogales
S Orange & White Water Tank	Davis Monthan, Nogales
PA 2 (AGS)	Tucson, Nogales
PA 3 (AGS)	Tucson, Nogales
PA 4 (AGS)	Tucson, Nogales
Sec Cor 23/15S/13E (Inactive)	Tucson
Sec Cor 27/16S/13E (Inactive)	Tucson
Vail (AGS)	Tucson, Nogales
Warner (AGS) (AGS) AGS	Davis Monthan, Tucson, Nogales
Wilmot (AGS)	Davis Monthan, Nogales
Xavier (AGS)	Tucson, Nogales
S 2-54 A	Tucson, Nogales

Davis Monthan Project Master in ARIZONA 49 - Book: PH 146

Tucson Project Master in ARIZONA 50 - Book: PH 1264

Nogales Project Master in AZ 8 - Book: PH 1778

DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

1st Order
Triangulation Electronic - Distance Traverse Intersected Object
Station CWA AGS Country Pima State AZ
Established by NGS Year 1935 Project _____

Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by USGS Year 1956 Project PH 446

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
POST				248°17'44.2"

Described in National Geodetic Survey Description List 32 110 3, station 1018.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE

X= 827856.12

Y= 414010.18

MAPPING ANGLE=+0 33 48

ELEV 2758.197 FT

QUAD 32 110 33

CWA (AGS)

LAT 32 8 1.7150

LONG 110 51 27.0860

FILE COPY

DESCRIPTION

32 110 33

Supplementary Horizontal Control Station

Station ET 1 County Pima State AZ Quad No. 50

Project PH 1264 Year 1967

Surveyed by checked (X) or unchecked () methods

Description:

Located about 15 mi SE. of Tucson; about 4 mi NW. of Vail; about 1 mi NE. of I-Hwy. 10.

To reach from overpass at jct. of U.S. Hwys. 80 and 89 in South Tucson, go 14 mi SE. along Hwy. 80 to Houghton Rd.; go 1.4 mi N. on Houghton Rd. to RR. overpass and station on left.

Station mark: Chiseled triangle in west walkway at approximate center of bridge over RR.

Pima Co. BM #16: Brass cap set in concrete on southwest pier of overpass, 119.660 ft from station mark and 0.2 ft lower in azimuth 1°32'45".

ARIZONA CENTRAL ZONE

X= 854500.4

Y= 395155.8

MAPPING ANGLE=+0 36 29

ELEV 3056.8 FT

QUAD 32 110 33

ET 1

LAT 32 4 52.459

LONG 110 46 19.596

STATION	OBSERVED DIRECTION	DISTANCE	A-O	A-O FT
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STATIONS OBSERVED BY THIRD ORDER METHODS FROM PH 1264 1967

WILMOT RM 3	114 48 14.4	29150.5	0.5	
ET 2	236 31 17.2 S	10203.7	0.5	-0.2
AIRWAY BEACON NO 12	280 32 5.9	38071.2	1.0	
VAIL	331 39 14.9 S	13938.0	-4.1	-0.0

NAD 83 VALUES AVAILABLE

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DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

2nd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station MAGNETIC County Pima State AZ

Established by NGS Year 1935 Project _____

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1956 Project PH 446

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
SAHUARO				164°01'45.8"

Described in National Geodetic Survey Description List 32 110 3, station 1044.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE

X= 833766.71

Y= 454925.88

MAPPING ANGLE=+0 34 34

ELEV 2542.6 FT

QUAD 32 110 33

MAGNETIC

LAT 32 14 45.9860

LONG 110 50 13.5810

FILE COPY

DESCRIPTION

32 110 33

Supplementary Horizontal Control Station

ORANGE & WHITE

Station WATER TANK County Pima State AZ Quad No. 50

Project PH 446 Year 1956

Surveyed by checked (X) or unchecked () methods

Description:

Located about 8 mi ESE. of Tucson, 3 mi SW. of Pantano Wash at Davis-Monathan Field; at southeast end of northeast runway.

Station mark: Center of orange and white water tank on steel tower.

Station was intersected.

ARIZONA CENTRAL ZONE

ELEV

X= 827590.4

Y= 428971.4

MAPPING ANGLE=+0 33 50

QUAD 32 110 33

ORANGE&WHITE WT

LAT 32 10 29.780

LONG 110 51 28.465

NAD 83 VALUES AVAILABLE

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DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

2nd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station PA 2 County Pima State AZ
Established by NGS Year 1959 Project _____

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1967 Project PH 1264

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
BLACK HILLS 2				71°46'04.5"
RM 1		30.83		248 39
RM 2		23.34		38 37

Described in National Geodetic Survey Description List 32 110 3, station 1003. Cap broken off station mark but shank remains. RMs in good condition.

Note: In 1973 NGS recovered and reset station mark stamped "PA 2 1959 1973".

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE ELEV 2853.4 FT
X= 787664.08
Y= 403681.16
MAPPING ANGLE=+0 29 38 QUAD 32 110 33

PA 2 LAT 32 6 23.1770 LONG 110 59 15.4921

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DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

2nd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station PA 3 County Pima State AZ
Established by NGS Year 1959 Project _____

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1967 Project PH 1264

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
BLACK HILLS 2				123°53'46.1"

Described in National Geodetic Survey Description List 32 110 3, station 1002. New to reach follows:

To reach from I-Hwy. 19 and Valencia Rd. in south side of Tucson, go S. on I-Hwy. 19 for 5.9 mi. to station on right about 200 ft W. of hwy.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE

X= 786284.17

Y= 382747.92

MAPPING ANGLE=+0 29 25

ELEV 2638.771 FT

QUAD 32 110 33

PA 3

LAT 32 2 56.1514

LONG 110 59 33.6181

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DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

2nd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station PA 4 County Pima State AZ
Established by NGS Year 1959 Project _____

Check one:

New Station: Write full description below
 Recovery of Old Station: Recovered by USGS Year 1967 Project PH 1264

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
BLACK HILLS 2 SC 27/16S/13E		221.78		147°11'26.9" 90 27 08

Described in National Geodetic Survey Description List 32 110 3, station 1001. Station mark and RM 2 found in good condition. RM 1 found lying on its side above ground.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE
X= 786034.06
Y= 365442.36
MAPPING ANGLE=+0 29 20

ELEV 2795.122 FT

QUAD 32 110 33

PA 4

LAT 32 0 4.9254

LONG 110 59 38.2410

FILE COPY

DESCRIPTION

32 110 33

Supplementary Horizontal Control Station

Station 2-54 A County Pima State AZ Quad No. 50

Project PH 1264 Year 1967

Surveyed by checked () or unchecked () methods

Description:

Located about 16 mi SSE. of Tucson; 10.5 mi WSW. of Vail; 5.5 mi NE. of Sahuarita; in Sahuarita Bombing and Gunnery Range.

To reach from main intersection in Sahuarita, go N. on Nogales Hwy. 3.5 mi (.5 mi N. of Pima Rd. intersection); turn right (E.) 0.7 mi to rd. X-ing.; go right (E.) across cattleguard 0.3 mi to T-jct. with track rd. E.; turn left (E.) 0.5 mi to wire gate at entrance to bombing range; continue ahead for 1.1 mi to rd. X-ing.; turn left (NE.) and go through wire gate, continue 0.4 mi to jeep rd. left; turn left (N.) and continue on dim rd. 0.9 mi to washout at drain; bear NE. on fairly open ridge 0.7 mi; cross shallow drain to right and continue 0.3 mi E. to small rise and station.

Station mark: 2-inch pipe flush with ground and witnessed by a 1/2-inch reinforcing bar.

ARIZONA CENTRAL ZONE

X= 822513.0

Y= 366689.6

MAPPING ANGLE=+0 33 5

ELEV 2799.8 FT

QUAD 32 110 33

2-54 A

LAT 32 0 13.990

LONG 110 52 34.522

STATION	OBSERVED DIRECTION	DISTANCE	A-O	A-O FT
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STATIONS OBSERVED BY THIRD ORDER METHODS FROM PH 1264 1967

GLO STATION NO 1	306 38 48.2	33763.7	-6.4	
RITA	20 7 0.4	33370.3	-4.1	
PA 5	64 21 0.4	38520.7	-3.0	
LAVA KNOLL	102 41 8.9	44465.4	1.6	
PA 2	137 15 29.9	50821.1	7.8	

NAD 83 VALUES AVAILABLE

FILE COPY

DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

1st Order
Triangulation Electronic - Distance Traverse Intersected Object
Station VAIL County Pima State AZ
Established by NGS Year 1935 Project
Check one:
 New Station: Write full description below USGS 1956 PH 446
 USGS 1967 PH 1264
 Recovery of Old Station: Recovered by USGS Year 1975 Project PH 1778

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
ISOLATED				251°02'32.8"

Described in National Geodetic Survey Description List 32 110 3, station 1023. All marks in good condition.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE
X= 861248.37
Y= 382559.44
MAPPING ANGLE=+0 37 7

ELEV 3145.200 FT

QUAD 32 110 33

VAIL

LAT 32 2 51.0650

LONG 110 45 2.7090

FILE COPY

DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

1st Order
 Triangulation Electronic - Distance Traverse Intersected Object
 Station WARNER AGS AGS County Pima State AZ
 Established by NGS Year 1935 Project _____
 Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by USGS Year 1967 Project PH 1264

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
BLACK HILLS 2				24° 43' 06.2"
RM 1		11.92		238 19
RM 2		6.34		127 14

Described in National Geodetic Survey Description List 32 110 3, station 1009. All marks are badly defaced and difficult to read.

Note by USGS, 1976: It is felt WARNER USGS established in 1903 was in the same location as WARNER AGS. Horizontal observations by USGS prior to 1935 are shown as being observed from WARNER AGS.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE
 X= 786103.6
 Y= 441414.2
 MAPPING ANGLE=+0 29 35
 ELEV 2897.2 FT
 QUAD 32 110 33

WARNER AGS LAT 32 12 36.689 LONG 110 59 29.863

FILE COPY

DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

1st Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station WILMOT County Pima State AZ

Established by NGS Year 1935 Project _____

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1956 Project PH 446

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
CWA AGS				179°49'16.6"

Described in National Geodetic Survey Description List 32 110 3, station 1019.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE

X= 827945.36

Y= 407119.66

MAPPING ANGLE=+0 33 47

ELEV 2775.841 FT

QUAD 32 110 33

WILMOT

LAT 32 6 53.5250

LONG 110 51 26.8360

FILE COPY

DESCRIPTION
HORIZONTAL CONTROL STATION

32 110 33
DIAGRAM Tucson
USGS QUAD NO. 50

1st Order
Triangulation Electronic - Distance Traverse Intersected Object
Station XAVIER County Pima State AZ
Established by NGS Year 1935 Project _____

Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by USGS Year 1967 Project PH 1264

Object	Bearing	Distance	
		Fees	Meters

Described in National Geodetic Survey Description List 32 110 3, station 1004.

Note by USGS, 1967: Occupied only to establish VA elevations.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE
X= 796565.01 ELEV 2585.953 FT
Y= 399219.62
MAPPING ANGLE=+0 30 32 QUAD 32 110 33

XAVIER LAT 32 5 38.2580 LONG 110 57 32.4790

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