

32°00'
111 00

Index

<u>STATION</u>	<u>PROJECT</u>
Avra (C&GS)	Silver Bell
Black Hills 2 (C&GS)	Tucson
Bren	Tucson
Cat Mountain (AGS)	Tucson
Center	-----
Decca 26	Tucson
Huff	Tucson
J-BAR-M	Tucson
"K 21 1934" (CWA)	-----
"K 24 1934" (CWA)	-----
"K 26 1934" (CWA)	-----
K 27	Tucson
K 28	Tucson
K 29	Tucson
Not Found "K 30 1934" (CWA)	Davis Monthan
Not Found "K 31 1934" (CWA)	Davis Monthan
K 32	
K 33	Tucson
"K 34 1934" (CWA)	-----
"K 35 1934" (CWA)	-----
"K 36 1934" (CWA)	-----
K 37	Tucson
K 38	Tucson

32° 00'
111 00

Index

<u>STATION</u>	<u>PROJECT</u>
"K 39 1934" (CWA)	- - - - -
"K 40 1934" (CWA)	- - - - -
Lava Knoll (C&GS)	Tucson
Sec Cor CC NE2/16S/11E	Tucson
Sec Cor 3-1/4S/16S/13E	Tucson
Sec Cor 13/15S/12E	Tucson
Sec Cor 17/15S/12E	Tucson
Sec Cor 25/16S/12E	Tucson
Sec Cor 26/16S/11E	Tucson
Sec Cor 26/16S/12E	Mineral Hill Repay
Sec Cor 27/16S/12E	Mineral Hill Repay
Sec Cor 27-1/4S/16S/13E	Tucson
Sec Cor 28/16S/12E	Mineral Hill Repay
Sec Cor 30/16S/11E	Tucson
Sec Cor 35/15S/11E	Tucson
Synders Hill (C&GS)	Tucson
111 - 77-C	- - - - -

Mineral Hill Repay Project Master in Ariz. 34 - Book: PH 808
 Silver Bell Project Master in Ariz. 72 - Book: PH 596
 Davis Monthan Project Master in Ariz. 49 - Book: PH 446
 Tucson Project Master in Ariz. 50 - Book: PH 1264

Arizona (51)

Pima County

K 38

1927 N.A.D. (Unadj.)

A.G. Kaetz (CWA), 1934

H.T. Bradley, 1967

Book: PH 1264

Located about 5 mi. NW. of Black Hills; about 3 mi. SW. of Snyders Hill.

To reach from Interstate 19 and Valencia Rd. go W. on Valencia Rd. 1.6 mi. to Mission Rd.; continue W. on Valencia Rd. for 6.6 mi. to rd. S. (left); go S. for 1 mi. to station on right (W.) 60 ft. W. of rd.

Station mark: A USGS (CWA) brass cap projecting about 0.1 ft. and is stamped "K 38 1934" 2522 ft. in a concrete post.

Signal: A white flag over a red over white cross-target on pole centered over station mark.

Signal data:	TWF	15.2 ft.
	TRXT	10.2
	C/L R/WXT	7.2
	BWXT	4.3

Section Corner, a GLO cap stamped "T15S R12E S17 S16 S20 S21 1915" 58.62 ft. from station mark in azimuth 263°53'54".

Photo No.: Paneled.

Elevation: 2521.751 ft.
(Spirit leveling by
A.B. Cutler, 1934)

The following unadjusted values are from 1934 observations:

Latitude: 32°07'07.21" Longitude: 111°07'52.39"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Snyders Hill	201°00'21.6"	21°00'55.6"	15343.456
Black Hills	297 23 57.9	117 26 17.0	25375.942

The following unadjusted values are from 1967 observations:

ARIZONA CENTRAL ZONE.

X = 743171.
Y = 407776.

NAD 83 VALUES AVAILABLE

FILE COPY

+ ° 25' 3.367"

K-38

	LAT. 32° 7' 7.201"	LONG. 111° 7' 52.393"	
STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
Snyders Hill (C&GS)	201° 18.935"	21° 52.970"	15344.11
Cat Mtn. (AGS)	222° 45' 56.951"	42° 48' 13.214"	32410.22
Black Hills 2 (C&GS)	297° 23' 27.266"	117° 25' 46.449"	25378.04

3/23/67 rme✓

Arizona (51)

Pima County

LAVA KNOLL (C&GS)

1927 N.A.D.

USC&GS, 1935, 1960

H.T. Bradley, 1967

Book: PH 1264

Described in U.S. Coast and Geodetic Survey Description list
321112, station 1001.

Signal: A metal tripod set in rock (not cemented) centered over
station mark.

Signal data: Top of tripod 12.55 ft.
Btm of tripod 10.60

Photo No.: Not identified.

ARIZONA CENTRAL ZONE.

VA ELEV. 2931.8

X = 779041.

Y = 376037.

+ ° 28' 39.247"

Lava Knoll (C&GS)

	* LAT.	32° 1' 50.546"	LONG.	111° 1' 58.419"	
STATION	AZIMUTH		BACK AZIMUTH	DISTANCE	
Black Hills #2 (C&GS)	147° 14'	49.021"	327° 13'	28.303"	24183.98
PA 2 (C&GS)	197° 48'	8.363"	17° 49'	3.012"	28958.35
K-33	201° 1'	59.642"	21° 1'	24.375"	11185.81
Sec Cor 23/15S/13E	204° 18'	3.817"	24° 19'	19.027"	29609.55
PA 3 (C&GS)	227° 39'	40.216"	47° 40'	25.205"	9874.47
PA 4 (C&GS)	327° 2'	58.930"	147° 2'	41.439"	12694.37

FILE COPY

3/20/67 rme *Alk*

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station HUFF USGS

County Pima

State AZ

Established by USGS

Year 1934

Project D 3238-52

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				263°00'08.1"
SC 35/15S/11E		450.68		182 50 57
CC 2NE/16S/11E		456.73		188 33 27

USGS 1967: Revised description follows:

Located about 17 mi SW. of Tucson; about 7 mi W. of Black Hills; about 4 mi S. of Ryan Field.

To reach from Valencia Rd. and I-Hwy. 19, go W. on Valencia Rd. for 1.7 mi to Mission Rd.; turn S. (left) on Mission Rd. for 3 mi to track rd. right at cattleguard; go right (SW.) on track rd. for 9.7 mi to Cottonwood Ranch; take track rd. right (NW.) for 4.4 mi to fork; take right fork for 1.2 mi to drain X-ing. and township corners one on each side of rd.; station is 451 ft S. of these corners.

Station mark: Standard bronze tablet set in concrete.

SC 35/15S/11E: GLO cap stamped "SC S35 S36 T15S R11E 1915".

CC 2NE/16S/11E: GLO cap stamped "S36 S2 S1 CC T16S R11E 1915".

USGS Unadjusted 1967 Coordinates

~~ARIZONA CENTRAL ZONE~~ ~~ELEV~~ ~~2749.6 FT~~

~~X= 727493.4~~

~~± 2.36~~

~~Y= 391300.2~~

~~MAPPING ANGLE = +0 23 24~~

~~QUAD 32 111 22~~

~~HUFF USGS~~

~~LAT 32 4 25.252~~

~~LONG 111 10 55.987~~

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station J-BAR-M USE County Pima State AZ
Established by USE Year 1956 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	
CAT MTN. AGS				239°02'33.2"

USGS 1967: New description follows:

Located about 11.5 mi SSW. of Wasson Mtn.; about 9.5 mi W. of Black Hill; about 5 mi SW. of Ryan Air Field.

To reach from the entrance at Ryan Air Field, go SW. on Ajo Hwy. for 4.2 mi to track rd. with gate; go S. 0.9 mi and turn right cross open country over old airstrip 0.4 mi to station mark.

Station mark: USCE brass tablet stamped "J-BAR-M 30TH ENGRS GP 1956", set in concrete post.

RM's: None.

USGS Unadjusted 1967 Coordinates

ARIZONA CENTRAL ZONE ELEV **2532.22 FT**
 X= **709831.6**
 Y= **398159.8**
 MAPPING ANGLE=+0 21 36 QUAD 32 111 22

JBARM USE LAT **32 5 34.278** LONG **111 14 20.745**

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station K 21 USGS County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by _____ Year _____ Project _____

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
WASSON				222°01'52.9"

About 25 ft N. of south boundary fence of Papago Indian Reservation, 1 mi W. of southeast corner, 44 ft N. and 30 ft W. of corner of sections 20,21, 28,29, T14S,R11E; section corner is mesquite post, badly rotted and split, with five notches on east and two notches on south side.

Station mark: Standard bronze tablet stamped "K 21 1934 ELEV 2300 FT", set in cement.

Note: Reported not found by USGS in 1967. No evidence of the station mark or the section corner could be found.

USGS Adjusted 1934 Coordinates

ARIZONA CENTRAL ZONE ELEV 2299.320 FT

X= 711018.7

Y= 433569.0

MAPPING ANGLE = +0 21 48 QUAD 32 111 22

K21 USGS LAT 32 11 24.610 LONG 111 14 4.340

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station K 24 USGS County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by _____ Year _____ Project _____

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
BLACK HILLS USA				260°08'04.6"

About 2 mi W. of San Xavier Indian Reservation, 3 mi (4 mi by trail) S. of Tucson-Ajo Rd., 30 ft N. and 30 ft E. of corner of sections 5,6,7 and 8, T16S, R11E.

Station mark: Standard bronze tablet stamped "K 24 1934 ELEV 2752 FT", set in concrete.

USGS Adjusted 1934 Coordinates

ARIZONA CENTRAL ZONE
X = 706602.0 ELEV 2751.301 FT
Y = 385594.4
MAPPING ANGLE = +0 21 14 QUAD 32 111 22
K24 USGS LAT 32 3 30.130 LONG 111 14 59.190

NAD 83 VALUES AVAILABLE

FILE COPY
OCT 1 1975

Arizona (274)

Navajo County

BM P 45 (C&GS)

1927 N.A.D. (Field)

USC&GS, 1958

L. B. Mansfield, 1960

Book: PH 768

SEE LATER VALUES

~~341101-1021~~ 341101-1021
6-1186a

Described by USC&GS in Unadjusted Horizontal Control Data No. 2000, p. 25.

Located about 2.5 mi. N. of Snowflake, about 450 ft. W. of State Highway 77, 45 ft. NNE. of the center of the Apache RR. tracks and 45 ft. S. of the center of the track rd.

To reach the station from the Snowflake P.O., go N. on State Highway 77, for 2.35 mi. to a track rd. on the left and a wire gate, turn left on the track rd. and pass through the wire gate and go northwesterly for 0.2 mi. to the station on the left.

Note by LBM, 1960: Found as described, all marks in good condition.

Station mark: A standard USC&GS BM stamped "P 45 1934" projecting 8 in.

Reference mark No. 1: A standard disk stamped "BM P 45 NO 1 1958" 18 ft. N. of the center of the track rd. projecting 6 in.

Reference mark No. 2: A standard disk stamped "BM P 45 NO 2 1958" 30 ft. N. of the center of the RR. tracks projecting 4 in.

Signal: A red X-tgt. centered over station mark.

Signal data: Top red X-tgt. 7.3 ft.
Bottom red X-tgt. 5.6

FILE COPY

Photo No. No photo coverage.

ARIZONA ZONE EAST

X= 526,026.

Y=1,289,270.

Elevation: 5720.927 ft.

(First Order Leveling by

USC&GS in Arizona, Line 29)

*Latitude: 34°32'37.98"

Longitude: 110°04'48.86"

*= USC&GS Field Position

1/9/61 ds *new*

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM TUCSON
USGS QUAD NO. 51

3rd Order

Triangulation Electronic - Distance Traverse Intersected Object

Station BLACK HILLS USA County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by _____ Year _____ Project _____

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
HELMET PEAK 2				8°52'58.1"

Located on summit of mountain known locally by same name.

To reach from Tucson, go S. along Mission Hwy. to a point 1 mi W. of San Xavier Mission. Mountain is W. of hwy.

Station mark: Bolt set in concrete in side of boulder.

Note: Reported not found in 1967.

USGS Unadjusted 1975 Coordinates

~~ARIZONA CENTRAL ZONE~~ ~~ELEV~~
X= 765784.5
Y= 398263.9
~~MAPPING ANGLE = +0 27 21~~ ~~QUAD 32 111 22~~
~~BLACK HILLS USA~~ ~~LAT 32 5 11.574~~ ~~LONG 111 3 30.534~~

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 5F

2nd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station AVRA Country Pima State AZ
Established by NGS Year 1936 Project _____

Check one:

New Station: Write full description below

Recovery of Old Station: Recovered by USGS Year 1958 Project PH 596

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	

Described in National Geodetic Survey Description List 32 111 2, station 1025. All marks in good condition. RM's not measured.

Occupied for horizontal scaling and vertical control only.

NGS Adjusted Coordinates

ARIZONA CENTRAL ZONE ELEV 2243.388 FT
X = 711049.36
Y = 455113.14
MAPPING ANGLE = +0 21 51 QUAD 32 111 22

AVRA LAT 32 14 57.8040 LONG 111 14 2.3900

FILE COPY

OCT 1 1975

Arizona (51)

Pima County

K 28

1927 N.A.D. (Unadj.)

A.G. Kaetz (CWA), 1934
H.T. Bradley, 1967

Book: PH 1264

Located about 5 mi. NW. of Cat Mt., about 4.5 mi. S. of Wasson Pk., in Tucson Mtn. Park and Recreation area.

To reach from junction of Ajo Highway and Kinney Rd., go NW. along Kinney Rd. for 4.8 mi. to dirt track rd. W. (left); go W. 0.5 mi. to station on left 100 ft. S. of rd.

Station mark: A USGS (CWA) brass tablet set in a concrete post projecting 0.4 ft. and is stamped "K 28 1934 ELEV 2596 FT".

Reference marks: None.

Signal: A white flag over a fluorescent cross-target on pole centered over station mark.

Signal data: TWF 11.0 ft.
TFXT 7.8
BFXT 4.1

Photo No.: Not identified.

Elevation: 2595.744 ft.
(Spirit leveling by M.M. Stover, 1934)

The following unadjusted values are from 1934 observations:

Latitude 32°12'38.66" Longitude 111°08'11.07"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Wasson	172°13'32.3"	352°13'13.0"	22,928.8
Bren	261 33 53.6	81 35 11.1	12,619.4

The following unadjusted values are from 1967 observations:

ARIZONA CENTRAL ZONE.

X = 741323.
Y = 441258.

FILE COPY

+ ° 24' 57.259"

K-28

	LCZ. 32° 12' 38.659"	LONG. 111° 8' 11.068"	
Cat Mtn. (AGS)	292° 20' 7.720"	112° 22' 34.108"	25526.80
Wasson (C&GS)	172° 13' 27.263"	352° 13' 7.991"	22925.64
Bren	261° 33' 58.051"	81° 35' 15.509"	12620.30

NAD 83 VALUES AVAILABLE

3/17/67 slh

Handwritten initials

Handwritten initials

Arizona (51)

Pima County

BLACK HILLS 2 (C&GS)

1927 N.A.D.

USC&GS, 1935, 1962

H.T. Bradley, 1967

Book: PH 1264

Found as described in U. S. Coast and Geodetic Survey Description List 321112, station 1002; except as noted below.

Reference mark No. 1: A USC&GS brass tablet stamped "BLACK HILLS #2 RM 1 1935" set in rock and 49.78 ft. slope distance in azimuth 319°33'30".

Reference mark No. 2: A USC&GS brass tablet stamped "BLACK HILLS #2 RM 2 1935" set in rock and 37.17 ft. slope distance in azimuth 231°55'28".

Signal: A triangle shaped tripod cemented in place centered over the station mark.

Signal data: Top of tripod or cone 13.3 ft.
Btm. of tripod or cone 7.0

Note: 1967 observations to reference marks do not agree with C&GS values. Check during field completion.

ARIZONA CENTRAL ZONE.

A ELEV. 3699.3

X = 765788.

Y = 396266.

IDENT.

PANEL

+ ° 27' 21.145"

Black Hills 2 (C&GS)

	*LAT. 32° 5' 11.590"	LONG. 111° 3' 30.494"		
	STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
Cat Mtn. (AGS)		179° 11' 19.387"	359° 11' 16.280"	35472.77
PA-2 (C&GS)		251° 43' 49.025"	71° 46' 4.521"	23099.11
Huff		83° 4' 4.987"	263° 1' 8.384"	38616.25
J Bar M		92° 23' 41.388"	272° 17' 55.945"	55990.31
K-38		117° 25' 46.448"	297° 23' 27.267"	25378.04
Decca 26		134° 31' 17.143"	314° 26' 12.463"	68985.21
K-27		137° 43' 36.474"	317° 39' 4.569"	65254.94
Snyders Hill (C&GS)		146° 48' 34.316"	326° 46' 49.077"	31082.24
Wasson (C&GS)		158° 10' 35.193"	338° 7' 46.528"	73146.51
Lava Knoll (C&GS)		327° 13' 28.291"	147° 14' 49.011"	24183.98
		251° 43' 49.025"	71° 46' 4.521"	23099.11
PA 2 (C&GS)		303° 51' 40.703"	123° 53' 46.467"	24552.74
PA 3 (C&GS)				

FILE COPY

4/19/67 mw *elch*

Official App.
(AZGS) BAC
(AGS)

Arizona (51)

Pima County

CAT MOUNTAIN

1927 N.A.D.

A.G. Kaetz (CWA), 1934

USC&GS, 1960

Books: D3238-52, PH 1264

H.T. Bradley, 1967

32112 station 1037

Located about 6 mi. SW. of Tucson on a prominent peak locally known as Cat Mountain.

Station mark: A brass tablet marked USC&GS and State Survey with no stamping.

Reference mark No. 1: A standard USC&GS brass tablet stamped "CAT MTN NO 1 1959" and 32.28 ft. in azimuth $194^{\circ}17'35''$.

Reference mark No. 2: A standard USC&GS brass tablet stamped "CAT MTN NO 2 1959" and is 26.18 ft. in azimuth $89^{\circ}38'50''$.

Signal: A white flag over a red cross-target centered over the Arizona State Survey cap.

Signal data: TWF 11.0 ft.
TRXT 7.5
BRXT 4.5

Note: The USC&GS Triang. Sta. CAT MTN. is gone except the stem which is 2.20 ft. from station mark.

The following unadjusted values are from 1934 observations:

Latitude $32^{\circ}11'02.580''$ Longitude $111^{\circ}03'36.351''$

<u>To Station</u>	<u>Azimuth</u>			<u>Back Azimuth</u>			<u>Feet</u>
Snyders Hill	60	11	42.5	240	10	00.3	19,028.659
K 27	106	27	15.3	286	22	46.1	45,245.167
Bren	136	06	45.9	316	05	36.9	16,040.178
Wasson	140	33	11.7	320	30	25.9	42,006.760
K 14	206	52	56.5	26	54	19.9	29,708.329
K 30	230	17	45.4	50	19	39.6	23,928.376
"A" Mountain	245	48	07.7	65	50	19.0	23,218.396
K 31	277	00	57.2	97	02	46.4	17,754.040
K 32	322	52	09.6	142	53	59.6	29,463.354
Black Hills	359	11	29.9	179	11	33.0	35,474.328

The following unadjusted values are from 1967 observations:

FILE COPY

Handwritten signature

Arizona (51)

Pima County

CAT MOUNTAIN (AGS)

1927 N.A.D.

A. G. Kaetz (CWA), 1934

US&GS, 1960

Books: D3238-52, PH 1264

H. T. Bradley, 1967

ARIZONA CENTRAL ZNE.

VA Eev. 3852.1

X = 765003.

Y = 431729.

IDENT.

PANEL

+ ° 27' 22.484"

Cat Mtn. (AGS)

	*LAT.			LONG.			
	32°	11'	2.580"	111°	3'	36.338"	
STATION	AZIMUTH			BACK	AZIMUTH		DISTANCE
Black Hills 2 (C&GS)	359°	11'	16.264"	179°	11'	19.373"	35472.77
K-38	42°	48'	13.192"	222°	45'	56.931"	32410.22
Snyders Hill (C&GS)	60°	11'	48.921"	240°	10'	6.650"	19029.64
Decca 26	104°	50'	31.019"	284°	45'	29.041"	50363.87
K-28	112°	22'	34.104"	292°	20'	7.718"	25526.80
Bren	136°	6'	42.961"	316°	5'	33.995"	16039.80
Wasson (C&GS)	140°	32'	57.146"	320°	30'	11.367"	42004.61
Stockman (C&GS)	213°	42'	43.030"	33°	44'	38.396"	33475.92
PA-2 (C&GS)	321°	31'	10.608"	141°	33'	29.396"	36058.70
J Bar M	59°	8'	14.212"	239°	2'	31.410"	64583.81
K-27	106°	27'	13.007"	286°	22'	43.849"	45245.54

FILE COPY

Arizona (51)

Pima County

SNYDERS HILL (C&GS)

1927 N.A.D.

USC&GS, 1920, 1962

A.G. Kaetz (CWA), 1934

Books: D3238-52, PH 1264

H.T. Bradley, 1967

Described in U.S. Coast and Geodetic Survey Description List
32 111 2, station 1018.

Signal: A fluorescent flag over a red cross-target on pole
centered over station mark.

Signal data: TFF 11.5 ft.
TRXT 7.5
BRXT 4.6

Photo No.: Not identified.

AHD (Panel)

Note: 1967 observed distance to reference marks do not agree
with C&GS values. Check during field completion.

The following unadjusted values are from 1934 observations:

Latitude $32^{\circ}09'28.946''$ Longitude $111^{\circ}06'48.415''$

To Station—	Azimuth			Back Azimuth			Feet
K 36	6	25	19.1	186	24	39.3	57,611.368
K 38	21	00	55.6	201	00	21.6	15,343.456
Huff	34	46	06.0	214	43	54.4	37,351.171
Robles	63	37	53.3	243	31	40.6	67,318.308
K 39	64	01	58.7	243	58	08.8	41,347.781
K 40	64	04	28.5	244	02	35.3	20,354.676
K 23	64	58	28.3	244	54	05.1	46,970.391
K 22	84	37	10.7	264	32	45.9	42,978.396
Roskruge	93	19	00.0	273	10	28.9	82,654.250
Center	98	32	50.9	278	28	43.0	40,465.065
K 21	107	21	24.0	287	17	31.9	39,250.227
Nasson	166	19	02.3	346	17	59.0	43,114.782
Bren	194	21	34.7	14	22	08.0	21,698.875
Cat	240	10	00.3	60	11	42.5	19,028.659
K37	312	00	42.6	132	02	20.3	21,257.206
Black Hills	326	47	14.9	146	49	00.1	31,081.657

The following unadjusted values are from 1967 observations:

FILE COPY

Arizona (51)

Pima County

SNYDERS HILL (C&GS)

1927 N.A.D.

USC&GS; 1920, 1962

A. G. Kaetz (CWA), 1934

Books: D3238-52, PH 1264

H. T. Bradley, 1967

ARIZONA CENTRAL ZONE.

ELEV. 2624.444

X = 748567.

Second Order Leveling by

Y = 422140.

C&GS 321112 Line 111

Snyders Hill (C&GS)

STATION	*LAT. 32° 9' 28.946"	LONG. 111° 6' 48.415"	BACK AZIMUTH	DISTANCE
Cat Mtn. (AGS)	AZIMUTH 240° 10' 6.670"		60° 11' 48.943"	19029.64
Black Hills 2 (C&GS)	326° 46' 49.067"		146° 48' 34.307"	31082.24
K-38	21° ' 52.929"		201° ' 18.896"	15344.11
Wasson (C&GS)	166° 18' 59.170"		346° 17' 55.849"	43111.42
Bren	194° 21' 46.854"		14° 22' 20.228"	21698.83

FILE COPY

Arizona (51)

Pima County

BREN

1927 N.A.D. (Unadj.)

A.G. Kaetz (CWA), 1934

H.T. Bradley, 1967

Books: D 3238-52, PH 1264

Located about 3 mi. NW. of Cat Mtn. and 0.6 mi. NE. of Golden Gate Mtn., about 0.2 mi. SE. of Gates Pass.

To reach from the junction of Interstate 10 and Speedway, go W. on Speedway for 7.3 mi. to Gates Pass and end of truck travel; pack SE. to highest peak and station 0.6 mi. (About 40 minutes)

Station mark: A USGS (CWA) brass tablet stamped "BREN 1934", set in concrete.

Reference mark: None.

Signal: A white flag over a red cross-target on pole centered over station mark.

Signal data: TWF 11.0 ft.
TRXT 7.8
BRXT 5.5

Photo No.: Not identified.

The following unadjusted values are from 1934 observations:

Latitude 32°12'56.96" Longitude 111°05'45.78"

To Station—	Azimuth			Back Azimuth			Feet
	°	'	"	°	'	"	
Snyders Hill	14	22	08.0	194	21	34.7	21,698.875
K 28	81	35	11.1	261	33	53.6	12,619.386
Wasson	143	16	02.0	323	14	25.2	26,044.269
K 29	233	05	38.3	58	06	51.2	13,827.611
K 14	238	39	52.7	58	42	25.2	28,739.629
Cat Mtn.	316	05	36.9	136	06	45.9	16,040.178

The following unadjusted values are from 1967 observations:

ARIZONA CENTRAL ZONE.

VA ELEV. 3987.9

X = 753792.

Y = 443200.

NAD 83 VALUES AVAILABLE

+ ° 26' 14.933"

32° 12' 56.952"

111° 5' 45.763"

FILE COPY

Handwritten signature

Arizona (51)

Pima County

BREN

1927 N.A.D. (Unadj.)

A. G. Kaetz (CWA), 1934

H. T. Bradley, 1967

Books: D 3238-52, PH 1264

Bren		LAT. 32° 12' 56.952"		LONG. 111° 5' 45.764"	
STATION	AZIMUTH	BACK	AZIMUTH	DISTANCE	
Black Hills 2 (C&GS)	346° 5' 57.582"	166° 7' 9.566"		48443.88	
Snyders Hill (C&GS)	14° 22' 20.202"	194° 21' 46.830"		21698.83	
K-28	81° 35' 15.484"	261° 33' 58.027"		12620.29	
Decca 26	92° 1' 31.868"	271° 57' 38.759"		37587.85	
K-27	92° 12' 31.193"	272° 9' 10.917"		32297.50	
Wasson (C&GS)	143° 15' 40.711"	323° 14' 3.913"		26042.48	
K-29	238° 5' 28.347"	58° 6' 41.233"		13829.91	
Stockman (C&GS)	241° 14' 27.674"	61° 17' 32.133"		33871.96	
Cat Mtn. (AGS)	316° 5' 33.984"	136° 6' 42.952"		16039.80	
PA-2 (C&GS)	319° 50' 10.422"	139° 53' 38.165"		52049.06	
Sec Cor SW30/13S/12E	129° 37' 1.141"	309° 34' 46.354"		28164.23	
Warner (AGS)	273° 36' .213"	93° 39' 20.595"		32361.40	

FILE COPY

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station CENTER USGS County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by _____ Year _____ Project _____

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
ROSKRUGE				88°16'13.1"

Located about 17 mi W. of Tucson and 0.25 mi SE. of Robles Well.

To reach from Tucson, follow Ajo Rd. about 13 mi to a point 3 mi W. of Snyders Hill; then follow desert rd. NW. about 6 mi to station, taking northwest fork beyond Rancho del Socorro.

Station mark: Standard bronze tablet set in concrete.

Note: Station was reported searched for and not found by USGS in 1967.

USGS Adjusted 1934 Coordinates

ARIZONA CENTRAL ZONE ELEV
X= **708509.0**
Y= **427854.8**
MAPPING ANGLE = +0 21 32 QUAD 32 111 22
CENTER USGS LAT **32 10 28.220** LONG **111 14 33.960**

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order

Triangulation

Electronic - Distance Traverse

Intersected Object

Station DECCA 26 USE

County Pima

State AZ

Established by USE

Year 1956

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	
CAT MTN. AGS				284°45'33.2"

USGS 1967: New description follows:

Located about 6.5 mi NW. of Ryan Field; about 5.5 mi SW. of Wasson Mtn. To reach from Ryan Field, go SW. on Ajo Hwy. for 3.2 mi to Sandario Rd.; turn N. (right) and go N. 7 mi to dirt track rd. crossing Sandario Rd. Station is on left, west side of Sandario Rd., 60 ft from centerline of track rd. to the W., 1 ft W. of fence line.

Station mark: Standard USCE brass cap stamped "DECCA 26 (30TH ENGR GP) 1956", set in concrete post flush with ground.

RM's: None.

USGS Unadjusted 1967 Coordinates

ARIZONA CENTRAL ZONE

ELEV 2270.4 FT

X= 716220.0

±13.28

Y= 444241.1

MAPPING ANGLE=+0 22 22

QUAD 32 111 22

DECCA 26 USE

LAT 32 13 9.888

LONG 111 13 3.007

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order
Triangulation Electronic - Distance Traverse Intersected Object
Station K 26 USGS County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

Check one:

- New Station: Write full description below
 Recovery of Old Station: Recovered by _____ Year _____ Project _____

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
SAMANIEGO USGS				9°46'07.5"

Located at south boundary of San Xavier Indian Reservation, 2 mi E. of southwest corner, 4 ft S. of corner of sections 25,26,35 and 36, T16S, R11E.

To reach from Tucson, take rd. toward Twin Buttes; shortly after passing Black Hills take trail to right and go SW. through indian reservation to south boundary, then W. to station.

Station mark: Standard bronze tablet stamped "K 26 1934 ELEV 3612 FT", set in cement.

USGS Adjusted 1934 Coordinates

ARIZONA CENTRAL ZONE ELEV **3611.187 FT**
X= **727851.3**
Y= **364714.8**
MAPPING ANGLE=+0 23 22 QUAD 32 111 22

K26 USGS

LAT **32 0 2.140**

LONG **111 10 53.930**

NAD 83 VALUES AVAILABLE

FILE COPY
OCT 1 1975

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order

Triangulation Electronic - Distance Traverse Intersected Object

Station K 27 USGS County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

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	
WASSON				220°19'55.4"

USGS 1967: New description follows:

Located about 14 mi W. of Tucson; 6 mi NNE. of Ryan Field; 2.5 mi SSW. of Arizona Sonora Desert Museum; about 45 ft NE. of a class 6 rd. which follows an underground pipe line.

To reach from Ryan Field (about 14 mi SW. of Tucson), go W. on Ajo Way (State Hwy. 86) for 3.1 mi to Sandario Rd.; turn right (N.) and go 8 mi to a class 6 rd. following underground pipe line; turn right (SE.) and go 1.4 mi to station on left.

Station mark: Standard bronze tablet stamped "K 27 1934 ELEV 2346 FT".

USGS Unadjusted 1967 Coordinates

ARIZONA CENTRAL ZONE ELEV **2345.301 FT**
X= **721511.1**
Y= **444197.7**
MAPPING ANGLE=+0.22 55 QUAD 32 111 22

K27 USGS LAT **32 13 9.114** LONG **111 12 1.422**

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

Arizona (51)

Pima County

K 29

1927 N.A.D. (Unadj.)

A.G. Kaetz (CWA), 1934

H.T. Bradley, 1967

Book: PH 1264

Located about 4.5 mi. S. of Interstate 10 on Speedway; about 4 mi. NW. of St. Mary's Hospital on Anklam Rd.; about 300 ft. E. of junction of Speedway and Anklam between the two rds.

To reach from the junction of Speedway and Interstate 10 go W. along Speedway for 4.4 mi. to station on left, 10 ft. S. of rd.

Station mark: A USGS brass tablet (CWA) stamped "K 29 1934 2618".

Reference marks: None.

Signal: A white flag over a fluorescent cross-target on pole centered over station mark.

Signal data: TWF 12.0 ft.
TFXT 7.4
BFXT 3.8

Photo No.: Not identified.

Elevation: 2618.002 ft.

(Spirit leveling by R.C. Forsnas, 1934)

The following unadjusted values are from 1934 observations:

Latitude 32°14'09.25" Longitude 111°03'29.12"

To Station	Azimuth	Back Azimuth	Feet
Bren	58°06'51.2"	238°05'38.3"	13,827.6
Wasson	116 25 44.1	296 22 54.4	30,497.8

The following unadjusted values are from 1967 observations:

ARIZONA CENTRAL ZONE.

X = 765476.

Y = 450599.

+ ° 27' 28.714"

FILE COPY

K-29

	LAT. 32° 14' 9.268"	LONG. 111° 3' 29.086"	
STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
Wasson (C&GS)	116° 25' 6.698"	296° 22' 16.931"	30497.98
Pusch (USGS)	216° 43' 36.794"	36° 47' 26.951"	61769.11
Bren	58° 6' 41.194"	238° 5' 28.310"	13829.91

NAD 83 VALUES AVAILABLE

3/17/67 slh

slh

D - m

Not Found

'68

Arizona (51)

Pima County

K 30 1934

FILE COPY

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

A. G. Kaetz (CWA), 1934

M. A. Braathen, 1956

Books: D3238-52 and PH 445-446

Located on N. side of Anklam Road, about 300 ft. SW. of St. Marys Hospital; 400 ft. W. of rd. to hospital and 60 ft. W. of entrance to Desert Laboratory.

Station mark: Standard bronze tablet stamped "K 30 1934 ELEV 2370 FT" set in cement.

ARIZONA ZONE CENTRAL

X=783,289.

Y=447,161.

NAD 83 VALUES AVAILABLE

Latitude: 32°13'33.79"

Longitude: 111°00'02.05"

FILE COPY

10/9/57 ew *ew*

vw

I - W

Not Found

167

FILE COPY

Arizona (51)

Pima County

K 31 1934

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

A. G. Kaetz (CWA), 1934
M. A. Braathen, 1956

Books: D 3238-52 and PH 445-446

Located at Ajo Junction 183 ft. NW. of intersection with Mission Road and 87 ft. N. of Ajo Road.

Station mark: Standard bronze tablet stamped "K 31 1934 ELEV 2428 FT" set in cement.

ARIZONA ZONE CENTRAL
X=782,639.
Y=429,700.

NAD 83 VALUES AVAILABLE

Latitude: 32°10'41.07"

Longitude: 111°00'11.34"

FILE COPY

10/9/57 ew

✓ (handwritten initials)

W

United States
Department of the Interior

Geological Survey
Form No. 9-322.3 Rev. 1977

Description
Horizontal Control Station

NGS Quad No. 32 111 22
USGS Quad No. 51

Station K32 USGS

Diagram TUCSON

County PIMA

State AZ

THIRD order TRIANGULATION

Established By USGS Year 1934 Project D3238-52

USGS UNADJUSTED 1983 coordinates

Latitude: N32 7 10.089

Longitude: W111 0 9.557

Bench Mark Elevation: 2488.442 Feet 758.479 Meters

UTM Zone 12(Meters): X: 499749.56 Y: 3553490.01

Mapping Angle: -0 0 5

AZ State Zone E(Feet): X: 241183.03 Y: 408185.67

Mapping Angle: -0 26 40

AZ State Zone C(Feet): X: 782973.51 Y: 408381.83

Mapping Angle: +0 29 10

LOCATED ABOUT 1 MI N. AND 0.2 MI E. OF SAN XAVIER MISSION, 0.5 MI
E. OF SAN XAVIER INDIAN RESERVATION CORNER; AT COR SEC 15 16 21
AND 22 T15S R13E, 90 FT N. OF RESERVATION BOUNDARY, ON NORTH SIDE
OF LANE.

TO REACH NOT GIVEN.

STATION MARK: STANDARD BRONZE TABLET

STAMPED "K 32 1934 ELEV 2489 FT", SET IN CEMENT.

RMS: NONE SET.

NAD 83 VALUES AVAILABLE

FILE COPY

Arizona (51)

Pima County

K 33

1927 N.A.D. (Unadj.)

A.G. Kaetz (CWA), 1934
H.T. Bradley, 1967

Books: D3238-52, PH 1264

Located about 3 mi. S. of San Xavier Del Bac Mission; about 3.5 mi. SE. of Black Hills.

To reach from Interstate 19 and Valencia Rd. go S. along Interstate 19 for 5 mi. (this section of Interstate 19 is under construction at the present time); turn W. (right) for 0.6 mi. cross-country to station.

Station mark: A USGS (CWA) brass tablet stamped "K 33 1934 2633", set in concrete post.

The 3-1/4S/T16/R13 is 28.74 ft. distant in azimuth 268°01'04".

Signal: A white flag over a red cross-target on pole centered over station mark.

Signal data: TWF 11.1 ft.
TRXT 7.0
BRXT 4.2

Photo No.: Not identified.

ARIZONA ZONE CENTRAL
X=782,964.97
Y=386,512.22

Elevation: 2632.188 ft.
(Spirit leveling by R.L. Bruning, 1934)

The following unadjusted values are from 1934 observations:

Latitude 32°03'33.68" Longitude 111°00'11.81"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Helmet Peak	35° 23' 48.1"	215° 21' 20.8"	41,315.133
Black Hills	120° 03' 51.9"	300° 02' 06.4"	19,755.282

The following unadjusted values are from 1967 observations:

~~ARIZONA CENTRAL ZONE.~~

~~X = 782966.
Y = 386511.~~

+ ° 29' 5.366"

NAD 83 VALUES AVAILABLE COPY

K-33

	LAT. 32° 5' 55.672"	LONG. 111° 1' 11.805"
STATION	AZIMUTH	BACK AZIMUTH DISTANCE
PA 2 (C&GS)	195° 47' 24.529"	15° 47' 54.241" 17801.19
Lava Knoll (C&GS)	21° 1' 24.342"	201° 1' 59.611" 11185.81
Black Hills #2 (C&GS)	120° 4' 29.817"	300° 2' 44.314" 19753.92

3/20/67 slh

Station: K 34 1934 (CWA)

County: Pima

State: ARIZONA ^{17D} 51

Observer: A. G. Kaetz (CWA)

Year: 1934 Datum: 1927 N.A.D.

Description:

5/29/40 cbm
Bks. D3238-52

32 00
111 90
✓

On S. fence line of San Xavier Indian Reservation, about 4.8 mi. E. of Twin Buttes Rd., 3 ft. E. of quarter cor. between secs. 27 and 34, T. 16 S., R. 13 E.

Station mark: Standard bronze tablet set in cement, stamped "K 34 1934 ELEV 2839 FT."

Arizona Zone Central
X=783,174.
Y=365,357.

NAD 83 VALUES AVAILABLE

[Latitude 32 00 04.32

Longitude 111 00 11.46]

To Station—	Azimuth			Back Azimuth			Distance	
	°	'	"	°	'	"	Log. Meters	Miles
Helmet Peak	62	24	32.5	242	22	05.1	3.915956	5.120
K 35	89	22	29.7	269	20	36.4	3.749155	3.487
Black Hills	151	07	15.8	331	05	30.2	4.033800	6.717

FILE COPY.

41 ✓

Station: K 35 1934 (CWA) County: Pima State: ARIZONA 51
 Observer: A. G. Kaetz (CWA) Year: 1934 Datum: 1927 N.A.D. 32 00
 Description: 111 00 ✓

5/29/40 cbm
 Bks. D3238-52

On S. boundary of San Xavier Indian Reservation, 1.3 mi.
 E. of Twin Butte's Rd., 12 ft. E. of cor. secs. 25, 36, 30, and
 31, T. 16 S., R. 12 and 13 E.

Station mark: Standard bronze tablet set in cement,
 stamped "K 35 1934 ELEV 3188 FT."

ARIZONA ZONE CENTRAL
 X=764,764.
 Y=365,000.

NAD 83 VALUES AVAILABLE

[Latitude 32 00 02.28 Longitude 111 03 45.27]

To Station—	Azimuth			Back Azimuth			Distance	
	°	'	"	°	'	"	Log. Meters	Miles
Helmet Peak	24	12	46.5	204	12	12.4	3.614759	2.559
Black Hills	182	19	21.8	2	19	29.6	3.979293	5.924
K 34	269	20	36.4	89	22	29.7	3.749155	3.487

FILE COPY.

42 ✓

Station: K 36 **1934(CWA)** County: Pima State: ARIZONA **51**
 Observer: A. G. Kaetz (CWA) Year: 1934 Datum: 1927 N.A.D. **32 00**
 Description: **111 00**
 5/29/40 cbm
 Bks. D3238-52

About 96 ft. N. of S. fence line of San Xavier Indian Reservation, 2.7 mi. W. of Twin Buttes Rd., 1,020 ft. W. of cor. secs. 28, 29, 32, and 33, T. 16 S., R. 12 E., on first hill W. of sec. cor.

Station mark: Standard bronze tablet set in cement, stamped "K 36 1934 ELEV 3566 FT."

NAD 83 VALUES AVAILABLE

[Latitude 32 00 02.41 Longitude 111 08 03.24]

To Station—	Azimuth			Back Azimuth			Distance	
							Log. Meters	Miles
Snyders Hill	186	24	39.3	6	25	19.1	4.244524	10.911
Black Hills	216	53	57.7	36	56	22.4	4.075945	7.401

FILE COPY.

43 ✓

Arizona (51)

Pima County

K 37

1927 N.A.D. (Unadj.)

A.G. Kaetz (CWA), 1934

H.T. Bradley, 1967

Book: PH 1264

Located about 4.5 mi. S. of Cat Mtn.; about 3.5 mi. NW. of San Xavier Mission.

To reach from Valencia and Interstate 19; proceed W. on Valencia Rd. 4.5 mi. to a T-rd. S. (left); proceed 0.95 mi. to station on left side of rd.

The station mark is a USGS (CWA) brass tablet stamped "K 37 1934 ELEV 2558 FT", projecting 0.6 ft.

Reference marks: None.

Signal: None.

The sec. cor. is 33.69 ft. in azimuth $355^{\circ}39'42''$ and is stamped "S13 S24 S19 T15S R12E 1915 GLO".

Photo No.: Not identified.

Elevation: 2557.275 ft.

(Spirit leveling by R.C. Forsnas, 1934)

The following unadjusted values are from 1934 observations:

Latitude $32^{\circ}07'08.12''$ Longitude $111^{\circ}03'44.77''$

To Station	Azimuth	* Back Azimuth	Feet
Snyders Hill	$132^{\circ}02'20.3$	$312^{\circ}00'42.6''$	21,257.2
Black Hills	$354\ 03\ 42.2$	$174\ 03\ 49.8$	11,841.3

The following unadjusted values are from 1967 observations:

ARIZONA CNTRAL ZONE.

X = $764467.$

Y = $408031.$

+ $^{\circ}27'15.037''$

NAD 83 VALUES AVAILABLE FILE COPY

K-37

	LAT. $32^{\circ} 7' 8.121''$	LONG. $111^{\circ} 3' 44.763''$	
STATION	AZIMUTH	BACK AZIMUTH	DISTANCE
Cat Mtn. (AGS)	$181^{\circ} 45' 1.627''$	$1^{\circ} 45' 6.111''$	23704.33
Black Hills 2 (G&GS)	$354^{\circ} 2' 54.156''$	$174^{\circ} 3' 1.740''$	11839.75
Bren	$163^{\circ} 34' 10.597''$	$343^{\circ} 33' 6.178''$	36753.70

3/17/67 slh *slh*

DESCRIPTION
HORIZONTAL CONTROL STATION

32 111 22
DIAGRAM Tucson
USGS QUAD NO. 51

3rd Order
Triangulation Electronic - Distance Traverse Intersected Object

Station K 39 USGS County Pima State AZ
Established by USGS Year 1934 Project D 3238-52

Check one:
 New Station: Write full description below
 Recovery of Old Station: Recovered by _____ Year _____ Project _____

Object	Bearing	Distance		AZIMUTH
		Feet	Meters	
SNYDERS HILL				243°58'09.4"

About 18 mi SW. of Tucson along Ajo Rd., 7.5 mi SW. of Snyders Hill, probably on south side of rd. near concrete culvert, in southwest 1/4 section 21, T15S, R11E.

Station mark: Probably standard bronze tablet.

Note: Reported searched for and not found by USGS in 1967.

USGS Adjusted 1934 Coordinates

ARIZONA CENTRAL ZONE ELEV
X= 711530.9
Y= 403759.9
MAPPING ANGLE=+0 21 47 QUAD 32 111 22

K39 USGS LAT 32 6 29.590 LONG 111 14 0.580

NAD 83 VALUES AVAILABLE

FILE COPY

OCT 1 1975

Station: **K 40 1934 (CWA)**

County: **Pima**

State: **ARIZONA 51**

Observer: **A. G. Kaetz (CWA)**

Year: **1934**

Datum: **1927 N.A.D.**

32 00

Description:

**5/29/40 cbm
Bks. D3238-52**

Not Found
'67

111 00
✓

About 4 mi. SW. of Snyders Hill, about 300 ft. SE. of Tucson-Ajo rd.

Station mark: Probably standard bronze tablet.

*Not plotted on CD
good*

NAD 83 VALUES AVAILABLE

[Latitude **32 08 00.83** Longitude **111 10 21.30**]

To Station—	Azimuth			Back Azimuth			Distance	
	°	'	"	°	'	"	Log. Meters	Miles
Snyders Hill	244	02	35.3	64	04	28.5	3.792680	3.855
Black Hills	295	48	07.5	115	51	45.8	4.077900	7.434

FILE COPY.

47

Arizona (51)

Pima County

SEC COR CC NE2/16S/11E

1927 N.A.D. (Unadj.)

H.T. Bradley, 1967

Book: PH 1264

Located about 17 mi. SW. of Tucson; about 7 mi. W. of Black Hills, and about 4 mi. S. of Ryan Field.

To reach from Valencia Rd. and Interstate 19, go on Valencia Rd. to Mission Rd. 1.7 mi.; turn S. (left) and go 3 mi. S. on Mission Rd. to rd. to (right) SW. of a cattleguard; take the track rd. SW. for 9.7 mi. to Cottonwood Ranch; take track rd. to the NW. (right) for 4.4 mi. to fork in rd.; take right fork for 1.2 mi. to station.

Station mark: A GLO cap stamped "S36 S2 S1 CC T16S R11E 1915". Located 456.73 ft. NNE. of station "Huff" and 45.61 ft. E. of SC 35/15S/11E.

Note: Station was computed from checked azimuths and distances. Station should be symbolized with triangle symbol.

Photo No.: Paneled

ARIZONA ZONE CENTRAL

X=727,559

Y=391,752

$\Delta \alpha = +0^{\circ}23'25''$

Latitude $32^{\circ}04'29.719''$ Longitude $111^{\circ}10'55.190''$

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Huff	08 ^o 33'28"	188 ^o 33'28"	456.73
SC 35/15S/11E	89 50 55	269 50 55	45.61

NAD 83 VALUES AVAILABLE

FILE COPY

4/20/67

sh *mm*

Arizona (51)

Pima County

SEC COR 3 $\frac{1}{2}$ S/16S/13E

1927 N.A.D. (Unadj.)

H.T. Bradley, 1967

Book: PH 1264

Located about 3 mi. S. of San Xavier Del Back Mission; about 3.5 mi. SE. of Black Hills.

To reach from Interstate 19 and Valencia Rd., go S. along Interstate 19 for 5 mi. (This section of Interstate 19 is under construction at present time); turn W. (right) for 0.6 mi. cross-country to station.

Station mark: Not described by fieldman; station "K 33" is 28.74 ft. W. of station.

Signal and Signal data: None.

Note: This station was computed from a single azimuth and distance. Station should not be symbolized with triangle symbol.

ARIZONA ZONE CENTRAL

X=782,995

Y=386,512

$\Delta \alpha = +0^{\circ}29'06''$

Latitude $32^{\circ}03'33.672''$ Longitude $111^{\circ}00'11.465''$

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
K-33	$89^{\circ}01'05''$	$269^{\circ}01'04''$	28.74

NAD 83 VALUES AVAILABLE

FILE COPY

4/20/67 slh *slh*

Arizona (51)

Pima County

SEC COR 13/15S/12E

1927 N.A.D. (Unadj.)

H.T. Bradley, 1967 (n)

Book: PH 1264

Located about 4.5 mi. S. of Cat Mtn.; and about 3.5 mi. NW. of San Xavier Del Bac Mission.

To reach from Valencia Rd. and Interstate 19, go W. on Valencia Rd. 4.5 mi. to T-rd. S. (left); go S. 9.5 mi. to station on left of rd.

Station mark: A GLO brass cap stamped "S13 S24 S19 T15S R12E R13E 1915", riveted to a 1½ in. iron pipe projecting 0.7 ft.

Signal: None.

Photo No.: Not identified.

Note: Station computed from a single azimuth and distance. Station should not be symbolized with triangle symbol.

ARIZONA ZONE CENTRAL

X=764,470

Y=407,997

$\Delta \alpha = +0^{\circ}27'15''$

Latitude $32^{\circ}07'07.787''$

Longitude $111^{\circ}03'44.734''$

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
K-37	175°39'42"	355°39'42"	33.69

NAD 83 VALUES AVAILABLE

FILE COPY

(n) = Not Occupied

3/17/67 slh *Leave*

Arizona (51)

Pima County

SEC COR 17/15S/12E

1927 N.A.D. (Unadj.)

H.T. Bradley, 1967 (n)

Book: PH 1264

Located about 5 mi. NW. of Black Hills; about 3 mi. SW. of Snyders Hill.

To reach from Interstate 19 and Valencia Rd. go W. on Valencia Rd. 1.6 mi. to Mission Rd.; continue W. for 6.6 mi. to rd. S. (left); go S. for 1 mi. to station on W. (right) in edge of rd.

Station mark: A GLO brass cap stamped T15S R12E S17 S16 S20 S21 1915; and is on a 1 1/2 inch iron pipe projecting 0.7 ft. above the ground.

Signal: None.

Note: K-38 is 58.62 ft. from station mark in azimuth

Photo No.: Not identified.

Note: Station computed form a single azimuth and distance. Station should not be symbolized with triangle symbol.

ARIZONA ZONE CENTRAL

X=743,229

Y=407,783

NAD 83 VALUES AVAILABLE

$\Delta \alpha = +0^{\circ}25'04''$

Latitude $32^{\circ}07'07.261''$

Longitude $111^{\circ}07'51.718''$

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
K 38	$83^{\circ}53'54''$	$263^{\circ}53'53''$	58.62

FILE COPY

N = Not occupied

3/22/67 rme *sh*

Arizona (51)

Pima County

SEC COR 25/16S/12E

1927 N.A.D.

H.T. Bradley, 1967

Book: PH 1264

Located about 6 mi. S. of Black Hills #2; about 0.4 mi. N. of Mission Unit View Point; 0.9 mi. W. of A.S.A.R. Co. Plant.

To reach from Pima Mine Rd. and Interstate 19, go W. on Pima Mine Rd. for 4.1 mi. to station on right (N.) in fence.

Station mark: A GLO cap stamped "PIR T16S R12E&R13E S25 S30 S36 S31 1915", projecting 0.49 ft. on an iron pipe.

Station K-35 is 14.22 ft. from station mark in azimuth $263^{\circ}25'33.6''$.

Note: Position computed from single azimuth and distance. Do not symbolize with triangle symbol.

ARIZONA ZONE CENTRAL

Elevation: 3187.1 ft. (PT 1967)

X=764,750

Y=364,998

$\Delta \alpha = +0^{\circ}27'19''$

Latitude $32^{\circ}00'02.258''$ Longitude $111^{\circ}03'45.433''$

NAD 83 VALUES AVAILABLE

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6/26/67 slh *slh*

Arizona (51)

Pima County

SEC COR 26/16S/11E

1927 N.A.D.

H.T. Bradley, 1967

Book: PH 1264

Located about 9 mi. S. of Ryan Field, about 7 mi. SW. of Black Hills #2.

To reach from San Xavier Del Bac Mission, go W. for 0.6 mi. to "T" rd.; turn left (S.), go 1.2 mi. to cattleguard and dirt right (SW.); take dirt rd. and go 8.8 mi. to Cottonwood Ranch; continue S. then W. on dirt track rd. 2 mi. to house (LM ruins). Station is about 150 yards SE. of house in T-fence.

Station mark: A standard GLO cap on a 3 inch pipe stamped "PIR T16S R11E S26 S25 S35 S36 1915", projecting 0.48 ft.

Station K26 is 4.65 ft. horiz. double taped distance from station mark in azimuth $341^{\circ}07'52.4''$.

Note: Position computed from single distance and azimuth. Do not symbolize with triangle symbol.

ARIZONA ZONE CENTRAL

Elevation: 3611.4 ft. (PT 1967)

X=727,850

Y=364,719

$\Delta \alpha = +0^{\circ}23'22''$

Latitude $32^{\circ}00'02.181''$

Longitude $111^{\circ}10'53.945''$

NAD 83 VALUES AVAILABLE

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6/23/67 slh *[signature]*

SEC COR 26/165/12E

Arizona (51)

Pima County

~~SEC COR T16S R12E~~ FILE COPY

1927 N.A.D. (Unadj.)

J.N.Tennant, 1961

Book: PH 808

Located about 2.0 mi. (airline) NE. of San Xavier, about 0.9 mi. N. of Mineral Hill.

To reach from San Xavier, drive N. on paved rd. 2.1 mi. to a crossroad, turn right (E.) and follow main traveled rd. 0.4 mi. to station. Station mark is 51 ft. N. of the rd.

Station mark: GLO tablet stamped "T16S R12E S25 S26 S35 S36 1915" projecting 0.4 ft. above the ground.

Signal: White flag over fluor. X-tgt. centered over station mark.

Signal Data:	BFXT	5.0 ft.
	TFXT	6.8
	BWF	9.1
	TWF	11.1

Image point No. 1: Tree, 252 ft. from station mark in an azimuth of 54°10'34".

Image point No. 2: Tree, 202 ft. from station mark in an azimuth of 122°17'24".

Image point No. 3: Tree, 154 ft. from station mark in an azimuth of 263°49'05".

Photo No. 3

ARIZONA ZONE CENTRAL
X=759,481.1
Y=364,958.5

^{P.T.}
~~V.A.~~ Elevation: 3301.1 ft.
(1967)

Latitude: 32°00'02.28" Longitude: 111°04'46.62"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Helmet Pk. No. 3 (C&GS)	01°11'06"	181°11'06"	12,326.
San	37 37 51	217 37 10	10,902.

5/2/61 ce ^{ht}

NAD 83 VALUES AVAILABLE

[Faint circular stamp with illegible text]

Arizona (51)

Pima County

~~SEG-COR-T16S-R12E~~

1927 N.A.D. (Unadj.)

J.N.Tennant, 1961

Book: PH 808

Located about 1.9 mi. (airline) N. of San Xavier, about 1.3 mi. NW. of Mineral Hill, and 27 ft. N. of an E.-W. rd.

To reach from San Xavier, drive N. on paved rd. for 2.1 mi. to a X-rd., turn left (W.) and follow main traveled rd. 0.6 mi. to the jct. of Pima Road and Avenue Stallion. Station is 30 ft. N. of center line of rd.

Station mark: A General Land Office tablet stamped "T16S R12E S26 S27 S34 S35 1915", projecting 0.8 ft. above the ground.

Signal: White flag over fluor. X-tgt. centered over station mark.

Signal Data:	BFXT	4.4 ft.
	TFXT	7.0
	BWF	8.1
	TWF	11.3

Image point No. 1: Lone tree, 34 ft. from station in azimuth 63°59'25".

Image point No. 2: Lone tree, 71 ft. from station in azimuth 252°52'13".

Image point No. 3: Center of double bush, 61 ft. from station in azimuth 346°00'22".

Image point No. 4: (Station 3 Y), center line of T-rd. 27.17 ft. from station. Grid azimuth 20°14'12". Position: X=754,191.1 Y=364,879.2 V.A.Elevation: 3394.7 ft.

Photo No. 3

ARIZONA ZONE CENTRAL
X=754,200.5
Y=364,904.7

PI *3393.7*
~~V.A.~~Elevation: ~~3395.5~~ ft.
1967

Latitude: 32°00'02.14" Longitude: 111°05'47.94"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
San	09°03'15"	189°03'07"	8,730.
MH 5	316 13 34	136 14 03	6,853.

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5/11/61 ce *ht*

NAD 83 VALUES AVAILABLE

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Arizona (51)

Pima County

SEC COR 27½S/16S/13E

1927 N.A.D.

H.T. Bradley, 1967

Book: PH 1264

Located about 7 mi. S. of San Xavier Del Bac Mission and about 5 mi. E. of A.S.A.R. Co. Mine Plant.

To reach from the junction of Pima Mine Rd. and Interstate 19, go W. on Pima Mine Rd. for 0.5 mi. to station on right (N.) side of rd. in fence.

Station mark: A GLO cap on a 3/4 in. iron pipe projecting 0.88 ft. stamped "PIR ¼ S27 S34 1934 1915" (No Twp. No. or Range No's.).

Station K34 is 2.35 ft. distance from station mark in azimuth $257^{\circ}15'20.7''$.

Note: Station computed from a single azimuth and distance. Station should not be symbolized with triangle symbol.

ARIZONA ZONE CENTRAL

X=783,172

Y=365,356

$\Delta \alpha = +0^{\circ}29'03''$

Latitude $32^{\circ}00'04.311''$ Longitude $111^{\circ}00'11.484''$

NAD 83 VALUES AVAILABLE

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6/23/67 slh *slh*

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SC 28/16S/12E

Arizona (51)

Pima County

SEC GOR T16S R12E

1927 N.A.D. (Unadj.)

J.N.Tennant, 1961

Book: PH 808

Located about 2.2 mi. (airline) NW. of San Xavier, about 2.1 mi. NW. of Mineral Hill, and 18 ft. N. of a T-rd.

To reach from San Xavier, go N. on paved rd. 2.1 mi. to a X-rds., take the left fork and go W. along main traveled rd. 1.6 mi. to a T-rd. and station mark.

Station mark: Standard GLO tablet stamped "T16S R12E S27 S28 S33 S34 1915", projecting 0.9 ft. above the ground.

Signal: White flag over red X-tgt. centered over station mark.

Signal Data:	BFXT	4.5 ft.
	TFXT	6.8
	BWF	8.3
	TWF	11.1

Image point No. 1: Tree, 25 ft. from station mark in azimuth 109°14'52".

Image point No. 2: Tree, 17 ft. from station mark in azimuth 243°13'20".

Image point No. 3: Bush, 51 ft. from station mark in azimuth 324°49'07".

Image point No. 4: (Station 3 X) Center line of rd. forks, 17.67 ft. from station. Grid azimuth 358°59'29". Position: X=748,910.2 Y=364,824.9 V.A.Elevation: 3474.6 ft.

Photo No. 3

ARIZONA ZONE CENTRAL
X=748,909.8
Y=364,842.6

P.T. 3476.4
~~V.A.~~Elevation: ~~3475.5~~ ft.
(1967)

Latitude: 32°00'01.92" Longitude: 111°06'49.38"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
MH 5	296°08'44"	116°09'46"	11,177.
San	335 29 56	155 30 20	9,449.

FILE COPIES AVAILABLE
NAD 83 VALUES AVAILABLE 1/61 ce ✓

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Arizona (51)

Pima County

SEC COR 30/16S/11E

1927 N.A.D.

H.T. Bradley, 1967

Book: PH 1264

Located about 10 mi. SSW. of Ryan Field; about 12 mi. W. of A.S.A.R. Co. Plant.

To reach from Ryan Field, go SW. on Ajo Highway for 3.2 mi. to Sandario Rd.; turn left (S.) along a dirt rd. for 7.7 mi. to a rd. junction; go right (W.) along a dirt rd. for 2 mi.; turn left (S.) about 100 yards to fence corner and station.

Station mark: A GLO brass cap stamped "T16S S30 S29 S31 S32 R11E 1921" and projecting 0.82 ft.

Station K-25 is 390.30 ft. (double taped) from station mark in azimuth $89^{\circ}46'16.8''$.

Note: Position computed from single azimuth and distance. Do not symbolize with triangle symbol.

ARIZONA ZONE CENTRAL

Elevation: 3448.75 ft. (Fly Levels)

X=706,703

3447.93 (Ground)

Y=364,453

$\Delta \alpha = +0^{\circ}21'12''$

Latitude $32^{\circ}00'00.906''$

Longitude $111^{\circ}14'59.532''$

NAD 83 VALUES AVAILABLE

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6/23/67 slh *slh*

Arizona (51)

Pima County

SEC COR 35/15S/11E

1927 N.A.D. (Unadj.)

H.T. Bradley, 1967

Book: PH 1264

Located about 17 mi. SW. of Tucson; about 7 mi. W. of Black Hills; about 4 mi. S. of Ryan Field.

To reach from Valencia Rd. and Interstate 19 go W. on Valencia Rd. to Mission Rd. 1.7 mi.; turn S. (left) and go 3 mi. S. on Mission Rd. to rd. to (right) SW. at a cattleguard; take the track rd. SW. for 9.7 mi. to Cottonwood Ranch; take track rd. to the NW. (right) for 4.4 mi. to fork in rd.; take right fork for 1.2 mi. to station on left side of rd.

Station mark: A GLO cap stamped "S35 S36 T15S R11E 1915" on a 3 inch pipe projecting 0.6 ft.

Reference mark: A GLO cap on a 1 1/2 inch pipe stamped "S36 S2 S1 CC T16S R11E 1915" projecting 0.8 ft. 45.61 ft. from station mark in azimuth 269°04'.

Signal: A lath with a ribbon.

Signal data: Top of ribbon 3.2 above station mark

Photo No.: Paneled

Note: This station was computed from checked lines and azimuth. Station should be symbolized with triangle symbol.

ARIZONA ZONE CENTRAL

X=727,513

Y=391,750

$\Delta \alpha = +0^{\circ}23'24''$

NAD 83 VALUES AVAILABLE

Latitude 32°04'29.704"

Longitude 111°10'55.720"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Huff	2°50'57"	182°50'27"	450.68

FILE COPY

3/22/67 rme *slh*

✓
✓

111-77-C

Pima County

Ariz. (51)

M. A. Braathen, 1956

1927 N.A.D. (Unadj.)

Books: PH 445-446

Located about 7 mi. S. of Tucson, 3 mi. W. of Tucson Municipal Airport; 1 mi. N. of San Xavier Mission and 95 ft. WSW. of X-rds. and 10 ft. N. of tree.

Station mark: Center of $1\frac{1}{2}$ -in. iron pipe projecting about 2-in. above ground.

Ariz. Zone Central
X=782,893
Y=408,262

No elevation

Latitude: $32^{\circ}07'08.91''$ Longitude: $111^{\circ}00'10.51''$

NAD 83 VALUES AVAILABLE

FILE COPY

5/31/56 mk *HW*