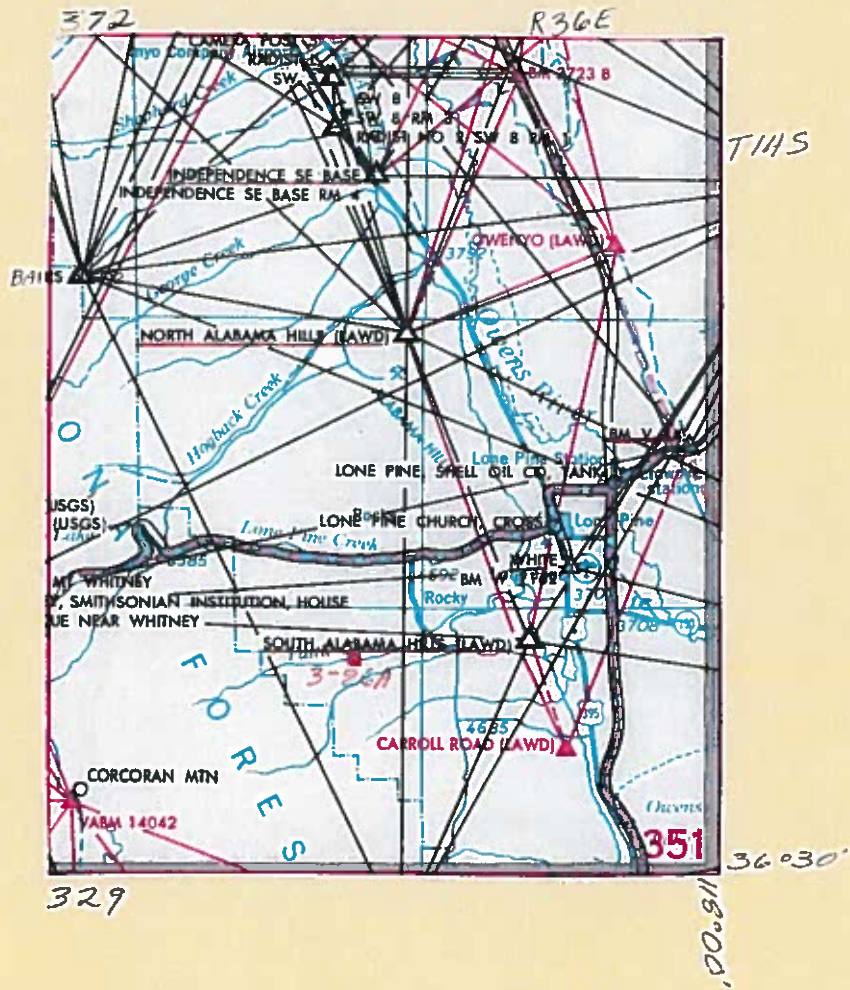


36° 30'
118 00



36°30'
118°00'

CALIFORNIA 351

Index

<u>STATION</u>	<u>PROJECT</u>
BM "3723 B 1905"	- - - - (M)
C&GS BM "V 44 1925"	Mount Whitney & (M)
Carroll Road (LAWD)	Mount Whitney
Independence SE Base (C&GS)	Mount Whitney & (M)
North Alabama Hills (LAWD) (C&GS)	Mount Whitney & (M)
Owenyo ^{LAWD} (LAWD)	- - - - (M)
South Alabama Hills (LAWD) (C&GS)	- - - - (M)
VABM 14042	Kern-Whitney
3 - 86 A	Mount Whitney

Mount Whitney Project Master in Calif. 309 Book: PH 384
Kern-Whitney Project Master in Calif. 283 - Book: PH 482
(M) = Mutilith

THIRD-ORDER TRIANGULATION
North American Datum of 1927

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FILE COPY

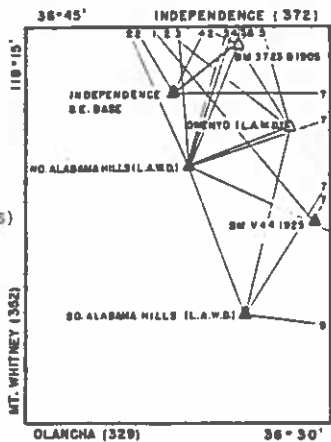
LONE PINE QUADRANGLE
CALIFORNIA 351
N8630-W11800/15

CAL. 351
36.30
118.00

Inyo County
Edition of 6/1/56

Numbered lines indicate listed azimuths and distances to the following stations not on the quadrangle:

1. Split Mtn. (C&GS)
2. Independence N.W. Base (C&GS)
3. No. Kearsarge (LAWD)
4. Palute Monument (USGS) (C&GS)
5. Coyote (LAWD)
6. Reward (C&GS)
7. Monarch (C&GS)
8. Cerro Gordo (C&GS)



To Station	Azimuth	Back Azimuth	Feet
*Split Mtn. (C&GS)	140°20'41.26"	320°06'01.42"	186,552.7
*Monarch (C&GS)	207 30 56.56	27 32 48.43	33,014.9

*=Values by USC&GS

INDEPENDENCE SE. BASE (C&GS) Inyo County CALIFORNIA

USC&GS, 1933, 1952
A. K. Andrews, 1948

Described by U. S. Coast and Geodetic Survey in description: list No. 1118, p. 1.

Note by A.K.A., 1948: Station found as described.

Reference mark No. 1: Not recovered, believed to be under ground. (Recovered by Owens in 1954)

CAL. ZONE 4
X = 2, 253, 042.61
Y = 501, 225.91
Elev. V.A. elevation 3,803 ft.
*Latitude: 36°42'29.692" *Longitude: 118°07'47.151"

To Station	Azimuth	Back Azimuth	Feet
*Independence NW Base (C&GS)	189°15'23.14"	329°13'27.13"	30,860.1
*Palute Monument (USGS) (C&GS)	206 16 04.5	26 19 30.3	63,112.2
Reward (C&GS)	230 53 31.6	50 58 03.0	47,551.6
*Monarch (C&GS)	270 12 50.60	90 18 52.31	49,277.4

*=Values by USC&GS

NORTH ALABAMA HILLS (LAWD) (C&GS) Inyo County CALIFORNIA

USC&GS, 1934, 1952
A. K. Andrews, 1948

Described by U. S. Coast and Geodetic Survey in description: list No. 1118, p. 1.

Note by A.K.A., 1948: Station found as described.

CAL. ZONE 4
X = 2, 258, 832.60
Y = 517, 207.04
Elev. V.A. elevation 3,171 ft.
*Latitude: 36°39'43.023" *Longitude: 118°07'03.120"

To Station	Azimuth	Back Azimuth	Feet
(c) Independence NW Base (C&GS)	155°57'08.2"	335°54'45.9"	47,503.7
(c) No. Kearsarge (LAWD)	175 46 35.8	355 45 59.3	67,413.9
*Coyote (LAWD)	198 14 10.86	18 15 57.30	46,275.3
*Palute Monument (USGS) (C&GS)	198 20 39.8	18 23 39.1	77,379.2
(c) BM "3723 B 1905"	202 17 23.3	22 18 48.3	30,540.4
*Owens (LAWD)	249 03 35.62	69 06 33.73	26,007.2
*Monarch (C&GS)	249 57 41.46	70 03 16.67	48,635.8
*Cerro Gordo (C&GS)	294 48 33.16	115 00 25.12	107,360.6
*So. Alabama Hills (LAWD) (C&GS)	337 47 12.49	157 46 53.17	36,425.6

(C)=Computed
*Values by USC&GS
**=Values by Los Angeles Water District

OWENYO (LAWD) Inyo County CALIFORNIA

A. K. Andrews, 1948

Description by Los Angeles Water District as follows:

"Approximate location: Lone Pine, Calif., 6 mi. N. by E. of"

"Description: Station is located on a summit of a low, cark-colored spur ridge extending out from the base of the Inyo Mountains on the E. side of Owens Valley, and about 1 mi. N. 35° E. (by compass) from Owens Station.

"Station mark: A 1-in. iron pipe set in concrete."

Note by A.K.A., 1948: Station recovered as described. Two reference marks were established in 1948, as follows:

Reference mark No. 1: Standard reference mark tablet stamped "1 OWENYO 1948" set in rock, 35.84 ft. from station mark in azimuth 232°36'.

Reference mark No. 2: Standard reference mark tablet stamped "2 OWENYO 1948" set in rock, 43.29 ft. from station mark in azimuth 347°44'.

CAL. ZONE 4
X = 2, 283, 034.4
Y = 494, 372.0
Elev. V.A. elevation 4103 ft.
*Latitude: 36°41'14.828" *Longitude: 118°02'04.916"

*South Alabama Hills (LAWD) (C&GS)	13°47'24.17"	193°46'06.97"	44,284.4
*North Alabama Hills (LAWD) (C&GS)	69 06 33.73	249 03 35.62	26,007.2
Independence NW. Base (C&GS)	128 02 14.1	307 56 53.4	55,379.9
BM "3723 B 1905"	146 13 36.4	326 12 03.2	22,826.8
*Coyote (LAWD)	164 14 49.68	344 13 37.79	36,017.5

*=Values by Los Angeles Water District

▲ Positions determined by U.S.C. & G.S.

Books: PH 83-84

BM "3723 B 1905" Inyo County CALIFORNIA
A. K. Andrews, 1948

A level bench mark described in Bul. 766, p. 279 as follows:

"Francis, 100 ft. NE. of station, E. of track, iron post stamped "3723."

Note by A.K.A., 1948: Station found as described with the exception that the name "FRANCIS" has been changed to "MANZANAR".

Station mark: Standard iron post stamped "3723 B 1905".

Recovered by USC&GS, 1941 in Calif. Level line No. 119... Laws to Olancha, California as follows:

"At Manzanar, Inyo County, about 100 ft. N. of the S.P. RR. station, and 30 ft. E. of the main track. A USGS standard cap riveted on the top of a 3/4-in. iron pipe. (1,134.331 meters or 3,723.551 ft.)."

CAL. ZONE 4
X = 2, 270, 155.5
Y = 513, 216.9
*Elevation 3721.551 ft. (Spirit leveling by C&GS in Calif. Level Line No. 119)

*Latitude: 36°44'22.422" *Longitude: 118°04'40.810"

To Station	Azimuth	Back Azimuth	Feet
North Alabama Hills (LAWD) (C&GS)	22°18'48.3"	202°17'23.3"	30,540.4
Independence N. Base (C&GS)	116 04 13.5	296 00 25.9	34,439.1
Coyote (LAWD)	190 29 06.5	10 29 27.9	15,958.0
Owens (LAWD)	326 12 03.2	146 13 36.4	22,826.6

*=Values by USC&GS

C&GS BM "V 44 1925" (C&GS) Inyo County CALIFORNIA

A. K. Andrews, 1948
USC&GS, 1950

Described by U. S. Coast and Geodetic Survey in description: list No. 1056 p. 1.

Described by USC&GS in Calif. Level Line No. 119... "Laws to Olancha, Calif.", as follows:

"V 44, about 1/8 mi. S. along the S.P. RR., narrow gauge RR. from the station at Mt. Whitney, Inyo County, at the X-ing of rd. leading to Lone Pine, 25 ft. W. of track, 6 ft. N. of the rd. and 4 ft. N. of a row of poles. Standard disk stamped "V 44 1925" and set in top of a concrete post. (1,123.500 meters or 3,686.016 ft.)."

Note by A.K.A., 1948: Bench mark found as described by USC&GS.

CAL. ZONE 4
* X = 2, 289, 416.16
* Y = 472, 504.41
*Elevation 3686.016 ft. (Spirit leveling by C&GS in Calif. Level Line No. 119)

*Latitude: 36°37'37.954" *Longitude: 118°00'49.323"

Recovered from Mt. Whitney SEE LATER VALUES
Book Nos. PH 384 Year 1956

Recovered from Mt. Whitney
Book Nos. PH 384 Year 1956

Recovered from Mt. Whitney
Book Nos. PH 384 Year 1956

SFNF

FILE COPY

SOUTH ALABAMA HILLS (LAND) (C&GS) Inyo County CALIFORNIA

USC&GS, 1934
 W. L. Berven, 1948

Described by U. S. Coast and Geodetic Survey in description
 list No. 393, p. 6.

Note by W.L.B., 1948: Station found as described.

V.A. elevation 4,481 ft.

Calc zone 4
~~*X = 2,9272, 911.87~~
~~*Y = 4,512, 262.62~~

*Latitude: 36°34'09.53" *Longitude: 118°04'14.313"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
*No. Alabama Hills (LAND) (C&GS)	157°48'53.17"	337°47'12.49"	36,425.6
*Owensyo (LAND)	193 46 06.97	13 47 24.17	44,284.4
*Monarch (C&GS)	212 22 57.06	32 26 51.17	59,647.4
*Cerro Gordo (C&GS)	277 44 09.89	97 54 20.54	84,444.4

*Values by USC&GS

California (351)

Tulare-Inyo Counties

VABM 14042

1927 N.A.D. (Adj, 1960)

E. Kurowski, 1956

Book: PH 482

Located about 12.0 mi. SW. of Lone Pine, 5.0 mi. SE. of Mt. Whitney on the top of a mountain known as "Mt. Langley".

Station reached by helicopter.

Station mark: Existing aluminum tablet stamped "VABM DAT G 14042" cemented in drill hole in bedrock.

Signal: Cairn, 18.1 ft. from station mark and 4 ft. higher in azimuth 326°20'

Note: This cairn believed to be intersected by the C&GS in 1950 and called "Corcoran Mountain".

CALIFORNIA ZONE 4

V.A. Elevation: 14,027 ft.

X=2,223,755.5

Y= 434,160.0

Latitude: 36°31'24.692"

Longitude: 118°14'18.566"

<u>To Station</u>	<u>Azimuth</u>	<u>Back Azimuth</u>	<u>Feet</u>
Whitney ✓	142°26'16.75"	322°24'24.06"	25,319.12
Wonoga	292 35 04.24	112 39 24.69	38,726.76
Cirque Pk.!	357 20 01.74	177 20 07.49	16,967.78

FILE COPY

11/16/60 ds *ml.*

CARROLL ROAD (LAWD)

Inyo County

Calif. (351)

LAWD

E. Kurowski, 1956

1927 N.A.D. ~~1927~~

FILE COPY

Books: PH 383-384

Note by E.J.K., 1956: Station found as described by Los Angeles Water Dept., all marks in good condition.

Signal: White flag over red panel on pole centered over station mark.

Signal data:	Top white flag	10.4 ft.
	Bottom white flag	9.0
	Top red X-tgt.	7.7
	Bottom red X-tgt.	5.4

Image point No. 1: Rock outcrop, 265 ft. from station mark in azimuth $162^{\circ}52'$.

Photo No. 6-110 Dup.

36

CALIF ZONE 4

X=2,278,005.4.9
Y= 440,168.
7.5

CARDED

V.A. elevation 4205 ft.

**Latitude: $36^{\circ}32'19.328''$ **Longitude: $118^{\circ}03'13.220''$

** = VALUES BY L.A.W.D.

1/29/57 mk / #171

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FILE COPY

3-86A

Inyo County

Calif. (351)

E. Kurowski, 1956

1927 N.A.D. (Unadj.)

Books: PH 383-384

Located about 6 mi. SSW. of Lone Pine, 7 mi. E. of Mt. Whitney on the N. bank of Tuttle Creek.

To reach from Lone Pine, go E. on Whitney Portal Road for 5.6 mi. to T-rd. S.; thence S. on main traveled rd. for 3.0 mi. to where the rd. turns and begins to follow up Tuttle Creek. Station is about 100 ft. E. of the rd. and about 12 ft. higher.

Station mark: 1 by 2 hub driven flush with ground.

Signal: White flag over red X-tgts. on pole centered over station mark.

Signal data:	Top white flag	9.6 ft.
	Bottom white flag	6.9
	Top red X-tgt.	6.2
	Bottom red X-tgt.	3.4

Image point No. 1: W. tree, 22 ft. from station mark in azimuth 78°51'.

Image point No. 2: E. tree, 64 ft. from station mark in azimuth 217°52'.

Photo No. 3-86

CALIF ZONE 4
X=2,243,803.
Y= 447,784.

CARDED

V.A. elevation 6305. ft.

4.000

GRID TO GEODETIC

LAT 363337.772

LDNG 1181011.515

Y=N=

447784.000

X=E=

2243803.000

1/29/57 mk ✓ Hm &

FILE COPY

NORTH ALABAMA HILLS (LAWD)(C&GS) Inyo County Calif.(351)

USC&GS, 1934, 1952
A. K. Andrews, 1948
E. Kurowski, 1956

1927 N.A.D.

FILE COPY

Books: PH 83-84, PH 383-384
described in "ZONE PINE QUAD" multilith as follows:
" Described by U. S. Coast and Geodetic Survey in
description list No. 1118, page 1.

Note by A.K.A., 1948: Station found as described."

Note by E.J.K., 1956: Station found as described,
all marks in good condition.

Signal: White flag over red X-tgts. on pole centered
over station mark.

Signal data:	Top white flag	7.8 ft.
	Bottom white flag	6.0
	Top red X-tgt.	5.5
	Bottom red X-tgt.	3.3

Image point No. 1: Rock outcrop, 298 ft. from station
mark in azimuth $354^{\circ}26'$.

Photo No. 3-89

CALIF ZONE 4

*X=2,258,832.60

*Y= 484,854.94

V.A. elevation 5172.⁴ ft. PH1851

*Latitude: $36^{\circ}39'43.023''$

*Longitude: $118^{\circ}07'03.120''$

**=Values by USC&GS

Dir. list on multilith.

1/29/57 mk *Jan 57*

FILE COPY

INDEPENDENCE SE BASE (C&GS) Inyo County Calif.(351)

USC&GS, 1933, 1952 1927 N.A.D.
A. K. Andrews, 1948
E. Kurowski, 1956

FILE COPY

Books: PH 83-84; PH 383-384
Described 1956 in "LONE PINE QUAD" multith as follows:

"Described by U. S. Coast and Geodetic Survey in description list No. 1118, page 1.

Note by A.K.A., 1948: Station found as described."

Note by E.J.K., 1956: Station found as described.

Signal: White flag over red panel on pole centered over station mark

Signal data:	Top white flag	8.0 ft.
	Bottom white flag	5.9
	Top red X-tgt.	5.6
	Bottom red X-tgt.	3.4

Image point No. 1: Y-rd, 490 ft. from station mark and 1 ft. higher in azimuth 147°11'.

Image point No. 2: W. edge of hwy. at white streak, 472 ft. from station mark and 1 ft. higher in azimuth 331°06'.

Note: Elev.: Plane Table Levels, 1956 to top of concrete cover, all measurements are to this point; 3806.5 ft., the station mark is about 5 ft. lower.

Photo No. 3-90

CALIF ZONE 4

*X=2,255,092.61

*Y= 501,675.91

Elevation 3806.5 ft. (Plane Table Levels to top of concrete cover)

*Latitude: 36°42'29.692" *Longitude: 118°07'47.151"

*=Values by USC&GS

See lists on multith -

1/29/57 mk / *mk*

FILE COPY

C&GS BM "V 44 1925" (C&GS) Inyo County Calif.(351)

A. K. Andrews, 1948
USC&GS, 1950
E. Kurowski, 1956

1927 N.A.D.

FILE COPY

Books: PH 83-84, PH 383-384

as follows; Described 1942 in "LONE PINE QUADRANGLE" multibk
Described by U. S. Coast and Geodetic Survey in description list No. 1056, page 1.

Described by USC&GS in Calif. Level Line No. 119, "LAWS TO OLANCHA, CALIF".

Note by A.K.A., 1948: Bench mark found as described by USC&GS.

Note by E.J.K., 1956: Station found as described by C&GS, all marks in good condition.

Signal: White flag over red X-tgts. on pole centered over station mark.

Signal data:	Top white flag	8.0 ft.
	Bottom white flag	6.6
	Top red X-tgt.	6.3
	Bottom red X-tgt.	3.3

Image point No. 1: Clump of trees, 160 ft. from station mark and same elevation, in azimuth 158°18'.

Image point No. 2: End of white spot, 45 ft. from station mark and 2 ft. lower in azimuth 65°40'.

Photo No. 6-108 ~~6-108~~ V57

CALIF ZONE 4

*X=2,289,416.16

*Y= 472,504.41

*Elevation 3686.016 ft. (Spirit Leveling by C&GS in Calif. Level Line No. 119)

*Latitude: 36°37'37.954"

*Longitude: 118°00'49.323"

SEE LATER VALUES

— Dir. list on multibk —

*=Values by USC&GS

1/29/57 mk ✓ 3711

FILE COPY

120
GEOGRAPHI

Locality _____

Datum _____

STATION	LATITUDE AND LONGITUDE	BOOKS IN METERS	AZIMUTH
351 <i>San Alabama Hills U.S.C.S.S.</i>	36-34-09.5340	AX9-11-109	157-48-53.17 ✓
343-2	118-04-14.5126		193-46-06.97 ✓
36 1181-1012			335-30-17.12 ✓
350 <i>Mesa LAND</i>	36-33-02.9102	AX9-11-123	103-04-57.79 ✓
	117-58-18.1240		161-09-52.47 ✓
351 <i>Carroll Road LAND</i>	36-32-19.3279	AX9-11-124	155-54-28.54 ✓
<i>Description in Master Copy</i>	118-03-13.2205		512-39-29.90 ✓
<i>Quad. 306 - p. 5</i>			259-36-13.72 ✓
328 <i>Black Cone LAND</i>	36-23-10.5847	AX9-11-126	133-43-38.78 ✓
	117-51-21.5830		150-26-13.19 ✓
329 <i>Power House LAND</i>	36-26-50.5110	AX9-11-125	177-29-40.86 ✓
	118-02-55.3926		210-59-21.15 ✓
			591-21-23.91 ✓
329 <i>Overhead LAND</i>	36-21-57.6465	AX9-11-127	170-11-15.27 ✓
	118-01-52.6990		261-48-51.72 ✓
329 <i>Red Ridge LAND</i>	36-17-46.2372	AX9-11-128	124-01-10.39 ✓
	117-54-16.7596		202-59-13.12 ✓
305 <i>Yucca LAND</i>	36-14-47.2697	AX9-11-129	143-41-53.87 ✓
	117-55-26.6460		197-32-32.80 ✓
306 <i>Hogback LAND</i>	36-11-30.0013	AX9-11-130	174-56-04.56 ✓
	118-00-43.9149		220-08-39.11 ✓
			232-54-23.66 ✓

B157

O POSITIONS

Accession No. of Computation: 120

N. A. - 1927

State _____

U. S. GEOLOGICAL SURVEY FORM NO. 11-1083

BACK AZIMUTH	TO STATION	DISTANCE		
		LOGARITHM (METERS)	METERS	FEET
337-47-12.49 ✓	U.S.C.S.S. No. Alabama Hills	4.04172310 ✓	11,102.559 ✓	36,425.65 ✓
13-47-24.17 ✓	Owensyo	4.13026662 ✓	13,497.913 ✓	44,284.40 ✓
55-32-55.52 ✓	Kern Knob	3.90380569 ✓	8,013.191 ✓	26,289.96 ✓
283-61-25.63 ✓	U.S.C.S.S. So. Alabama Hills	3.95868646 ✓	9,092.566 ✓	29,831.19 ✓
241-69-03.57 ✓	Kern Knob	3.84275457 ✓	6,962.330 ✓	22,842.24 ✓
335-53-52.16 ✓	U.S.C.S.S. So. Alabama Hills	3.57069307 ✓	3,726.286 ✓	12,208.92 ✓
32-41-41.84 ✓	Kern Knob	3.91425074 ✓	8,424.335 ✓	27,919.67 ✓
79-39-09.43 ✓	Mesa	3.87284155 ✓	7,461.765 ✓	24,480.81 ✓
313-36-35.86 ✓	Carrol Road	4.38909587 ✓	24,496.040 ✓	80,367.42 ✓
336-22-05.51 ✓	Mesa	4.32216530 ✓	20,997.389 ✓	68,888.93 ✓
357-29-30.26 ✓	Carrol Road	4.00625500 ✓	10,145.069 ✓	33,284.28 ✓
31-02-06.67 ✓	Mesa	4.12688441 ✓	13,393.202 ✓	43,940.86 ✓
111-28-15.83 ✓	Black Cone	4.26874232 ✓	18,567.025 ✓	60,915.31 ✓
350-10-38.06 ✓	Parker House	3.96176133 ✓	9,166.389 ✓	30,056.99 ✓
81-55-06.02 ✓	Black Cone	4.20116280 ✓	15,891.423 ✓	52,137.11 ✓
303-56-37.30 ✓	Overhead	4.14188851 ✓	13,864.008 ✓	45,485.50 ✓
29-00-53.96 ✓	Black Cone	4.03586116 ✓	10,860.784 ✓	35,632.42 ✓
523-28-02.33 ✓	Overhead	4.21660616 ✓	16,466.654 ✓	54,024.45 ✓
17-33-14.15 ✓	Red Ridge	3.76233864 ✓	5,785.470 ✓	18,981.16 ✓
354-55-23.86 ✓	Overhead	4.28828258 ✓	19,426.492 ✓	63,718.68 ✓
40-12-30.97 ✓	Red Ridge	4.18119828 ✓	15,177.432 ✓	49,794.62 ✓
52-57-34.08 ✓	Yucca	4.00378646 ✓	10,087.568 ✓	33,095.63 ✓

M onachs

FILE COPY

Locality

Datum

STATION	LATITUDE AND LONGITUDE	SECONDS IN METERS	AZIMUTH
373 Division Creek L.A.W.D.	36-56-13.9788	AX9-15-101	177-14-58.94 ✓
ADJUSTED 1955	118-16-54.9698		213-21-24.06 ✓
			259-35-32.04 ✓
372 No. Kearsarge L.A.W.D.	36-50-47.8014	AX9-15-103	127-27-43.83 ✓
ADJUSTED 1955	118-08-04.1978		156-04-34.32 ✓
372 Hatcheray L.A.W.D.	36-49-27.3395	AX9-15-102	166-12-25.08 ✓
ADJUSTED 1955	118-14-50.6121		199-26-15.36 ✓
			256-07-48.86 ✓
372 Coyote L.A.W.D.	36-46-57.5795	AX9-15-105	106-08-46.86 ✓
ADJUSTED 1955	118-04-05.1133		140-09-25.42 ✓
372 No. Manzanar L.A.W.D.	36-45-33.3669	AX9-15-104	135-16-41.74 ✓
Destroyed 5/16/51	118-10-02.2869		196-47-44.92 ✓
			253-38-12.38 ✓
351 Owenya L.A.W.D.	36-41-14.8280	AX9-15-107	123-58-12.86 ✓
ADJUSTED 1955	118-02-04.9159		164-14-49.68 ✓
see Multith			
351 No. Alabama Hills U.S.C.G.S.	36-39-43.0230	AX9-15-106	157-38-04.28 ✓
ADJUSTED 1955	118-07-03.1200		198-14-10.86 ✓
36 118.1-1001			249-03-35.62 ✓
350 Kara Kaab L.A.W.D.	36-36-36.6794	AX9-15-108	118-03-05.01 ✓
	117-59-48.5688		158-27-22.53 ✓

O POSITIONS

B157

Accession No. of Computation: 119

W. A. 1927

State _____

U. S. GOVERNMENT PRINTING OFFICE: 1911-10223

BACK AZIMUTH	TO STATION	DISTANCE		
		LOGARITHM (METERS)	METERS	FEET
357-11-47.04	Crater	4.00833028	10,197.663	33,443.71
33-24-02.17	Lava	4.07243015	11,814.900	38,762.72
79-38-46.85	Black Rock Springs	3.91134341	8,153.487	26,750.23
307-22-25.21	Division Creek	4.21873319	16,547.530	54,289.69
336-02-30.25	Black Rock Springs	4.10066868	12,608.651	41,366.88
346-11-10.45	Division Creek	4.11085037	12,907.745	42,348.16
19-28-15.27	Black Rock Springs	4.17178697	14,852.070	48,727.17
76-11-52.51	N. Kearsarge	4.01584477	10,371.576	34,027.41
286-02-20.16	Hatchery	4.22152455	16,654.230	54,639.75
320-07-02.15	N. Kearsarge	3.96593180	9,245.530	30,333.04
315-13-49.06	Hatchery	4.00666840	10,154.730	33,315.98
16-48-55.06	N. Kearsarge	4.00539445	10,124.986	33,218.39
73-41-46.19	Coyote	3.96522283	9,230.449	30,283.56
303-53-27.42	N. Manhattan	4.15464782	14,277.357	46,841.63
344-13-37.79	Coyote	4.04052966	10,978.163	36,017.52
337-36-17.18	N. Manhattan	4.04740829	11,679.017	38,316.81
12-15-57.30	Coyote	4.14936531	14,114.747	46,275.37
69-06-33.73	Overly	3.89911028	7,927.526	26,007.25
297-58-45.90	N. Manhattan	4.08735208	12,228.750	40,120.49
338-26-00.95	Overly	3.96466057	9,218.507	30,244.38

FILE COPY

FILE COPY

36 118 1

CALIF. 351
36°30'
118°00'

<u>NAME</u>	<u>STATION</u>
BAIRS	1001
BENCH MARK V 44	1002
CAMERA POST NO 5	1006.
RADIST L	1006.
SW 5	1006.
INDEPENDENCE SOUTHEAST BASE	1008.
INDEPENDENCE SE BASE RM 4	1008.
NORTH ALABAMA HILLS LAWD	1011
SOUTH ALABAMA HILLS LAWD	1012
SW 8	1017.
SW 8 REFERENCE MARK NO 3	1017.
RADIST NO 2 (SW 8 RM 1)	1017.
WHITE	1018.
BENCH MARK W 1162	1018.
CORCORAN MOUNTAIN	1020.
LONE PINE CHURCH CROSS	1021
LONE PINE SHELL OIL CO TANK	1022.

JULY 1963

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U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

NOV 1978

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 351
QUAD 56101 STATION 1001, 1002
CALIF
LATITUDE 36°30' TO 37°00'
LONGITUDE 118°00' TO 118°30'
DIAGRAM NJ 11-10 FRESNO

BAIRS (Inyo County, Calif., C.P., 1934)--This station is located at the foot of a rocky butte at the foot of Mount Williamson and just N of Bairs Creek, and 50 feet S of the end of the road. Station, reference and azimuth marks are standard bronze disks in outcropping bedrock, as described in notes 2 and 12a. Azimuth mark is just across the creek 30 yards to the S of large boulder 1/3 mile E of the station. To reach station from Lone Pine go N on the highway 9.5 miles to a road leading W just N of an orchard, turn left and go 1.0 mile to fork at concrete ditch gate. Take the middle fork 0.2 mile take right fork, then left and follow the main-traveled road 5.5 miles to another fork, turn left and follow best trail to the end of the road and station.

OBJECT	DISTANCE	DIRECTION
WONOGA		0°00'00"0
R.M.No.2 S	25.548 meters	28 07 18
R.M.No.1 W	21.165 meters	124 32 10
R.M.No.3 Az. Mk. approx.	1/3 mile	327 16 13.8

RECOVERY NOTE, TRIANGULATION STATION

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 510
(Rev. Feb. 1945)

NAME OF STATION: BAIRS
ESTABLISHED BY: C.P. YEAR: 1934 STATE: California
RECOVERED BY: Walter R. Helm YEAR: 1952 COUNTY: Inyo

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:
Station recovered as described and the marks are in good condition with the exception that the azimuth mark was searched for and not found. A complete description follows.

Station is located at the foot of a rock butte and at the foot of Mount Williamson. It is 8 miles, airline, south southwest of Independence and 120 feet north of Bairs Creek. Station is reached as follows: from the U.S. Post Office in Independence, go south on U.S. Highways 395 and 6 for 5.3 miles to a side road on the right at a cattle guard; turn right and go 0.8 mile to a fence corner; turn left, south, and go 0.7 mile to a fork; take the right fork, towards the mountains, and go 0.2 mile to a fork; take the right fork and go 0.2 mile to a fork at a 2 by 4 post; take the left fork and go 0.4 mile to a fork; take the left fork and follow the main traveled road for 4.4 miles to a fork; take the left fork and go 0.1 mile to a fork; take the right fork, straight ahead, and go 0.3 mile to a fork; take the left fork and go 0.8 mile to the end of the road and the station.

Note: there are many dirt forks so if the main traveled road is followed toward Mount Williamson and the head of Bairs Creek it will save trouble.

Station mark, stamped "BAIRS 1934", is a standard disk cemented in a drill hole in a boulder 3 feet in diameter and projecting 4 inches. It is 120 feet north of Bairs Creek and at a small camp ground.

Reference mark number 1, stamped "BAIRS NO 1 1934", is a standard disk cemented in a drill hole in the south edge of a boulder 6 feet in diameter and projecting 3 feet. It is 8 feet higher than the station, 25 feet west of a pine tree and in the largest boulder in the vicinity.

Reference mark number 2, stamped "BAIRS NO 2 1934", is a standard disk cemented in a drill hole in a boulder 7 feet in diameter and projecting 3 feet. It is 2 feet higher than the station and on the north edge of the ravine.

Station INDEPENDENCE S.E. BASE 1934 will serve as the azimuth mark.

Object	1952		Direction
	(feet)	Distance (meters)	
WONOGA			0 00 00.0
R.M. #2 S	83.902	25.573	28 06 43
R.M. #1 WNW	69.440	21.165	124 31 45
1934			
WONOGA			0 00 00.0
R.M. #2 S		25.548	28 07 18
R.M. #1 W		21.165	124 32 10
R.M. #3 E		(Azimuth Mark) Approx. 1/3 mile.	327 16 13.8

Note: distance and directions were checked in the field.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BAIRS YEAR: 1934
STATE: California LOCALITY: Owens Valley
First -ORDER Triangulation SOURCE: G-3064 FIELD SKETCH: CALIF 267

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (ON DISK ANGLE)	MARK
STATE: Calif ZONE: 4 CODE: 0404	X 2,222,931.23 Y 490,672.54	257°45'14" + 0 27 13	REFERENCE MARK NO 3 (AZIMUTH MARK)
STATE: ZONE: CODE:			

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE:	LONGITUDE:			METERS FEET
	36°40'43"586	118 14 23.184		1,886.5 6,189	
TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE		
REFERENCE MARK 3 (AZIMUTH MARK)		THIRD-ORDER 258°12'27".1	LOGARITHM (Meters)	METERS	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BAIRS YEAR: 1934
STATE: California LOCALITY: Vicinity of Independence
First -ORDER Triangulation SOURCE: GIZ G-9820 FIELD SKETCH: CALIF 402

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (ON DISK ANGLE)	MARK
STATE: Calif ZONE: 4 CODE: 0404	X 2,222,931.40 Y 490,671.42	+ 0 27 13	
STATE: ZONE: CODE:			

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE:	LONGITUDE:			METERS FEET
	36°40'43"575 *	118 14 23.182		1,887.4 6,192	
TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE		
			LOGARITHM (Meters)	METERS	

*This position redetermined. Observations indicate displacement with seismic activity probable cause.

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JULY 1963
 PUBLISHED AND PRINTED BY:
 U.S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY
 WASHINGTON D.C. NOV 1979
 BAIRS (Continued)

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

CALIFORNIA

351

QUAD 361181 STATION 1001
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 536
 (REV. FEB. 1965)

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BAIRS
 ESTABLISHED BY: C.P. YEAR: 1934 STATE: California
 RECOVERED BY: R.L. Engdahl YEAR: 1956 COUNTY: Inyo

Detailed statement as to the status of the original description, including marks found, stampings, changes made, and other pertinent facts:
 The Station and Reference Marks were recovered and found in good condition. The Azimuth Mark was not searched for.

Following is a new description:
 Station is located at the foot of a rock butte and at the foot of Mount Williamson. It is 8 miles, airline, south southwest of Independence, 120 feet north of Bairs Creek and at a small camp ground. The Station Mark is a Standard disk cemented in a drill hole in a boulder 3 feet in diameter, projects 4 inches and is stamped BAIRS 1934. Note 4
 Reference Mark No. 1 is a standard disk cemented in a drill hole in the south edge of a boulder 6 feet in diameter, projects 3 feet. It is 8 feet higher than the station, 25 feet west of a pine tree and is stamped BAIRS NO 1 1934. Note 12c
 Reference Mark No. 2 is a standard disk cemented in a drill hole in a boulder 7 feet in diameter, projects 3 feet and it is 2 feet higher than station. It is stamped BAIRS NO 2 1934. Note 12c

To reach station from Post Office in Independence, go south on U.S. Highway 6 and 395 for 5.6 miles to a side road and cattle guard on right, turn right and go 0.8 mile to a fence corner, turn left and go 0.7 mile to a fork, take right fork and go 0.2 mile to forks take right fork and go 0.2 mile to forks, take left fork and go 0.4 mile to forks take left fork and follow main traveled road for 4.4 miles to forks, take left fork and go 0.1 mile to forks, take right fork and go 0.3 mile to forks, take left fork and go 0.8 mile to a small camp ground and station as described.

OBJECT	Bearing	Distance		Direction
		feet	meters	
MONARCH 1934				00 00 00.0
R.M. No 2	S	68.95	21.015	98 41 27
R.M. No 1	NW	83.81	25.546	195 06 51

R.L. Engdahl

FILE COPY
 JAN 20 1981

FORM 536
 (11-6-65)

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

361181 - 1001

R

NAME OF STATION: BAIRS
 ESTABLISHED BY: C.P. YEAR: 1934 STATE: California
 RECOVERED BY: C. L. Novak YEAR: 1974 COUNTY: Inyo

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

The station mark, reference marks 1, 2 and 3 (azimuth mark) were recovered in good condition. The station was not occupied at this time, but was observed upon from station INDEPENDENCE NW BASE 2.

The 1956 route to the station was used in recovery and found to be adequate.

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

JULY 1963
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 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

CALIFORNIA 357

CORD 361181 STATION 1002
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

NOV 1979

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 525
 REV. AUG. 1962

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BENCH MARK V 44 STATE: California COUNTY: Inyo

CHIEF OF PARTY: R. J. Symms YEAR: 1962 Described by: H. R. R.

NOTE	HEIGHT OF TELESCOPE ABOVE STATION MARK Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	HEIGHT OF LIGHT ABOVE STATION MARK METERS	
			feet	meters
			0 00	00.0
11a	MONARCH 1934 BENCH MARK W 44	Approx. 1/2 mile	36 22	18.2
11a	R.M. No. 2	19.49'	5.940	54 10 06
11a	R.M. No. 1	22.84'	6.962	315 58 42

The station is about 16 miles southeast of the town of Independence and about 3 miles east northeast of the town of Lone Pine. The mark is beneath a telephone line at the edge of a track road on the east side of a railroad crossing. It is 390 feet south southeast of a railroad sign "Mt Whitney", 28 1/2 feet east of the east rail of the railroad, and 10 feet southwest of a white witness post. The mark is a standard bench mark disk that is set in the top of a 12x12 inch concrete post that projects above the ground about 6 inches. The mark is stamped "V 44 1925".

Reference mark number 1, stamped "BENCH MARK V 44 NO 1 1950", is set flush with the ground beneath the telephone line.

Reference mark number 2, stamped "BENCH MARK V 44 NO 2 1950", is set flush with the ground 12 feet east of a white witness post.

Bench mark W 44, stamped "W 44 1925", is a standard bench mark disk that is set in the top of a 12x12 inch concrete post that projects about 10 inches above the ground. It is 11 1/2 feet east of the center of the road and 4 feet north of a white witness post.

The station can be reached from the center of Lone Pine by going north on U.S. Highway 395 for 0.6 mile to a road to the right and a sign "Lone Pine Sta.". Turn right and follow the paved road for 1.5 miles to a railroad crossing just south of the railroad station. Cross the tracks and go east on the hard surfaced road for 1.1 miles. Take the right fork (dirt road) easterly for 0.6 mile to a fork. Take the right fork for 0.1 mile to a diagonal crossroad. Continue straight ahead for 0.05 mile to a railroad crossing and the station.

Form 525
 (11-5-55)

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

Designation V 44 State California County Inyo
 Nearest town Lone Pine County Inyo Chief of Party C. Symms
 Distance and direction from nearest town 1.85 miles east Recovery Date April 1962
 Character of mark C&GS bench mark disk Stamping V 44 1925

Established by C&GS
 Present condition Good
 Detailed report 0.2 mile south along the Southern Pacific Company railroad from the station at Lone Pine, thence 1.0 mile northeast along an asphalt road, thence 0.65 mile northeast along a dirt track road, at the crossing of a former railroad grade, 7 1/2 feet north of the center line of the road, 33 feet east of the center of the railroad grade, 1.0 foot north of a witness post, about level with the road, and set in the top of a concrete post projecting 0.3 foot above the ground.

Character of mark C&GS reference mark disk Stamping BENCH MARK V 44
 Established by C&GS NO 1 1950
 Detailed description 0.2 mile south along the Southern Pacific Company railroad from the station at Lone Pine, thence 1.0 mile northeast along an asphalt road, thence 0.65 mile northeast along a dirt track road, at the crossing of a former railroad grade, 30 1/2 feet north of the center line of the road, 31.5 feet northwest of R.M. 2, 22.8 feet north of bench mark W 44, 36 1/2 feet east of the center line of the grade, about level with the road, and set in the top of a concrete post flush with the ground.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BENCH MARK V 44 YEAR: 1950

STATE: California LOCALITY: Visalia-Big Pine Area

Second -ORDER Triangulation SOURCE: G-9098 FIELD SKETCH: Calif. 387
 G-13129

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH #OR 2d ANGLE	MARK
STATE: Calif. ZONE: 4 CODE: 0404	X 2,289,415.42 Y 472,503.36	243° 17' 59" + 0 35 18	AZIMUTH MARK=BM W 44
STATE: ZONE: CODE:	X Y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 36° 37' 37.9437" LONGITUDE: 118 00 49.3321"	NORTH WEST		1123.50 METERS 3686.0 FEET
TO STATION			GEODETIC AZIMUTH (From south)	DISTANCE (Notes)

AZIMUTH MARK = BM W 44

THIRD-ORDER
 243°53'17.5

R

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NOV 1979

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

CALIFORNIA 351

QUAD 361181

STATION 1002

LATITUDE ° ' TO ° '
LONGITUDE ° ' TO ° '
DIAGRAM

BENCH MARK V 44 (continued)

Character of mark **C&GS reference mark disk**

Stationing **BENCH MARK V 44**

Established by **C&GS**

NO 2 1950

Detailed description **0.2 mile south along the Southern Pacific Company railroad from the station at Lone Pine, thence 1.0 mile northeast along an asphalt road, 0.55 mile northeast along a dirt track road, at the crossing of a former railroad grade, 11 1/2 feet north of the center line of the road, 19.5 feet east of bench mark V 44, 31.5 feet southeast of reference mark V 44 R.M. 1, about 1 foot higher than the road, about level with the station, and set in the top of a concrete post projecting 0.1 foot above the ground.**

Form 538
(3-30-57)
JSCOMM-DC 37104

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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JULY 1963
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 COAST AND GEODETIC SURVEY
 WASHINGTON D. C.

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 361181 STATION 1006
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

FILE COPY

36°30'
 118°00'

2370

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 522
 Rev. Aug. 1956

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CAMERA POST NO 5 STATE: California COUNTY: Inyo
 CHIEF OF PARTY: Walter R. Helm YEAR: 1952 Described by: G.S. Jackson

NOTE: HEIGHT OF TELESCOPE ABOVE STATION MARK 5.26 METERS. WEIGHT OF LIGHT ABOVE STATION MARK METERS.
 Below Surface-station mark DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION
 Underground-station mark

OBJECT	BEARING	DISTANCE		DIRECTION:
		feet	meters	
NORTH ALABAMA HILLS (LAWD) 1934				00 00 00.0
R. H. No. 2	S	46.578	14.187	27 20 20-
SW 5 (R. M. No. 3)	NW	38.069	11.603	167 20 00-
R. H. No. 1	ESE	47.103	14.357	296 47 21-
Azimuth Mark	SSE	0.5 mile (Approx.)		352 36 12.4
Radist "L"		183.6708 meters		280 50 54.7

The station is located at the north end of Mansanar Air Field, about 5-1/2 miles south of Independence, 200 yards east of the airway beacon, 200 yards west of the center line of the north-south runway.

To reach from the U. S. Post Office in Independence, go south, on U. S. Highway No. 395 and 6, for 5.5 miles to side road left; turn left, on gravel road, and go east 0.2 mile to the station.

The station is a 12 by 12 inch pine timber which projects 4 feet and is marked by a large nail in its center.

Reference mark number 1 is a standard disk, stamped CAMERA POST 5 NO 1 1952, set in a drill hole in the concrete runway which is about flush with the surrounding concrete and is about 6 feet lower than the station.

Reference mark number 2 is a standard disk, stamped CAMERA POST 5 NO 2 1952, set in a drill hole in the concrete runway which is about flush with the surrounding concrete and is about 6 feet lower than the station.

SW 5 is a brass shell cemented in the center of a 5 inch concrete monument which projects about 2 inches and is marked by a dot in the center of the brass shell.

The azimuth mark is a standard disk, stamped CAMERA POST 5 1952, set in a drill hole in a concrete runway light base which projects about 3 inches. It is located at the south end of the north-south runway and in the base of the east one of three of the south runway lights, about 100 feet south of the south end of the runway. To reach, from the station, go south on the north-south runway 0.5 mile to the azimuth mark.

Radist "L" is located near the intersection of the main runways. It is a standard bronze reference mark disk set in a small mass of concrete which was poured into a hole in the asphalt surface of the runway and is flush with the surface and stamped RADIST L.

* Refer to notes in manuals of triangulation and state publications of triangulation.
 (To nearest meter only, when no trigonometric leveling is being done.)

(Direction-angle measured clockwise, referred to initial station.
 30-4222-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CAMERA POST NO 5 YEAR: 1952

STATE: California LOCALITY: Vicinity of Independence

First -order Triangulation SOURCE: GTZ G-9820 FIELD SKETCH: CALIF 402

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ FOR ANG ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,250,290.54 y 511,913.64	335°05'00" + 0 30 35	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION		
	LATITUDE:	LONGITUDE:		NORTH	WEST	METERS
	36°44'11".352	118 08 45.005			1,169.2	3,836
	TO STATION		GEODETTIC AZIMUTH (From south)		DISTANCE	
			THIRD-ORDER 335°35'34".4		LOGARITHM (Meters)	
					METERS	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: RADIST L YEAR: 1952

STATE: California LOCALITY: Vicinity of Independence

First -order Traverse (No check on this position) SOURCE: GTZ G-9820 FIELD SKETCH: CALIF 402

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ FOR ANG ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,250,888.58 y 511,987.13	+ 0 30 39	
STATE: ZONE: CODE:	x y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION		
	LATITUDE:	LONGITUDE:		NORTH	WEST	METERS
	36°44'12".026	118 08 37.650			1,164.7	3,821
	TO STATION		GEODETTIC AZIMUTH (From south)		DISTANCE	
					LOGARITHM (Meters)	
					METERS	

Computed from station CAMERA POST NO 5

JAN 1964

351 CALIF.

JULY 1963
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COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 361181 STATION 1006
CALIF
LATITUDE 36°30' TO 37°00'
LONGITUDE 118°00' TO 118°30'
DIAGRAM NJ 11-10 FRESNO

CAMERA POST NO 5 (Continued)

FILE COPY

36°30'
118°00'

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SW 5
STATE: California LOCALITY: Vicinity of Independence
YEAR: 1952
SOURCE: GTZ G-9820 FIELD SKETCH: CALIF 402
First -order Traverse
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & INTERIOR ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,250,271.36 y 511,946.54	+ 0 30 34	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	36°44'11.679	118 08 45.237		1,167.9 3,832
	TO STATION		GEODETIC AZIMUTH (From 0000)	DISTANCE
	Computed from station CAMERA POST NO 5			LOGARITHM (Meters) METERS

DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY Form 128-D

TRAVERSE DESCRIPTION OF TRAVELING INSTRUMENT STATION

NAME OF STATION: SW-5 YEAR: 1952 STATE: California COUNTY: Inyo
CHIEF OF PARTY: Walter R. Helm
Description, including sketch of object:

SW-5 is a brass shell cemented in the center of a 5 inch concrete monument which projects about 2 inches and is marked by a dot in the center of the brass shell. It is 11.603 meters northwest of CAMERA POST NO 5 in azimuth 150 19' 26.8".

Described by: George S. Jackson

FORM 128-D (12-3-52)

USCGM-DC 5267

JAN 1964

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

CALIF. 351
 QUAD 361181 STATION 1008
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

FILE COPY

36° 30'
 118° 00'

INDEPENDENCE S.E. BASE (Inyo County, Calif., C.P., 1933)--The station is 7.8 miles by road N of Lone Pine and about 8 miles S of Independence, 26 meters E of the center line of the highway at a curve in the highway at the SE end of a highway tangent.

This station can be used as a Laplace azimuth station and NW base can be used as the azimuth mark.

Station mark is a standard bronze disk set in concrete as described in note 1a.

Reference and azimuth marks are standard bronze disks in boulders, as described in note 12c.

Reference mark No.3 (azimuth mark) is 1/4 mile S on W side of road close to some trees.

To reach from Lone Pine as follows: Take the main highway going N towards Independence and go 5.8 miles, cross the Los Angeles aqueduct and continue on highway 2.0 miles to where the highway turns slightly to the left and the station. A drive station.

The observations were taken from a 15-foot wood tower.

OBJECT	DISTANCE	DIRECTION
MONARCH	meters	0°00'00"00
R.M.No.3 Az. Mk. S		73 56 14.3
R.M.No.2 W	15.428	154 49 51.1
R.M.No.1 NNW	23.120	238 45 11.1

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: INDEPENDENCE SOUTHEAST BASE YEAR: 1933
 STATE: California LOCALITY: Owens Valley
 First -ORDER Triangulation SOURCE: G-3064 FIELD SKETCH: CALIP 207

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ IONOSP. ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,255,092.61 y 501,675.91	343°37'56" + 0 31 09	REFERENCE MARK NO 3 (AZIMUTH MARK)
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		METERS FEET
	36°42'29"692	118 07 47.151	NORTH WEST	

TO STATION	GEODETIC AZIMUTH (From center)	DISTANCE	
		LOGARITHM (Meters)	METERS
REFERENCE MARK NO 3 (AZIMUTH MARK)	THIRD-ORDER 344°09'04"8		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: INDEPENDENCE SE BASE REFERENCE MARK 4 YEAR: 1956
 STATE: California LOCALITY: Owens Valley
 Second -ORDER Triangulation SOURCE: G-11777 FIELD SKETCH: Calif 436

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ IONOSP. ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,694,849.08 y 84,641.21	+ 1 27 04	
STATE: Calif ZONE: 4 CODE: 0404	x 2,255,113.15 y 501,691.68	+ 0 31 09	

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		METERS FEET
	36°42'29"846	118 07 46.897	NORTH WEST	1,157.9 3,799

TO STATION	GEODETIC AZIMUTH (From center)	DISTANCE	
		LOGARITHM (Meters)	METERS

RECOVERY NOTE, TRIANGULATION STATION

R

DEPARTMENT OF COMMERCE
 U.S. COAST AND GEODETIC SURVEY
 FORM 254
 (REV. FEB. 1946)

NAME OF STATION: INDEPENDENCE S.E. BASE
 ESTABLISHED BY: C.P. YEAR: 1934 STATE: California
 RECOVERED BY: Walter R. Helm YEAR: 1952 COUNTY: Inyo

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

The station was recovered as described and all the marks were in good condition. A complete description follows.

The station is located along the northeast side of US Highways 6 and 395. It is about 8 miles airline north of Lone Pine, about 9 miles airline south of Independence, and about 2-1/2 miles airline south of an abandoned air base.

The station is a standard disk stamped "SE BASE 1934" and set in the top of a 14-inch square concrete post that is 6 feet below the surface of the ground and has a 2-foot steel cylinder that extends 6 feet above the mark. A concrete lid covers the steel cylinder. It is 20 feet northeast of the center line of the highway.

Reference mark number one is a standard disk stamped "SE BASE NO 1 1934" and set in a drill hole in a boulder that is 6 feet below the surface of the ground and has a 2-foot steel cylinder extending 6 feet above the mark. There is a concrete lid covering the top of the steel cylinder. It is 20 feet northeast of the center line of the highway and about the same elevation as the station.

Reference mark number two is a standard disk stamped "SE BASE NO 2 1934" and set in a drill hole in a boulder that is 18 inches below the surface of the ground. It is 30 feet southwest of the center line of the highway, 100 feet east of the center line of the old highway, and about the same elevation as the station.

Reference mark number three will serve as the azimuth mark for the station. It is a standard reference mark disk stamped "SE BASE NO 3 1934" and set in a drill hole in a small boulder that projects 3 inches. It is 40 feet west of the center line of the old highway, and 1 foot east of a wire fence. To reach the mark from the station go northwest for 100 yards to a reverse Y fork. Turn sharp left, south, and go 0.25 mile to the mark on the right.

To reach the station from the post office in Lone Pine go northerly on US Highways 6 and 395 for 7.9 miles to the station on the right.

OBJECTS	1934	DISTANCE	1952	1934	DIRECTION	1952
BAIRS 1934				00 00	00.0	00 00 00.0
R.M. No. 1 (SW)	23.120 m	23.121 m	75.857 ft.	77 20	06.8	77 21 06
Painte Monument (NNE)						134 38 20.13
R.M. No. 3 (azimuth mark)	1/4 mile (SSE)			272 31	10.0	272 30 56.2
R.M. No. 2 (NW)	15.428 m	15.437 m	50.649 ft.	353 24	46.8	353 44 38

Observations taken from a 5.55 meter wood stand.

351 CALIF.

JULY 1963
PUBLISHED AND PRINTED BY:
U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

FILE COPY

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 361181 STATION 1008
CALIF.
LATITUDE 36°30' TO 37°00'
LONGITUDE 118°00' TO 118°30'
DIAGRAM NJ 11-10 FRESNO

INDEPENDENCE SOUTHEAST BASE (Continued)

DEPARTMENT OF COMMERCE RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: INDEPENDENCE SE BASE
ESTABLISHED BY: C.P. YEAR: 1933 STATE: California
RECOVERED BY: R.L.E. YEAR: 1956 COUNTY: Inyo

R

Name of Station: INDEPENDENCE SE BASE
Established By: C.P. Year: 1933
Recovered By: R.L.E. Year: 1956

State: California
County: Inyo

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

The station, reference marks 1 and 2 were recovered and found in good condition. Reference mark 3 (azimuth mark) was recovered, but has been hit by some object breaking away part of the boulder although the mark seems undisturbed. The date stamped on the station mark is 1933 instead of 1934, and the bearing of the reference marks was found in error as stated in the 1952 recovery note. Due to the vibrations caused by heavy traffic, the reoccupation of the original station mark for first order and Laplace azimuth observations was deemed impossible and a reference mark 4 was established and occupied as an eccentric point for all observations this date.

OBJECT	DISTANCE	DIRECTION
INDEPENDENCE		
NW BASE 1934	meters feet	0°00'00"0
R.M. 4 NE	7.901 25.92	83 39 46
R.M. 3 (Azimuth Mark)	(0.2 mile)	194 52 57.3
R.M. 2 S-SW	15.440 50.65	276 07 23
R.M. 1 W-SW	23.115 75.83	359 43 19

Following is a new and complete description:

The station is along the east side of U.S. Highways 6 and 395, about 8 miles north of Lone Pine, 7-1/2 miles south of Independence, 2-1/2 miles south of an old airfield, and 0.2 mile north of highway bridge No. 4814 across the Los Angeles aqueduct. It is a standard bronze disk, set in a 14-inch square concrete post that is about 5 feet below the surface of the highway shoulder, is surrounded by a 24-inch corrugated-steel casing that extends 5 feet above the mark and has a concrete cover flush with the highway. It is 18.4 feet east of the center of the highway, 5.3 feet north of a drain-marker post, 3 feet northeast of the drain, and 1.5 feet south of a witness post. The disk is stamped "SE BASE 1933" (note 1a).

Reference mark 1 is a standard bronze disk, cemented in a drill hole in a boulder that is about 5 feet below the surface of the highway shoulder, is surrounded by a 24-inch corrugated-steel casing that extends 5 feet above the mark and has a concrete cover flush with the highway. It is 42 feet west of a fence, 17.5 feet east of the center of the highway, 4 feet north of a highway-marker post, and 1.5 feet southeast of a witness post. The disk is stamped "SE BASE NO 1 1934" (note 12c).

Reference mark 2 is a standard bronze disk, cemented in a drill hole in a boulder that is 18 inches below the surface of the ground and about 6 feet below the surface of the highway shoulder. It is 36 feet east of the center of the old highway, 32 feet west of the center of the new highway, and 14.5 feet west of a highway-shoulder drain. The disk is stamped "SE BASE NO 2 1934" (note 12c).

Reference mark 3 (azimuth mark) is a standard bronze disk, cemented in a drill hole in a small boulder that projects about 4 inches above the surface of the ground. It is in a small park-like area, 39 feet west of the center of the old highway, 7 feet west of a large triangular-blazed honey locust tree and 1 foot east of a fence. The disk is stamped "SE BASE NO 3 1934" (note 12c).

Reference mark 4 is a standard bronze disk, set in a 10-inch square concrete post set flush with the surface of the ground. There is an underground mark about 32 inches below the surface of the ground, and it is a standard bronze disk set in a 6-inch circular mass of concrete. The mark is 65 feet north of telephone pole No. 52-25E/109, 44 feet east of the center of the highway and 16.5 feet west of a fence. The disk of both the surface and the underground marks are stamped "INDEPENDENCE SE BASE NO 4 1933" (notes 11a and 11b).

To reach the station from the Inyo county courthouse in Independence, go south-southeast on U.S. Highways 6 and 395 for 7.3 miles to a point just beyond where the old highway continues straight ahead, the new highway starts curving to the left and the station on the left of the new highway as described.

To reach reference mark 3 (azimuth mark) from the station, go north-westerly for about 100 yards to a reverse Y, here turn sharp left and go south on the old highway about 0.25 mile to a small park-like area and the mark on the right as described.

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 WASHINGTON, D. C.
 NOV 1978

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 361181 STATION 1011
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 PRESNO

NORTH ALABAMA HILLS (L.A.) (Inyo County, Calif., C.P., 1934)--
 Station is on the highest point of the northernmost ridge of the Alabama Hills, 6 miles NNW of Lone Pine. The ridge is rocky on top and runs E and W. Station is about 2 miles W of the highway.
 Station mark is a capped pipe with a drill hole in center established by the L.A. Water and Power.

Reference and azimuth marks are standard bronze disks in outcropping bedrock, as described in note 12a.
 Reference mark No. 3 (azimuth mark) is W 0.2 of a mile in rocky point.

To reach station from Lone Pine go N on the highway 5.9 miles just across the Los Angeles aqueduct turn left, SW, at sign, "Standby Mine." Go 2 miles and take left fork, sign, "Standby Mine", go 1.4 miles, take left fork, go 0.6 of a mile, take left fork, go 1.2 miles along top of ridge on old road, turn right, E, and go 0.7 of a mile to station.

OBJECT	DISTANCE	DIRECTION
MONARCH		0°00'00"0
R.M. No. 1 E	17.915 meters	11 21 45.
R.M. No. 2 S	20.152 meters	86 02 40.
R.M. No. 3 Az. Mk. W	0.2 mile	165 28 14.6
Mt. Whitney Observatory		169 19 33.7

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 500
 (Rev. Feb. 1945)

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: NORTH ALABAMA HILLS (LAWD)
 ESTABLISHED BY: C.P. YEAR: 1934 STATE: California
 RECOVERED BY: Walter R. Helm YEAR: 1952 COUNTY: Inyo

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

The station was recovered as described and all the marks were in good condition. A complete description follows.

The station is located on the highest point of the north end of the Alabama Hills. It is about 6 miles airline north-northwest of Lone Pine, about 11 miles airline south-southeast of Independence, and about 1 mile airline west of US Highways 6 and 395.

The station is a capped 1-inch iron pipe with a hole drilled in the cap. This station was established by the Los Angeles Water and Power Company. The pipe projects about 4 inches above the ground. There is no stamping on the cap.

Reference mark number one is a standard disk stamped "N. ALABAMA NO-1 33" and set in a drill hole in outcropping bedrock that projects 4 inches and is about 6 feet lower than the station.

Reference mark number two is a standard disk stamped "N. ALABAMA NO-2 33" and set in a drill hole in outcropping bedrock that projects 2 inches and is about 1 foot lower than the station.

Reference mark number three will serve as the azimuth mark for the station. It is a standard reference mark disk stamped "N. ALABAMA NO 3 1934" and set in a drill hole in outcropping bedrock that is 12 feet by 15 feet on top and projects 6 feet. It is 100 yards south of the track road to the station and 3 feet north of a 2-foot cairn.

To reach the azimuth mark from the station go west on the road for 0.2 mile to the mark on the left.

To reach the station from the post office in Lone Pine go northerly on US Highways 6 and 395 for 6.1 miles to a paved fork. Take the left fork, old highway, and go 2.0 miles to a fork. Take the left fork and go 1.5 miles to a fork. Take the left fork and go 0.5 miles to a fork. Take the left fork and follow the track road for 1.3 miles to the highest point of the hill and the station.

OBJECT	1934	DISTANCE	1952	1934	DIRECTION	1952
BAYS 1934				00 00	00.0	00 00 00.0
Faite Monument						98 36 53.10
R.M. No. 1; (E)	17.915 m	17.906 m	58.745 ft.	161 35 35		161 34 54
R.M. No. 2; (SSB)	20.152 m	20.125 m	66.025 ft.	236 16 30		236 17 07
R.M. No. 3 (azimuth mark) (SW)	0.15 mile			316 40 05.1		316 40 04.1

All 1952 measurements were horizontal.
 Observations were taken from a 1.12 meter wood stand.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: NORTH ALABAMA HILLS LAWD YEAR: 1934
 STATE: California LOCALITY: Owens Valley
 First -ORDER Triangulation SOURCE: G-3064 FIELD SKETCH: CALIF 267

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH ± OR Δ ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,258,832.60 y 484,854.94	55°52'22" + 0 31 35	REFERENCE MARK NO 3 (AZIMUTH MARK)
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	36°39'43"023	118 07 03.120		
				METERS FEET VA 5172.0 FT (USGS 1956)

TO STATION	GEODETIC AZIMUTH (From center)	DISTANCE	
		LOGARITHM (Meters)	METERS
REFERENCE MARK NO 3 (AZIMUTH MARK)	THIRD-ORDER 56°23'56"9		

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Form 254 (1-5-54)

USCOMM-DC 5247

NOV 1979
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

CALIFORNIA 351

QUAD 361181 STATION 1011

LATITUDE ° ' TO ° '
LONGITUDE ° ' TO ° '
DIAGRAM

NORTH ALABAMA HILLS LAWD (continued)

Form 526
(11-8-68)

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

361181 - 1011

R

NAME OF STATION: NORTH ALABAMA HILLS (LAWD)
ESTABLISHED BY: C.P. YEAR: 1934 STATE: California
RECOVERED BY: C. L. Novak YEAR: 1974 COUNTY: Inyo

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

The station mark, reference marks 1, 2 and 3 (azimuth mark) were recovered and found to be in good condition. The station was not occupied at this time, but was observed upon from INDEPENDENCE N.W. BASE 2.

The 1952 route to the station was used in recovery and found to be adequate.

*Name of ship or party should be inserted here. The officer who actually visited the station should sign his name at the end of the recovery note.
Note.—One of these forms must be used for every station recovered.
Comm-DC 3451K

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JULY 1963
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 COAST AND GEODETIC SURVEY
 WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

CALIFORNIA 351

QUAD 361181 STATION 1012
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

SOUTH ALABAMA HILLS (L.A.) (Inyo County, Calif., G.P., 1934)--
 Station about 3 1/4 miles (airline) SSE of town of Lone Pine, in
 the S end of the Alabama Hills, on top of a huge boulder approx-
 imately 100 feet in circumference at base, and boulder lying on
 E foot of a rock pile, the highest formation at S end of these
 Alabama Hills; Los Angeles aqueduct lies directly below station
 to E.

Station and reference marks are standard bronze disks in a
 boulder as described in notes 4 and 12c.

Asimuth mark is a standard bronze disk in outcropping bed-
 rock, as described in note 12a.

Asimuth mark lies about 1/4 mile N of station on top of
 small prominent hill.

To reach station from Lone Pine go W on West Pine Street,
 0.4 mile, turn left and go 3.1 miles, turn left and go 0.4 mile,
 turn off road here at fence corner and follow truck tracks across
 country. The tracks go E and S and down hill in sandy soil and
 it is not recommended that a truck be driven here unless it has
 super balloons as it will get stuck in sand coming back up hill.
 About 1.5 miles can be driven toward station and 12-minutes pack.
 If truck is left at fence-about 3/4-hour pack.

OBJECT	DISTANCE	DIRECTION
NORTH ALABAMA HILLS	meters	0°00'00.0
R.M.No.1 SW	18.310	238 47 32.
R.M.No.2 WNW	20.270	307 22 15.
R.M.No.3 As. Mk.		344 24 33.1
Church Cross Lone Pine		34 30 25.1
Mt. Whitney Lookout		295 16 10.6

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SOUTH ALABAMA HILLS LAWD

YEAR 1934

STATE: California

LOCALITY: Owens Valley

First -ORDER Triangulation

SOURCE: G-3064

FIELD SKETCH: CALIF 267

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & TOR&O ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,272,911.87 y 451,262.62	141°40'10" + 0 33 16	REFERENCE MARK NO 3 (AZIMUTH MARK)
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:	NORTH WEST	METERS FEET
	36°34'09".534	118 04 14.313		74.44812 Ft. (US95A4B)
TO STATION	GEODETIC AZIMUTH (From 0000)	DISTANCE		
	THIRD-ORDER 142°13'25".6	LOGARITHM (Meters)	METERS	

REFERENCE MARK NO 3 (AZIMUTH MARK)

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 COAST AND GEODETIC SURVEY
 WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

CALIF. 351
 QUAD 361181 STATION 1017
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

FILE COPY

36° 30'
 118° 00'

DEPARTMENT OF COMMERCE
 U.S. COAST AND GEODETIC SURVEY
 FORM 843
 Rev. Aug 1949

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SW 8 STATE: California COUNTY: Inyo

CHIEF OF PARTY: Walter R. Helm YEAR: 1952 Described by: N.M. Johnson

NOTE	HEIGHT OF TELESCOPE ABOVE STATION MARK	HEIGHT OF LIGHT ABOVE STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION		
	feet	meters			
below	Surface-station mark, Underground-station mark				
	OBJECT	BEARING	DISTANCE	DIRECTION	
11a	SW 1		0 00	00.0	
11b	R.M. #2	NW	51.819	15.794	
below	R.M. #1	NNE		16 43 57	
"	R.M. #3	NNE		92 29 23.3	
"	Azimuth Mark	NE	0.2 mile	94 29 03.0	
				111 22 22.0	

Station is located in a field about 0.2 mile west of U.S. Highway 395 and 6, 150 feet south of the east-west fence line that was the property line of the Manzanar building area. It is, airline, about 6 1/2 miles south southeast of Independence.

Station mark, stamped "SW 8", is a brass disk set in the top of a 6 inch concrete cylinder that projects 4 inches. It is in direct line with the center row of three north-south rows of trees.

Reference mark number 1, stamped "SW 8 NO 1 1952", is a standard USC&GS disk set in the top of a round concrete post 12 inches in diameter, projecting 4 inches and at about the same elevation as the station. It is 45 feet north of the fence line.

Reference mark number 2, stamped "SW 8 NO 2 1952", is a standard USC&GS disk set in the top of a square concrete post 12 inches in diameter, projecting 4 inches

and at about the same elevation as the station.

Reference mark number 3, stamped "SW 8 NO 3 1952", is a standard USC&GS disk set in the top of a 4 foot square concrete foundation that projects 4 inches and is at about the same elevation as the station. The foundation was part of the floor of a building that has been torn down. It is about 30 feet north of the fence line.

Azimuth mark, stamped "SW 8 1952", is a standard USC&GS disk set in the top of a 16 inch square foundation block of concrete. It is the southeast one of four blocks, projects 3 inches and is 100.0 feet west of the centerline of the highway, 27.5 feet southeast of a fence corner and 13.0 feet south of the centerline of the track road. To reach from the station, go northeast on the track road for 0.2 mile to the azimuth mark on the right.

Station is reached as follows: from the U.S. Post Office in Independence, go south on U.S. Highway 395 and 6 for 6.1 miles to the entrance on the right to the Manzanar building area; continue south for 0.1 mile to the south property fence line; turn right on the track road along the south side of the fence line and go 0.2 mile to the station in a small cleared area.

Detailed description

* Refer to notes to manuals of triangulation and state publications of triangulation. : Direction-angle measured clockwise, referred to initial station.
 (To nearest meter only, when no trigonometric leveling is being done.)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SW 8 YEAR: 1952

STATE: California LOCALITY: Vicinity of Independence

First -ORDER Triangulation SOURCE: GTZ G-9820 FIELD SKETCH: CALIF 402

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & COR&C ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,250,634.50 y 506,925.54	231°03'51" + 0 30 37	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	36°43'21.998	118 08 41.325		1,174.9 METERS 3,855 FEET
	TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE
				LOGARITHM (Meters) METERS
	AZIMUTH MARK		THIRD-ORDER 231°34'28.0	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SW 8 REFERENCE MARK NO 3 YEAR: 1952

STATE: California LOCALITY: Vicinity of Independence

First -ORDER Traverse SOURCE: GTZ G-9820 FIELD SKETCH: CALIF 402
 (No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & COR&C ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,250,889.41 y 507,300.99	+ 0 30 39	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	36°43'25.688	118 08 38.153		1,173.0 METERS 3,848 FEET
	TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE
				LOGARITHM (Meters) METERS
	Computed from station SW 8			

351
CALIF.

JULY 1963
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HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 361181 STATION 1017
CALIF
LATITUDE 36°30' TO 37°00'
LONGITUDE 118°00' TO 118°30'
DIAGRAM NJ 11-10 FRESNO

SW 8 (Continued)

FILE COPY

36° 30'
118° 00'

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: RADIST NO 2 SW 8 RM 1

YEAR: 1952

STATE: California

LOCALITY: Vicinity of Independence

First -order Traverse
(No check on this position)

SOURCE: GTZ G-9820

FIELD SKETCH: CALIF 402

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & INTERIOR ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,250,876.15 y 507,309.56	+ 0 30 38	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: LONGITUDE:	36°43'25".774 118 08 38.315	NORTH WEST		1,173.0 3,848

TO STATION	GEODETIC AZIMUTH (From point)	DISTANCE	
		LOGARITHM (Meters)	METERS
Computed from station SW 8			

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

CALIF. 351
 QUAD 361181 STATION 1018
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

FILE COPY

FORM 523
 (6-16-59)

U.S. DEPARTMENT OF COMMERCE
 COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WHITE STATE: California COUNTY: Inyo
 CHIEF OF PARTY: John C. Childs YEAR: 1962 DESCRIBED BY: D.R. Tomlinson

NOTE:	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.77 METERS.1		HEIGHT OF LIGHT ABOVE STATION MARK METERS.		
	1a SURFACE-STATION MARK	7a UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION		
	OBJECT	BEARING	DISTANCE		DIRECTION:
			FEET	METERS	
	CERRO GORDO 1934				0 00 00.0
	Cerro Gordo Peak Micro-wave Relay Station	ESE	(Approx. 15 miles)		1 53 51.1
Desc:	Bench Mark W 1162	ESE	54.49	16.608	5 56 30
16a	Azimuth Mark	N	0.25 mile		250 04 52.0
11a	R.M. 1	N	45.39	13.836	253 14 05

The station is about 1 mile south of Lone Pine, on the east side of U.S. Highway 395, on the west edge of the Lone Pine Airport, near the northwest corner of the north one of two metal hangers and on land owned by Mr. Bob White.
 To reach from the post office in Lone Pine. Go south on U.S. Highway 395 for 0.8 mile to the azimuth mark on the left. Continue ahead, south on U.S. Highway 395 for 0.25 mile to a metal hanger on the left and station.
 Station marks are standard disks, stamped WHITE 1962. The surface disk is set in the top of a 12 inch square concrete post projecting 3 inches. It is 59.2 feet northwest of the northeast corner of the north one of two metal hangers, 53 feet east of the centerline of U.S. Highway 395, 28.8 feet north of the northwest corner of the hanger, 3.5 feet east of a fence and 3.3 feet east of a witness post. The underground disk is set in an irregular mass of concrete 30 inches below the ground.
 Reference mark 1 is a standard disk, stamped WHITE NO 1 1962, set in the top of a 12 inch square concrete post projecting 4 inches. It is 74.2 feet north of the northwest corner of the hanger, 92.4 feet northwest of the northeast corner of the hanger, 50 feet east of the centerline of U.S. Highway 395 and 1 foot east of the fence. It is about the same elevation as the station mark.
 Bench Mark W 1162 is a standard disk, stamped W 1162 1962, set in the top of an 11 inch square concrete post projecting 2 inches. It is 104 feet east of the centerline of U.S. Highway 395, 55 feet east of the fence, 12.5 feet north of the northeast corner of the hanger and 1.5 feet south of a witness post. It is about the same elevation as the station mark.
 Azimuth mark is a standard disk, stamped WHITE 1962, set in the top of a 12 inch square concrete post projecting 4 inches. It is 84 feet south of a powerline pole, 39 feet east of the centerline of U.S. Highway 395, 31 feet south of a south gate post, 2 feet south of a witness post and 1.5 feet west of a fence.

¹Refers to notes in manuals of triangulation and more publications of triangulation. ²Direction-angle measured clockwise, referred to initial station.
³To nearest meter only, when no trigonometric leveling is being done.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WHITE LOCALITY: Visalia-Big Pine Area
 STATE: California
 Second-order Triangulation SOURCE: G-13129 FIELD SKETCH: Calif. 484
 36°30
 118°00
 YEAR: 1962

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (HOR. ANGLE)	MARK
STATE: Calif. ZONE: 4 CODE: 0404	x 2,276,990.61 y 459,273.30	173° 11' 43" + 0 33 46	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	36° 35' 28".3541 NORTH	118 03 23.3494 WEST		1129.94 METERS 3707.1 FEET

THIRD-ORDER
 AZIMUTH MARK
 173°45'29.0

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BENCH MARK W 1162 LOCALITY: Visalia-Big Pine Area
 STATE: California
 Second-order Traverse SOURCE: G-13129 FIELD SKETCH: Calif. 484
 (No check on this position) YEAR: 1962

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (HOR. ANGLE)	MARK
STATE: Calif. ZONE: 4 CODE: 0404	x 2,277,042.10 y 459,255.52	+ 0 33 47	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:		
	36° 35' 28".1732 NORTH	118 03 22.7201 WEST		BENCH METERS MARK FEET
	TO STATION		GEODETIC AZIMUTH (From south)	DISTANCE (Meters)

Computed from station WHITE

JULY 1963
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 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 361181 STATIONS 1020, 1021
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

FILE COPY

36030'
 118°00'

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CORCORAN MOUNTAIN

YEAR: 1950

STATE: California LOCALITY: Visalia-Big Pine Area

Third-ORDER Triangulation SOURCE: G-9096
 (No check on this position) G-13129

FIELD SKETCH: Calif. 387

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (HOR & V) ANGLE	MARK
STATE: Calif. ZONE: 4 CODE: 0404	x 2,223,763.04 y 434,142.59	+ 0 27 16	
STATE: ZONE: CODE:	x y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS FEET
	LATITUDE:	NORTH WEST		
	36° 31' 24.519"			
	LONGITUDE: 118 14 18.476			
	TO STATION	GEODETTIC AZIMUTH (From north)	DISTANCE (Meters)	

Computed from stations WHITNEY, MONARCH
 No Description Available

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LONE PINE CHURCH CROSS

YEAR: 1934

STATE: California LOCALITY: Owens Valley

Third-ORDER Triangulation SOURCE: G-3064
 (No check on this position)

FIELD SKETCH: CALIF 267

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (HOR & V) ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,275,534 y 463,853	+ 0 33 36	
STATE: ZONE: CODE:	x y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS FEET
	LATITUDE:	NORTH WEST		
	36° 36' 13.78"			
	LONGITUDE: 118 03 40.66			

TO STATION	GEODETTIC AZIMUTH (From north)	DISTANCE	
		LOGARITHM (Meters)	METERS
Computed from stations SOUTH ALABAMA HILLS, NORTH ALABAMA HILLS			
No Description Available			

FORM 284 (2-21-50)

USCOM-DC 3307

351 CALIF

JULY 1963
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 COAST AND GEODETIC SURVEY
 WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
 Coast and Geodetic Survey
 NORTH AMERICAN 1927 DATUM

QUAD 361181 STATIONS 1022, 1023
 CALIF
 LATITUDE 36°30' TO 37°00'
 LONGITUDE 118°00' TO 118°30'
 DIAGRAM NJ 11-10 FRESNO

FILE COPY

36° 30'
 118° 00'

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LONE PINE SHELL OIL CO TANK

YEAR: 1934

STATE: California

LOCALITY: Owens Valley

Third -ORDER Triangulation SOURCE: G-3084
 (No check on this position)

FIELD SKETCH: CALIF 267

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (HOR & V) ANGLE	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,281,840 y 468,699	+ 0 34 23	
STATE: ZONE: CODE:	x y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:	NORTH WEST	METERS FEET
	36° 37' 01" 08	118 02 22.73		

TO STATION	GEODETTIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
Computed from stations SOUTH ALABAMA HILLS, NORTH ALABAMA HILLS No Description Available			

Form 284 (2-27-52)

USE GRAPHIC SIZES

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MT. GARDNER

YEAR: 1950

STATE: California

LOCALITY: Visalia-Big Pine Area

Third -ORDER Triangulation SOURCE: G-9098
 G-13129

FIELD SKETCH: Calif. 387

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (HOR & V) ANGLE	MARK
STATE: Calif. ZONE: 4 CODE: 0404	x 2,158,591.51 y 536,657.83	+ 0 19 23	
STATE: ZONE: CODE:	x y		

GEODETTIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	LONGITUDE:	NORTH WEST	METERS FEET
	36° 48' 22" 423	118 27 29.848		3929.8 12893

TO STATION	GEODETTIC AZIMUTH (From south)	DISTANCE (Meters)
Computed from stations ALTA, MITCHELL PEAK, SPANISH		

DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 FORM 525 D

DESCRIPTION OF TRIANGULATION INTERSECTION STATION

NAME OF STATION: Mt. Gardner YEAR: 1950 STATE: California COUNTY: Fresno

CHIEF OF PARTY: R.J. Sipe

Description, including sketch of object: The station is a high prominent peak that appears to have vertical cliffs on the west and north sides. It is about 5 miles east of the South Fork of the Kings River, about 27 miles south southwest of the town of Big Pine, and about 14 miles west of the town of Independence. The highest point of the mountain was intersected.

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Described by J.G.B.