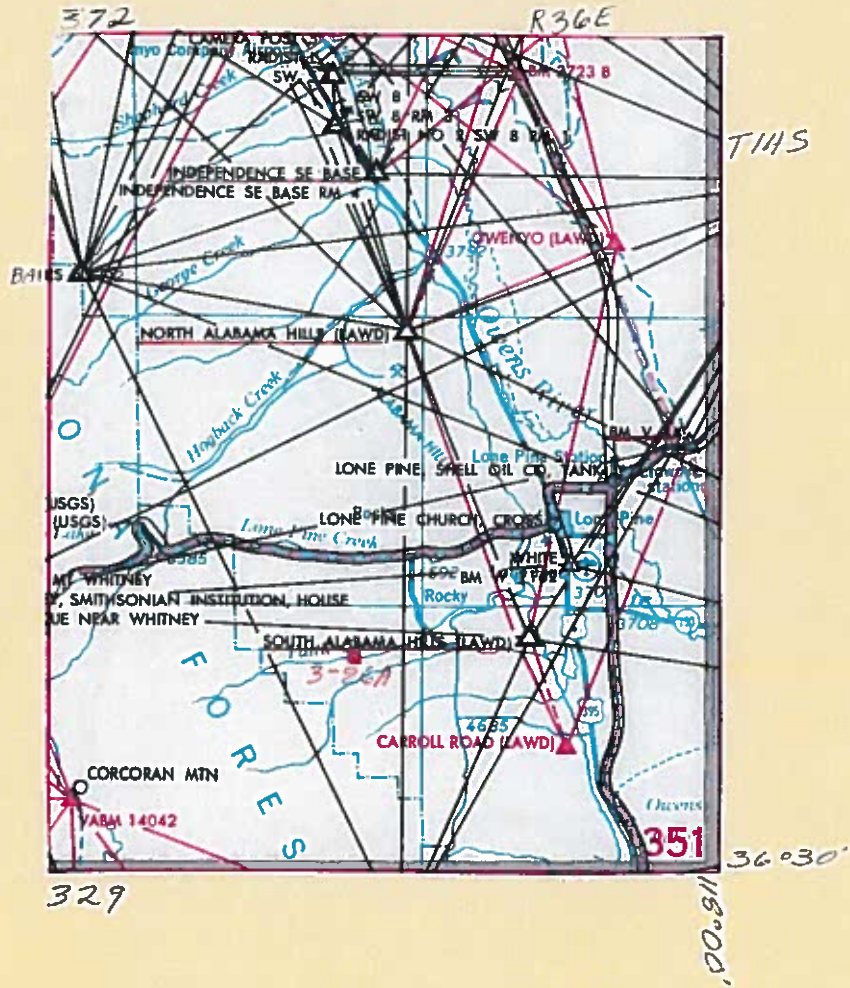


36° 30'  
118 00



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 <sup>LAWD</sup> (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  
N3630-W11800/15

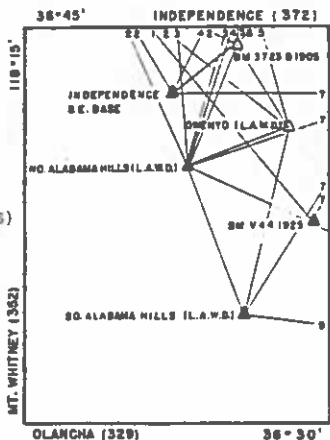
CAL. 351  
36.30  
118.00

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, 074.04  
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

Book Nos. PH 384 Year 1956

SFNF

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

SEE LATER VALUES

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"

To Station	Azimuth	Back Azimuth	Feet
*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

FILE COPY

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 &

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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.<sup>4</sup> 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" 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.

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 multilith -*

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 ✓
<del>343-2</del>	118-04-14.5126		193-46-06.97 ✓
<del>36 1181-1012</del>			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		312-39-29.90 ✓
<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
	U. S. G. S.			
337-47-12.49 ✓	No Alabama Hills	4.04172310 ✓	11102.559 ✓	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 ✓
	U. S. G. S.			
283-61-25.63 ✓	No Alabama Hills	3.95868646 ✓	9,092.566 ✓	29,831.19 ✓
241-69-03.57 ✓	Kern Knob	3.84275457 ✓	6,962.330 ✓	22,842.24 ✓
	U. S. G. S.			
335-53-52.16 ✓	No 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 ✓
513-36-35.86 ✓	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	3.96196133 ✓	9,166.389 ✓	30,056.99 ✓
81-55-06.02 ✓	Black Cone	4.20116280 ✓	15,891.423 ✓	52,137.11 ✓
363-56-37.30 ✓	Overhead	4.14188851 ✓	13,864.008 ✓	45,485.50 ✓
29-00-53.96 ✓	Black Cone	4.03586116 ✓	10,860.784 ✓	35,632.42 ✓
523-38-02.33 ✓	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 ✓

# C POSITIONS

B157

Accession No. of Computation: 119

W. A. 1927

State \_\_\_\_\_

U. S. GOVERNMENT PRINTING OFFICE: 1911-10023

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	Laurel	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	3.96597180	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

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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 I	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.
GORCORAN MOUNTAIN	1020.
LONE PINE CHURCH CROSS	1021.
LONE PINE SHELL OIL CO TANK	1022.





JULY 1963  
 PUBLISHED AND PRINTED BY:  
 U.S. DEPARTMENT OF COMMERCE  
 COAST AND GEODETIC SURVEY  
 WASHINGTON D. C.  
 NOV 1978

HORIZONTAL CONTROL DATA

Coast and Geodetic Survey  
 by the  
 NORTH AMERICAN 1927 DATUM

CALIFORNIA  
 QUAD STATION 1001, 1011A  
 CALIF 36°30' TO 37°00'  
 LATITUDE 118°00' TO 118°30'  
 LONGITUDE DIAGRAM NO 11-10 PRESHO

ADJUSTED HORIZONTAL CONTROL DATA

YEAR: 1934

NAME OF STATION: BAIRS  
 STATE: California LOCALITY: Owens Valley  
 SOURCE: G-3964  
 FIELD SKETCH: CALIF 267

GRID DATA	COORDINATES (FWD)	PLANE ANGLE θ (ORD ANGLE)	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,222,931.23 y 490,672.54	25° 45' 14"	REFERENCE MARK NO 3 (AZIMUTH MARK)
STATE: ZONE: CODE:	x y		

GEODEIC DATA	POSITION LATITUDE: LONGITUDE:	SECONDS IN METERS	
		NORTH	EAST
	36°40'43"586 118 14 23.184	1,886.5	6,189

TO STATION	GEODETIC & AZIMUTH (From above)	LOCATION TIME (From above)	DISTANCE METERS
REFERENCE MARK 3 (AZIMUTH MARK)	259°12'27.1		

ADJUSTED HORIZONTAL CONTROL DATA

YEAR: 1934

NAME OF STATION: BAIRS  
 STATE: California LOCALITY: Vicinity of Independence  
 SOURCE: GZ 9-9830  
 FIELD SKETCH: CALIF 402

GRID DATA	COORDINATES (FWD)	PLANE ANGLE θ (ORD ANGLE)	MARK
STATE: Calif ZONE: 4 CODE: 0404	x 2,222,931.40 y 490,671.42	+ 0 27 13	
STATE: ZONE: CODE:	x y		

GEODEIC DATA	POSITION LATITUDE: LONGITUDE:	SECONDS IN METERS	
		NORTH	EAST
	36°40'43"575 118 14 23.182	1,887.4	6,192

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

RECOVERY NOTE, TRIANGULATION STATION

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

Detailed statement as to the status of the original description, including marks found, stampers, 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. Highway 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, 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 INDIPENDENCE S.E. BARS 1934 will serve as the azimuth mark.

Object	(Feet) Distance	(meters)	Direction
WONKA S	83.902	25.573	0 00 00.0
R.M.#2	69.440	21.165	28 07 18
R.M.#1		21.165	121 32 10
R.M.#3			327 16 13.8

Note: distance and directions were checked in the field.

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CALIFORNIA

351

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

HORIZONTAL CONTROL DATA

by the  
Coast and Geodetic Survey  
NORTH AMERICAN 1927 DATUM

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

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BAIRS  
ESTABLISHED BY: C.P.F. State: California  
RECOVERED BY: R.L. Engdahl Year: 1956 Covert: Inyo

Detailed statement as to the fitness 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, air-line, 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 feet meters	Direction
MONARCH 1934	S	68.95 21.015	00 00 00.0
R.M. No 2	MMW	83.81 25.546	98 41 27 -
R.M. No 1			195 06 51

*R. L. Engdahl*

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(11-4-68)  
U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY  
RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BAIRS  
ESTABLISHED BY: C.P.F. State: California  
RECOVERED BY: C. L. Novak Year: 1974 Covert: Inyo

Detailed statement as to the fitness 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.

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\*Name of child of party should be inserted here. The officer who actually visited the station should sign this recovery note.  
Notes—One of these forms must be used for every station recovery.  
CROSS-DC 9451E

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 WASHINGTON D. C.

HORIZONTAL CONTROL DATA  
 by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

CALIFORNIA 35/  
 GRID 361181 STATION 1002  
 CALIF  
 LATITUDE 36°30' 70 37°00'  
 LONGITUDE 118°00' 70 118°30'  
 DIAGRAM NJ 11-10 FRESNO

NOV 4, 1979

DESCRIPTION OF TRIANGULATION STATION

DEPARTMENT OF COMMERCE  
 U.S. COAST AND GEODETIC SURVEY  
 Form 125 (11-5-55)

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

YEAR: 1950

CHIEF OF PARTY: R. J. Sipe  
 SURVEILLING MARK: BENCH MARK V 44  
 UNDERGROUND STATION MARK: BENCH MARK V 44

HEIGHT OF TILDSORT ABOVE STATION BASE: 1.00 METERS  
 DISTANCES AND DIRECTIONS TO ADJUTANT MARK, REFERENCE MARKS AND PROVISIONAL OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

MARK	BEARING	DISTANCE	DIRECTION
BENCH MARK V 44	Approx. 1/2 mile	0 00	00.0'
R.M. No. 2	19.48'	54 10	18.5'
R.M. No. 1	23.04'	515	58 48'

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 580 feet south southeast of a railroad sign "Whitney, 209 feet east of the east rail of the railroad, and 10 feet northwest 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 "BENCH MARK V 44 1950".

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 V 44, stamped "BENCH MARK V 44 1950", 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 117 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 396 for 0.6 miles to a road to the right and a sign "Lone Pine Sta." Turn right and follow the paved road for 1.9 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. Turn the right fork for 0.1 mile to a diagonal streambed. Continue straight ahead for 0.05 mile to a railroad crossing and the station.

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

R

Designation: V 44  
 Nearest town: Lone Pine  
 Distance and direction from nearest town: 1.85 miles east  
 Character of mark: C&GS bench mark disk  
 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, 78 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  
 Established by: C&GS  
 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, 309 feet north of the center line of the road, 31.5 feet north of R.M. 2, 22.8 feet north of bench mark V 44, 361 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 LOCALITY: Visalia-Big Pine Area  
 STATE: California SOURCE: G-9098 FIELD SKETCH: CALIF. 387  
 Second-order Triangulation SOURCE: G-13129

YEAR: 1950

ORIG DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM 2ND 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 V 44
STATE ZONE CODE:	4 7		
GEODETIC DATA	POSITION LATITUDE: 36° 37' 37.9437" NORTH LONGITUDE: 118 00 49.3251" WEST	SECONDS IN METERS	ELEVATION METERS 1123.50 FEET 3686.0
	TO STATION	GEODETIC AZIMUTH (from bench)	DISTANCE (feet)
		243° 53' 17"	

AZIMUTH MARK = BM V 44

THIRD-ORDER  
 243° 53' 17"

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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

QUAD 361181 STATION 1002  
LATITUDE    ; TO ;  
LONGITUDE   ; TO ;  
DIAGRAM

BENCH MARK V 44 (continued)

Character of mark **CGOS reference mark disk**      *steeply BENCH MARK V 44*  
Established by **CGOS**      *NO 2 1950*  
Detailed description **0.2 mile south along the Southern Pacific Company rail-  
road from the station at Lone Pine, thence 1.0 mile northeast along an  
asphalt road, 0.85 mile northeast along a dirt track road, at the  
crossing of a former railroad grade, 1.1 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 pro-  
jecting 0.1 foot above the ground.**

Form 533  
11-20-57  
JPLCOM-DC 37184  
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COAST AND GEODETIC SURVEY  
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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

FILE COPY

CAMERA POST NO 5 (Continued)

36°30'  
118°00'

## ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SW 5      YEAR: 1952

STATE: California      LOCALITY: Vicinity of Independence      FIELD SKETCH: CALIF 402  
First-order Traverse      SOURCE: GIZ. G-9820  
(No check on this position)

GRID DATA	COORDINATES (F=U)	PLANE AZIMUTH & INTER-ANGLE	MARK
STATE: Calif	X 2,250,271.36		
ZONE: 4	Y 511,946.54	+ 0 30 34	
CODE: 0404			
STATE: X			
ZONE: Y			
CODE:			

GEODETTIC DATA	POSITION		ELEVATION
	LATITUDE:	LONGITUDE:	
	36°44'11".679	NORTH WEST	2,167.9 METERS 3,832 FEET
	118°08'45".237		

TO STATION	GEODETTIC AZIMUTH (From station)	DISTANCE		
			SECONDS IN METERS	ELEVATION METERS
Computed from station CAMERA POST NO 5				

DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
Form 535-B

### TRAVERSE DESCRIPTION OF TRAVERSE/STATION

NAME OF STATION: SW-5      YEAR: 1952      STATE: California      COUNTY: Lugo

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

U.S. GOVERNMENT PRINTING OFFICE 16-60891-1

FORM 284 12-1-55

USEFORM-5C 12-57

HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

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QUAD 361181 STATION 1008  
 CALLIP  
 LATITUDE 36°30' TO 37°00'  
 LONGITUDE 118°00' TO 118°30'  
 DIAGRAM NO 11-10 PFSMO

ADJUSTED HORIZONTAL CONTROL DATA

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

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 1b.  
 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	15.428	73 56 14.3
R.M.No. 2 W	23.120	154 49 51.1
R.M.No. 1 NWM		238 45 11.1

RECOVERY NOTE, TRIANGULATION STATION

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, stamping, changes made, and other pertinent facts.  
 This 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 air-line north of Lone Pine, about 9 miles air-line south of Independence, and about 2-1/2 miles air-line south of an abandoned air base.  
 The station is a standard disk stamped "SE BASE 1934" and set in the top of a 12-inch square concrete cast 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 2.25 mile to the mark on the right.  
 To reach the station from the post office in Lone Pine go northwesterly on US Highways 6 and 395 for 7.9 miles to the station on the right.

OBJECTS	1934	DISTANCE	1952	1934	DIRECTION	1952
BARS 1934				00 00	00 0.0	00 0.0
R.M. No. 1 (SW)	23.120 m			77 21	21 06.0	
Painted Monument (NNE)		75.857 ft.		134 38	30 06.2	
R.M. No. 3 (azimuth mark)	1/4 mile			272 31	10.0	272 30
R.M. No. 2 (NW)	15.428 m			353 24	46.8	353 44

Observations taken from a 5.55 meter wood stand.

GEODETTIC DATA	POSITION	MARK	DISTANCE	
			METERS	FEET
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: Calif ZONE: 4 CODE: 0404	X 2,255,113.15 Y 501,691.68	+ 0 31 09		

REFERENCE MARK NO 3 (AZIMUTH MARK)

THIRD-ORDER  
 344°09'04.78

ADJUSTED HORIZONTAL CONTROL DATA

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

GEODETTIC DATA	POSITION	MARK	DISTANCE	
			METERS	FEET
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		

GEODETTIC DATA	POSITION	MARK	DISTANCE	
			METERS	FEET
LATITUDE: 36°42'29.846 LONGITUDE: 118 07 46.897			1,157.9	3,799
TO STATION				

351 CALIF

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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)

RECOVERY NOTE, TRIANGULATION STATION

R

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

DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
(Rev. Feb. 1948)

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

OBJECT	INDEPENDENCE	DISTANCE	DIRECTION
NW BASE 1934		meters	0°00'00"0
R.M. 4		7.901	83 39 46
R.M. 3 (Azimuth Mark)	NE	(0.2 mile)	194 52 57.3
R.M. 2	S-SW	15.440	276 07 23
R.M. 1	W-SW	25.115	359 43 19
	N-NW	75.83	

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.

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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HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

CALIFORNIA 351  
 QUAD 3611B1 STATION 1011  
 LATITUDE 36°30' TO 37°00'  
 LONGITUDE 118°00' TO 118°30'  
 DIAGRAM NO. 11-10 PERSNO

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: NORTH ALABAMA HILLS LAND  
 STATE: California LOCALITY: Orange Valley  
 FIRST - ORDER: TRIANGULATION SOURCE: D-3064  
 YEAR: 1934  
 FIELD SKETCH: CALIF 267

NORTH ALABAMA HILLS (L.A.) (Inyo County, Calif., U.S.P., 1934)---  
 Station is on the highest point of the northernmost ridge of the  
 Alabama Hills, 6 miles NW 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 0.8 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.  
 All marks and objects visible from the ground.

MONAROR	DISTANCE	DIRECTION
R.M. No. 1	17.815 meters	0°00'00.80
R.M. No. 2	20.152 meters	11 23 45.
R.M. No. 3 Az. Mk. W	0.2 mile	88 02 40.
W. Whitney Observatory		185 28 14.6
		169 19 33.7

RECOVERY NOTE: TRIANGULATION STATION

NAME OF STATION: NORTH ALABAMA HILLS (L.A.)  
 RECOVERED BY: C.P. Year: 1934 State: California  
 RECOVERED BY: Walter R. Helm Year: 1952 Country: Inyo

Detailed statement as to the status of the original description, including marks found, stampings, obsolescence, 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 Highway 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 Lon. 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 caltn.  
 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 Highway 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 mile 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.

MARK	1934	DISTANCE	1952	1934	DIRECTION	1952
Patite's Monument				00	00	00.0
R.M. No. 1 (S)	17.915 m	17.906 m	91.745 ft.	141	35	35
R.M. No. 2 (SS)	20.152 m	20.125 m	66.023 ft.	326	16	30
R.M. No. 3 (azimuth mark) (S)	0.15 mile	0.15 mile		316	40	05.1

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

GRID DATA	COORDINATES (feet)	PLANE AZIMUTH θ (LOCAL ANGLE)	MARK
STATE: Calif	X 2,258,832.60	55°52'22"	REFERENCE MARK NO 3 (AZIMUTH MARK)
ZONE: 4	Y 484,824.94	+ 0 31 35	
COORD: 0404			
STATE: 4			
ZONE: 4			
COORD: 0404			

GEODETIC DATA	POSITION	SECOND IN METERS	ELEVATION METERS
LATITUDE: 36°39'14.3"023	NORTH		1185
LONGITUDE: 118°07'03.120	WEST		
TO STATION			
GEODETIC AZIMUTH (true angle)			
THEIRD-ORDER 56°23'56.79			
LOCALITY (Name)			
DISTANCE METERS			

REFERENCE MARK NO 3 (AZIMUTH MARK)

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

CALIFORNIA 351

HORIZONTAL CONTROL DATA

by the  
NATIONAL GEODETIC SURVEY  
NORTH AMERICAN 1927 DATUM

QUAD 361181 STATION 1011  
LATITUDE    ° ' TO    ° ' ;  
LONGITUDE   ° ' TO    ° ' ;  
DIAGRAM

NORTH ALABAMA HILLS LAWD (continued)

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 Coast: Inyo

Detailed statement as to the status of the original description, including marks found, samplings, 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 office who actually created the station should be indicated in the Remarks. One of these forms must be used for every station recovery.      CGS-DC 9451X

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HORIZONTAL CONTROL DATA

Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

CALIFORNIA 351  
 QUAD 361181 STATION 1012  
 CALIF LATTITUDE 36°30' TO 37°00'  
 LONGITUDE 118°00' TO 118°30'  
 DIAGRAM NO 11-10 FRESNO

ADJUSTED HORIZONTAL CONTROL DATA

YEAR 1934

NAME OF STATION: SOUTH ALABAMA HILLS LAND  
 STATE: California LOCALITY: Owens Valley  
 FIRST -ORDER TRIANGULATION SOURCE: G-3064

FIELD SKETCH: CALIF 267

**SOUTH ALABAMA HILLS (I.A.)** (Inyo County, Calif., U.S.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 quadrant 1183 directly below station  
 to E.  
 Station and reference marks are standard bronze disks in a  
 boulder as described in notes 4 and 186.  
 Aismath mark is a standard bronze disk in outcropping bed-  
 rock, as described in note 18a.  
 Aismath mark 118s about 1/4 mile N of station on top of  
 small promontory 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 1.8 miles can be driven toward station and 12-minutes pack.  
 If truck is left at fence--about 3/4-hour pack.  
**OBJECT** DISTANCE  
**NORTH ALABAMA HILLS**  
 R.M.No. 1 SW 238 47 32.  
 R.M.No. 2 NW 307 82 15.  
 R.M.No. 3 AS. Mt. 344 84 35.1  
 Church Cross Lone Pine 34 30 85.1  
 Mt. Whitney Lookout 895 16 10.6

GRID DATA	COORDINATES (FEET)	PLATE ANGLE FROM 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	RECORD IN NETING	ELEVATION METERS
LATITUDE: LONGITUDE:	36°34'09".534 118 04 14.313	NORTH BEST	FEET (USFS 8428)
TO STATION			LOCATING (METERS) DISTANCE METERS

REFERENCE MARK NO 3 (AZIMUTH MARK)

THIRD-ORDER  
142°13'25".6

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HORIZONTAL CONTROL DATA  
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 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

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36° 30'  
 118° 00'  
 CALIF STATION 1017  
 QUAD 3611B1  
 STATION 1017  
 CALIF  
 LATITUDE 36° 30' 70 37° 00'  
 LONGITUDE 118° 00' 70 118° 30'  
 DIAGRAM NO 11-10 FRESNO

DESCRIPTION OF TRIANGULATION STATION

DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY Form No. 104	NAME OF STATION: SW 8	STATE: California	COUNTY: Inyo
CHIEF OF PARTY: Walter R. Hein	YEAR: 1952	DICTATED BY: W. M. Johnson	
NOTE: Height of station above station mark 9.10 METERS	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 9.2 METERS	
below	Surface-sillia mark	Underground station mark	Underground station mark
Object	BEARING	DISTANCE	DIRECTION
SM 1	NE	0.2 mile	0 00 50.0
R.M. #2	NE	51.819	15 43 57
R.M. #1	NNE	15.794	92 29 29.3
R.M. #3	NE		94 29 03.0
Azimuth mark	NE		111 22 22.0

Detailed description:  
 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 Kanzenar building area. It is, actually, about 6 1/2 miles south southeast of Independence.  
 Station mark, stamped "SM 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 "SM 8 NO 1 1952", is a standard USCGCS 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 "SM 8 NO 2 1952", is a standard USCGCS 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 "SM 8 NO 3 1952", is a standard USCGCS 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 "SM 8 1952", is a standard USCGCS 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 Kanzenar 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.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SW 8	LOCALITY: Vicinity of Independence	YEAR: 1952
STATE: California	SOURCE: G72 G-9820	FIELD SKETCH: CALIF 402
First -order Triangulation		
GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & IONOSPHERIC ANGLE
STATE: Calif	2,250,634.50	231° 03' 51"
ZONE: 4	506,925.54	+ 0 30 37
CODE: 0404		
POSITION		
LATITUDE: 36° 43' 21.998	NORTH	SECONDS IN METERS
LONGITUDE: 118 08 41.325	WEST	ELEVATION
		1,174.9 METERS
		3,855 FEET
TO STATION		
GEODETIC DATA	POSITION	GEODETIC AZIMUTH (From Azm)
		LOCALITY (From Azm)
		DISTANCE METERS

AZIMUTH MARK

NAME OF STATION: SW 8 REFERENCE MARK NO 3	YEAR: 1952	
STATE: California	LOCALITY: Vicinity of Independence	
First -order Traverse	SOURCE: G72 G-9820	
(No check on this position)		
GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & IONOSPHERIC ANGLE
STATE: Calif	2,250,889.41	+ 0 30 39
ZONE: 4	507,300.99	
CODE: 0404		
POSITION		
LATITUDE: 36° 43' 25.688	NORTH	SECONDS IN METERS
LONGITUDE: 118 08 38.153	WEST	ELEVATION
		1,173.0 METERS
		3,848 FEET
TO STATION		
GEODETIC DATA	POSITION	GEODETIC AZIMUTH (From Azm)
		LOCALITY (From Azm)
		DISTANCE METERS

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SW 8	LOCALITY: Vicinity of Independence	YEAR: 1952
STATE: California	SOURCE: G72 G-9820	FIELD SKETCH: CALIF 402
First -order Traverse		
(No check on this position)		
GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & IONOSPHERIC ANGLE
STATE: Calif	2,250,889.41	+ 0 30 39
ZONE: 4	507,300.99	
CODE: 0404		
POSITION		
LATITUDE: 36° 43' 25.688	NORTH	SECONDS IN METERS
LONGITUDE: 118 08 38.153	WEST	ELEVATION
		1,173.0 METERS
		3,848 FEET
TO STATION		
GEODETIC DATA	POSITION	GEODETIC AZIMUTH (From Azm)
		LOCALITY (From Azm)
		DISTANCE METERS

Computed from station SW 8

NAME OF STATION: SW 8	LOCALITY: Vicinity of Independence	YEAR: 1952
STATE: California	SOURCE: G72 G-9820	FIELD SKETCH: CALIF 402
First -order Traverse		
(No check on this position)		
GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & IONOSPHERIC ANGLE
STATE: Calif	2,250,889.41	+ 0 30 39
ZONE: 4	507,300.99	
CODE: 0404		
POSITION		
LATITUDE: 36° 43' 25.688	NORTH	SECONDS IN METERS
LONGITUDE: 118 08 38.153	WEST	ELEVATION
		1,173.0 METERS
		3,848 FEET
TO STATION		
GEODETIC DATA	POSITION	GEODETIC AZIMUTH (From Azm)
		LOCALITY (From Azm)
		DISTANCE METERS

\* Subject to revision in accordance with instructions and table modifications of this publication. \* Distances measured in meters, referred to local datum. (For conversion factor only, when no information is available in this table.)

351  
 CALIF.  
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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

FILE COPY

SW 8 (continued)

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 SOURCE: GIZ G-9820 FIELD SKETCH: CALIF 402  
 (No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ FOR AN 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		1,173.0 METERS 3,848 FEET

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

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:	HIGHT OF TELESCOPE ABOVE STATION MARK	HIGHT OF LIGHT ABOVE STATION MARK	METERS:
1a	SURFACE OF TRIANGULATION MARK	DISTANCE AND DIRECTION TO AZIMUTH MARK, REFERENCE MARKS AND EQUIPMENT	
7a	NUMBER OF SURVEY STATION MARK	SUBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	
	OBJECT	Bearing	DIRECTION
		FEET	METERS
	Cerro Gordo Peak Micro-wave Relay Station	(Approx. 15 miles)	0 00 00.0
	Bench Mark W 1162	ESE 54.49	5 56 30
	15a	N 0.25 mile	250 04 52.0
	11a	R.V. 1	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 north-west 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.

\*References to marks in manuals of triangulation and state publications of triangulation. 1. Description and measurement data, referred to actual station. 2. The nearest mark only, when no triangulation leveling is being done.

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ADJUSTED HORIZONTAL CONTROL DATA

36030  
 118000  
 YEAR: 1962

QUAD 361181 STATION 1018  
 CALIF  
 LATITUDE 36°30' TO 37°00'  
 LONGITUDE 118°00' TO 118°30'  
 DIAGRAM NO 11-10 FRESNO

NAME OF STATION: WHITE  
 STATE: California  
 LOCALITY: Visalia-Big Pine Area  
 Second-order Triangulation source: G-13129  
 FIELD SKETCH: CALIF. 484

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

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION
LATITUDE: 36° 35' 28.7341	NORTH	1129.94	METERS
LONGITUDE: 118 03 23.3494	WEST	5707.1	FEET

AZIMUTH MARK

THIRD-ORDER  
 173°45'29.0

ADJUSTED HORIZONTAL CONTROL DATA

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

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM GSD ANGLE	MARK
STATE: Calif.	E 2,277,082.10	+ 0 33 47	
ZONE: 4	N 459,255.52		
CODE: 0404			
STATE: ZONE: CODE:			

GEODETIC DATA	POSITION	SECONDS IN METERS	ELEVATION
LATITUDE: 36° 35' 28.1732	NORTH	BENCH MARK	METERS
LONGITUDE: 118 03 22.7201	WEST	MARK	FEET
	TO STATION	GEODETIC AZIMUTH (From GSD)	DISTANCE (Meters)

Computed from station WHITE

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QUAD 3611B1 STATIONS 1020, 1021  
 CALIF 36°30' TO 37°00'  
 LATITUDE 118°00' TO 118°30'  
 LONGITUDE 118°00' TO 118°30'  
 DIAGRAM NO 11-10 PFSNO

FILE COPY

360301  
 118°00

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CONCORAN MOUNTAIN LOCALITY: Visalia-Big Pine Area  
 STATE: California  
 Third-order Triangulation SOURCE: G-9096 FIELD SKETCH: Calif. 387  
 (No check on this position) 0-13129

YEAR: 1950

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ADJ ANGLE	MARK
STATE: Calif.	X 2,223,763.04	+ 0 27 16	
ZONE: 4	Y 434,142.59		
CODE: 0404			
STATE: Calif.	X		
ZONE: 4	Y		
CODE: 0404			

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS FEET
	LATITUDE	LONGITUDE		
	36° 31' 28.519"	NORTH		
	118° 14' 18.478"	WEST		
	TO STATION		GEODETIC AZIMUTH (From Azimuth)	DISTANCE (Meters)

Computed from stations WHITNEY, MONARCH  
 No Description Available

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: IONE PINE CHURCH CROSS LOCALITY: Owens Valley  
 STATE: California  
 Third-order Triangulation SOURCE: G-3064 FIELD SKETCH: CALIF 267  
 (No check on this position)

YEAR: 1934

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH FROM ADJ ANGLE	MARK
STATE: Calif	X 2,275,534	+ 0 33 36	
ZONE: 4	Y 463,853		
CODE: 0404			
STATE: Calif	X		
ZONE: 4	Y		
CODE: 0404			

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION METERS FEET
	LATITUDE	LONGITUDE		
	36° 36' 13.778"	NORTH		
	118° 03' 40.66"	WEST		
	TO STATION		GEODETIC AZIMUTH (From Azimuth)	DISTANCE (Meters)

Computed from stations SOUTH ALABAMA HILLS, NORTH ALABAMA HILLS  
 No Description Available

FORM 364 (5-31-50)

USCGM-DC 2887

351 CALIF  
 36° 30'  
 118° 01'

JULY 1963  
 PUBLISHED AND PRINTED BY:  
 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

FILE COPY

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

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LONE PINE SHELL OIL CO TANK  
 STATE: California LOCALITY: Owens Valley  
 Third -order Triangulation SOURCE: G-3064  
 (No check on this position)  
 FIELD SKETCH: CALIF 267

NAME OF STATION: MT. GARDNER  
 STATE: California LOCALITY: Visalia-Big Pine Area  
 Third -order Triangulation SOURCE: G-9098  
 FIELD SKETCH: CALIF. 387

GRID DATA		COORDINATES (F.M.)	PLANE AZIMUTH COR. ANGLE	MARK
STATE: Calif	Z	2,281,840	+ 0 34 23	
ZONE: 4	Y	468,699		
CODE: 0404				
STATE: Calif	Z			
ZONE: 4	Y			
CODE: 0404				
GEODETTIC DATA		POSITION		ELEVATION
		LATITUDE: 36° 37' 01" 08	NORTH	METERS
		LONGITUDE: 118 02 22.73	WEST	FEET
		TO STATION	GEODETTIC AZIMUTH (From each)	DISTANCE
			LOGARITHM (Meters)	METERS

Computed from stations SOUTH ALABAMA HILLS, NORTH ALABAMA HILLS  
 No Description Available

GRID DATA		COORDINATES (F.M.)	PLANE AZIMUTH COR. ANGLE	MARK
STATE: Calif.	Z	2,158,591.51	+ 0 19 23	
ZONE: 4	Y	536,627.83		
CODE: 0404				
STATE: Calif	Z			
ZONE: 4	Y			
CODE: 0404				
GEODETTIC DATA		POSITION		ELEVATION
		LATITUDE: 36° 48' 22" 423	NORTH	3929.8 METERS
		LONGITUDE: 118 27 29.846	WEST	12893 FEET
		TO STATION	GEODETTIC AZIMUTH (From each)	DISTANCE (Meters)

Computed from stations ALTA, MITCHELL PEAK, SPANISH

DESCRIPTION OF TRIANGULATION INTERSECTION STATION

DEPARTMENT OF COMMERCE  
 U.S. COAST AND GEODETIC SURVEY  
 FORM 545

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 southeast of the town of Big Pine, and about 14 miles west of the town of Independence. The highest point of the mountain was intersected.

Described by J.A.G.B.

U.S. GOVERNMENT PRINTING OFFICE 16-60874

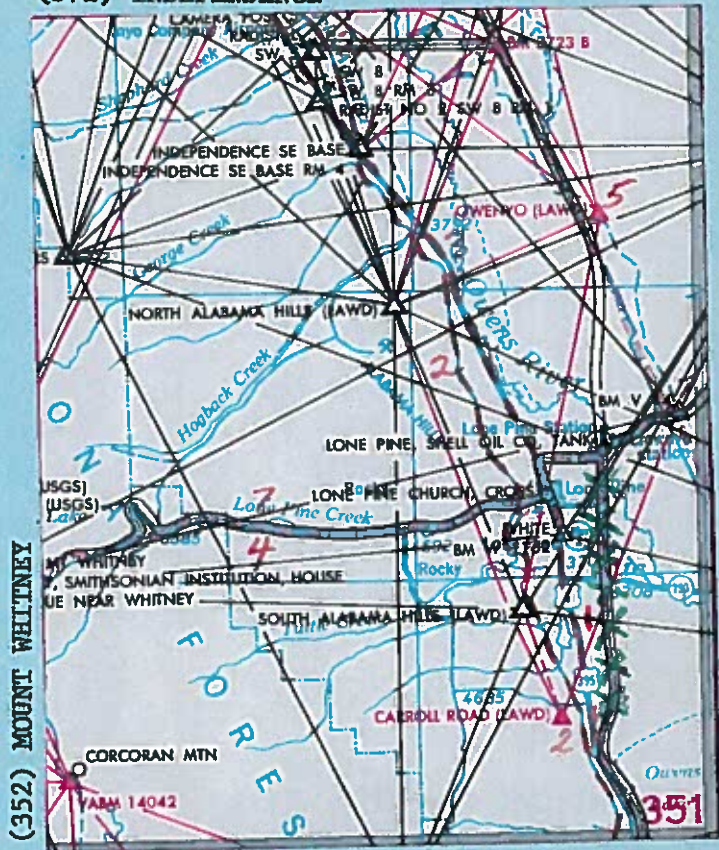
LONE PINE

36°30'  
118 00

CALIFORNIA 351

NGS 36 118 12 (86)

(372) INDEPENDENCE



(329) OLANCHA

(1)	L.F. Biggs	1905	6450
(2)	L.A. Aqueduct Comm.	1907	
(3)	L.F. Biggs	1905	6450
(4)	R.A. Farmer	1905	6284
(5)	R.A. Farmer	1905	6133
(6)	L.A. Aqueduct Comm.	1946	
(7)	F.M. Kyle	1974	PV 896
	D.O. Richardson	1975	PV 896
(8)	D.O. Richardson	1978	PV 1024

UNITED STATES GOVERNMENT

# Memorandum

TO :

DATE: 1/12/81

FROM :

W.R. Elliott - Geodetic Section

SUBJECT:

Vertical control evaluation: Lone Pine area

This area, as delineated by the east-west Whitney Portal route through Lone Pine (line #7), shows minor subsidence from 5 mi E. of Lone Pine to 3 mi W. of Lone Pine (amplitude = .05-.08 ft) and minor tectonic tilting from 3 mi W. of Lone Pine to 13 mi W. of Lone Pine (amplitude = 0 - .12 ft) between 1962 and 1975.

During the period 1975-1978, the subsidence was zero, and the up-to-the-west tilt trend reversed.

Evidence of tectonic tilting exists in the Coso Jct. - Little Lake area, and the Long Valley area during: 1925-1962, 1962-1974/75.



FILE COPY

LONE PINE (351) California 36 118 12  
Tentative L.F. Biggs, 1905  
Third Order Adjusted Elevations Based on National  
Geodetic Vertical Datum of 1929  
Book: 6450  
Latitude 36°30' Longitude 118°00'

(1) FROM LONE PINE SOUTH ALONG ROAD 8.0 MILES

Lone Pine, in front of post office; iron post stamped "3728 B  
1905" (NGS Quad 36 118 1, line 101) (line 4) (Not found, 1957) 3725.012  
Lone Pine, 5.0 mi S. of; 100 ft S. of gulch, 20 ft W. of rd.; iron  
post stamped "3711 B" 3708.229  
Lone Pine, 8.0 mi S. of; 50 ft W. of rd. at top of hill; in granite  
boulder; aluminum tablet stamped "3691 B" (NGS 1962, 36 118 1) 3687.932

*(3667.493 - L1162 - 1962  
destroyed 4/3/84 by RR Co. (dismantling)  
notified crew in area (USGS))*



FILE COPY

36 118 12

LONE PINE (351)

California

L.F. Biggs, 1905

Third Order

Tentative

Book: 6450

Adjusted Elevations Based on National  
Geodetic Vertical Datum of 1929

Latitude 36°30' Longitude 118°00'

- (3) FROM LONE PINE NORTH ALONG ROAD TO INDEPENDENCE, THENCE EAST  
TO CITRUS THENCE INTO INDEPENDENCE QUADRANGLE (372)

Lone Pine, 4 mi. N. of; 60 ft. E. of rd.; in granite boulder;  
aluminum tablet stamped "B" (Reported Not Found 1957)

3721.892

Lone Pine, 7 mi. N. of; 20 ft. E. of rd.; iron post stamped "B"

3810.505

New Desc. 79

Independence, 5.5 mi. S. of; 80 ft. N. of Shepherd's house, 50  
ft. W. of rd.; in boulder; aluminum tablet stamped "3873 B"  
(Reported Not Found)

3870.243

FILE COPY

36 118 12

LONE PINE (351)

California

L.F. Biggs, 1905

Third Order

Tentative

Book: 6284

Adjusted Elevations Based on National  
Geodetic Vertical Datum of 1929

Latitude 36°30' Longitude 118°00'

- (4) FROM MOUNT WHITNEY STATION WEST ALONG WAGON ROAD AND TRAIL  
TOWARD MOUNT WHITNEY THENCE INTO MOUNT WHITNEY QUADRANGLE  
(352)

Lone Pine, in front of post office; iron post stamped  
"3728 B 1905" (Reported Not Found 1957) (NGS quad 36 118 1  
line 101) (line 1)

3725.012

Stone house, 200 ft. S. of; southwest of creek; granite boulder  
20 x 8 x 7 ft.; 10 ft. S. of rd.; aluminum tablet stamped  
"4519 B 1905" (NGS quad 36 118 1 line 101) [See inactive files]

Disturbed '79

4516.385

Lone Pine Creek Canyon, mouth of; 400 ft. E. of falls, south  
of trail, in face of rock 20 x 10 x 6 ft.; aluminum tablet  
stamped "6670 B 1905"

Destroyed '79

6665.742

Hunters Campground, 20 ft. S. of trail; at bottom of steep  
pitch to lakes, rock 10 x 6 ft. and 5 ft. out of ground;  
aluminum tablet stamped "8373 B 1905" (NGS quad 36 118 1 line  
101)

8367.529

8/30/55 hme

retyped 10/21/76 trs



# FILE COPY

36 118 12

LONE PINE (351)

California

R.A. Farmer, 1905

Third Order

Tentative

Book: 6133

Adjusted Elevations Based on National  
Geodetic Vertical Datum of 1929

Latitude 36°30' Longitude 118°00'

## (5) NORTH ALONG SOUTHERN PACIFIC RAILROAD THENCE INTO INDEPENDENCE QUADRANGLE (372)

Mount Whitney Station, 0.5 mi. S. of; 100 ft. S. of milepost  
281; iron post stamped "3681" (Reported Destroyed 1957) 3679.766

Mount Whitney Station, 2.5 mi. N. of; 30 ft E. of track;  
opposite milepost 278; iron post stamped "3690" 3688.092

Not Found '79

Mount Whitney Station, 5.5 mi. N. of; 10 ft. S. of milepost  
275; iron post stamped "3718" (Reported Not Recovered 1948)  
(NGS quad 36 118 1 line 102) 3716.144

Francis, 100 ft. NE. of station; east of track; iron post  
stamped "3723" (NGS quad 36 118 1 line 102) (Reported Not  
Found 1957) 3721.551

Latitude 36°44'22.422" Longitude 118°04'40.810" (Adj. 1955)  
NGS California Level Line No. 119

LONE PINE QUADRANGLE(351)

CALIFORNIA

C. L. Mercer, 1946  
Los Angeles Aqueduct

(6) CALIFORNIA  
LONE PINE QUADRANGLE  
(Latitude  $36^{\circ}30' - 36^{\circ}45'$ ; Longitude  $118^{\circ}00' - 118^{\circ}15'$ )

	<u>Elevation</u>
Los Angeles Aqueduct Bench Marks	
2" I.P. W/BR. cap stamped LAABM 6-G, Elev. 3800.79, 100' W. of L.A.A. & Sta. 877+00, on fence line	3802.083
2" I.P. W/BR. cap stamped LAABM 6-H, Elev. 3798.42, 100' W. of L.A.A. & Sta. 898+30, on fence line	3799.725
Standard L.A.A.B.M. pipe W/cap stamped LAABM 7 Elev. 3800.888, 120' W. of L.A.A. & Sta. 910+30, 300' SE. of Well No 42	3802.238
2" I.P. W/BR. cap stamped LAABM 7-A, Elev. 100' W. of L.A.A. & Sta. 928+40, 50' E. of fence line	3801.890
Standard brass tablet set in concrete stamped U S Engineer Dept., Los Angeles District, Elev. ft. M.S.L., NE. cor. Manzanar Airport. 200' W. of & of L.A.A. Sta. 938+75, 6" below ground surface	Not Found <sup>79</sup> 3801.900
2" I.P. W/BR. cap stamped LAABM 7-B, 100' W. of LAA & Sta 947+00, 61' E. of fence line	Not Found <sup>79</sup> 3799.643
2" I.P. W/BR. cap stamped LAABM 7-C, 100' W. of LAA & Sta 964+30, 12' E. of fence line	Not Found <sup>79</sup> 3799.180
2" I.P. W/BR. cap stamped LAABM 7-D, 90' W. of LAA & Sta 985+40, on fence line	Not Found <sup>79</sup> 3799.825
2" I.P. W/BR. cap stamped LAABM 7-E, 90' W. of L.A.A. & Sta. 1007+70 on fence line Reset June '55 same elev. F.B. 1207 pg 78	Not Found <sup>79</sup> 3800.243
2" I.P. W/BR. cap stamped LAABM 7-F, 90' W. of L.A.A. & Sta. 1027+37, on fence line, 15' N. of sewer manhole	3800.965

FILE COPY

LONE PINE QUADRANGLE (351) CALIFORNIA C. L. Mercer, 1946  
Los Angeles Aqueduct

## Los Angeles Aqueduct BMs

2" I.P. W/BR. cap stamped LAABM 7-G, 100' W. of L.A.A. & Sta. 1046+15, on fence line	3796.945
Standard LAABM pipe W/BR. cap stamped LAABM No 8, Elev. 3798.378, 115' W. of L.A.A. & Sta. 1072+75, 800' E. of Well No 86	3799.843
2" I.P. W/BR. cap stamped LAABM 8-A, 145' W. of L.A.A. & Sta. 1092+30	Not Found '79 3798.845
2" I.P. W/BR. cap stamped LAABM 8-B, 90' W. of L.A.A. & Sta. 1113+85, on fence line, 330' S. of Georges Cr.	Not Found '79 3798.370
2" I.P. W/BR cap stamped LAABM 8-C, 100' W. of L.A.A. & Sta. 1131+75 on fence line 200' N. of fence intersection	Not Found '79 3796.078
2" I.P. W/BR. cap stamped LAABM 8-D, 115' W. of L.A.A. & Sta. 1154+10 on fence line	3801.193
Standard U.S.G.S. B.M. pipe W/cap stamped USGSEBM 2 Datum B Elev. 3813 ft (1905) - L.A.A.B.M. No 9 Elev 3809.322, 830' W. of L.A.A. & at Sta. 1163+50, 175' SW. of 2" I.P. W/cap stamped SW cor NW 1/4 NE 1/4 S-25 R 35E T14S 150' of pole M1860V	Not Found '79 3810.845
2" I.P. W/BR. cap stamped LAABM 9-A, 100' W. of L.A.A. & at Sta. 1174+50 on fence line	3798.083
Std. BR. tablet set in large granite boulder, stamped LAABM 9-B, 90' W. of L.A.A. & at Sta. 1197+90	3798.718
2" I.P. W/BR. cap stamped LAABM 9-C, 100' W. of L.A.A. & at Sta. 1215+80 on fence line at angle point of fence	3797.003
B.M. 9-D hit by motor grader (DESTROYED)	
Std. BR. tablet in granite boulder stamped BM No 10 1945, 50' W. of L.A.A. & at Sta. 1253+38 New BM this circuit. Note: Original BM No 10 was loose and was not included in this circuit.	Not Found '79 3800.685

✓ FILE COPY

LONE PINE QUADRANGLE (351) CALIFORNIA C. L. Mercer, 1946  
Los Angeles Aqueduct

## Los Angeles Aqueduct BMs

Lead and screw in top of concrete, E. side of L.A.A. at Sta. 1258+65	Not Found '79	3794.358
Top of 3/4" bolt with "X" mark, set in concrete, E. side L.A.A. at Sta. 1261+65, S. side control house over Alabama Gates spillgates	Not Found '79	3793.840
Std. BR. tablet in granite boulder stamped 10-A, 30' E. of L.A.A. & at Sta 1274+13 at E. edge of rd.	Not Found '79	3791.955
Std. BR. triangulation cap stamped LAABM 10-C, on NW. corner of NE. head wall of C.H. 3, & Sta. of C.H. = 1311+13.6, 35' E. of & L.A.A.	Not Found '79	3794.485
Std. BR. triangulation cap stamped LAABM 11-A, on SE. corner of E. concrete abutment of C.H. 4, & Sta. of C.H. = 1337+08, 17' E. of & L.A.A.	Not Found '79	3792.908
2" I.P. W/BR. cap stamped LAABM 11-B, 19' E. of & of L.A.A. at Sta. 1362+48.5	Not Found '79	3791.265
Std. BR. tablet stamped LAABM 11-D, SE. corner of E. concrete abutment of C.H. 5, & Sta. of C.H. = 1400+14.6	Not Found '79	3791.650
B.M. 11-E bent over		Damaged
Lead & screw in top of concrete on E. side of L.A.A. at Sta. 1430+61	Not Found '79	3790.255
1-3/4" brass bolt in granite boulder stamped LAA 3808.173, 135' W. of L.A.A. & Sta. 1451+50	Not Found '79	3804.758
Lead & screw in top of conc. on E. side of L.A.A. at Sta. 1454+70		3789.738
2" I.P. W/BR. cap stamped LAABM 12-B, 90' E. of L.A.A. & Sta. 1482+59, on fence line (also on wing wall at NE. corner, W. of rd.		3779.488
Lead & screw in top of conc. wall at SW. cor. of O.H., & Sta. 1482+30.0		3792.098
Std. BR. tablet stamped LAABM 12-D, at SE. corner of S. wing wall of spillway No 4, & Sta. 1509+75.7		3780.788

✓ FILE COPY

LONE PINE QUADRANGLE (351) CALIFORNIA C. L. Mercer, 1946  
Los Angeles Aqueduct

## Los Angeles Aqueduct BMs

2" I.P. W/BR. cap stamped LAABM 12-E, 19' E. of L.A.A. & Sta. 1528+87	Not Found '79	3788.523
Lead & screw in top of conc. on E. side of L.A.A. at Sta. 1536+83	Not Found '79	3788.230
Lead & screw in top of conc. wall at NE. end of N. side of O.H. 15 & Sta 1554+06.0. Lone Pine Canyon Bridge	Not Found '79	3793.328
Brass plug in granite boulder stamped LAA Elev. 3793.85, 113' W. of & L.A.A. at Sta. 1555+86, 180' S. of O.H. 15		3795.288
2" I.P. W/BR. cap stamped LAABM 13-A, 100' E. of L.A.A. & Sta. 1574+45 on fence line		3786.905
Lead & screw in top of conc. on SE. wing wall of O. H. 21 & Sta. 1604+18.5, 12' W. of end of wall	Not Found '79	3786.918
2" I.P. W/BR. cap stamped LAABM 13-C, 90' N. of & L.A.A. at Sta. 1619+03 E. side of Tuttle Creek Ri. at O. H. 22	Not Found '79	3782.065
2" I.P. W/BR. cap stamped LAABM 13-D, 80' E. of L.A.A. & Sta. 1634+68, on fence line		3782.525
Std. BR. tablet stamped LAABM 13-E at E. end of N. head wall of C.H 27 & Sta. 1660+68.4	Destroyed '79	3787.105
2" I.P. W/BR. cap stamped LAABM 13-F, 19' E. of & of L.A.A. at Sta. 1692+95	Destroyed '79	3784.720
Std. BR. tablet stamped LAABM 14-A, top of SW. conc. wing wall of O.H. 29 & Sta. 1718+56.8		3790.073
2" I.P. W/BR. cap stamped LAABM 14-B, 20' E. of L.A.A. & Sta. 1743+68	Not Found '79	3783.822
Std. Br. tablet stamped LAABM 14-C, 34' E. of L.A.A. & top of SE. cor. of wing wall of O. H. 30, & Sta 1753+59.1	Destroyed '79	3785.865
Std. Br. tablet stamped LAABM 14-D, 34' E. of L.A.A. & top of SE. cor. of wing wall of O.H. 31, & Sta. 1772+86.4 (Found twisted bold; no tablet)	Destroyed '79	3785.698

FILE COPY

LONE PINE QUADRANGLE (351) CALIFORNIA C. L. Mercer, 1946  
Los Angeles Aqueduct

## LOS ANGELES AQUEDUCT BMs

Std. BR. tablet stamped LAABM 14-G, top of SE. cor. of wing wall of spillway No. 6 & Sta. 1817+37.8 <sup>Not Found '79</sup> 3780.523

Lead & screw in top of concrete on E. side of L.A.A. at Sta. 1837+35 <sup>Not Found '79</sup> 3782.348

Lead & screw in top of conc. on E. side of L.A.A. at Sta. 1841+35 3782.293

Lead & screw in top of conc. on E. side of L.A.A. at Sta. 1853+7C 3782.338

FILE COPY

~~OLANCHA QUADRANGLE (329)~~ CALIFORNIA C. L. Mercer, 1946  
Los Angeles Aqueduct

CALIFORNIA  
OLANCHA QUADRANGLE  
(Latitude 36°15'-36°30'; Longitude 118°00'-118°15')

Los Angeles Aqueduct Bench Marks

	<u>Elevation</u>
Std. BR. tablet stamped LAABM 15-B, top of SE. cor. of wing wall of O.H. 34, & Sta. 1864+54.1 E. of rd.	Destroyed '79 3779.998
2" I.P. W/BR. cap stamped LAABM 15-C, 18' E. of L.A.A. & at Sta. 1882+33	3781.433
2" I.P. W/BR. cap stamped LAABM 15-D, 19' E. of L.A.A. & at Sta. 1904+40	3781.010
Std. BR. tablet stamped LAABM 15-E, top SE. corner of conc. wing wall of O.H. 36, & Sta. 1919+80.0	Destroyed '79 3784.045
Lead & screw in top of conc. E. side of L.A.A. at Sta. 1939+90	Not Found '79 3780.880
Std. BR. tablet stamped LAABM 15-G, top of NE. corner of wing wall of O. H. 37 & Sta. 1950+15.1	Destroyed '79 3783.695
Std. BR. tablet stamped 15-H, in granite rock 130' E. of L.A.A. at & Sta. 1971+35	3771.465
Lead and screw in top of conc. at SW. cor. of spillway No. 7 & Sta. 1970+45.4	Not Found '79 3780.533
Std. BR. tablet in granite boulder stamped LAABM 16-A, 95' E. of L.A.A. & at Sta. 1990+50, 5' W. of fence line	Destroyed '79 3775.638
Std. BR. tablet in granite boulder stamped LAABM 16-B, 80' E. of L.A.A. & at Sta. 2012+50, on fence line	3778.653
Std. BR. plate cut off	Destroyed.
3" I.P. W/BR. cap stamped U.S. General Land Office Survey, S34-S35, T16S, R36E, over T17S, dated 1916	3781.650
2" I.P. W/BR. cap stamped LAABM 16-E, 600' S. Carroll Cr. Bridge, Sta. 2051+45, 100' E. of L.A.A. on fence line	3772.430

3771.465  
351

FILE COPY

**BENCH MARK DESCRIPTIONS, FIELD SUMMARY**

Page	Quadr.	Miles	State	By	Date	Altitude by Field Book
Bk. - Page			Adi.			
	LONE PINE (351)		California	F.M. Kyle,	1974	
	First Order		Mean Field Elevations			
	Book: PV 896		Latitude 36°30' Longitude 118°00'			
ag/10	(7) FROM THE WEST SIDE OF NEW YORK BUTTE QUADRANGLE (350) WESTERLY TO A POINT ABOUT 10 MILES WEST OF THE INTERSECTION OF U.S. HIGHWAY 395 AND WHITNEY PORTAL ROAD AT LONE PINE					
1.38	Lone Pine, 4.23 mi NE. of; 1.28 mi NE. of transmission line and paved rd. X-ing. along Long John Canyon Rd.; 60 ft SE. of and 3 ft higher than centerline of rd.; set in a granite boulder; standard tablet stamped "195 FPK 1974"					3899.292
1.57	Lone Pine, 4.04 mi NE. of; 1.09 mi NE. of transmission line and paved rd. X-ing. along Long John Canyon Rd.; 42 ft NW. of centerline of rd., 2 ft W. of cairn; set in granite boulder; standard tablet stamped "196 FPK 1974"					3819.506
1.70	BM "W 44" (USC&GS Quad 36 118 1 line 102)					3775.787
	W 44 by USC&GS		3775.852			
	W 44 this run		3775.787			
	Closure =		- 0.065			
1.96	Lone Pine, 3.66 mi NE. of; 0.71 mi NE. of transmission line X-ing. paved rd. along Long John Canyon Rd.; 264 ft E. of dirt rd. fork, 24 ft S. of centerline of rd. 4.0 ft W. of cairn; set on 15 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "197 FPK 1974"					3709.416
2.24	BM "V 44" (USC&GS Quad 36 118 1 line 102)					3686.097
	V 44 by USC&GS		3686.016			
	V 44 this run		3686.097			
	Closure =		+ 0.081			
2.25	Reference mark "V 44 NO 1" (USC&GS Quad 36 118 1 line 102)					3685.606
	RM 1 by USC&GS		3685.672			
	RM 1 this run		3685.606			
	Closure =		- 0.066			
	Page 1 of 11					
	3					
					9-27-74 am	

**BENCH MARK DESCRIPTIONS, FIELD SUMMARY**

Page	Quadr.	Miles	State	By	Date	Altitude by Field Book
Bk. - Page			Adi.			
	LONE PINE (351)		California	F.M. Kyle,	1974	
	First Order		Mean Field Elevations			
	Book: PV 896					
ag/21	3.82 Lone Pine, 1.74 mi NE. of; 43 ft S. of centerline of rd., 29 ft W. of fence corner, 21 ft W. of gate, 1 ft W. of fence; set on 15 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "202 FPK 1974"					3631.276
4.11	BM "R 44" (USC&GS Quad 36 118 1 line 102)					3675.328
	R 44 by USC&GS		3675.403			
	R 44 this run		3675.328			
	Closure =		- 0.075			
4.36	Lone Pine, 1.21 mi E. of; 80 ft W. of power pole "CIC 31433", 20 ft S. of centerline of rd., 1 ft W. of 4 x 4 wooden post rd. sign; set on 20 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "203 FPK 1974"					3674.755
4.58	BM "P 44" (USC&GS Quad 36 118 1 line 101)					3672.548
	P 44 by USC&GS		3672.624			
	P 44 this run		3672.548			
	Closure =		- 0.076			
4.80	Lone Pine, 0.77 mi E. of; 50 ft W. of T fence corner, 32 ft E. of power pole "CIC 81419", 23 ft S. of centerline of rd., 8 ft N. of fence; set in concrete culvert headwall; standard tablet stamped "204 FPK 1974"					3678.569
5.04	BM "Q 44" (USC&GS Quad 36 118 1 line 101)					3693.698
	Q 44 by USC&GS		3693.772			
	Q 44 this run		3693.698			
	Closure =		- 0.074			
5.29	Lone Pine, 0.27 mi E. of; 56 ft E. of fence corner, 32 ft N. of centerline of rd., 14 ft E. of centerline of wooden gate; set on 20 ft copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "205 FPK 1974"					3701.839
	Page 3 of 11					
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					9-27-74 am	

Page	Quadr.	Miles	State	By	Date	Altitude by Field Book
Bk. - Page			Adi.			
	LONE PINE (351)		California	F.M. Kyle,	1974	
	First Order		Mean Field Elevations			
	Book: PV 896					
ag/15	2.26 Reference mark "V 44 NO 2" (USC&GS Quad 36 118 1 line 102)					3686.363
	RM 2 by USC&GS		3686.433			
	RM 2 this run		3686.363			
	Closure =		- 0.070			
2.48	BM "U 44" (USC&GS Quad 36 118 1 line 102)					3682.326
	U 44 by USC&GS		3682.391			
	U 44 this run		3682.326			
	Closure =		- 0.065			
2.60	Lone Pine, 2.95 mi NE. of; at transmission line and paved rd. X-ing.; 275 ft W. of jct. Oweyo LP. Rd.; 41 ft E. of centerline of transmission line rd.; 37 ft S. of centerline of rd.; set in northeast concrete base of transmission line steel tower #74-1; standard tablet stamped "198 FPK 1974"					3680.841
2.86	Lone Pine, 2.70 mi NE. of, along Lone Pine Station Rd.; at west end of small dry lake bed; 46 ft N. of centerline of rd., 3 ft S. of cairn; set on 15 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "199 FPK 1974"					3676.523
3.00	Lone Pine, 2.56 mi NE. of, along Lone Pine Station Rd.; 40 ft of centerline of dirt rd. intersection, 3 ft SW. of destroyed concrete post BM; set on 20 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "200 FPK 1974"					3679.360
3.36	Lone Pine, 2.20 mi NE. of, along Lone Pine Station Rd.; 47 ft S. of centerline of rd., 27 ft NE. of centerline of dirt rd.; set on 15 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "201 FPK 1974"					3676.709
3.58	BM "S 44" (USC&GS Quad 36 118 1 line 102)					3676.660
	S 44 by USC&GS		3676.718			
	S 44 this run		3676.660			
	Closure =		- 0.058			
	Page 2 of 11					
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					9-27-74 am	

Page	Quadr.	Miles	State	By	Date	Altitude by Field Book
Bk. - Page			Adi.			
	LONE PINE (351)		California	F.M. Kyle,	1974	
	First Order		Mean Field Elevations			
	Book: PV 896					
ag/28	5.56 BM "P 44" (USC&GS Quad 36 118 1 line 101)					3709.480
	P 44 by USC&GS		3709.566			
	P 44 this run		3709.480			
	Closure =		- 0.086			
5.77	BM "X 1161" (USC&GS Quad 36 118 1 line 101)					3716.409
	X 1161 by USC&GS		3716.498			
	X 1161 this run		3716.409			
	Closure =		- 0.089			
6.01	At Lone Pine; at north end of town at city park; 100 ft E. of southeast corner of tennis courts, 55 ft W. of centerline of Highway 395, 14 ft W. of concrete curb, 6 ft N. of a 2-ft. high block wall; set in concrete curb of parking area; standard tablet stamped "206 FPK 1974"					3725.548
6.17	At Lone Pine; 42 ft E. of centerline of U.S. Highway 395, 29 ft N. of centerline of Willow St., 1 ft N. of catch drain, 1 ft S. of stop sign; set in concrete curb; standard tablet stamped "207 FPK 1974"					3722.907
6.29	BM "E 44" (USC&GS Quad 36 118 1 line 101)					3726.275
	E 44 by USC&GS		3726.361			
	E 44 this run		3726.275			
	Closure =		- 0.086			
6.44	At Lone Pine; 0.10 mi W. of intersection of U.S. Highway 395 and Whitney Portal Rd.; 27 ft N. of centerline of Whitney Portal Rd., 20 ft W. of centerline of Brewery St.; set in concrete headwall; standard tablet stamped "208 FPK 1974"					3730.469
6.67	Lone Pine, 0.33 mi W. of; 64 ft N. of a gravel rd., 52 ft S. of centerline of Whitney Portal Rd., 1 ft E. of power pole "M 24221 V"; set on 40 ft of copper-coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "209 FPK 1974"					3754.451
	Page 4 of 11					
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					9-27-74 am	

OCT 4 1974

1974-75 RUN



DESTROYED IN MARCH 2015 DUE TO CONSTRUCTION. FILE COPY  
 MARK WAS NOT RESET.

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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ag/35	6.94	Lone Pine, 0.60 mi W. of; 17 ft W. of west end of bridge, 15 ft N. of centerline of Whitney Portal Rd.; set in concrete headwall of bridge over L.A. aqueduct; standard tablet stamped "210 FMK 1974"		3794.755
(1)	7.06	BM "K 44" (USC&GS Quad 36 118 1 line 101)		3809.631
		K 44 by USC&GS 3809.720 K 44 this run 3809.631		
		Closure = - 0.089		
	7.29	Lone Pine, 0.96 mi W. of; 18 ft N. of centerline of Whitney Portal Rd.; set in concrete headwall of culvert; standard tablet stamped "211 FMK 1974";		3871.068
	7.41	BM "C 44" (USC&GS Quad 36 118 1 line 101)		3904.976
		C 44 by USC&GS 3905.045 C 44 this run 3904.976		
		Closure = - 0.069		
	7.52	Lone Pine, 1.19 mi W. of; 51 ft N. of centerline of Whitney Portal Rd.; 10 ft N. of diversion channel; set in concrete base for steel instrument base; standard tablet stamped "212 FMK 1974"		3931.515
	7.74	Lone Pine, 1.41 mi W. of; 150 ft E. of turnout on the inside of a curve, 41 ft S. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "213 FMK 1974"		3994.726
	7.85	Lone Pine, 1.53 mi W. of; at northwest end of a turnout; 69 ft W. of hwy. sign "SLOW TO 30"; 41 ft N. of centerline of Whitney Portal Rd.; 25 ft S. of centerline of Lone Pine Creek; set in boulder; standard tablet stamped "214 FMK 1974"		4022.960
	8.03	Lone Pine, 1.71 mi W. of; 37 ft N. of centerline of Whitney Portal Rd.; set on boulder; standard tablet stamped "215 FMK 1974"		4073.175
		Page 5 of 11		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
		SPUR LINE		
ai/ 8	0.08	BM "A 44" (USC&GS Quad 36 118 1 line 101)		4490.799
		A 44 by USC&GS 4490.811 A 44 this run 4490.799		
		Closure = - 0.012		
		RETURN TO MAIN LINE		
	9.35	BM "221 FMK" (as described on previous page)		4466.330
	9.62	Lone Pine, 3.31 mi W. of; at intersection of Whitney Portal Rd. and Horse Shoe Meadow Rd.; 54 ft W. of centerline of Horse Shoe Meadow Rd.; 45 ft S. of centerline of Whitney Portal Rd.; 3 ft higher than rd.; set in boulder; standard tablet stamped "222 FMK 1974"		4571.631
	9.89	BM "V 1161" (USC&GS Quad 36 118 1 line 101)		4653.177
		V 1161 by USC&GS 4653.170 V 1161 this run 4653.177		
		Closure = + 0.007		
	10.10	Lone Pine, 3.79 mi W. of; near top of small grade; 59 ft S. of centerline of Whitney Portal Rd.; 6 ft higher than rd.; 2.0 ft N. of cairn; set in rock; standard tablet stamped "223 FMK 1974"		4716.897
	10.36	BM "Z 43" (USC&GS Quad 36 118 1 line 101)		4779.330
		Z 43 by USC&GS 4779.315 Z 43 this run 4779.330		
		Closure = + 0.015		
	10.64	Lone Pine, 4.34 mi W. of; 109 ft SW. of driveway to private home; 30 ft N. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "224 FMK 1974"		4855.945
		Page 7 of 11		
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		9-27-74 am		

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ag/43	8.14	Lone Pine, 1.82 mi W. of; 19 ft N. of centerline of Whitney Portal Rd.; set in concrete headwall of bridge over Lone Pine Creek; standard tablet stamped "216 FMK 1974" <b>DISTURBED 1984</b>		4093.633
	8.19	Lone Pine, 2.06 mi W. of; near top of steep grade; 55 ft S. of centerline of Whitney Portal Rd.; 4 ft higher than rd.; 3 ft S. of cairn; set in boulder; standard tablet stamped "217 FMK 1974"		4208.459
	8.57	BM "B 44" (USC&GS Quad 36 118 1 line 101)		4260.114
		B 44 by USC&GS 4260.142 B 44 this run 4260.114		
		Closure = - 0.028		
ai/1	8.74	Lone Pine, 2.40 mi W. of; 50 ft SE. of south edge of large rock outcrop; 37 ft N. of centerline of Whitney Portal Rd.; 4 ft higher than rd.; set in boulder; standard tablet stamped "218 FMK 1974"		4292.464
	8.87	BM "W 1161" (USC&GS Quad 36 118 1 line 101)		4340.902
		W 1161 by USC&GS 4340.916 W 1161 this run 4340.902		
		Closure = - 0.014		
	9.05	Lone Pine, 2.72 mi W. of; 31 ft S. of centerline of Whitney Portal Rd.; 4 ft higher than rd.; set in large flat rock outcrop; standard tablet stamped "219 FMK 1974"		4414.871
	9.20	Lone Pine, 2.88 mi W. of; at intersection of Whitney Portal Rd. and Movie Rd.; 54 ft W. of centerline of Whitney Portal Rd.; 43 ft S. of centerline of Whitney Portal Rd.; 3 ft S. of cairn; set in boulder; standard tablet stamped "220 FMK 1974"		4467.874
	9.35	Lone Pine, 3.04 mi W. of; at rd. intersection to R.C. Fry residence; 20 ft W. of centerline of rd. to Fry residence; 17 ft N. of centerline of Whitney Portal Rd.; set in north concrete headwall of bridge; standard tablet stamped "221 FMK 1974" <b>RESET 1984</b>		4466.330
		Page 6 of 11 <b>Reset Elev</b>		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ai/12	10.81	BM "U 1161" (USC&GS Quad 36 118 1 line 101)		4900.782
		U 1161 by USC&GS 4900.758 U 1161 this run 4900.782		
		Closure = + 0.024		
	11.07	Lone Pine, 4.76 mi W. of; 46 ft W. of fence corner and metal gate, 35 ft N. of centerline of Whitney Portal Rd.; 5 ft N. of fence, 3 ft higher than rd.; set in boulder; standard tablet stamped "225 FMK 1974"		4966.856
	11.32	Lone Pine, 5.01 mi W. of; 81 ft S. of fence, 53 ft S. of centerline of Whitney Portal Rd.; 3 ft higher than rd.; set in boulder; standard tablet stamped "226 FMK 1974"		5043.885
	11.52	BM "Y 43" (USC&GS Quad 36 118 1 line 101)		5113.155
		Y 43 by USC&GS 5113.107 Y 43 this run 5113.155		
		Closure = + 0.048		
	11.75	Lone Pine, 5.45 mi W. of; at a jog in fence line; 180 ft N. of centerline of Whitney Portal Rd.; 24 ft N. of fence, 10 ft higher than rd.; set in boulder; standard tablet stamped "227 FMK 1974"		5184.431
	11.90	Lone Pine, 5.61 mi W. of; on top of small ridge; 170 ft N. of centerline of Whitney Portal Rd.; 81 ft SE. of large lone rock outcrop; 78 ft SE. of jog in fence line; 62 ft S. of fence, 8 ft higher than rd.; set in boulder; standard tablet stamped "228 FMK 1974"		5245.306
	12.14	BM "T 1161" (USC&GS Quad 36 118 1 line 101)		5313.709
		T 1161 by USC&GS 5313.664 T 1161 this run 5313.709		
		Closure = + 0.045		
		Page 8 of 11		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ai/12	10.81	BM "U 1161" (USC&GS Quad 36 118 1 line 101)		4900.782
		U 1161 by USC&GS 4900.758 U 1161 this run 4900.782		
		Closure = + 0.024		
	11.07	Lone Pine, 4.76 mi W. of; 46 ft W. of fence corner and metal gate, 35 ft N. of centerline of Whitney Portal Rd.; 5 ft N. of fence, 3 ft higher than rd.; set in boulder; standard tablet stamped "225 FMK 1974"		4966.856
	11.32	Lone Pine, 5.01 mi W. of; 81 ft S. of fence, 53 ft S. of centerline of Whitney Portal Rd.; 3 ft higher than rd.; set in boulder; standard tablet stamped "226 FMK 1974"		5043.885
	11.52	BM "Y 43" (USC&GS Quad 36 118 1 line 101)		5113.155
		Y 43 by USC&GS 5113.107 Y 43 this run 5113.155		
		Closure = + 0.048		
	11.75	Lone Pine, 5.45 mi W. of; at a jog in fence line; 180 ft N. of centerline of Whitney Portal Rd.; 24 ft N. of fence, 10 ft higher than rd.; set in boulder; standard tablet stamped "227 FMK 1974"		5184.431
	11.90	Lone Pine, 5.61 mi W. of; on top of small ridge; 170 ft N. of centerline of Whitney Portal Rd.; 81 ft SE. of large lone rock outcrop; 78 ft SE. of jog in fence line; 62 ft S. of fence, 8 ft higher than rd.; set in boulder; standard tablet stamped "228 FMK 1974"		5245.306
	12.14	BM "T 1161" (USC&GS Quad 36 118 1 line 101)		5313.709
		T 1161 by USC&GS 5313.664 T 1161 this run 5313.709		
		Closure = + 0.045		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ai/12	10.81	BM "U 1161" (USC&GS Quad 36 118 1 line 101)		4900.782
		U 1161 by USC&GS 4900.758 U 1161 this run 4900.782		
		Closure = + 0.024		
	11.07	Lone Pine, 4.76 mi W. of; 46 ft W. of fence corner and metal gate, 35 ft N. of centerline of Whitney Portal Rd.; 5 ft N. of fence, 3 ft higher than rd.; set in boulder; standard tablet stamped "225 FMK 1974"		4966.856
	11.32	Lone Pine, 5.01 mi W. of; 81 ft S. of fence, 53 ft S. of centerline of Whitney Portal Rd.; 3 ft higher than rd.; set in boulder; standard tablet stamped "226 FMK 1974"		5043.885
	11.52	BM "Y 43" (USC&GS Quad 36 118 1 line 101)		5113.155
		Y 43 by USC&GS 5113.107 Y 43 this run 5113.155		
		Closure = + 0.048		
	11.75	Lone Pine, 5.45 mi W. of; at a jog in fence line; 180 ft N. of centerline of Whitney Portal Rd.; 24 ft N. of fence, 10 ft higher than rd.; set in boulder; standard tablet stamped "227 FMK 1974"		5184.431
	11.90	Lone Pine, 5.61 mi W. of; on top of small ridge; 170 ft N. of centerline of Whitney Portal Rd.; 81 ft SE. of large lone rock outcrop; 78 ft SE. of jog in fence line; 62 ft S. of fence, 8 ft higher than rd.; set in boulder; standard tablet stamped "228 FMK 1974"		5245.306
	12.14	BM "T 1161" (USC&GS Quad 36 118 1 line 101)		5313.709
		T 1161 by USC&GS 5313.664 T 1161 this run 5313.709		
		Closure = + 0.045		
		Page 8 of 11		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ai/12	10.81	BM "U 1161" (USC&GS Quad 36 118 1 line 101)		4900.782
		U 1161 by USC&GS 4900.758 U 1161 this run 4900.782		
		Closure = + 0.024		
	11.07	Lone Pine, 4.76 mi W. of; 46 ft W. of fence corner and metal gate, 35 ft N. of centerline of Whitney Portal Rd.; 5 ft N. of fence, 3 ft higher than rd.; set in boulder; standard tablet stamped "225 FMK 1974"		4966.856
	11.32	Lone Pine, 5.01 mi W. of; 81 ft S. of fence, 53 ft S. of centerline of Whitney Portal Rd.; 3 ft higher than rd.; set in boulder; standard tablet stamped "226 FMK 1974"		5043.885
	11.52	BM "Y 43" (USC&GS Quad 36 118 1 line 101)		5113.155
		Y 43 by USC&GS 5113.107 Y 43 this run 5113.155		
		Closure = + 0.048		
	11.75	Lone Pine, 5.45 mi W. of; at a jog in fence line; 180 ft N. of centerline of Whitney Portal Rd.; 24 ft N. of fence, 10 ft higher than rd.; set in boulder; standard tablet stamped "227 FMK 1974"		5184.431
	11.90	Lone Pine, 5.61 mi W. of; on top of small ridge; 170 ft N. of centerline of Whitney Portal Rd.; 81 ft SE. of large lone rock outcrop; 78 ft SE. of jog in fence line; 62 ft S. of fence, 8 ft higher than rd.; set in boulder; standard tablet stamped "228 FMK 1974"		5245.306
	12.14	BM "T 1161" (USC&GS Quad 36 118 1 line 101)		5313.709
		T 1161 by USC&GS 5313.664 T 1161 this run 5313.709		
		Closure = + 0.045		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ai/12	10.81	BM "U 1161" (USC&GS Quad 36 118 1 line 101)		4900.782
		U 1161 by USC&GS 4900.758 U 1161 this run 4900.782		
		Closure = + 0.024		
	11.07	Lone Pine, 4.76 mi W. of; 46 ft W. of fence corner and metal gate, 35 ft N. of centerline of Whitney Portal Rd.; 5 ft N. of fence, 3 ft higher than rd.; set in boulder; standard tablet stamped "225 FMK 1974"		4966.856
	11.32	Lone Pine, 5.01 mi W. of; 81 ft S. of fence, 53 ft S. of centerline of Whitney Portal Rd.; 3 ft higher than rd.; set in boulder; standard tablet stamped "226 FMK 1974"		5043.885
	11.52	BM "Y 43" (USC&GS Quad 36 118 1 line 101)		5113.155
		Y 43 by USC&GS 5113.107 Y 43 this run 5113.155		
		Closure = + 0.048		
	11.75	Lone Pine, 5.45 mi W. of; at a jog in fence line; 180 ft N. of centerline of Whitney Portal Rd.; 24 ft N. of fence, 10 ft higher than rd.; set in boulder; standard tablet stamped "227 FMK 1974"		5184.431
	11.90	Lone Pine, 5.61 mi W. of; on top of small ridge; 170 ft N. of centerline of Whitney Portal Rd.; 81 ft SE. of large lone rock outcrop; 78 ft SE. of jog in fence line; 62 ft S. of fence, 8 ft higher than rd.; set in boulder; standard tablet stamped "228 FMK 1974"		5245.306
	12.14	BM "T 1161" (USC&GS Quad 36 118 1 line 101)		5313.709
		T 1161 by USC&GS 5313.664 T 1161 this run 5313.709		
		Closure = + 0.045		
		Page 8 of 11		
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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
BM - Page	Miles	Adj.	Date	Field Book
	LORE PINE (351)	California	F.M. Kyle,	1974
	First Order	Mean Field Elevations		
	Book:	PV 896		
ai/12	10.8			

# FILE COPY

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				36 118 12
Page	Quads.	State	By	UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY 9-118
SA - Page	Miles	Adj.	Date	Altitude by Field Book
		California	F.M. Kyle, 1974	
		First Order Mean Field Elevations		
		Book: PV 896		
ai/19	12.22	Lone Pine, 5.93 mi W. of; 180 ft E. of intersection of graded rd. S. and track N. 32 ft N. of centerline of Whitney Portal Rd.; set in flat-topped boulder; standard tablet stamped "229 FPK 1974"		ai/36 5340.719 9-1165 5341.136
(7)	12.46	Lone Pine, 6.18 mi W. of; 63 ft S. of centerline of rd. set in flat-topped boulder; standard tablet stamped "230 FPK 1974"		5429.483
	12.66	BM "X 43" (USC&GS Quad 36 118 1 line 101)		5501.621
		X 43 by USC&GS	5501.574	
		X 43 this run	5501.621	
		Closure =	+ 0.047	
	12.92	Lone Pine, 6.63 mi W. of; 180 ft SW. of centerline of intersection of track rd. NE., 129 ft S. of centerline of Whitney Portal Rd., 11 ft SE. of cairn, 4 ft lower than rd.; set in boulder; standard tablet stamped "231 FPK 1974"		5590.647
	13.07	Lone Pine, 6.79 mi W. of; 93 ft E. of X-rd., 53 ft S. of centerline of Whitney Portal Rd., 5 ft S. of cairn; set in boulder; standard tablet stamped "232 FPK 1974"		5641.913
	13.22	Lone Pine, 6.94 mi W. of; at intersection of paved rd. W.; 83 ft SW. of centerline of intersection, 45 ft S. of centerline of Whitney Portal Rd., 33 ft N. of centerline of rd. to Lone Pine Campground; set in north end of rock and concrete base for USFS sign; standard tablet stamped "233 FPK 1974"		5701.045
	13.38	BM "P 600" (USC&GS Quad 36 118 1 line 101)		5771.098
		P 600 by USC&GS	5771.025	
		P 600 this run	5771.098	
		Closure =	+ 0.073	
	13.60	Lone Pine, 7.36 mi W. of; 264 ft NW. of bridge over Lone Pine Creek, at northeast end of a turnout, 58 ft N. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "234 FPK 1974"		5782.560
		Page 9 of 11		
		11	9-27-74	

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				36 118 12
Page	Quads.	State	By	UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY 9-118
SA - Page	Miles	Adj.	Date	Altitude by Field Book
		California	F.M. Kyle, 1974	
		First Order Mean Field Elevations		
		Book: PV 896		
	15.00	BM "241 FPK" (as described on previous page)		6474.532
	15.17	Lone Pine, 8.96 mi W. of; opposite turnout; 49 ft S. of centerline of Whitney Portal Rd., 26 ft S. of a pine tree; set in boulder; standard tablet stamped "242 FPK 1974"		6572.027
	15.38	Lone Pine, 9.16 mi W. of; 57 ft E. of Whitney Portal Rd., 10 ft higher than rd.; set in boulder; standard tablet stamped "243 FPK 1974"		6686.069
	15.59	Lone Pine, 9.31 mi W. of; at southeast end of cut; 34 ft E. of centerline of Whitney Portal Rd., 8 ft SW. of a pine tree; set in boulder; standard tablet stamped "244 FPK 1974"		6804.491
	15.81	Lone Pine, 9.59 mi W. of; 200 ft NW. of the northwest end of turnout, 17 ft S. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "245 FPK 1974"		6924.380
	15.97	Lone Pine, 9.76 mi W. of; 24 ft E. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "246 FPK 1974"		7011.196
	16.16	Lone Pine, 9.95 mi W. of; at northernmost edge of hair-pin curve, at east end of concrete-rock retaining wall; 31 ft N. of centerline of Whitney Portal Rd., 5 ft higher than rd.; (approximate location of USC&GS BM K 600); set in boulder; standard tablet stamped "247 FPK 1974"		7095.671
		Page 11 of 11		
			13	
			9-30-74	

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				36 118 12
Page	Quads.	State	By	UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY 9-118
SA - Page	Miles	Adj.	Date	Altitude by Field Book
		California	F.M. Kyle, 1974	
		First Order Mean Field Elevations		
		Book: PV 896		
ai/27	13.82	Lone Pine, 7.59 mi W. of; 22 ft N. of centerline of Whitney Portal Rd., 15 ft W. of USFS sign "INNO NATIONAL FOREST", 3 ft higher than rd.; set in boulder; standard tablet stamped "235 FPK 1974"		5898.638
	14.06	Lone Pine, 7.83 mi W. of; 40 ft W. of west end of turnout, 22 ft N. of centerline of Whitney Portal Rd., 5 ft higher than rd.; set in boulder; standard tablet stamped "236 FPK 1974"		5995.504
	14.27	Lone Pine, 8.05 mi W. of; 47 ft N. of centerline of Whitney Portal Rd., 11 ft W. of a lone pine tree, 3 ft higher than rd.; set in boulder; standard tablet stamped "237 FPK 1974"		6078.941
	14.50	Lone Pine, 8.28 mi W. of; 100 ft E. of top of small grade, 49 ft N. of centerline of Whitney Portal Rd., 18 ft SW. of a pine tree, 6 ft higher than rd., 2 ft S. of cairn; set in boulder; standard tablet stamped "238 FPK 1974"		6195.206
	14.72	Lone Pine, 8.50 mi W. of; 68 ft NE. of turnout, 34 ft N. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "239 FPK 1974"		6321.204
	14.86	Lone Pine, 8.65 mi W. of; 60 ft S. of centerline of Whitney Portal Rd., 28 ft S. of turnout, 15 ft W. of a pine tree, 2 ft N. of cairn; set in boulder; standard tablet stamped "240 FPK 1974"		6397.028
	15.00	Lone Pine, 8.79 mi W. of; 67 ft E. of old paved rd., 46 ft S. of Whitney Portal Rd., 25 ft NW. of a pine tree, 6 ft higher than rd.; set in flat-topped rock; standard tablet stamped "241 FPK 1974"		6474.532
		SPUR LINE		
0.22		BM "M 600" (USC&GS Quad 36 118 1 line 101)		6418.755
		M 600 by USC&GS	6418.629	1940 Elev.
		M 600 this run	6418.755	
		Closure =	+ 0.126	
		RETURN TO MAIN LINE		
		Page 10 of 11		
		12	9-30-74	

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				36 118 12
Page	Quads.	State	By	UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY 9-118
SA - Page	Miles	Adj.	Date	Altitude by Field Book
		California	F.M. Kyle, 1974	
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	13.82	Lone Pine, 7.59 mi W. of; 22 ft N. of centerline of Whitney Portal Rd., 15 ft W. of USFS sign "INNO NATIONAL FOREST", 3 ft higher than rd.; set in boulder; standard tablet stamped "235 FPK 1974"		5898.638
	14.06	Lone Pine, 7.83 mi W. of; 40 ft W. of west end of turnout, 22 ft N. of centerline of Whitney Portal Rd., 5 ft higher than rd.; set in boulder; standard tablet stamped "236 FPK 1974"		5995.504
	14.27	Lone Pine, 8.05 mi W. of; 47 ft N. of centerline of Whitney Portal Rd., 11 ft W. of a lone pine tree, 3 ft higher than rd.; set in boulder; standard tablet stamped "237 FPK 1974"		6078.941
	14.50	Lone Pine, 8.28 mi W. of; 100 ft E. of top of small grade, 49 ft N. of centerline of Whitney Portal Rd., 18 ft SW. of a pine tree, 6 ft higher than rd., 2 ft S. of cairn; set in boulder; standard tablet stamped "238 FPK 1974"		6195.206
	14.72	Lone Pine, 8.50 mi W. of; 68 ft NE. of turnout, 34 ft N. of centerline of Whitney Portal Rd.; set in boulder; standard tablet stamped "239 FPK 1974"		6321.204
	14.86	Lone Pine, 8.65 mi W. of; 60 ft S. of centerline of Whitney Portal Rd., 28 ft S. of turnout, 15 ft W. of a pine tree, 2 ft N. of cairn; set in boulder; standard tablet stamped "240 FPK 1974"		6397.028
	15.00	Lone Pine, 8.79 mi W. of; 67 ft E. of old paved rd., 46 ft S. of Whitney Portal Rd., 25 ft NW. of a pine tree, 6 ft higher than rd.; set in flat-topped rock; standard tablet stamped "241 FPK 1974"		6474.532
		SPUR LINE		
0.22		BM "M 600" (USC&GS Quad 36 118 1 line 101)		6418.755
		M 600 by USC&GS	6418.629	1940 Elev.
		M 600 this run	6418.755	
		Closure =	+ 0.126	
		RETURN TO MAIN LINE		
		Page 10 of 11		
		12	9-30-74	

FOR CONTINUATION  
OF THIS LINE SEE  
D.O. RICHARDSON 1975

1974-75 Run

1974-75 Run

OCT 4 1974

FILE COPY

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BENCH MARK DESCRIPTIONS, FIELD SUMMARY

36 11R 12

BENCH MARK DESCRIPTIONS, FIELD SUMMARY

36 11R 12

Page	Quads	Miles	State	Date	By	State	Date	By	Altitude by Field Book
Bk - Page			Adj.			Adj.			
	LANE PINE (351)		California		D.O. Richardson, 1978				
	First Order		Mean Field Elevations						
	Book: PV 1024								
b/206	8.91	BH "2 43 1925" (NCS Quad 36 118 1, Line 101)(Line 7)							4779.369
	9.16	BH "223 FPK 1974" (Line 7)							4716.918
	9.38	BH "V 1161 1962" (NCS Quad 36 118 1, Line 101)(Line 7)							4653.198
	9.64	BH "222 FPK 1974" (Line 7)							4571.655
	9.91	BH "221 FPK 1974" (Line 7)							4466.371
		SPUR LINE TO "A 44 1925"							
	0.09	BH "A 44 1925" (NCS Quad 36 118 1, Line 101)(Line 7)							4490.836
		RETURN TO MAIN LINE							
	9.91	BH "221 FPK 1974" (Line 7) (as above)							4466.371
	10.07	BH "220 FPK 1974" (Line 7)							4467.910
	10.23	BH "219 FPK 1974" (Line 7)							4414.904
	10.41	BH "W 1161 1962" (NCS Quad 36 118 1, Line 101)(Line 7)							4340.932
	10.54	BH "218 FPK 1974" (Line 7)							4293.086
	10.72	BH "B 44 1925" (NCS Quad 36 118 1, Line 101)(Line 7)							4260.169
	10.90	BH "217 FPK 1974" (Line 7)							4208.694
	11.15	BH "216 FPK 1974" (Line 7)							4093.672
	11.26	BH "215 FPK 1974" (Line 7)							4073.199
	11.47	BH "214 FPK 1974" (Line 7)							4022.972
	11.59	BH "213 FPK 1974" (Line 7)							3994.759
	11.80	BH "212 FPK 1974" (Line 7)							3931.557
	11.92	BH "C 44 1925" (NCS Quad 36 118 1, Line 101)(Line 7)							3905.018
	12.02	BH "211 FPK 1974" (Line 7)							3871.108
	12.26	BH "K 44 1925" (NCS Quad 36 118 1, Line 101)(Line 7)							3909.672

NOV 24 1978

1978 DUN



REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

CALIFORNIA 351

STATE Calif COUNTY Inyo QUADRANGLE Lone Pine NE  
QUOTE PRIMARY REFERENCE Lone Pine, 2.70 mi NE. of  
(Direction and distance)

DESIGNATION { LISTED 199 FMK 1974  
STAMPED 199 FMK 1974 TYPE OF MARK: BM X TT \_\_\_\_\_ TRIANG. \_\_\_\_\_

Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " CONDITION  
Disturbed  ESTABLISHED BY  
Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Destroyed  USGS  USBR   
Elev. 3676.523 feet Not Found  USC&GS  State GS   
USNPS  USNFS   
USGLO  (Other)   
USBLM

REMARKS OR REVISED DESCRIPTION:  
Lone Pine, 2.70 mi NE. of along Lone Pine Station Rd.; at east end of small dry lake bed; 46 ft N. of centerline of rd. 3 ft S. of cairn; set on 15 ft of copper coated steel rod encased in 6-inch black plastic pipe; standard tablet stamped "199 FMK 1974"

SUBMITTED BY Harry S. Campbell  
TITLE Carto Tech DATE 10-16-79  
AGENCY US Geological Survey

Marks found in good condition need not be reported.  
FILL IN ALL AVAILABLE INFORMATION (OVER)

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE Calif COUNTY Inyo QUADRANGLE Lone Pine NE 351  
QUOTE PRIMARY REFERENCE Lone Pine, 7 mi. N. of  
(Direction and distance)

DESIGNATION { LISTED "B" Line 3 L.F. Biggs 1905  
STAMPED 2,B, 38113, 1905 TYPE OF MARK: BM X TT \_\_\_\_\_ TRIANG. \_\_\_\_\_  
L.S.A.B.M. No 9 Elev 3809.322

Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " CONDITION  
Disturbed  ESTABLISHED BY  
Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Destroyed  USGS  USBR   
Elev. 3810.845 feet Not Found  USC&GS  State GS   
USNPS  USNFS   
USGLO  (Other)   
USBLM

REMARKS OR REVISED DESCRIPTION:  
Lone Pine, 5.5 mi. N of, thence 1.6 mi NW along old Hwy 395, 185 ft SW of old Hwy 395, 175 ft SW of 2" IP w/cap stamped SW Cor NW 1/4 NE 1/4 S-25 R35E T14S, 150 ft S of pole M1860V, 20 ft NE of old track rd, iron pipe stamped 2,B,3813, 1905, L.S.A.B.M. No 9 Elev 3809.322

SUBMITTED BY Harry S. Campbell  
TITLE Carto Tech DATE 10-19-79  
AGENCY US Geological Survey

Marks found in good condition need not be reported.  
FILL IN ALL AVAILABLE INFORMATION

Please prepare in triplicate and send to nearest (or indicated) address shown on reverse side.

Please prepare in triplicate.

FILE COPY  
JAN 13 1980

REPORT ON CONDITION OF SURVEY MARK

QUADRANGLE REPORT

STATE California COUNTY Inyo NGS Quad 361181  
QUAD NAME Lone Pine  
STATION NAME and/or NUMBER 216 FMK 1974 QUAD NUMBER 351, line 7  
LATITUDE \_\_\_\_\_ TYPE of MARK: BM  TRAV.  TRIANG.  DOPPLER   
LONGITUDE \_\_\_\_\_ YEAR ESTABLISHED 1974  
ELEVATION 4093.633 ft/meter By: USGS  NGS  OTHER \_\_\_\_\_  
CONDITION Disturbed MARK STAMPED: 216 FMK 1974 (Name of agency)

REMARKS ~~REVISED DESCRIPTION~~

Inyo county surveyor Miles Clair states that the elevation does not agree with the other BM's on this line. The headwall is cracked through on each side of the mark and leans to the north.

SUBMITTED BY: W. R. Odum AGENCY National Geodetic Survey DATE 4/30/84

Marks found in good condition need not be reported unless description is inadequate.

Please prepare in triplicate.

GSC-178

REPORT ON CONDITION OF SURVEY MARK

QUADRANGLE REPORT

STATE California COUNTY Inyo NGS Quad 361181  
QUAD NAME Lone Pine  
STATION NAME and/or NUMBER 221 FMK RESET 1984 QUAD NUMBER 351, line 7  
LATITUDE \_\_\_\_\_ TYPE of MARK: BM  TRAV.  TRIANG.  DOPPLER   
LONGITUDE \_\_\_\_\_ YEAR ESTABLISHED 1974  
ELEVATION 4466.330(old) 4470.375(new) ft/meter By: USGS  NGS  OTHER \_\_\_\_\_  
CONDITION RESET MARK STAMPED: 221 FMK RESET 1984 (Name of agency)

REMARKS ~~REVISED DESCRIPTION~~

Lone Pine, 3.04 mi W of; 94 ft S of centerline of road, about 100 ft W of center of creek, 5 ft S of tree; set in top of 3 ft by 4 ft boulder projecting 2.5 ft above ground; standard tablet stamped "221 FMK RESET 1984"

DE from original to reset is +4.045 ft.

SUBMITTED BY: W. R. ODUM AGENCY National Geodetic Survey DATE 4/30/84

Marks found in good condition need not be reported unless description is inadequate.

Please prepare in triplicate.

GSC-178

REPORT ON CONDITION OF SURVEY MARK

QUADRANGLE REPORT

NGS Quad 361181

STATE California COUNTY Inyo QUAD NAME Lone Pine

STATION NAME and/or NUMBER 229 FMK RESET 1984 QUAD NUMBER 351, line 7

LATITUDE \_\_\_\_\_ " "

TYPE of MARK: BM  TRAV.  TRIANG.  DOPPLER

LONGITUDE \_\_\_\_\_ " "

YEAR ESTABLISHED 1974

ELEVATION 5340.719(old) 5341.136 <sup>(new)</sup>  
ft/meter

By: USGS  NGS  OTHER \_\_\_\_\_  
(Name of agency)

CONDITION RESET

MARK STAMPED: 229 FMK RESET 1984

~~XXXXXXXX~~ REVISED DESCRIPTION:

Lone Pine, 5.93 mi W of;  
175 ft E of projected centerline of ranger station road,  
58 ft N of centerline of Whitney-Portal road,  
1.8 ft NW of witness post; set in top of 3 ft x 4 ft boulder  
projecting 2.5 ft above ground; standard tablet stamped  
"229 FMK RESET 1984"

DE from original to reset is +0.417 ft

SUBMITTED BY: W. R. ODUM AGENCY National Geodetic Survey DATE 4/30/84

Marks found in good condition need not be reported unless description is inadequate.

Please prepare in triplicate.

GSC-178