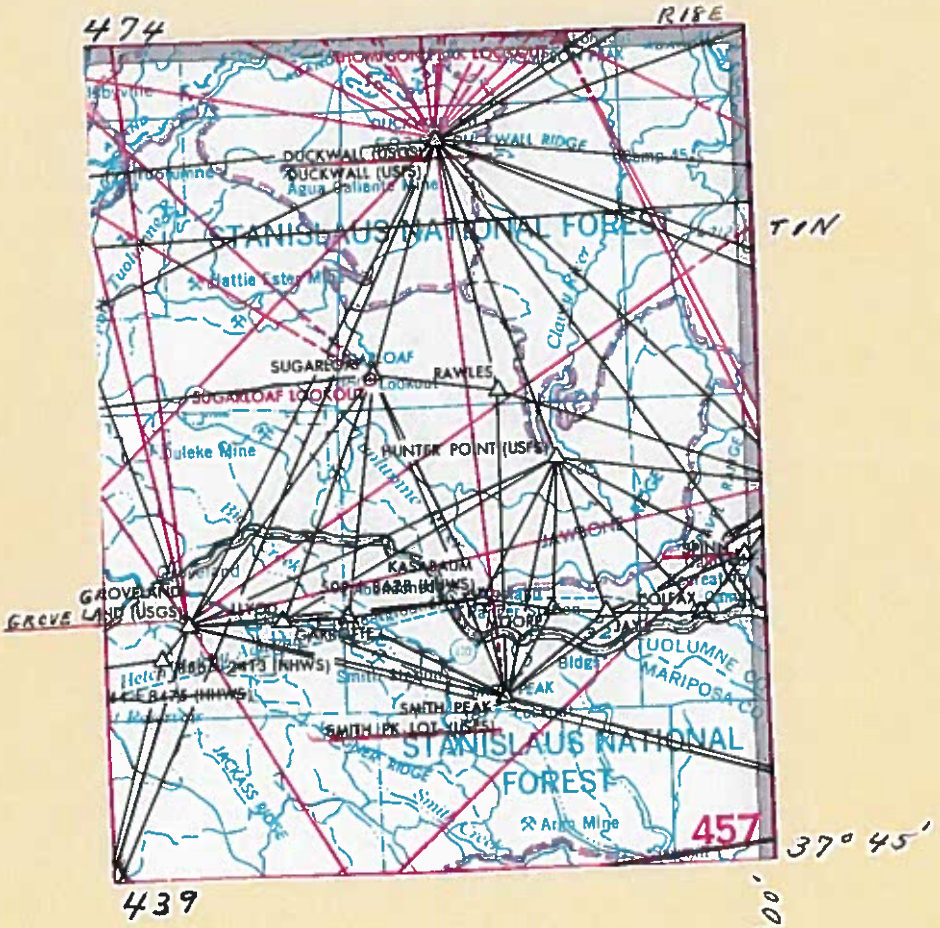
37-120 11

37°45'
120 00

CALIFORNIA 457



37 120 11

37°45'
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CALIFORNIA 457

Index

Station	Project
Duckwall	- - & (M) Sonora Pass
Groveland	- - & (M)
Smith Peak L.O.	- - & (M)
Spinn (C&GS)	Yosemite
Sugarloaf L.O.	(M)
Thompson Peak L.O.	Big Trees & (M)

(M) = Multilith

Big Trees Project Master in CALIFORNIA 473 - Book: PH 470

Yosemite Project Master in CALIFORNIA 437 - Book: PH 470

Sonora Pass Proj " " " 473 " PH 1716

CAL. 457 1927 N.A.D. 5'/37 4J 120 00

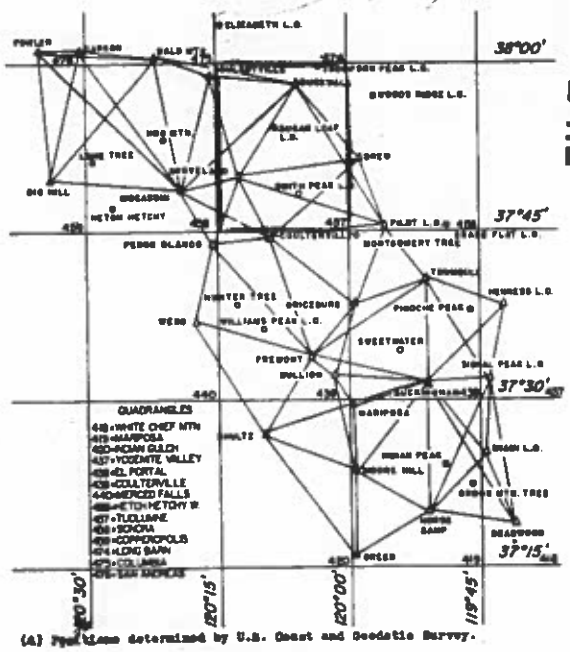
CARDEX

FILE COPY

SONORA AND MARIPOSA 30' QUADRANGLES

CALIFORNIA

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



(A) Positions determined by U.S. Coast and Geodetic Survey.

CALIFORNIA TRIANGULATION
SONORA AND MARIPOSA 30' QUADRANGLES
THIRD-ORDER
By C. N. Mortenson, 1945
Books M247a-d; M248e-j
North American Datum of 1927
2/17/47 fcb
Revised 2/17/53 JNC

During the field season of 1945 third-order triangulation was established for basic horizontal control on the SONORA, TUOLUMNE, COULTERVILLE, EL PORTAL, AND MARIPOSA 15-minute quadrangles in California.

Field work was done by C. N. Mortenson using a 10-second repeating theodolite to measure angles. The triangulation was extended from stations previously established by the U. S. Geological Survey and by the U. S. Coast and Geodetic Survey. Seven previously established U.S.G.S. stations and three U.S.C. & G.S. stations were recovered and occupied, three old U.S.G.S. stations not previously adjusted to 1927 N.A.D. were recovered and occupied, fourteen new stations were occupied and fifteen additional points located by intersection from three or more occupied stations.

The net was adjusted by a method of least squares; all values are on the North American Datum of 1927.

During the months of January to March, 1946, vertical angle elevations were established for supplemental vertical control on above quadrangles; vertical angle observations were also made by C. N. Mortenson.

Elevations were computed from reciprocal vertical angles, observed with a theodolite having vertical circle graduated to 20 seconds of arc, and using computed distances between stations. Vertical angle elevations are based on ties to spirit level bench marks by triangulated distances. The vertical angle control net was not rigidly adjusted, a mean elevation for the various stations being determined by an arbitrary adjustment through the net between the several spirit level bench marks. Elevation shown for a triangulation station is for station mark unless otherwise stated, and is probably within 3 ft. of correct value.

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Extra Copies in 419

(SURPLUS FILES)

BALD MOUNTAIN — Tuolumne County — California
C. N. Mortenson — 1945 — 1927 N.A.D.

Located on highest point of Bald Mountain which is about 2 mi. NE. of Sonora.

To reach from Sonora, go out Lyon Street and continue on main oiled rd. 0.8 mi. from main part of town; turn left through cattle guard onto dirt rd., and go 0.4 mi. to city reservoir, from here keep straight ahead and keep ascending grade for 2.0 mi. to top of ridge, turn right onto poor rd. along ridge for 0.15 mi. to end of truck travel. From here station is about [illegible] hill.

Station mark: Standard tablet stamped "Bald Mountain 1945," cemented in granite rock.

Reference mark No. 1: Standard reference mark tablet stamped "No 1 1945," cemented in granite rock, 11.89 ft. from station mark in true azimuth 22°04'.

Reference mark No. 2: Copper nail and washer in 8-in. oak tree, 21.66 ft. from station mark in true azimuth 135°06'

Signal: Black and white cross targets, [illegible] mark.

V.A. Elev. 5342 ft.

Latitude: 38°00'29.853" Longitude: 120°21'43.519"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
*Lone Tree	33°09'28"	213°04'49"	4.307058	12.601
Big Hill	42 12 49.89	222 05 35.70	4.4297511	16.715
Fowler	93 45 26.95	273 37 25.45	4.2884725	12.075
Carson	96 54 38.29	276 49 27.34	4.0934118	7.708
*Thompson Peak L.O.	272 08 12	92 19 08	4.4124451	16.602
Duckwall	281 51 48.28	101 40 47.40	4.3388529	13.558
Soulsbyville	284 28 09.25	104 32 05.96	3.9863484	3.021
*Sugarloaf L.O.	302 58 33	122 46 25	4.2956675	11.094
Groveland	328 04 57.42	148 10 16.25	4.5802247	24.913
Moccasin	352 15 26.24	172 16 45.21	4.5770012	24.257
*Hog Mountain	356 49 09	176 49 29	4.141984	8.685

*Not occupied

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BIG HILL (C. & G.S., 1931) — Tuolumne County — California
C. N. Mortenson — 1945 — 1927 N.A.D.
C. R. Lloyd — 1941

Note by C. N. Mortenson, 1945: Station recovered as described by U.S.C. & G.S.

Latitude: 37°49'43.004" Longitude: 120°34'02.587"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Fowler	176°19'33.70"	356°18'59.41"	4.3270975	13.196
Carson	194 55 28.84	11 57 52.77	4.3156915	13.780
Bald Mountain	222 05 15.70	42 12 49.89	4.4297511	16.715
*Lone Tree	246 59 56	67 02 51	3.879570	4.709
*Hog Mountain	251 56 40	72 04 33	4.296757	12.506
Moccasin	276 56 21.42	97 05 15.39	4.3281946	13.235
Penon Blanco	291 51 51.62	111 45 12.75	4.4633225	18.079
*Hetch Hetchy	296 09 40	116 13 47	4.040458	6.820

*Not occupied

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BRICEBURG — Mariposa County — California
C. N. Mortenson — 1945 — 1927 N.A.D.

Located about 3 mi. NW. of Briceburg, about 2 mi. S. of Texas Hill, on highest point and near S. end of low ridge that lies between Halls Gulch and its first principal fork coming in from the N.

To reach from Mariposa, take State Highway 140 NE., and go 13.0 mi. to Briceburg on Merced River, cross river and take steep rd. with numerous switch-backs, that climbs out of canyon to the N., go 7.2 mi. from Briceburg to crossroads on top of low ridge; take rd. left along ridge, and go 2.1 mi., take left fork, and go 200 ft., turn left on poor rd. along fire break and along ridge and go 0.6 mi. to station.

Station mark: Standard tablet stamped "Briceburg 1945," cemented in top of rock.

Reference mark No. 1: Standard reference mark tablet stamped "Briceburg No 1," cemented in top of rock, 24.22 ft. from station mark in true azimuth 199°55'.

Reference mark No. 2: Standard reference mark tablet stamped "Briceburg No 2," cemented in top of rock, 19.56 ft. from station mark in true azimuth 292°04'.

Signal: Black and white cross targets, centered over station mark.

V.A. Elev. 3149 ft.

Latitude: 37°38'53.291" Longitude: 119°59'51.391"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Fremont	36°23'29.51"	216°20'40.32"	4.0596564	7.129
*Williams Peak L.O.	72 48 20	252 42 01	4.201777	9.888
*Hunter Tree	80 33 24	260 25 12	4.268184	11.922
Coulterville	128 55 02.50	308 47 17.22	4.2494919	11.056
*Montgomery Tree	189 16 45	9 17 32	4.069324	7.289
Pilot L.O.	202 50 27.00	22 52 45.02	4.1592672	8.968
*Crane Flat L.O.	230 17 56	50 24 27	4.305279	12.665
Trumbull	250 08 26.05	70 13 23.51	4.1042145	7.881
*Sweetwater	308 53 27	128 57 35	4.108114	7.970

*Not occupied

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FEB 17 1953

BUCKINGHAM — Mariposa County — California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located on S. end of Buckingham Mountain, which is about 6 mi. E. and 2.5 mi. N. of Mariposa. Highest part of mountain is about 0.25 mi. NW. of station.

To reach from Mariposa, take State Highway 140 toward Yosemite Park, and go 5.0 mi. to Acorn Inn, turn right on oiled rd. and go 0.3 mi., turn left off oiled rd. and go 0.4 mi., turn left keeping main rd. and go 0.75 mi., take left fork and follow main-traveled rd. for 3.0 mi. to top of main ridge and crossroads; take rd. to right and go in a southerly direction along ridge for 1.7 mi. to station.

Station mark: Standard tablet stamped "Buckingham 1945," cemented in a rock.

Reference mark No. 1: Standard reference mark tablet stamped "No 1," cemented in bedrock, 11.32 ft. from station mark in true azimuth 74°20'.

Reference mark No. 2: Standard reference mark tablet stamped "No 2," cemented in bedrock, 18.75 ft. from station mark in true azimuth 337°20'.

Signal: Pine pole with cross targets, centered over station mark.

V.A. Elev. 4524 ft.

Latitude: 37°31'24.239" Longitude: 119°51'26.975"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Moore Hill	37°49'53.29"	217°45'11.10"	4.2697155	11.565
Shults (CAGS)	71 35 42.77	251 09 19.52	4.4273898	16.624
Mariposa	72 54 53.90	252 50 03.61	4.0682479	7.614
Bullion	94 44 56.50	274 58 59.65	4.1830023	9.470
Fremont	101 48 34.88	281 40 38.54	4.2922965	12.180
Trumbull	178 35 22.15	358 35 11.40	4.2438498	10.894
*Pinoche Peak	210 37 38	30 46 40	4.157256	8.925
Henness L.O.	223 14 13.93	43 20 14.34	4.2461027	10.951
Signal Peak L.O.	266 22 00.11	86 26 18.73	4.0189414	6.491
Miami L.O.	319 00 17.66	139 04 25.67	4.1818182	9.496
Deadwood	326 40 44.41	146 47 01.89	4.4447955	17.314
*Indian Peak	344 19 08	164 20 48	4.177156	9.543
Horse Camp	356 53 25.36	176 53 54.32	4.3350573	15.440

*Not occupied

BULLION — Mariposa County — California
C. H. Mortenson — 1945 — 1927 N.A.D.
C. F. Urquhart — 1908

Located 3.5 mi. N. and 3.5 mi. W. from Mariposa, on highest point of SE. end of Bullion Mountain.

To reach from Mariposa, go N. on State Highway 140 for 0.7 mi., turn left onto State Highway 49, and go 2.05 mi., turn right through cattle guard and go 2.95 mi. to forks of rd. in saddle, turn left and take ascending grade for 2.4 mi., turn left and go a short distance to top of peak and station. An airplane beacon light is located on top of peak and is 47.1 ft. from station mark in true azimuth 67°30'.

Station mark: An old style triangulation tablet cemented in large rock. (Sta. is identical with sta. Bullion as described in Bull. 440, p. 109.)

Signal: White cross targets, centered over station mark.

V.A. Elev. 4246 ft.

Latitude: 37°32'04.716" Longitude: 120°01'45.597"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Shults (CAGS)	45°45'55.62"	225°39'42.81"	4.1506128	8.790
Fremont	124 24 47.05	304 23 07.66	4.6860060	5.015
Buckingham	274 38 39.65	94 44 56.50	4.1830023	9.470
Moore Hill	346 35 15.34	166 36 49.40	4.2148335	10.190

CARSON — Calaveras County — California
C. H. Mortenson — 1945 — 1927 N.A.D.
L. O. Newsome — 1944

Description by L. O. Newsome, 1944:

Located 4.0 mi. SE. of Angels Camp.

To reach from Angels Camp, take hwy. SE. to Carson Flat 3.9 mi., turn left on dirt rd. 300 ft. and turn left up hill 0.5 mi. to saddle, leave car and walk 1000 ft. S. to top and station.

Station mark: Standard tablet stamped "Carson 1944," cemented in rock outcrop on top.

Reference mark No. 1: Standard reference mark tablet stamped "No 1 1944," cemented in rock outcrop on top, 47.2 ft. from station mark in true azimuth 88°32'.

Reference mark No. 2: Standard reference mark tablet stamped "No 2 1944," cemented in rock outcrop, 20.35 ft. from station mark in true azimuth 277°57'.

Signal: Black and white cross targets on pole, centered over station mark.

Note by C. H. Mortenson, 1945: Recovered as described by L. O. Newsome, 1944.

CONTINUED ON NEXT PAGE

CARSON (Cont'd.) — Calaveras County — California
C. H. Mortenson — 1945 — 1927 N.A.D.
L. O. Newsome — 1944

V.A. Elev. 1983 ft.

Latitude: 38°01'27.964" Longitude: 120°30'08.424"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Big Hill (CAGS)	14°57'52.77"	194°55'28.84"	4.3458952	13.780
Fowler	88 08 15.04	268 04 16.44	3.8498069	4.397
Bald Mountain	276 49 27.34	96 54 58.29	4.0936118	7.708
*Hog Mountain	319 24 51	139 30 20	4.306188	12.518
Mocassin	327 17 58.47	147 24 25.70	4.4553905	17.731
*Hotch Hotchy	351 04 01	171 06 11	4.124750	16.523
*Lone Tree	356 07 26	176 07 57	4.267418	11.502

*Not occupied

COULTERVILLE — Mariposa County — California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located about 3 mi. NE. of Coulterville.

To reach from Coulterville, take main rd. NE. and go 2.0 mi., take right fork and go 4.0 mi. to top of ridge, turn left on Ponderosa Way and go 0.6 mi. to high top and station.

Station mark: Standard tablet stamped "Coulterville 1945," cemented in granite rock.

Reference mark No. 1: Shallow drill hole in top of granite rock, 26.63 ft. from station mark in true azimuth 30°23'.

Reference mark No. 2: Copper nail and washer in 18-in. sugar pine, 66.40 ft. from station mark in true azimuth 168°49'.

Reference mark No. 3: Standard reference mark tablet stamped "Coulterville No 3," cemented in bedrock, 70.96 ft. from station mark in true azimuth 294°15'.

Signal: Flag in top of 18-in. sugar pine, 69.31 ft. from station mark in true azimuth 170°53'.

V.A. Elev. 5629 ft.

Latitude: 37°44'34.577" Longitude: 120°09'16.110"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
*Williams Peak L.O.	4°51'57"	184°51'23"	4.201781	9.888
*Hunter Tree	21 58 42	201 56 45	4.098158	7.789
Pemon Blanco	82 57 17.39	262 53 24.08	3.9757075	5.849
Groveland	148 21 56.25	328 19 16.21	4.0375922	6.621
Dree	227 18 40.46	47 24 49.28	4.3012215	12.433
Pilot L.O.	263 28 25.04	83 36 28.97	4.2894249	12.100
*Montgomery Tree	266 20 50	88 27 25	4.196552	9.770
Briceburg	308 47 17.22	128 53 02.50	4.2494919	11.097
Fremont	340 54 10.50	160 57 06.07	4.3336467	13.396

*Not occupied

CRANE FLAT L.O. (Not occupied) — Tuolumne-Mariposa Counties — California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located on summit of main ridge about 1 mi. W. of Crane Flat Ranger Sta., in Yosemite National Park.

To reach from Crane Flat Ranger Sta., go E. on rd. along an abandoned railroad grade for 1.25 mi., turn right on rd. that leads to station.

Station mark and signal: Center of National Park Service lookout house.

~~CALIF. ZONE 3~~

V.A. Elev. of ground at base of lookout house - 6644 ft.

~~X = 2,196,692.4 Y = 45,234.8~~

Latitude: 37°45'35.15" Longitude: 119°49'10.70"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Trumbull	23°25'16"	203°23'42"	3.997112	5.895
Briceburg	50 24 27	230 17 56	4.309279	12.445
Pilot L.O.	91 51 28	271 47 14	4.007090	6.515
Henness L.O.	326 54 11	146 57 49	4.204041	9.940

CROOK MTN. TREE (Not occupied) — Madera County — California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located on S. end of Crook Mountain.

Station mark and signal: A tall digger pine tree growing at S. end of high part of mountain, and tall enough so that it shows up prominently above the other trees. Tree has a heavy foliage, the center of which was sighted.

Latitude: 37°21'47.42" Longitude: 119°45'59.74"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Horse Camp	61°01'21"	240°58'32"	3.895860	4.889
Moore Hill	99 05 00	278 55 00	4.294651	12.246
Signal Peak	187 25 08	7 24 07	4.269543	11.553
Deadwood	307 12 51	127 51 49	3.958611	5.649

Recovered by Granville in 1946 Year. Book Nos. 12 and 13

Recovered Devils Postpile
Book Nos. PH208 Year 1956

FILE COPY -

SONORA AND MARIPOSA 30' QUADRANGLES

DEADWOOD — Madera County — California
C. R. Mortenson 1945 1927 N.A.D.
C. R. Lloyd 1941

Description by C. R. Lloyd, 1941:

Located about 3.5 mi. N. of Coarsegold, on highest part, which is a bare knoll, of large timbered ridge known as Deadwood Mountain. The station is identical with State Forest Service Fire Lookout Tower Deadwood.

To reach from Coarsegold, proceed NE. along State Highway 41 for 4.6 mi. to point on hwy. just N. of Summit and about 50 yd. from 5000 ft. elevation hwy. marker, here turn left and go 0.2 mi. to T-rd. right, turn right and go 1.5 mi. to rd. fork and stream crossing, which is about 100 yd. from house in gully, take right fork up hill and proceed 2.9 mi. to station and top.

Station mark: Standard tablet stamped "Deadwood 1941," set in concrete post in ground directly under center of lookout house on metal tower.

Reference mark No. 1: Old type U.S.G.S. b.m. set in rock naturally embedded about 10 ft. N. of large oak tree, 84.5 ft. from station mark in true azimuth 9°22'16".

Reference mark No. 2: Standard reference mark tablet set in rock naturally embedded, just outside fence, 83.7 ft. from station mark in true azimuth 240°06'51".

Signal: State Forest Service Fire Lookout house, on steel tower about 40 ft. high and directly over station mark.

Note by C. R. Mortenson, 1945: Station found as described by C. R. Lloyd, 1941.

V.A. Elev. 4539 ft.

Latitude: 37°18'48.965" Longitude: 119°41'05.724"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Horse Camp	96°52'32.94"	276°45'45.19"	4.1529957	8.838
•Crook Mountain Tree	127 15 49	307 12 51	3.958611	5.649
•Indian Peak	128 09 28	308 04 52	4.151306	8.865
Buckingham	146 47 01.89	326 40 44.41	4.4447955	17.343
Miami L.O.	155 54 58.26	335 52 28.65	4.1094331	7.994
Signal Peak L.O.	168 35 45.06	348 33 45.56	4.3877997	15.175

•Not occupied

DREW — Tuolumne County — California
C. R. Mortenson 1945 1927 N.A.D.

Located about 13 mi., airline, E. and a little N. of Groveland, about 1.5 mi. SW. of Hetch Hetchy intake on Tuolumne River, on small peak N. and W. of Hetch Hetchy R.R.

To reach from Groveland, go E. on State Highway 120 for 14.6 mi. to Cliff House summer resort, continue on hwy. 0.4 mi. and turn left at rd. sign "Oakland Camp," go 0.4 mi. to Oakland Camp and turn left across bridge and follow main rd. to intake, go 3.9 mi. and turn left on poor rd. at sign "Drew Ridge Fire Line," go 0.4 mi. and take right fork, go 0.1 mi. and leave car, walk to station up ridge to right.

Station mark: Standard tablet stamped "Drew 1945," cemented in top of buried rock near W. edge of small top.

Reference mark No. 1: U.S.F.S. bronze tablet stamped "Station 10 VABM Elev 4125 T 1 S R 18 E Sec 10 1937," cemented in rock outcrop, 36.39 ft. from station mark in true azimuth 56°43'.

Reference mark No. 2: Standard reference mark tablet stamped "Drew No 2," cemented in rock outcrop, 19.83 ft. from station mark in true azimuth 213°59'.

Signal: Black and white cross targets in 8-in. pine tree with tufted top, 4.82 ft. from station mark in true azimuth 10°47'.

CALIF. ZONE 3 V.A. Elev. 4331 ft.
X= 2,147,994.1 Y= 407,427.2
Latitude: 37°51'54.177" Longitude: 119°59'14.411"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Coulterville	47°24'49.28"	227°18'40.46"	4.3012235	12.433
•Smith Peak L.O.	54 14 25	234 10 16	4.086356	7.581
Groveland	77 37 05.15	257 28 33.74	4.3178519	12.917
Duckwall	134 55 04.12	314 50 15.64	4.2125024	10.135
•Thompson Peak L.O.	134 22 53	314 30 55	4.217389	10.356
•Woods Ridge L.O.	189 17 36	9 18 15	4.024212	6.576
Pilot L.O.	337 52 54.14	157 54 51.83	4.0884399	7.621

•Not occupied

Recovered GMS - Yosemite Proj.
Book Nos. PH478 Year 1956
(new values)

SEE LA... CALIFORNIA 3.

DUCKWALL — Tuolumne County — California
C. R. Mortenson 1945 1927 N.A.D.

Located about 6.6 mi. E. of Tuolumne, on highest point of Duckwall Mountain. At center of 100-ft. steel lookout tower.

To reach from Sonora go NE. on State Highway 108 for about 17 mi. to summer resort of Long Barn, from Long Barn Lodge go along hwy. 0.35 mi. and turn right, take rd. toward Thompson Meadow and go 2.25 mi., take rd. to right and go 0.5 mi. to bridge over North Fork of Tuolumne River, go 0.45 mi. and take right fork onto rd. along old railroad grade, go 4.05 mi. and keep to rd. straight ahead, go 1.5 mi. and keep to lower rd., go 2.1 mi. and turn left, go 1.75 mi. and keep to rd. straight ahead, go 2.75 mi. and keep to rd. straight ahead, go 6.9 mi. to station.

Station mark: Standard tablet stamped "Duckwal 1945," cemented in top of granite boulder and centered under steel lookout tower.

Reference mark No. 1: Standard reference mark tablet stamped "Duckwall No 1," and cemented in top of an abandoned concrete footing, 6.86 ft. from station in approximate azimuth 102°.

Reference mark No. 2: U.S.F.S. standard bronze tablet stamped "Duckwall VABM Elev 5837 T 1 N R 17 E Sec 4 1937," cemented in an abandoned concrete footing, 6.85 ft. from station mark in approximate azimuth 194°.

Signal: Center of 100-ft. steel lookout tower, centered over station mark.

CALIF. ZONE 3
X= 2,109,892.8 V.A. Elev 5835 ft. Y= 535,003.7
Latitude: 37°58'07.188" Longitude: 120°07'07.624"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
•Sugarloaf L.O.	16°18'13"	196°17'15"	3.713614	5.093
Groveland	28 58 32.07	208 54 52.74	4.2660317	11.320
Hoffman	45 21 26.95	225 13 45.99	4.4117432	16.096
Soulsbyville	99 20 11.19	279 15 08.80	4.0844983	7.551
Bald Mountain	101 40 47.40	281 31 48.28	4.3468529	13.968
•Elizabeth L.O.	133 05 32	313 00 48	4.185821	9.552
•Thompson Peak L.O.	232 47 56	52 49 48	3.748211	3.460
•Woods Ridge L.O.	274 32 51	94 38 26	4.125940	8.266
Drew	311 50 15.64	134 55 06.42	4.2125021	10.135
Pilot L.O.	324 40 09.22	144 46 55.49	4.4417066	17.400
•Smith Peak L.O.	354 51 38	174 52 20	4.272509	11.63

•Not occupied

Recovered Big Trees
Book Nos. PH470 Year 1956
(new GMS Fully values)

POWLER — Calaveras County — California
C. R. Mortenson 1945 1927 N.A.D.
L. D. Newsome 1944

Described by L.D. Newsome, 1944:

Located 4.0 mi. SW. of Angels Camp, on S. end of Bear Mountain.

To reach from Altaville, take State Highway 4 SW. for 6.0 mi. to an iron gate on left (S. side) of hwy., enter gate and drive on dirt rd. S. 4.5 mi. to Powler Lookout (State) and station.

Station mark: Standard tablet stamped "Powler 1944," cemented in 10-ft. boulder 2½ ft. NE. of lookout tower.

Reference mark No. 1: Standard reference mark tablet stamped "No 1 1944," cemented in boulder, 25 ft. SE. of lookout tower, 54.4 ft. from station mark in true azimuth 95°11'.

Reference mark No. 2: Standard reference mark tablet stamped "No 2 1944," cemented in rock level with ground, 26 ft. NE. of tower, 49 ft. from station mark in true azimuth 350°55'.

Signal: Center of top of Powler Lookout Tower, 34.1 ft. from station mark in true azimuth 42°21'.

Note by C. R. Mortenson, 1945: Station found as described by L. D. Newsome, 1944.

Latitude: 38°01'10.405" Longitude: 120°34'58.378"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Carson	268°03'16.44"	88°08'35.04"	3.8198069	4.397
Bald Mountain	273 37 17.43	93 45 26.95	4.2801725	12.073
Hoffman	316 53 09.06	136 42 34.45	4.5149736	20.359
Big Hill (CAGS)	356 18 59.41	176 19 53.70	4.3270975	13.196

FREMONT — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 5.5 mi. N. and 6.5 mi. W. from Mariposa. On Fremont Peak which is highest point on Bullion Mountain.

To reach from Mariposa, go E. on State Highway 140 for 0.7 mi., turn left onto State Highway 49 and go 2.05 mi., turn right through cattle guard and go 2.55 mi., to forks of rd. in saddle, turn left and take ascending grade for 2.4 mi., keep to rd. straight ahead and go 1.75 mi., keep straight ahead again, and follow rd. N., at times along crest of mountain, and at times on E. side, for 3.15 mi. to point where rd. comes back near crest of mountain, leave car and walk S. along summit for about 1000 ft. to station.

Station mark: Standard tablet stamped "Fremont 1945," cemented in rock near W. edge of highest part of peak. A wood observing tower 22 ft. high is centered over station mark.

Reference mark No. 1: Standard reference mark tablet stamped "Fremont No 1," cemented in large rock, 29.65 ft. from station mark in true azimuth 95°18'.

Reference mark No. 2: Standard reference mark tablet stamped "Fremont No 2," cemented in large rock, 21.33 ft. from station mark in true azimuth 194°42'.

Signal: Black and white cross targets in top of dead digger pine tree that overhangs station mark and observing tower, 3.35 ft. from station mark in true azimuth 244°53'.

V.A. Elev. 4202 ft.

Latitude: 37°33'33.648" Longitude: 120°04'28.716"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Shults (C&GS)	25°52'17.54"	205°49'43.95"	4.1469236	8.715
Webb	106 39 24.93	286 31 28.61	4.3008654	12.423
*Williams Peak L.O.	118 18 19	298 14 50	3.979571	5.928
Penon Blanco	139 30 49.50	319 24 00.93	4.4016805	15.668
Coulterville	160 57 06.07	340 54 10.50	4.3336467	13.397
*Montgomery Tree	202 38 05	22 41 41	4.355278	14.026
Pilot L.O.	208 36 21.61	28 41 28.92	4.4101879	15.978
Briceburg	216 20 40.32	36 23 29.51	4.0596564	7.129
Trumbull	234 05 23.44	54 13 09.88	4.3639475	14.304
*Sweetwater	265 55 34	86 02 31	4.226129	10.459
Buckingham	281 40 38.54	101 48 34.88	4.2922965	12.180
Bullion	304 23 07.66	124 24 47.05	3.6860060	3.015

*Not occupied

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GREEN (C. & G.S., 1931) — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.
C. R. Lloyd — 1941

Notes by C. E. Mortenson, 1945: Station found as described by U.S.C. & G.S.

There is now a State fire lookout station on Green Mountain with a rd. leading to same. The lookout house is about 450 ft. NNW. of station mark. The old U.S.G.S. station GREEN (U.S.G.S. tablet) is 15 ft. N. of NE. corner of lookout house and on line with E. face, 478.4 ft. from U.S.C. & G.S. station mark in true azimuth 163°57'50".

To reach from Green Mountain School on Le Grande-Raymond rd., go W. 0.6 mi. and turn N. through gate and keep left, rd. climbs up S. face of mountain.

V.A. Elev. 1360 ft.

Latitude: 37°15'50.935" Longitude: 119°59'22.702"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Shults (C&GS)	145°54'05.85"	325°48'29.11"	4.3862229	15.120
Moore Hill	181 10 56.57	1 10 43.69	4.1482943	8.743
*Indian Peak	227 46 21	47 52 50	4.328211	13.230
Horse Camp	240 51 20.70	60 56 57.84	4.1688854	9.167

*Not occupied

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GROVELAND — Tuolumne County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 1 mi. SE. of Groveland, near W. end of small top covered with pine and manzanita.

To reach from Groveland, go W. on hwy. for 0.4 mi., turn left onto oiled rd. and follow up hill (past a mine) for 1.1 mi. to top of ridge in saddle, turn left and go 0.15 mi., turn left onto fire rd. along ridge and go 0.9 mi. to station.

Station mark: Standard tablet stamped "Groveland 1945," set in granite rock projecting 3 in. above ground, and about 4 ft. E. of pine tree.

Reference mark No. 1: Copper nail and washer in 8-in. pine tree, 39.95 ft. from station mark in true azimuth 241°39'.

Reference mark No. 2: Standard reference mark tablet stamped "No 2," cemented in granite rock, 32.41 ft. from station mark in true azimuth 336°01'.

Signal: Black and white cross targets in top of tree, 3.9 ft. from station mark in true azimuth 105°04'.

CONTINUES ON NEXT PAGE

SEE LA...

GROVELAND (Cont'd.) — Tuolumne County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

V.A. Elev. 3634 ft.

Latitude: 37°49'28.772" Longitude: 120°13'04.675"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Penon Blanco	19°58'29.24"	199°56'51.74"	4.0390815	6.799
Moccasin	77 22 25.84	247 18 24.55	3.9941467	6.131
Bald Mountain	148 10 16.25	328 04 57.42	4.3802257	14.913
Soulsbyville	169 39 12.91	349 37 50.38	4.2615282	11.342
*Elizabeth L.O.	174 34 29	354 35 26	4.424599	16.517
Duckwall	208 34 52.74	28 38 32.07	4.2604817	11.528
*Sugarloaf L.O.	218 18 57	38 21 39	4.015321	6.437
*Woods Ridge L.O.	235 45 46	55 54 59	4.424616	16.518
Drew	257 28 33.74	77 37 03.15	4.3178319	12.917
*Smith Peak L.O.	284 15 29	104 19 50	4.031122	6.675
Pilot L.O.	285 20 24.21	105 30 48.65	4.4126689	16.070
Coulterville	328 19 16.21	148 21 56.25	4.0275922	6.621

*Not occupied

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HENNESS LOOKOUT — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Recovered Book Nos Year — Yosemite PH470 1973 — Ridge

Located on Henness Ridge, about 2 mi. S. and 4 mi. E. from El Portal.

To reach from Mariposa, take State Highway 140 into Yosemite Park, near lower end of Yosemite Valley, turn right onto Wawona rd. and go to Chinquapin Ranger Sta., go 0.5 mi. past ranger sta. and turn right onto rd. to Henness Ridge Lookout, go 1.7 mi. to lookout and station.

Station mark and signal: Center of National Park Service Lookout House.

Reference mark No. 1: Standard reference mark tablet stamped ~~"Henness No 1 1945,"~~ cemented in large granite rock, 47.86 ft. from station mark in true azimuth 59°44'.
Stamped " HENNESS RIDGE NO 1 1945 "

Reference mark No. 2: Standard reference mark tablet stamped ~~"Henness No 2 1945,"~~ cemented in large granite boulder, 65.9 ft. from station mark in true azimuth 223°02'.
Stamped " HENNESS RIDGE NO 2 1945 "

V.A. Elev. ground at base of lookout house - 6341 ft. 6340.5 (1956)
~~CALIF. ZONE 3~~

Latitude: 37°38'20.307" Longitude: 119°43'14.410"
~~X = 2,225,659.7 Y = 415,640.8~~

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Signal Peak L.O.	7°48'35.12"	187°47'53.65"	4.0893935	7.634
Buckingham	45 20 14.34	225 15 13.95	4.2461027	10.951
Trumbull	110 38 36.36	290 33 24.65	4.1297720	8.301
*Crane Flat L.O.	146 57 49	326 54 11	4.204041	9.940

*Not occupied

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HETCH HETCHY (Not occupied) — Tuolumne County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 1.5 mi. SE. of Hetch Hetchy R.R. junction on highest point on oak covered hill.

To reach from Sonora, go SW. through Jamestown on Oakdale Highway for 14.0 mi., turn left on La Grange rd., and go 5.0 mi. S. to summit of low ridge and also near power line crossing, from here station is about 0.5 mi. SE.

Station mark and signal: Top of 12-in. oak tree with copper nail and washer on E. side, tree has signal of white cross targets wired in top.

V.A. Elev. of ground at base of tree - 1495 ft.

Latitude: 37°47'05.85" Longitude: 120°27'19.99"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Big Hill (C&GS)	116°13'47"	296°09'40"	4.040438	6.820
Carson	171 06 44	351 05 01	4.424750	16.523
Moccasin	258 43 34	78 48 17	4.061382	7.157
Penon Blanco	288 48 26	108 55 36	4.259522	11.295

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HOG MOUNTAIN (Not occupied) — Tuolumne County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 7 mi. S. of Sonora, on top of brush and timber covered peak, locally known as Hog Mountain.

To reach from Jamestown, take oiled rd. toward Stent and go 1.1 mi., turn left on oiled rd. and go 1.1 mi., keep on oiled rd. straight ahead and go 3.4 mi., leave oiled rd. and turn right, go 0.7 mi. and from here top is visible to E.

Station mark and signal: Tall dark colored pine tree with sharp top and signal pole in top, growing at N. edge of top of hill; tree has copper nail and washer on W. side.

V.A. Elev. for top of hill, approximately 50 ft. S. of station - 2481 ft.

Latitude: 37°55'01.39" Longitude: 120°21'12.08"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Big Hill (C&GS)	72°04'33"	251°56'40"	4.296757	12.306
Carson	139 30 20	319 24 51	4.304188	12.518
Bald Mountain	176 49 29	356 49 09	4.141584	8.605
Moccasin	345 24 46	165 15 43	3.954942	5.601

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Recovered
Book Nos.....Year.....

FILE COPY -

SONORA AND MARIPOSA 30' QUADRANGLES

HORSE CAMP — Madera County, California
C. H. Mortenson — 1945 — 1927 N.A.D.
C. H. Lloyd — 1941

Description by C. H. Lloyd, 1941:

Located on grassy, oak-covered ridge 8.5 mi. NNE. of Raymond.

To reach from Raymond Post Office, go N. on main rd. for 0.15 mi. to T-rd. R. and sign "MARIPOSA 25 mi., MADERA 24 mi., WAWONA 45 mi., YOSEMITE 69 mi.," turn left and go 0.7 mi. to fork of rd. and sign "RAYMOND 3/4 mi., MARIPOSA 24 mi.," take right-hand fork [straight ahead] and proceed down canyon and up river for 7.25 mi. to forks of rd. and sign on tree "BAILEY FLATS," turn left and go 1.7 mi. to point where rd. crosses stream and sand wash, cross wash and turn right at fork of rd., go up hill on ranch rd. 2.0 mi. to ranch house passing gate and stream crossing at 1.4 mi., follow dim pasture rd. back of house S. on side of ridge for 0.3 mi. to stream fork and end of truck travel. Peak southwards along ridge on well defined cow trail to watering trough, from trough continue on cow trail around side of ridge into saddle and southward on ridge and trail to point where trail passes just E. of second definite top S. of house and about 1 mi. from end of truck travel. Station is located on this top.

Note: There is an old U.S.C.S. vertical angle b.m. on top just W. and above watering trough about 1/2 mi. from ranch house, this is not the station.

Station mark: Standard tablet stamped "Horse Camp 1941," set in rock in ground, on top directly under signal.

Reference mark No. 1: Copper nail and washer, set horizontally in burl on 14-in. oak tree, 12 ft. from station mark in true azimuth 272°21'.

Reference mark No. 2: Copper nail and washer in small cut triangle on 5-in. oak tree, 65.1 ft. from station mark in true azimuth 229°58'53".

Signal: Black and white cross targets on 3- by 3-in. pole in tree directly over station mark.

Note by C. H. Mortenson, 1945: Station found as described by C. H. Lloyd, 1941 except that azimuth to Reference mark No. 1 is in error by 180°, it should be 92°28', also signal is not now directly over station mark.

V.A. Elev. 1912 ft.

Latitude: 37°19'43.680" Longitude: 119°50'39.515"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Green (CAGS)	60°56'37.84"	240°51'20.70"	4.1688854	9.167
Moore Hill	118 44 37.99	298 39 07.51	4.1569675	8.919
Buckingham	176 53 54.52	356 53 24.56	4.3560375	13.440
oIndian Peak	202 06 12	22 07 25	3.8856468	4.775
Signal Peak L.O.	202 34 37.85	22 36 26.94	4.3821104	14.978
Miami L.O.	221 20 40.28	41 24 18.82	4.1271669	8.527
oCrook Mountain Tree	240 48 32	61 01 21	3.8958860	4.889
Deadwood	276 45 45.19	96 51 32.94	4.1529957	8.839

oNot occupied

HUNTER TREE (Not occupied) — Mariposa County, California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located on Hunter Valley Mountain, about 2 mi. W. of railroad siding at Kittridge.

Station mark and signal: Top of lone whorelike shaped pine tree growing on summit of ridge and about 60 yd. NW. of small top.

V.A. Elev. of ground at base of tree 2629 ft. (Average ground elevation of small top to NE. is 2644 ft.; elevation at top of large rocks on above top is 2675 ft.)

Latitude: 37°38'27.47" Longitude: 120°12'27.47"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Harvitos	18°10'29"	198°00'58"	4.1680413	9.149
Webb	67 42 19	247 39 17	3.9036610	4.977
Coulterville	201 56 45	21 58 42	4.0981358	7.789
Briceburg	268 25 42	88 53 24	4.2681186	11.522

INDIAN PEAK (Not occupied) — Mariposa County, California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located on top of Indian Peak, which is about 6.5 mi. S. and 8.5 mi. E. of Mariposa.

To reach from Mariposa, take rd. S. to Mormon Bar, and thence E. to T-rd. S. about 4.8 mi. from Mariposa, turn S. and keep on main-traveled rd. for 3.5 mi., turn left and go 0.8 mi., keep straight ahead and go 2.2 mi., take left fork and go 1.0 mi., turn left and go 0.5 mi., turn right and go 0.4 mi. to ranch house and Indian Peak School, leave car and walk to top of peak, which is about 0.75 mi. NE.

Station mark and signal: Trimmed oak tree growing about 60 ft. NW. of highest part of top, and on ground that is about 2 ft. lower. Tree has copper nail and washer on S. side.

Note: There is an old U.S.B.M. tablet 121 ft. from station mark in approximate azimuth 330°.

V.A. Elev. of highest part of hill is 3085 ft., and that of old U.S.B.M. is 3081 ft.

CONTINUED ON PAGE 5.

Recovered
Book Nos.....Year.....
Recovered
Book Nos.....Year.....
Recovered
Book Nos.....Year.....

INDIAN PEAK (Not occupied) (Cont'd.) — Mariposa County, California
C. H. Mortenson — 1945 — 1927 N.A.D.

Latitude: 37°23'54.63" Longitude: 119°48'41.76"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Horse Camp	22°07'23"	202°06'12"	3.8856468	4.775
Green (CAGS)	47 52 50	227 46 21	4.1328211	13.230
Moore Hill	89 12 56	269 06 14	4.1897414	9.618
Buckingham	144 20 46	324 19 08	4.1771136	9.345
Signal Peak L.O.	202 49 08	22 51 45	4.2145386	10.203
Deadwood	308 04 52	128 09 28	4.1543306	8.865

LONE TREE (Not occupied) — Tuolumne County, California
C. H. Mortenson — 1945 — 1927 N.A.D.

Located about 8 mi. SW. of Jamestown, on S. side of Sonora-Oakdale Highway, on middle peak of three most prominent peaks in some low hills, locally known as Red Hills.

To reach from Sonora, take Sonora-Oakdale Highway and go 14.0 mi., turn left on oiled rd. and follow this rd. NE. for 0.8 mi., turn left on ranch rd. through gate, and go about 0.5 mi. to ranch house, car can be taken through pasture for about 0.25 mi. beyond house, leave car and walk N. to station, about 50 minute climb.

Station mark and signal: A lone pine tree, growing 50 ft. W. and 30 ft. S. of highest point of hill.

V.A. Elev. at top of hill NE. of signal tree is 1755 ft.

Latitude: 37°51'18.96" Longitude: 120°29'17.24"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Big Hill (CAGS)	67°02'51"	246°59'56"	3.8795570	4.709
Carson	176 07 57	356 07 26	4.2474148	11.602
Bald Mountain	213 04 49	33 09 28	4.3071058	12.601
Mountain	291 25 15	111 29 08	4.1822177	9.452

MARIPOSA — Mariposa County, California
C. H. Mortenson — 1945 — 1927 N.A.D.
C. F. Urquhart — 1908

Located on top of ridge about 1.3 mi. W. and a little N. of Mariposa. Station is identical with station Mariposa as described in Bull. 440, p. 111.

Station mark: Drill hole in bedrock, partially filled with cement.

Note: The old triangulation tablet is missing, but the imprint of the shank of tablet is visible in cement in above hole.

Signal: Flagpole in small cairn, centered over station mark.

V.A. Elev. 2757 ft.

Latitude: 37°29'27.201" Longitude: 119°59'25.743"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Bullion	144°21'21.06"	324°19'54.68"	3.7764429	3.714
Buckingham	252 50 05.61	72 54 53.90	4.0882479	7.614
Moore Hill	348 22 34.25	178 22 42.02	4.0453869	6.898

Recovered Devils Postpile
Book Nos. PP4208 Year 1927
2 Rm's set

6.
SONORA AND MARIPOSA 30' QUADRANGLES

MIAMI LOOKOUT — Mariposa County — California
C. N. Mortenson — 1945 — 1927 N.A.D.
Relocated 1941

Located about 5.0 mi. S. and 12.0 mi. E. from Mariposa, on Miami Mountain.

To reach from Mariposa, take county rd. S. and E. through Hornon Bar and Bootjack toward Ahwahnee, leave county rd. at point approximately 4 mi. N. of Ahwahnee, and take forest service rd. that leads to station.

Station mark and signal: Center of U. S. Forest Service lookout house on steel tower. 4326.5 ft (1952)

V.A. Elev. of ground under lookout house - 4325 ft.

Latitude: 37°25'09.899" Longitude: 119°44'39.281"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Horse Camp	41°24'18.82"	221°20'40.28"	4.1271669	8.327
Buckingham	139 04 25.67	319 00 17.66	4.1841842	9.496
Signal Peak L.O.	181 56 47.00	1 56 57.37	4.0064643	7.582
Deadwood	335 52 28.65	155 54 56.26	4.1094331	7.994

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HOCCASIN — Tuolumne County — California
C. N. Mortenson — 1945 — 1927 N.A.D.
C. R. Lloyd — 1941

Description by C. R. Lloyd, 1941:

Located on highest part of Hoccasin Ridge, about 0.8 mi. W. of Hoccasin Creek Power Plant.

To reach station from Hoccasin Creek Power Plant, go W. across the Reservoir dam and turn left at sign "COULTERVILLE 11 MILES - SONORA 20.0 MILES - OAKDALE 39 MILES," go 0.35 mi. and turn left on graded rd., go 2.55 mi. on main-traveled rd., take right rd. fork, go 0.1 mi. and pass through swinging gate, go 0.3 mi. and pass through gate opposite ranch buildings, go 0.15 mi. and pass through swinging gate, (this gate is usually locked, obtain key from a Mr. Hughes, whose residence is 0.4 mi. N. of the power plant) and go 0.3 mi., turn right onto dim rd. opposite a lone oak tree and just N. of drain sook in pipe line, which follows along N. side of rd., follow dim rd. and go 0.1 mi. pass through wire gate, go 0.35 mi. across drain, go 0.1 mi. and turn left off rd. about 100 yd. W. of steel power line tower, go 1.0 mi. and pass through saddle and keep to N. side of hill until reaching spur ridge, follow up spur to ridge top, turn N. up ridge to fence line and end of truck travel, pack up ridge to top and station.

Station mark: Standard tablet stamped "Hoccasin 1940," cemented in rock outcrop.

Reference mark No. 1: Standard reference mark tablet stamped "No 1," cemented in rock outcrop, 38.35 ft. from station mark in true azimuth 127°17'.

Reference mark No. 2: Forest Service bench mark tablet stamped "Hoccasin Elev 2954," cemented in rock outcrop on N. end of top, 256.40 ft. from station mark in true azimuth 261°00'.

Signal: Black and white cross targets on 3- by 3-in. staff 18 ft. long, mounted in top of oak tree, 57.83 ft. from station mark in true azimuth 118°29'.

Notes by C. N. Mortenson, 1945: Station found as described by C. R. Lloyd, 1941, except for stamping on Reference mark No. 2. This should be "Hoccasin Peak Elev. 2943 1937."

Also in description, route to station, near first part of the description, "go 0.35 mi. and turn left on graded rd.," should be corrected to read "turn right on graded rd."

V.A. Elev. 2948 ft.

Latitude: 37°48'18.639" Longitude: 120°19'38.231"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
•Betah Hetchy	78°48'17"	258°43'34"	4.061382	7.157
Big Hill (CA08)	97 05 15.39	276 56 25.42	4.3283946	13.256
•Lone Tree	111 29 08	291 23 13	4.182177	9.452
Fowler	136 42 34.45	316 33 09.06	4.5149736	20.598
Carson	147 24 25.70	327 17 58.47	4.4555905	17.751
•Hog Mountain	165 15 43	345 14 46	3.9649&2	5.801
Bald Mountain	172 16 45.21	352 15 28.24	4.3670012	14.137
Soulsbyville	197 27 11.98	17 29 51.20	4.5240970	13.105
Duckwall	225 15 45.99	45 21 26.95	4.4117432	12.036
Groveland	257 18 24.55	77 22 25.84	3.9941267	6.131
Penon Blanco	324 00 02.29	144 02 29.05	4.0015886	6.256

•Not occupied

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MONTGOMERY TREE (Not occupied) — Mariposa County — California
C. N. Mortenson — 1945 — 1927 N.A.D.

Located on Montgomery Ridge about 3 mi. SE. of Pilot Peak.

Station mark and signal: Top of 24-in. pine tree with flag and trimmed top, growing near S. end of top.

V.A. Elev. at top of hill, 120 ft. N. of station - 4046 ft.

Latitude: 37°44'48.80" Longitued: 119°50'34.13"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Brisburg	9°17'32"	189°16'45"	4.069324	7.289
Fremont	22 11 41	202 58 05	4.353278	14.026
Coulterville	88 27 23	268 20 50	4.196552	9.770
Pilot L.O.	244 14 32	64 16 02	3.605405	2.506
Trumbull	305 55 29	125 59 40	4.095160	7.700

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CALIFORNIA

MOORE HILL — Mariposa County — California
C. N. Mortenson — 1945 — 1927 N.A.D.
C. P. Urquhart — 1906

Located 6.5 mi. S. and 1.0 mi. W. from Mariposa, on prominent hill locally known as Moore Hill. Station is near SE. edge and on highest part. It is identical with old U.S.C.S. station Moore Hill, as described in Bull. 440, p. 111.

To reath from Mariposa, go S. toward Hornon Bar for 1.3 mi., turn right across bridge and go 4.05 mi. to crossroads; turn left toward Raymond, and follow on oiled rd. for 2.35 mi. to Y-rd. fork, keep right and go 2.3 mi., turn sharp to right on poor rd. that goes through wooden gate, and follow this winding rd. W. for 2.35 mi. to top of hill and station.

Station mark: An old style bronze tablet stamped "VA 2600 1909," and cemented in rock outcrop.

Reference mark No. 1: Standard reference mark tablet stamped "Moore Hill No 1," set in rock outcrop, 21 ft. from station mark in true azimuth 108°41'.

Reference mark No. 2: Copper nail and washer in 10-in. oak tree, 9.78 ft. from station mark in true azimuth 329°41'.

Signal: White cross targets in top of 10-in. oak tree, 8.39 ft. from station mark in true azimuth 315°20'.

V.A. Elev. 2608 ft.

Latitude: 37°23'27.240" Longitude: 119°59'10.955"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Green (CA08)	1°10'43.69"	181°10'36.57"	4.1182943	8.745
Shults (CA08)	113 35 34.87	293 29 50.51	4.1811934	9.446
Bullion	166 58 49.40	346 55 15.34	4.2118335	10.190
Mariposa	178 22 42.02	358 22 34.25	4.0453869	6.898
Buckingham	217 45 11.10	37 49 53.29	4.2697155	11.563
•Indian Peak	269 06 14	89 12 56	4.189744	9.618
•Creek Mountain Tree	278 55 00	98 05 00	4.294631	12.216
Horse Camp	298 39 07.51	118 44 17.99	4.1569675	8.919

•Not occupied

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PENON BLANCO — Mariposa County — California
C. N. Mortenson — 1945 — 1927 N.A.D.
C. R. Lloyd — 1941

Description by C. R. Lloyd, 1941:

Located about 3.9 mi. NW. of Coulterville and about 12 mi. NE. of La Grange, on highest part of Penon Blanco Ridge.

To reach from La Grange, take main rd. towards Coulterville for 11.05 mi. to rd. intersection, keep left (N.) on Coulterville rd. for 4.65 mi., and turn L. at sign "COULTERVILLE 9 MIKES," go 3.1 mi. to point where rd. crosses saddle, turn right through gate and follow rd. to station.

Station mark: Center of lookout tower.

Reference mark No. 1: Standard reference mark tablet stamped "No 1," cemented in rock outcrop, 184.35 ft. from station mark in true azimuth 40°15'.

Reference mark No. 2: Chiseled cross in rock outcrop, 72.26 ft. from station mark in true azimuth 172°25'.

Signal: Center of lookout tower (identical with station mark).

Note by C. N. Mortenson, 1945: Station found as described by C. R. Lloyd, 1941.

V.A. Elev. of ground at base of lookout house - 2072 ft.

Latitude: 37°43'55.198" Longitude: 120°15'37.316"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Webb	11°34'20.91"	191°33'12.27"	4.1771486	8.533
•Betah Hetchy	108 55 16	288 48 26	4.259522	11.295
Big Hill (CA08)	111 43 12.75	291 31 55.62	4.1653226	10.078
Hoccasin	144 02 29.85	324 00 02.29	4.0015886	6.256
Groveland	199 56 55.74	19 58 29.24	4.0390315	6.799
Coulterville	242 53 24.08	62 57 17.39	3.9737075	5.869
Pilot L.O.	265 07 52.08	85 19 49.30	4.1696407	17.948
Fremont	319 24 00.93	139 30 49.30	4.0016805	15.668
•Williams Peak L.O.	331 20 24	151 23 43	4.222270	10.366

•Not occupied

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PILOT LOOKOUT — Tuolumne-Mariposa Counties — California
C. N. Mortenson — 1945 — 1927 N.A.D.

Located on highest point of Pilot Peak. This is a prominent peak about 15 mi., airline, E. and N. of town of Coulterville.

To reach from Mariposa, take Yosemite all-year hwy. to Brisburg on Merced River, cross river and take second-class rd. up Brisburg grade and on N. through Kingsley Guard Sta. to old Coulterville rd., go N. to top of high ridge and rd. forks known as "The Mail Box," take rd. marked "Pilot Peak" N. for 1.5 mi. to peak and station.

To reach from Groveland, go E. on Oak Flat-Yosemite rd. to point about 1 mi. E. of Berkeley Camp, turn right and go SE. to old Coulterville rd. N. to rd. forks at "The Mail Box" described above.

Station mark and signal: Center of U. S. Forest Service lookout house.

CONTINUED ON NEXT PAGE

Recovered Yosemite Proj
Book Nos. PH470 Year 1947
Tied to 1948 Cross station
@ PILOT PEAK.

FILE COPY -

457

SONORA AND MARIPOSA 30' QUADRANGLES

7.
CALIFORNIA

PILOT LOOKOUT (Cont'd.) Tuolumne-Mariposa Counties California
C. H. Mortenson 1945 1927 N.A.D.

Reference mark No. 1: Standard reference mark tablet stamped "Pilot No 1 1945," set in bedrock, 38.45 ft. from station mark in true azimuth 58°38'.

Reference mark No. 2: Standard reference mark tablet stamped "Pilot No 2 1945," set in bedrock, 25.64 ft. from station mark in true azimuth 134°40'.

CALIF. ZONE 3
X = 2,163,350.2 Y = 460,235.0

V.A. Elev. of ground at base of lookout house - 6018 ft.

Latitude: 37°45'45.630" Longitude: 119°56'05.714"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Briceburg	22°32'45.02"	202°30'27.00"	4.1592672	8.966
Fremont	28 41 28.92	208 36 21.61	4.1101879	15.378
*Montgomery Tree	64 16 02	244 14 32	3.605685	2.506
Penon Blanco	85 19 49.30	265 07 52.08	4.166666[illegible]7	17.948
Coulterville	85 38 28.96	265 28 25.04	4.2894219	12.100
Groveland	105 30 18.65	285 20 24.21	4.1126689	16.070
*Smith Peak L.O.	106 16 56	286 10 52	4.179631	9.397
Duckwall	114 46 55.49	324 40 09.22	4.1447066	17.406
*Thompson Peak L.O.	156 00 35	335 55 39	4.458622	17.864
Drew	157 54 31.83	337 52 56.14	4.0886399	7.621
*Woods Ridge L.O.	172 25 51	352 24 38	4.3424601	15.670
*Crane Flat L.O.	271 47 14	91 51 28	4.007056	6.315
*Pinoche Peak	315 04 23	135 10 16	4.301882	12.452
Trumbull	324 40 07.59	144 42 47.37	4.0439506	6.875

*Not occupied

PINOCHE PEAK (Not occupied) Mariposa County California
C. H. Mortenson 1945 1927 N.A.D.

Located on main divide between Merced River and South Fork Merced River, about 3 mi. S. of El Portal.

Station mark and signal: Highest tip of Pinoche Peak.

V.A. Elev. 5769 ft.

Latitude: 37°38'05.04" Longitude: 119°46'28.54"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Buckingham	30°40'40"	210°37'38"	4.157256	8.925
Trumbull	125 44 59	305 41 16	3.9491140	5.787
Pilot L.O.	135 10 16	315 04 23	4.301882	12.452

SHULTZ (C. & G.S., 1951) Mariposa County California
C. H. Mortenson 1945 1927 N.A.D.
C. B. Lloyd 1941

Note by C. H. Mortenson, 1945: Station recovered as described by U.S.C. & G.S.

Latitude: 37°26'44.222" Longitude: 120°08'37.695"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Webb	144°34'25.84"	324°29'01.81"	4.3523572	13.986
*Williams Peak L.O.	172 23 01	352 22 04	4.237912	10.746
Fremont	206 49 45.95	26 52 17.54	4.1149256	8.715
Bullion	225 39 42.81	45 43 58.62	4.1504128	8.790
Buckingham	251 05 19.52	71 15 16.77	4.1273898	16.624
Moore Hill	293 29 50.51	113 35 34.87	4.1818934	9.446
Green (CAGS)	325 48 29.11	145 54 05.85	4.3862229	15.120

*Not occupied

SIGNAL PEAK LOOKOUT Mariposa County California
C. H. Mortenson 1945 1927 N.A.D.

Located on highest point of Signal Peak, which is prominent peak about 12 mi. E. and 3 mi. N. of Mariposa.

To reach from Mariposa, take rd. S. to Hornon Bar, and thence E., go 5.95 mi. from Mariposa to Bootjack store, take right fork and go 6.9 mi., keep rd. straight ahead and go 1.15 mi., take left fork and go 0.7 mi., take right fork and go 0.95 mi., take left fork and go 0.7 mi., turn left up hill and go 4.0 mi. to rd. fork in saddle, turn sharp to right and go 2.65 mi., turn sharp to left and go 1.0 mi., turn left on ascending grade and go about 1 mi. to station.

Station mark and signal: Center of U. S. Forest Service lookout house.

Reference mark No. 1: Standard reference mark tablet stamped "Signal Peak No 1 1945," cemented in large rock, 52.9 ft. from station mark in true azimuth 110°53'.

Reference mark No. 2: Standard reference mark tablet stamped "Signal Peak No 2 1945," cemented in rock, 23 ft. from station mark in true azimuth 208°54'.

V.A. Elev. of eaves of lookout house - 7001 ft. (Elev. of ground at base is approximately 10 ft. lower.)

CONTINUED ON PAGE 7

Recovered Devils Postpile
Book Nos. PH208 Year 1946
Recovered CAGS unrecorded
Book Nos. n.d. Year 1946
Recovered Yosemite Proj
Book Nos. PH470 Year 1947

SIGNAL PEAK LOOKOUT (Cont'd.) Mariposa County California
C. H. Mortenson 1945 1927 N.A.D.

CALIF. ZONE 3
X = 2,120,514.7 Y = 325,446.3

Latitude: 37°51'45.498" Longitude: 119°44'22.400"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Miami L.O.	1°56'57.37"	181°56'47.08"	4.0864643	7.589
*Crook Mountain Tree	7 24 07	187 23 08	4.269343	11.553
Horse Camp	22 38 26.94	202 34 37.85	4.3821104	14.976
*Indian Peak	22 51 45	202 49 08	4.215386	10.201
Buckingham	86 26 18.73	266 22 00.11	4.0188944	6.491
*Sweetwater	109 26 28	289 21 10	4.155104	8.440
Trumbull	147 18 08.46	327 13 38.63	4.5022775	12.465
Bernese L.O.	167 47 53.65	7 48 55.12	4.0695935	7.634
Deadwood	348 33 45.56	168 35 45.06	4.3877997	15.175

*Not occupied

SMITH PEAK LOOKOUT (Not occupied) Tuolumne-Mariposa Counties California
C. H. Mortenson 1945 1927 N.A.D.

Located about 1.75 mi., air line, SE. of Smith Sta. on Hetch Hetchy R.R., about 2.5 mi. E. of Tuolumne Ranger Sta., at U. S. Forest Service lookout house on Smith Peak.

Station mark and signal: Center of lookout house.

V.A. Elev. of ground at base of lookout house - 3947 ft.

Latitude: 37°48'02.74" Longitude: 120°05'59.08"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Groveland	104°19'50"	284°15'29"	4.051122	6.675
Duckwall	174 52 20	354 51 58	4.272309	11.632
Drew	234 16 16	54 14 25	4.086556	7.581
Pilot L.O.	286 10 52	106 16 56	4.179631	9.397

SOULSBYVILLE Tuolumne County California
C. H. Mortenson 1945 1927 N.A.D.

Located about 0.5 mi. E. of Soulsbyville, on high point of ridge running SW.-NE.

To reach from Soulsbyville Post Office, go NW. on hwy. 0.1 mi., turn right (E.) and go about 200 ft., turn right (E.) and go about 200 ft., turn NE. and follow poor rd. for 0.5 mi. from hwy., leave car and walk up ridge to station.

Station mark: Standard tablet stamped "Soulsbyville 1945," cemented in bedrock on highest point.

Reference mark No. 1: Standard reference mark tablet stamped "No 1," cemented in bedrock, 23.55 ft. from station mark in true azimuth 73°15'.

Reference mark No. 2: Standard reference mark tablet stamped "No 2," cemented in bedrock, 16.21 ft. from station mark in true azimuth 341°45'.

Signal: Black and white cross targets, centered over station mark.

V.A. Elev. 3565 ft.

Latitude: 37°59'11.147" Longitude: 120°15'19.010"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Moccasin	17°29'51.20"	197°27'11.98"	4.3240970	13.105
Bald Mountain	104 32 05.96	284 28 09.25	3.9063481	6.021
*Elisabeth L.O.	185 12 57	5 13 16	3.931702	5.309
Duckwall	279 15 08.80	99 20 11.19	4.0846575	7.551
*Sugarloaf L.O.	315 21 05	135 25 07	4.1401173	8.581
Groveland	349 57 50.38	169 39 12.91	4.2613282	11.542

*Not occupied

SUGARLOAF LOOKOUT (Not occupied) Tuolumne County California
C. H. Mortenson 1945 1927 N.A.D.

Located about 6.5 mi., airline, SE. of Tuolumne and about 6 mi., airline, NE. of Groveland, at U. S. Forest Service lookout house on Sugarloaf.

Station mark and signal: Center of lookout house.

V.A. Elev. ground at base of lookout house - 5880 ft.

Latitude: 37°53'53.32" Longitude: 120°08'41.80"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Groveland	58°21'59"	218°18'47"	4.015321	6.437
Bald Mountain	122 46 34	302 38 53	4.355675	14.044
Soulsbyville	135 25 07	315 21 03	4.1401173	8.581
Duckwall	196 17 15	16 18 13	3.913654	5.093

Sugarloaf L.O.

Recovered By [illegible] Book Nos. PH470 Year 1958 (new values)

SWEETWATER (Not occupied) — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 4.5 mi. E. and about 6 mi. N. of Mariposa, on prominent top 3.5 mi. NW. of Buckingham Mountain.

To reach from Mariposa, take State Highway 140 and go 5.0 mi. toward Yosemite Park to Acorn Inn, turn right on oiled rd. and go 0.5 mi., turn left off oiled rd. and go 0.4 mi., turn left keeping to main rd. and go 0.75 mi., take left fork and follow main-traveled rd. for 3.0 mi. to top of main ridge at cross road, turn left and go E. along ridge for 2.5 mi. to cross road, turn left on rd. up hill to Sweetwater point and go 0.7 mi. to top and station.

Station mark and signal: Small cairn with pole and flag.

V.A. Elev. 4615 ft. (Ground at base of cairn.)

Latitude: 37°34'11.88" Longitude: 119°53'04.57"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Fremont	86°02'51"	265°55'34"	4.226129	10.459
Briesburg	128 57 35	308 55 27	4.108114	7.970
Trumbull	189 00 38	9 01 27	4.097384	7.776
Signal Peak L.O.	289 21 10	109 26 28	4.135184	8.444

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SEE [illegible]

THOMPSON PEAK LOOKOUT (Not occupied) — Tuolumne County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located on Thompson Peak at U. S. Forest Service lookout house.

To reach from Summer Resort of Long Barn on State Highway 108, take Forest Service rds.

Station mark and signal: Center of lookout house.

V.A. Elev. of ground at base of lookout - [illegible] ft. 5293 (1976)

CALIF ZONE 3

Latitude: 37°59'57.27" Longitude: 120°04'[illegible].80"

X= 2,124 482. Y= 546,169.

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Duckwall	52°49'48"	232°47'56"	3.748211	3.480
Bald Mountain	92 19 04	272 08 12	4.412451	16.602
Drew	334 30 55	154 33 53	4.217389	10.250
Pilot Peak L.O.	335 55 39	156 00 33	4.458622	17.844

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TRUMBULL — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 5 mi. W. of El Portal and about 1 mi. N. of Merced River, on crest of rocky ridge, about 0.3 mi. SW. of Trumbull Peak at U. S. Forest Service Lookout.

To reach from Mariposa, take State Highway 140 to Yosemite Park, from park entrance go 4.75 mi. to junction with Oak Flat rd., turn left on Oak Flat rd. and go 10.25 mi. to Crane Flat Ranger Sta., turn left onto rd. that is on an abandoned railroad grade, and go 1.25 mi. to forks, keep straight ahead and go 4.05 mi. to forks near saddle, take left fork toward Merced Grove and go 0.6 mi., take right fork and go 0.25 mi., take left fork and go 3.5 mi., take right fork and go 3.5 mi. to an abandoned machine shop in saddle, take faint rd. past NE. face of shop and on up hill for 1.0 mi. to end of rd., trail leads to station which is 0.25 mi. on down ridge.

Station mark: Standard tablet stamped "Trumbull 1945," cemented in bedrock and at exact center of U. S. Forest Service steel lookout tower.

Reference mark No. 1: Small chiseled cross in metal base plate on NE. footing of tower, 9.23 ft. from station mark in true azimuth 135°48'.

Reference mark No. 2: Standard reference mark tablet stamped "Trumbull No 2," cemented in bedrock, 14.82 ft. from station mark in true azimuth 207°34'.

Signal: Top of 50-ft. steel lookout tower, centered over station mark.

V.A. Elev. 4853 ft.

Latitude: 37°40'52.764" Longitude: 119°51'44.586"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
*Sweetwater	9°01'27"	189°00'38"	4.097384	7.776
Fremont	54 23 09.88	234 05 23.44	4.3639475	14.365
Briesburg	70 13 23.51	250 08 26.05	4.1032145	7.881
*Montgomery Tree	145 59 40	325 55 29	4.093160	7.700
Pilot L.O.	144 42 47.57	324 40 07.59	4.0459306	6.875
*Crane Flat L.O.	205 23 42	25 25 16	3.977112	5.895
Hetness L.O.	290 33 24.65	110 38 36.36	4.1257720	8.301
*Pinoche Peak	305 41 46	125 44 59	3.969140	5.787
Signal Peak L.O.	327 13 38.63	147 18 08.46	4.3022775	12.463
Buckingham	358 35 11.40	178 35 22.15	4.2438498	10.894

*Not occupied

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WEBB — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.
C. R. Lloyd — 1941

Description by C. R. Lloyd, 1941:

Located 5.8 mi. N. and 2.0 mi. E. from Merced Falls, and about 1 mi. E. of Webb, on an outstanding point which forms S. end of Webb Mountain Range.

To reach from Merced Falls Post Office, take Coulterville rd. for 6.35 mi. and turn right (E.) through wire gate about 150 yd. S. of Webb ranch house, turn left around fence corner and follow dim rd. for 0.45 mi., go through a wire gate for 0.35 mi. and go through another wire gate, and continue up hillside to top of ridge. Leave car at this point and follow along ridge to station.

Station mark: Standard tablet stamped "Webb 1940 VABM 1795," cemented in naturally embedded boulder.

Reference mark No. 1: Chiseled cross on naturally embedded boulder, 38.31 ft. from station mark in true azimuth 210°22'.

Reference mark No. 2: Chiseled cross on naturally embedded boulder, 11.93 ft. from station mark in true azimuth 350°37'.

Notes by C. E. Mortenson, 1945:

Station has since been occupied by U.S.C. & G.S.

Found station as described with exception that distances to U.S.G.S. reference points were transposed, that is, the distance given for No. 1 is the distance to No. 2 and likewise, that given for No. 2 is the distance to No. 1.
No. 1 should be 11.93 ft.
No. 2 should be 38.31 ft.

U.S.C. & G.S. has occupied our station and has set two standard reference tablet; these are stamped "Webb No 1 1945." and "Webb No 2 1945."

U.S.C. & G.S. reference mark No. 1 is 26.40 ft. from station mark in true azimuth 58°17'.

U.S.C. & G.S. reference mark No. 2 is 40.49 ft. from station mark in true azimuth 296°26'.

Signal: Black and white cross targets, centered over station mark.

V.A. Elev. 1794 ft.

Latitude: 37°36'38.812" Longitude: 120°17'29.635"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Penon Blanco	191°33'12.27"	11°34'20.91"	4.1377486	8.533
*Hunter Tree	247 39 17	67 42 19	3.903610	4.977
*Williams Peak L.O.	276 16 15	96 20 43	4.034277	6.724
Fremont	286 31 28.61	106 39 24.93	4.3008654	12.423
Smaltz (CAGS)	324 29 01.81	144 34 25.84	4.3523372	13.986

*Not occupied

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WILLIAMS PEAK LOOKOUT (Not occupied — Mariposa County — California
C. E. Mortenson — 1945 — 1927 N.A.D.
C. R. Lloyd — 1941

Located 4.9 mi. N. thence 8.8 mi. E. of Merced Falls, on top of high ridge between Merced River and Hunter Valley.

Station mark and signal: Center of State Fire Lookout House on tower.

V.A. Elev. of ground at base of lookout house - 5206 ft.

Latitude: 37°36'00.25" Longitude: 120°10'11.14"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Webb	96°20'43"	276°16'15"	4.034277	6.724
Penon Blanco	151 23 43	331 20 24	4.222270	10.366
Coulterville	184 51 23	4 51 57	4.201781	9.888
Briesburg	252 42 01	72 48 20	4.201777	9.888
Fremont	298 14 50	118 18 19	3.979371	5.928

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WOODS RIDGE LOOKOUT (Not occupied — Tuolumne County — California
C. E. Mortenson — 1945 — 1927 N.A.D.

Located about 15 mi., airline, E. of Tuolumne, 1.0 mi. S. and 4.5 mi. W. from Lake Eleanor Reservoir Dam, on divide between Cherry Creek and Jawbone Creek, at U. S. Forest Service Woods Ridge lookout tower.

Station mark and signal: Center of lookout cabin on steel tower.

V. A. Elev. of ground under lookout - 6005 ft.

Latitude: 37°57'32.93" Longitude: 119°58'04.42"

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Drew	9°18'13"	189°17'30"	4.024616	6.576
Groveland	55 54 59	235 45 46	4.424616	16.518
Duckwall	94 38 26	274 32 51	4.123940	8.266
Pilot L.O.	352 24 38	172 25 51	4.342401	13.670

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Form No. 9-3223 Rev. 1968

DESCRIPTION
HORIZONTAL CONTROL STATION

37 120 11
DIAGRAM San Jose
USGS QUAD NO 457

1st Order

Triangulation ☒ Electronic - Distance Traverse ☐ Intersected Object ☐

Station DUCKWALL USGS County Tuolumne State CA

Established by USGS Year 1945 Project H 248
NGS 1956
CDH 1972

Check one:
☐ New Station: Write full description below
☒ Recovery of Old Station: Recovered by USGS Year 1974 Project PH 1716
PH 470

Object	Bearing	Distance Feet	Distance Meters	AZIMUTH
COPPER USGS				217°13'56.7"
RM 1		14.73		315 05 14
RM 1 USGS		6.87		102 45 11
DUCKWALL USFS		6.81		193 40 20

Described in National Geodetic Survey description list 37 120 1, station 1006. All marks in good condition.

USGS 1956: Recovered as described. All marks in good condition. Direction to DUCKWALL USFS does not check NGS value within a limit of 3 minutes.

CDH 1972: For new description refer to CDH recovery.

USGS 1974: Recovered as described by NGS. All marks in good condition. RM's not measured. Station reached by helicopter. Occupied for horizontal scaling and vertical control only.

NGS Adjusted Coordinates

CALIFORNIA ZONE 3
X= 2109891.30
Y= 535005.25
MAPPING ANGLE=+0 14 0

ELEV 5831.3 FT ±2.4

QUAD 37 120 11

DUCKWALL USGS LAT 37 58 7.5360 LONG 120 7 7.6640

FILE COPY
JUL 7 1975

C+GS
Lee 371201 Station 1008

California (457) Tuolumne County GROVELAND

1927 N.A.D. C. N. Mortenson, 1945

Books: H 247, H 248

Located about 1.0 mi. SE. of Groveland, near W. end of small top covered with pine and manzanita.

To reach from Groveland, go W. on hwy. for 0.4 mi., turn left onto oiled rd. and follow up hill (past a mine) for 1.1 mi. to top of ridge in saddle, turn left and go 0.15 mi., turn left onto fire rd. along ridge and go 0.9 mi. to station.

Station mark: Standard tablet stamped "GROVELAND 1945", set in granite rock projecting 3 in. above ground, and about 4 ft. E. of pine tree.

Reference mark No. 1: Copper nail and washer in 8 in. pine tree, 39.95 ft. from station mark in azimuth 241°39'.

Reference mark No. 2: Standard R.M. tablet stamped "NO 2", cemented in granite rock, 32.01 ft. from station mark in azimuth 336°01'.

Signal: Black and white cross targets in top of tree, 3.9 ft. from station mark in azimuth 105°04'.

V.A. Elevation: 3634 ft.

Latitude: 37°49'28.772" Longitude: 120°13'04.675"

11/16/60 hd

FILE COPY

California (457) Tuolumne-Mariposa Counties SMITH PEAK L.O. (n)

1927 N.A.D. C. N. Mortenson, 1945

Books: H 247, H 248

Located about 1.75 mi. (air line) SE. of Smith Station, on Hetch Hetchy RR., about 2.5 mi. S. of Tuolumne Ranger Station, at U. S. Forest Service lookout house on Smith Peak.

Station mark and Signal: Center of lookout house.

V.A. Elevation: 3877 ft.
(Ground at base of lookout house)

Latitude: 37°48'02.74" Longitude: 120°05'59.08"

n = Not Occupied

FILE COPY

11/17/60 hd

SPINN (C&GS) Tuolumne County Calif. (457)

USC&GS, 1956 1927 N.A.D.
USGS, 1956 (Not occupied)

Books: PH 469-470

FILE COPY

Described by U. S. Coast and Geodetic Survey in ~~1956~~ Quad. 37 120, ~~Reconnaissance Notes as~~ Station 1021 follows:

"The station is on a small brush covered hill about 0.5 mi. W. of the main rd. to Early Intake. It is about 11.5 mi. airline E. of Groveland; 13.5 mi. airline NE. of Coulterville; 3.5 mi. SW. of Early Intake Powerhouse and 15 mi. airline SE. of Tuolumne.

"To reach from the Post Office in Groveland, go E. on State Highway 120 for 15.1 mi. to fork; take left fork, paved, and go 2.2 mi. to dirt rd. left; turn back sharp left and go 0.5 mi.; keep left on main rd. and go 0.25 mi. to fork; go left and go 0.05 mi.; turn left on old RR. grade and go 0.1 mi.; take right fork and go 0.2 mi.; turn right; up hill and go 0.1 mi. to summit of hill and station site.

"The station mark is 27 ft. SSW. of a boulder projecting 6 ft. The mark projects 1 ft. and the disk is stamped "SPINN 1956".

"Reference mark No. 1: Is about 1 ft. lower than station The mark projects 8 inches and the disk is stamped "SPINN NO 1 1956".

"Reference mark No. 2: Is 10 ft. NNW. of a 6 ft. boulder. The mark is flush and the disk is stamped "SPINN NO 2 1956".

"Duckwall lookout tower was cut in for ground azimuth.

CALIFORNIA ZONE 3
X=2,142;427.3
Y= 488,411.8 SEE LATER VALUES *Elevation 3507.885 ft.(Spirit Leveling by C&GS)

*Latitude: 37°50'25.379" SEE LATER VALUES *Longitude: 120°00'24.424"

*=Field values by C&GS

FILE COPY

11/9/56 mk

THOMPSON PEAK L.O. Tuolumne County Calif.(457)

C. N. Mortenson; 1945 (Not occupied) 1927 N.A.D.(Prelim.)
L. B. Mansfield, 1956

FILE COPY

Books: H247-248; PH 469-470

Described 1953 in "SONORA AND MARIPOSA 30' QUADRANGLES" multilith as follows:

"Located on Thompson Peak at U. S. Forest Service lookout house.

"To reach from Summer Resort of Long Barn on State Highway 108, take Forest Service Roads.

"Station mark and signal: Center of lookout house."

Note by L.B.M., 1956: Located about 17.0 mi. E. of Sonora and 7.3 mi. SE. of Long Barn; at an abandoned L.O. on Thompson Pk.

Station may be reached from Long Barn on State Highway 108 by following rd. signs on forest service roads.

Station mark and signal: Center of L.O.H.

Reference mark No. 1: US DA Forest Service bronze tablet stamped "THOMPSON PEAK LOOKOUT VA BM ELEV 5305 T2n, R17E, Sec. 26, 1937" cemented in top of concrete step on NE. corner of L.O.H. and 1.2 ft. higher than ground, 11.83 ft. from station mark in azimuth 221°25'.

Signal data:		
	Apex of L.O.	27.8 ft.
	Eaves of L.O.	22.9
	Floor of L.O.	14.9

Photo No. 1-99 GS VJM

CALIF. ZONE 3
X=2,124,482.
Y= 546,169.

Elevation 5293 ft.(Ground at center of L.O.H.

Latitude: 37°59'57.28" Longitude: 120°04'04.82"

To Station	Azimuth	Back Azimuth	Feet
Bourland	223°43'27.	43°48'20."	54,990.
Woods Ridge L.O.	296 48 13.	116 51 55.	32,339.

FILE COPY

11/14/56 mk

FILE COPY

37 120 1 CALIF. 457
37°45'
120°00'

NAME	STATION
856 + 2413 (HHWS)	1002
COLFAX	1005
DUCKWALL (USGS)	1006
DUCKWALL (USFS)	1006
GARROTTE	1007
GROVELAND	1008
GROVELAND (USGS)	1008
HUNTER POINT (USFS)	1010
JAY	1011
KASABAUM	1012
509 + 8628 (HHWS)	1012
LLOYD	1013
MOORE	1016
RAWLES	1018
SMITH PEAK	1020
SMITH PEAK LOOKOUT (USFS)	1020
SPINN	1021
SUGARLOAF	1022

JULY 1963
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COAST AND GEODETIC SURVEY
WASHINGTON D.C.

JUL 1979

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371201 STATION 1001,1001A
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 535
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: 77 + 8164 (HHWS) STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: J.E.J.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.68 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK METERS.			
	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING‡	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ' "
	MOCCASIN (USFS)				00 00 00.0
	B. M. 2059 932		23.18	7.067	131 12 26
11a	R.M. No. 1		116.05	35.372	232 36 02

Detailed description:

The station is located on the large concrete anchor block of the penstock on the brow of the ridge overlooking Moccasin Power House. It is about 1/2 mile east-northeast of Moccasin, 4 miles southwest of Groveland and 8 1/2 miles northwest of Coulterville.

To reach station from the postoffice in Big Oak Flat, go west on State Highway 120 for 1.05 mile to Priest Station and junction. Take middle road toward Moccasin and go about 100 feet, go left, uphilland go 0.9 mile to fork, take left fork and go 0.2 mile, on south side of penstock to fork, take right fork and go 0.2 mile to top of bare hill and concrete anchor for penstock. The station is a City of San Francisco Hetch Hetchy Water Dept. Mark set flush in top of penstock, stamped 77 + 8164.

R. M. No. 1 is 1 foot north of television antenna and 24.6 ftte south of road to penstock. The disk is stamped 77 + 8164 NO 1 1956 and is set flush.

B. M. 2059 932 was used in lieu of R.M. No. 2. It is a City of San Francisco Hetch Hetchy Water Dept. Mark and is set flush in top of Concrete Penstock Anchor. It is stamped B M ELEV 2059 932.

No Azimuth Mark was set at this station. MOCCASIN USFS may be used for an azimuth.

*Refers to notes in manuals of triangulation and state publications of triangulation. †To nearest meter only, when no trigonometric leveling is being done. ‡Direction-angle measured clockwise, referred to initial station.

16—62252-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: 77 + 8164 HHWS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,061,502.59 y 478,342.84	+ 0 07 49	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°48'48".847	NORTH		628.60 METERS
	LONGITUDE: 120 17 13.555	WEST		2,062.3 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
MOCCASIN USFS	75°09'11".1		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BENCH MARK 2059 932 HHWS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second -ORDER Traverse SOURCE: G-11404 FIELD SKETCH: CALIF 427
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,061,512.82 y 478,363.59	+ 0 07 49	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°48'49".052	NORTH		METERS
	LONGITUDE: 120 17 13.427	WEST		FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station 77+8164 (HHWS)			

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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 371201 STATION 1002
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

CALIFORNIA 457

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
FORM 532
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: 856 + 2413 (HHWS) STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: J.E.J.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.48 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark | DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE		DIRECTION†
			foot	meters	
	PENON BLANCO				00 00 00.0
11a	R.M. No. 2	E	34.53	10.525	29 41 34
11a	R.M. No. 1	SW	26.05	7.942	257 54 40
	Williams Pk. L. O.				330 58 33.8

Detailed description:

The station is on the summit of a brush covered hill, on the Hetch Hetchy right of way. It is about 4 miles airline east of Moccasin, 1 1/2 miles airline south-southwest of Groveland and 10 miles airline south of Tuolumne.

To reach from the postoffice in Groveland, go west on State Highway 120 for 0.5 mile to side road left, turn left and go 0.3 mile to fork, take right fork and go 0.7 mile to fork, take right fork and go 0.1 mile to fork, take right fork and go 0.7 mile to fork, take right fork and go 0.15 mile to fork, take right fork and go 0.15 mile to fork, take right fork and go 0.15 mile to summit of hill and station site.

The station mark is a City of San Francisco Hetch Hetchy Water Dept. It is a punch mark on the cap on a 2 inch iron pipe set in concrete. It is 26.05 feet west of power line pole. The mark is stamped 856 + 2413 and projects 12 inches.

R. M. No. 1 is 1 foot south of power line pole. The mark is set flush and the disk is stamped 856 + 2413 NO 1 1956.

R. M. No. 2 is 12 feet southeast of center of power strip and is about 2 feet lower than station. The disk is stamped 856 + 2413 NO 2 1956.

Station PENON BLANCO may be used for an Azimuth Mark.

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

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: 856 + 2413 HHWS YEAR 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,078,344.39 y 479,161.46	+ 0 09 58	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
LATITUDE:	37°48'56".510	NORTH		1,036.7	METERS
LONGITUDE:	120 13 43.644	WEST		3,401	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
PENON BLANCO	16°43'59".1		

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FEB 7 1981

FORM 284 (3-8-60)

USCOMM-DC 8247

JULY 1963
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U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457
QUAD 371201 STATION 1005
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: COLFAX STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: M. J. W.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.52 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ' "	
	JAY				0 00 00.0	
	Azimuth mark (Station JAY)	W	(2.0 miles)			
12a	RM 1	N	57.13	17.412	98 14 39.	
12b	RM 2	SW	74.99	22.857	306 25 03.	

The station is located 12 miles northeast of Coulterville, 11 miles east of Groveland, 1/4 mile north of Colfax Spring, on the summit of a sparcely timbered hill just north of State Highway 120.

To reach the station from the post office in Groveland go east on State Highway 120 for 13.2 miles, turn sharp left on an old railroad grade for 200 feet, turn sharp right through an opening in fence line and go uphill on track road for 0.1 mile to the summit and station.

Station mark, a standard disk stamped COLFAX 1956, is 8.0 feet north of the crest of ridge and 7.5 feet southwest of a triangle blaze on a large oak tree. The monument projects 4 inches.

Reference mark No. 1, a standard disk stamped COLFAX NO 1 1956 cemented in a drill hole in a boulder, is on the north slope of the ridge and 14 feet lower in elevation than the station mark. The boulder projects 12 inches.

Reference mark No. 2, a standard disk stamped COLFAX NO 2 1956 cemented in a drill hole in a boulder, is on the southwest edge of hill and 2.5 feet lower in elevation than the station mark. The boulder projects 12 inches.

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

30—48250-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: COLFAX YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH φ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,137,294.15 y 482,288.61	+ 0 17 28	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'25"103	NORTH		968.77	METERS
	LONGITUDE: 120 01 28.803	WEST		3,178.4	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
JAY	96°17'45"7		

FEB 7 1981
FILE COPY

Form 254 10-31-61

USCOMM-DC 6247

JULY 1963
PUBLISHED AND PRINTED BY:
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COAST AND GEODETIC SURVEY
WASHINGTON D.C.

JUL 1979

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457

QUAD 37121C1 STATION 1006,1006A
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

FILE COPY

FEB 7 1981

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 444
Rev. Aug. 1945

DESCRIPTION OF TRIANGULATION STATION

USR

NAME OF STATION: DUCKWALL (USGS) STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: F.T.L.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.36 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
HOG MTN				00° 00' 00.0"
USGS BM No. 1	NW	6.87'	2.094'	37 22 19'
R. M. No. 1	SE	14.75'	4.496'	249 38 11'
USFS BM	N	6.80'	2.073'	128 42

Detailed description

The station is on a high prominent mountain that is known as Duckwall Mountain, that has been burnt off except for some timber on the summit. There is a Forest Service Lookout Tower at the station site. It is about 6 1/2 miles airline northeast of Groveland and 14 1/2 miles east of Sonora.

To reach from main intersection in Sonora, go east on State Highway 108 for 2.7 miles, take right fork toward Tuolumne and go 7.6 miles, passing through north edge of Tuolumne, turn left and go 0.3 mile to junction of 3 roads, take center fork toward Basin Creek and go 2.7 miles, take right fork and cross N. Fork Tuolumne River and go 2.9 miles, keep right fork and go 0.4 mile, keep left fork and go 6.5 miles, keep left and follow MTR for 1.3 miles, keep left fork and go 3.0 miles, take left fork as per sign "Duckwall Lookout" and go 0.4 miles, take left fork and go 3.3 miles, turn back sharp left and go 0.6 mile, take left f ork and go 1.3 miles to lookout tower and station site at summit of mountain.

The station mark is a USGS BM stamped DUCKWALL 1945. It is set in a boulder near the center of the lookout and projects 2 inches.

R. M. No. 1 is a standard reference mark set in a drill hole in the northeast leg of the lookout tower. The disk is stam ped DUCKWALL NO 1 1956.

USGS RM 1 is set in a concrete monument about 18 inches square. The mark projects 6 inches and the disk is stamped RM 1.

USFS BM is set in a concrete block 18 inches square. The disk is stamped V.A.B.M. ELEV. 5837 DUCKWALL T. 1 R 17 E. SEC. 4 1937.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: DUCKWALL (USGS)
ESTABLISHED BY: N.E.Sylar YEAR: 1956 STATE: California BENCH MARK ALSO ☐
RECOVERED BY: R.M.Bishop YEAR: 1972 COUNTY: Tuolumne
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 6.5 miles east of Tuolumne
HEIGHT OF TELESCOPE ABOVE STATION MARK 5.12 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
HOG MTN. 1956 (VG)				° 0 00 00.0"
RM 1 (USGS)	W	6.845'	2.087'	37 14 43'
Mt. Elizabeth lookout tower	NW	(9.5 miles)		67 39 14.9'
USFS VABM	N	6.79'	2.07'	128 23 41'
RM 1 USC & GS	SE	14.75'	4.495'	249 40 48'

The station is on a high prominent mountain that is known as Duckwall Mountain. There is a Forest Service lookout tower at the station site. It is about 11.0 airline miles northeast of Groveland and 14.5 miles east of Sonora.

(CONTINUED ON NEXT PAGE)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DUCKWALL USGS YEAR: 1956
STATE: California LOCALITY: Hetch Hetchy To Mono Lake
First -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427, 430

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH φ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,109,891.31 y 535,005.24	+ 0 14 00	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°58'07"536	NORTH		1,777.6 METERS
	LONGITUDE: 120 07 07.664	WEST		5,832 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
HOG MTN	65°26'02"1		

ADJUSTED HORIZONTAL CONTROL DATA
ADJUSTMENT BY NGS

NAME OF STATION: DUCKWALL USFS OBS BY CGS
STATE: CALIFORNIA YEAR 1956 SECOND -ORDER

SOURCE: G-15987
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	37 58 07.60119	ELEVATION:	1778.5 METERS
GEODETIC LONGITUDE:	120 07 07.64373		5835 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	φ (OR Δ) ANGLE
CA 3	0403	2,109,892.90	535,011.84	+ 0 14 00

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE φ (OR Δ) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ' "	° ' "	

THESE DATA OBTAINED FROM ADJUSTMENT OF AUG 1977

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

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457

QUAD 371201 STATION 1006

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

DUCKWALL (USGS) (continued)

To reach from Tuolumne City Post Office in Tuolumne County, go east on Fir Street one block to Carter Street, then left on Carter Street for 0.2 mile to a northeast bend in Carter Street, continue on Carter Street for 0.4 mile to Buchannon Road, go northeast on Buchannon Road from junction with Tuolumne Confidence Road 2.7 miles to Hunter Creek Road, continue straight ahead on Basin Creek Road for 2.3 miles to a bridge, cross bridge and continue 5.7 miles to a road right (2 Dog Pass Road), continue straight ahead for 3.7 miles to a logging road right, turn right and go 1.9 miles to a road right, go straight ahead 100 feet and cross Thirteen Mile Creek, then go left 0.5 mile to a road fork at crest of hill, take right fork and go 0.7 mile to a junction of several roads, take right road and go 0.5 mile to a road fork and sign "Duckwall L.O. 1 mi", take right fork and go 0.4 mile to a USGS bench mark GWM 56 set in 6 inch by 8 inch concrete monument which is 9 inches above original ground and 12 feet left of road centerline, proceed straight ahead for 0.5 mile to a* locked chain barrier, go thru barrier and continue for 0.7 mile to top of hill and station.

* Key can be obtained from USFS Ranger Station in Mi-Wuk Village.

The station mark is a USGS BM stamped DUCKWALL 1945. It is set in a boulder near the center of the lookout and projects 2 inches.

RM 1 USC & GS is a standard reference mark set in a drill hole in the southeast leg of the lookout tower. The disk is stamped DUCKWALL USGS NO 1 1956.

RM 1 USGS is set in a concrete monument about 17 inches square. The mark projects 6 inches and the disk is stamped NO 1 DUCKWALL.

USFS BM is set in a concrete block 17 inches square. The disk is stamped V.A.B.M. ELEV. 5837 DUCKWALL T.1N. R.17E. SEC. 4 1937.

W.S. Bryant

* Name of chief of party should be inserted here. The person who actually visited the station should sign his name at the end of the recovery note.

JUL 1979

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

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457

QUAD 371201 STATION 1006 B
CALIF
LATITUDE 37 ° 30 ' TO 38 ° 00 '
LONGITUDE 120 ° 00 ' TO 120 ° 30 '
DIAGRAM NJ 10-9 SAN JOSE

DUCKWALL USGS RM 1 USGS (R.M.B.,1972,Tuolumne County,CA)
RM 1 USGS is set in a concrete monument about 17 inches square. The mark projects 6 inches and the disk is stamped NO 1 DUCKWALL.

ADJUSTED HORIZONTAL CONTROL DATA
ADJUSTMENT BY NGS

NAME OF STATION: DUCKWALL USGS RM 1 USGS OBS BY CADH

STATE: CALIFORNIA YEAR: 1972 SECOND ORDER

SOURCE: G-15987

GEODETIC LATITUDE:	37 58 07.55071	ELEVATION:	1777.2 METERS
GEODETIC LONGITUDE:	120 07 07.74707		5831 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	φ (OR Δ α) ANGLE *
CA 3	0403	2,109,884.64	535,006.70	+ 0 14 00

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE φ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH * (From south)	CODE
HOG MOUNTAIN	65 25 50.5	65 11 50	0403

THESE DATA OBTAINED FROM ADJUSTMENT OF AUG 1977

38 040

JUL 1979
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457.

QUAD 371201 STATION 1006 C
CALIF
LATITUDE 37 ° 30 ′ TO 38 ° 00 ′
LONGITUDE 120 ° 00 ′ TO 120 ° 30 ′
DIAGRAM NJ 10-9 SAN JOSE

NO TEXT

ADJUSTED HORIZONTAL CONTROL DATA
ADJUSTMENT BY NGS

NAME OF STATION: DUCKWALL LOT OBS BY CADH

STATE: CALIFORNIA YEAR 1972 THIRD ORDER

SOURCE: G-15987
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	° ′ ″ 37 58 07.54260	ELEVATION:	METERS
GEODETIC LONGITUDE:	120 07 07.65755		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	φ OR Δ α ANGLE *
CA 3	0403	2,109,891.81	535,005.91	+ 0 14 00

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE φ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF AUG 1977

38 039

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COAST AND GEODETIC SURVEY
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HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457

QUAD 371201 STATION 1007
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 535
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

-15-

NAME OF STATION: GARROTTE STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: F.T.L.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.39 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION† ° ' "
	GROVELAND				00 00 00.0
11a	R. M. No. 2	NW	35.68	10.876	51 43 57
	KASABAUM				171 05 28.54
	718 + 1064 (M.M.W.S.)	SSE			232 27 29.4
11a	R. M. No. 1	SW	29.60	9.024	306 09 59

Detailed descriptions

The station is on a small brush and timber covered hill about 100 yards north of the Hetch Hetchy power line. It is abo ut 2 miles airline southeast of Groveland, about 10 miles airline south-southeast o f Tuolumne, 7 1/2 miles airline north of Coulterville and about 6 miles airline east of Moccasin.

To reach from the post office in Groveland, go east on State Highway 120 for 3.1 miles to summit of grade and cross roads,.go right on dirt road for 0.55 mile to top of hill and station site on right.

The station mark is 7 feet north of pine tree with triangle blaze, 14 feet west of dirt road. The mark projects 6 inches and the disk is stamped GARROTTE 1956.

R. M. No. 1 is 25 feet west of pine tree with triangle blaze. The mark projects 2 inches and the disk is stamped GARROTTE NO 1 1956.

R. M. No. 2 is 6 feet southwest of pine tree and 12 feet west of dirt road. The mark is set flush and the disk is stamped GARROTTE NO 2 1956.

Another mark, belonging to the City of San Francisco Hetch Hetchy Water Dept. was cut in. It is a steel capped pipe set in a concrete monument that projects 6 inches. It is 14 feet west of dirt road. The mark is stamped 718 + 1064.

Station KASABAUM was used as azimuth mark.

*Refers to notes in manuals of triangulation and state publications of triangulation. †Direction-angle measured clockwise, referred to initial station.
‡To nearest meter only, when no trigonometric leveling is being done.

16—66302-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GARROTTE YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH of IGN Acs ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,091,702.88 y 482,144.34	+ 0 11 40	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°49'25".586	NORTH		1,073.21 METERS
	LONGITUDE: 120 10 57.041	WEST		3,521.0 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
GROVELAND	91°46'51".4		

FEB 7 1981

FILE COPY

*Form 284 (9-21-58)

USCOMM-DC 5267

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

CALIFORNIA 457

QUAD 371201 STATION 1008,1008A
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

FILE COPY

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
FORM 535
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: GROVELAND STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: H. E. Sylar YEAR: 1956 Described by: J. E. Johnson

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 23.509 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK	METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ′ ″	
	PENON BLANCO				0	00 00.0
	GROVELAND USGS	WNW	43.56	13.278	84	14 42.6
11a	Reference Mark NO. 1	ESE	52.22	15.918	265	53 29.
	Reference Mark NO. 2	SE	77.44	23.602	317	02 13.

Detailed description:

The station is on the highest point of timber and brush covered hill about 1.0 mile SSE of Groveland, 14 miles SE of Sonora, 4½ miles WNW of Moccasin, and 8 miles NNW of Coulterville.

To reach from the Post Office in Groveland, go west on State Highway 120 for 0.5 mile to a reverse "Y" from the left, turn sharp left and go 0.4 mile to a fork, take right fork and go 0.7 mile to a "T" road right on a curve, keep left and go 0.1 mile to the top of hill and a dirt track road to the left, turn left and go .05 mile to a fork, take left fork and go 0.85 mile along the top of a ridge to the highest point and Reference Mark NO. 2 on the right side of the road.

The station mark is 77½ feet north of the dirt track road, 31½ feet west of a dirt track road, it is a standard disk stamped GROVELAND 1956 and it is set flush with the ground.

Reference Mark NO. 1 is 6 feet of a track fire road, and 2 feet south of twin pine trees. It is standard disk stamped GROVELAND NO. 1 1956 and it is set flush with the ground surface.

Reference Mark NO. 2 is 6 feet south of a track fire road. It is a standard disk stamped GROVELAND NO. 2 1956 and it is set flush with the ground surface.

There is no Azimuth Mark to the station.

A connection was made to a USGS mark. The station disk was gone but a tie was made to the center of the drill hole.

*Refers to notes in manuals of triangulation and state publications of triangulation. ‡Direction-angle measured clockwise, referred to initial station.
†To nearest meter only, when no trigonometric leveling is being done.
16—83203-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

FEB 7 1981

NAME OF STATION: GROVELAND YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

First -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & IDRΔσI ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,081,502.67 y 482,426.83	+0 10 22	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'28"702	NORTH		1,107.8	METERS
	LONGITUDE: 120 13 04.162	WEST		3,635	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
PENON BLANCO	20°05'40"9		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GROVELAND USGS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

First -ORDER Traverse SOURCE: G-11404 FIELD SKETCH: CALIF 427
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & IDRΔσI ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,081,460.44 y 482,437.52	+ 0 10 22	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'28"809	NORTH			METERS
	LONGITUDE: 120 13 04.688	WEST			FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station GROVELAND			

DECEMBER 1973
U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

JUL 1979

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371201 STATION 1009
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

FORM 525 (9-10-69) U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY 371201-1009

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: HOG MTN 2 STATE: California COUNTY: Tuolomne

CHIEF OF PARTY: L. F. Smith YEAR: 1971 DESCRIBED BY: L.A.C.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "
	MOCASSIN (USFS) 1956				00 00 00
12a	RM 3	SSW	22.13	6.745	40 49 50
12a	RM 1	WNW	25.72	7.839	136 43 15
	HOG MTN 1956	NNW	59.68	18.192	179 59 56

RM 1 to RM 3: 35.59 ft. 10.847 m.

Detailed description:

The station is located near the top of Hog Mountain, a prominent brush and tree covered hill airline about 6-1/2 miles south of Sonora, 6 miles southeast of Jamestown and 3 miles north-northeast of Jacksonville and is in the NW 1/4 of Sec. 5, T 1 S, R 15 E and on property owned by Mr. George G. Trout, P. O. Box 256, Sonora, California.

To reach the station from the center of Jamestown go south-southeast on Seco Street 1.0 mile to an intersection. Turn left onto the Stent Cutoff Road and go south-southeast 1.2 miles to a fork. Take the left fork and go southeast on Algerine Road 3.4 miles to a side road on the right. Turn right onto Twist Road and go south 0.35 mile to a side road on the left. Turn left and go southeast on a paved road 0.4 mile to a fork. Take the right fork and go south on a paved road 0.5 mile to a locked gate. Pass through the gate and go south 0.1 mile to a side road on the right. Turn right onto a graded road and go south 0.5 mile to the highest point of the hill and the station.

The station mark is a C&GS triangulation station disk stamped "HOG MTN 2 1971" set in a 12-inch block of concrete in a depression hollowed in bedrock 1.5 feet below the surface of the ground and is about 60 feet south-southeast of and about 8 feet lower than the highest point of the hill, 24.6 feet east of a 12-inch digger pine tree and 15 feet southwest of the centerline of a graded road on the outside of a curve.

Reference mark 1 is a C&GS reference mark disk stamped "HOG MTN NO 1 1956" cemented in a drill hole in outcropping bedrock projecting 0.3 foot above the ground and is 32 feet west of the centerline of the graded road, 15.0 feet north of a 12-inch digger pine tree and about 6 feet higher than the station mark.

Reference mark 3 is a C&GS reference mark disk stamped "HOG MTN 2 NO 3 1971" cemented in a drill hole in outcropping bedrock projecting 0.3 foot above the ground and is 10.7 feet east of a 14-inch live oak tree and about 1 foot lower than the station mark.

371201-1009

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: HOG MTN 2
ESTABLISHED BY: L.F.S. YEAR: 1971 STATE: California BENCH MARK ALSO ☐
RECOVERED BY:* L. F. Smith YEAR: 1972 COUNTY: Tuolumne
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles NNE of Jacksonville
HEIGHT OF TELESCOPE ABOVE STATION MARK 4 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "
MOCASSIN (USFS) 1956				00 00 00
RM 3	SSW	22.13	6.745	40 49 39
RM 1	WNW	25.72	7.839	136 42 45
HOG MTN 1956	NNW	59.68	18.192	180 00 04

RM 1 to RM 3: 35.59 ft. 10.847 m.

ADJUSTED HORIZONTAL CONTROL DATA
ADJUSTMENT BY NGS

NAME OF STATION: HOG MOUNTAIN 2 OBS BY CADH

STATE: CALIFORNIA YEAR: 1972 SECOND ORDER

SOURCE: G-15987
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	37 53 00.22930	ELEVATION:	756 METERS
GEODETIC LONGITUDE:	120 21 11.74490		SCALED FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	φ -OR Δ α ANGLE ° ' "
CA 3	0403	2,042,349.43	503,731.89	+ 0 05 23

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE φ -OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF AUG 1977

38 056

The station mark and reference marks 1 and 3 were recovered in good condition. The drill hole in which triangulation station HOG MTN 1956 had been set was found, a traverse connection between the two triangulation stations was made, the point was held and a 1-1/2-inch unstamped bronze disk was set in cement in the same exact position on this date, reestablishing station HOG MTN 1956. The distances and directions to reference marks 1 and 3 and to HOG MTN 1956 measured on this date agreed with the 1971 measurements. The 1971 description is adequate.

JULY 1963

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371201 STATION 1010
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

457

CALIFORNIA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: HUNTER POINT (USFS) STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N.E. Sylar YEAR: 1956 Described by: J.E. Johnson

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1. 87 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡
	DREW (USGS)				000 00' 00.00
12c	Reference Mark NO. 1	SSE	39.97	12.181	62 47 50.
	Azimuth Mark (Station MOORE)	S	(3,0 Mile)		88 15 02.95
12c	Reference Mark NO. 2	SSW	24.13	7.353	104 03 12.

The station is on the first prominent brush covered knob south of the timber on jawbone ridge and just north of HuntaPoint. It is about 10½ miles airline S.E. of Tuolumne, 8½ miles airline ENE of Groveland, and 12½ miles airline N.E. of Coulterville.

To reach from the Post Office in the town of Tuolumne, go north on Pine street for 0.2 mile to hard surfaced road (Just north of the school house) turn right and go .05 mile to a three way fork, take left fork towards Basin Creek for 0.3 mile, take center fork of three and go 2.5 mile to a fork, take right fork across N. Fork Tuolumne River and go 2.7 miles to a fork, take right fork across creek and go 0.4 mile to a fork, take left fork and go 6.0 miles to a fork, take left fork and go 1.1 miles to a fork, take left fork and go 2.8 miles to a fork, take right fork and go 1.5 miles to the top of a ridge and three forks of the road, take the right fork as per sign "HUNTER BEND" and "COPTER SITE" and go 1.7 miles to a fork and sign "GRAPEVINE SPUR", take left fork and go 1.8 miles to the end of truck travel..From here pack south down the top of ridge for about 0.4 mile to station.

The station is on the highest point of knob which is bare and covered with boulders. It is stamped HUNTER POINT U.A.B.M. ELEV. 3705 T.1S. R. 17 E. Sec. 11 1937 U.S. Dept. of Agriculture Forest Service and it is set in a drill hole in a boulder.

Reference Mark NO. 1 is about 1 foot lower than the station and it is stamped HUNTER POINT NO 1 1956 and it is set flush in a drill in a boulder which is about 2 feet high.

Reference Mark NO. 2 is about 4 feet lower than the station and it is stamped HUNTER POINT NO 2 1956 and it is set flush in a drill hole in a boulder which projects about 6 inches.

The Azimuth Mark is Station MOORE 1956 to reach see station description.

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

16—66802-1 U. S. GOVERNMENT PRINTING OFFICE

FORM 284 (3-31-61)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: HUNTER POINT USFS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,121,671.89 y 499,403.47	2° 32'23" +0 15 29	AZIMUTH MARK MOORE
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
LATITUDE:	37°52'15".054	NORTH		1,128.8	METERS
LONGITUDE:	120 04 42.551	WEST		3,703	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK MOORE	SECOND-ORDER 2°47'51".77	3.676 9493	4,752.80

USCOMM-DC 9267

USCOMM—NOAA—ASHEVILLE

JULY 1963
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COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457
QUAD 371201 STATION 1011
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 534
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: JAY STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N.E. Sylar YEAR: 1956 Described by: J.E.Johnson

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.72 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡	
	HUNTER POINT (USFS)				000 00' 00.00	
11a	Reference Mark NO. 1	NE	22.11'	6.738'	68 16 15."	
11a	Reference Mark NO. 2	SSE	30.66'	9.348'	164 18 17."	
	Azimuth Mark (Station SMITH PK)	SW	(3.0 Mile)		246 06 36.58"	

Detailed description

The station is on the N.W. end of a timber and brush covered ridge, about 9 miles airline E. of Groveland, 13½ miles airline S.E. of Tuolumne, 6 miles airline S.W. of Early Intake and 11 miles airline N.E. of Coulterville.

To reach from the Post Office in Groveland, go east on State Highway 120 for 11.35 miles to the Tuolumne County Line,(0.15 mile east of Big Oak Lodge) take a left fork on a track road across a cattle guard 0.1 mile to a fork, take left for 1.0 mile uphill to the top of ridge and three forks of the road, take extreme right fork and go uphill for 0.3 mile to top of ridge and a "T" road, turn sharp left and go 0.2 mile to highest point of ridge and station on the left.

The station is 7½ feet east southeast of a triangular blazed tree, about 12 feet west of track road. It is a standard disk and it is stamped JAY 1956 and it is set flush with the ground surface.

Reference Mark NO. 1 is 8 feet east of a track road, and about 2 feet lower than the station. It is a standard disk and it is stamped JAY NO 1 1956 and it is flush with the ground surface.

Reference Mark NO. 2 is 12 feet west of the center of track road and on the same elevation as the station. It is a standard disk stamped JAY NO 2 1956 and it is set flush with the ground surface.

The distance between Reference Mark NO. 1 and Reference Mark NO.2 is 39.8 feet.

The Azimuth Mark is Station SMITH PK to reach see station description.

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

16—60202-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: JAY YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,126,592.80 y 483,414.30	+ 0 16 06	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'36".749	NORTH		1,065.8	METERS
	LONGITUDE: 120 03 42.114	WEST		3,497	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
HUNTER POINT USFS	163°09'43".4		

FEB 7 1981
FILE COPY

Form 284 (1931-961)

USCOMM-DC 6247

JULY 1963
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U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA 457

QUAD 371201 STATION 1012,1012A
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Forms 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

-4 S/R.

NAME OF STATION: KASABAUM STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: F.T.L.

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.44 METERS‡ HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
		OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION† ° ' "
		LLOYD				00 00 00.0
		509 + 8628 (M.H.W.S.)	ENE	72.30	22.036	179 02 54.5
11a		R.M. No. 1	ENE	19.41	5.917	183 38 03
11a		R.M. No. 2	S	22.71	6.922	277 20 08

Described descriptions

The station is on the Hetch Hetchy power line on a small timber and brush covered hill. It is about 6 miles east of Groveland, 11 miles airline southeast of Tuolumne, 9 1/2 miles airline northeast of Coulterville and 8 1/2 miles airline west-southwest of Early Intake.

To reach from post office at Grove land, go east on State Highway 120 for 8.3 miles to fork as per sigh "Jawbone Station 13.6 miles", take left fork and go 1.0 mile, turn right as per sign "Big Oak Flat Road 1.5" and go 0.5 mile, turn sharp left up ridge and go 0.1 mile to highest point and station site.

The station is about 1 foot lower than highest point of hill, 19.4 feet west-southwest of power line pole No. 1014. The mark is set flush and the disk is stamped KASABAUM 1956.

R. M. No. 1 is 2 feet northwest of powerline pole 1014. The mark is set flush and the disk is stamped KASABAUM NO 1 1956.

R. M. No. 2 is 29 feet south-southwest of power pole No. 1014 and is on the summit of hill. The mark is set flush and the disk is stamped KASABAUM NO 2 1956.

Another mark belonging to the City of San Francisco, Hetch Hetch Water Dept. was cut in. It is 43 feet west of Power line pole No. 1013. The mark is an iron pipe with cap set in a concrete monument that pro jects 10 inches. The mark is stamped 509 + 8628

Station LLOYD may be used for azimuth.

*Refers to notes in manuals of triangulation and state publications of triangulation. †Direction-angle measured clockwise, referred to initial station.
‡To nearest meter only, where no trigonometric leveling is being done.
16—80923-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: KASABAUM YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ION Δα ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,112,411.27 y 484,805.36	+ 0 14 18	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'51".122	NORTH		999.7	METERS
	LONGITUDE: 120 06 38.802	WEST		3,280	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
LLOYD	82°15'17".4		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: 509+8628 MHWS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second -ORDER Traverse SOURCE: G-11404 FIELD SKETCH: CALIF 427
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ION Δα ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,112,482.70 y 484,816.58	+ 0 14 18	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'51".230	NORTH			METERS
	LONGITUDE: 120 06 37.911	WEST			FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station KASABAUM			

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

CALIFORNIA 457
QUAD 371201 STATION 1013
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LLOYD . STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N.E.Sylar YEAR: 1956 Described by: J.K. Johnson

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.70 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ′ ″	
	GARROTTE				000 00 00.00	
11a	Reference Mark NO. 1	ENE	23.13	7.050	170 07 29.	
	KASABAUM (Azimuth Mark)	E	(2.2 Mile)		177 58 12.96	
11a	Reference Mark NO. 2	SSE	26.15	7.970	260 07 51.	

The station is about 4 1/2 miles eastsoutheast of Groveland, and about 1/2 mile north of State Highway 120, and on the power line co. right-of-way.

To reach from the Post Office in Groveland, go east on State Highway 120 for 4.3 miles to were the highway bends to the south and a dirt track road takes off to the left on the curve, turn left on dirt track and go 0.2 mile to a fork, take left fork and go about 100 feet to a power line crossing, continue across power line and go 0.5 mile to a second power line right-of-way and station.

The station is 221/2 feet east northeast of a powerline pole no 13/6, 6 feet north of center of right-of-way. It is a standard disk stamped LLOYD 1956 and it is set flush with the ground surface.

Reference Mark NO. 1 is 10 feet north of center of right-of-way, It is a standard disk stamped LLOYD NO 1 1956 and it is set flush with the ground surface.

Reference Mark NO. 2 is 16 feet south of center of right-of-way. It is a standard disk and it is stamped LLOYD NO 2 1956 and it projects 2 inches.

The Azimuth Mark used was Station KASABAUM to reach see station description.

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

10—30252-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LLOYD YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,098,467.68 y 482,849.75	+ 0 12 31	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
LATITUDE:	37°49 32".325	NORTH		947.25 METERS
LONGITUDE:	120 09 32.695	WEST		3,107.8 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
GARROTTE	84°15'18".5		

FEB 7 1981
FILE COPY

*OPM 284 (3-31-50)

USCOMM-DC 9267

JULY 1963

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY
REV: SEPT 1971

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371201 STATION 1015
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

MOCCASIN (USGS) (Tuolumne County, Calif., N.E.S., 1956) ---

MOCCASIN (USGS) 1956 is a USGS disk stamped "MOCCASIN 1940" cemented in a drill hole in outcropping bedrock projecting 0.6 foot above the ground and is 49.7 feet southwest of the south metal gate post of a board gate, 25.0 feet west of a fence line and about the same elevation as the station mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MOCCASIN USGS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: CALIF 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ OR Δα ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,049,896.53 y 475,265.91	+ 0 06 21	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°48'18".662	NORTH		898.7	METERS
	LONGITUDE: 120 19 38.260	WEST		2,948	FEET

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

USCOMM-DC 6***

JULY 1963
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U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371201 STATION 1016
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

457

CALIFORNIA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1945

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MOORE . STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N.E. Sylar YEAR: 1956 Described by: J.F. Johnson

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.72 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK	METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION: ° ′ ″	
	SMITH PK				000 00 00.00	
	Azimuth Mark (Station Smith Pk.)	SSW	(2.0 mile)		000 00 00.00	
11a	Reference Mark NO. 2	SSW	33.83′	10.310′	08 32 31.″	
11a	Reference Mark NO. 1	SE	30.99′	9.442′	285 45 51.″	

The station is on a brush covered hill just south of the Hetch Hetchy power line. About 8 miles airline E of Groveland, 12 1/2 miles airline S.E. of Tuolumne, 10 miles airline N.E. of Coulterville and 7 miles airline S.W. of Early Intake.

To reach from the Post Office in Groveland, go east on State Highway 120 for 11.25 mile to the Tuolumne County line.(0.15 mile east of the Big Oak Lodge) Take a left fork across a cattle guard, turn left and go 1.0 mile on the Tuolumne Pim truck trail to the top of a ridge and junction of three track roads, continue straight ahead on left road of three for 1.3 mile to the base of a steep rounded hill and small Forest service boundry sign on a white post, turn right off track road and go up hill for about 0.1 mile to top of hill and station.

The station is about 250 feet SW of a Power line pole NO. 8-20. It is a standard disk stamped MOORE 1956 and it is set flush with the ground surface.

Reference Mark NO. 1 is a standard disk stamped MOORE NO 1 1956 and it is set flush with the ground surface

Reference Mark NO. 2 is a standard disk stamped MOORE NO 2 1956 and it is set flush with the ground surface

The Azimuth Mark used was station SMITH PK to reach see station Description.

Detailed description

* Refers to notes in manuals of triangulation and state publications of triangulation. † To nearest meter only, when no trigonometric leveling is being done. ‡ Direction-angle measured clockwise, referred to initial station.

16—46202-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MOORE YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR ∠) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,120,981.00 y 483,826.76	+ 0 15 23	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°49'41"081	NORTH		1,077.4	METERS
	LONGITUDE: 120 04 52.037	WEST		3,535	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
SMITH PEAK	28°32'23"8		

FORM 284 (10-61-561)

USCOMM-DC 8267

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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 371201 STATION 1017,1017A
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PENON BLANCO STATE: California COUNTY: Mariposa

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: J.E. Johnson

NOTE,* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.73 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

4 Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ′ ″
	WEBB VABM USGS 1943				000 00′ 00.00
17c	Azimuth Mark	NNE	(0.25 Mile)		203 42 41.1
12c	Reference Mark NO. 1	ESE	36.93	11.254	274 25 56.
	Williams Peak L.O.	SSE			319 50 00.6
	Penon Blanco L.O.	S	89.55	27.294	346 52 47.6
12c	Reference Mark NO. 2	S	58.50	17.830	353 32 41.

Detailed description

The station is located on a high prominent table like point, about 7½ miles SSW of Groveland, and 6 miles SSE of Moccasin, and 4 miles WNE of Coulterville, 79½ feet north of the Penon Blanco Lookout.

To reach from the Post Office in Moccasin, go 0.5 mile on hard surface road to the junction of State Highway 49, turn left and go SE and S on State Highway 49 for 6.0 miles to the Mariposa county line, continue for 1.6 miles to a fork, take right fork and go 1.3 mile on hard surfaced road to the summit of ridge and a "T" road right, turn right on graded road and go 1.25 mile to the Azimuth Mark on the left, continue on graded road for 0.45 mile to the Penon Blanco Lookout and station.

The station mark is a standard disk, set in a large flat boulder about 5 feet high, and it is stamped PENON BLANCO 1956.

Reference Mark NO. 1 is 72.6 feet north of the northeast corner of Lookout, 15 feet northeast of Lookout weather station, and about 3 feet lower than the station. and it is stamped PENON BLANCO NO.1 1956.

Reference Mark NO 2 is 21½ feet north of the northwest corner of the Lookout, and about 3 feet lower than the stat ion. It is stamped PENON BLANCO NO 2 1956.

The Azimuth Mark is 12 feet southeast of the center of a gravel road, and 3 feet south of a large conical shaped boulder, and it is set in a large round boulder about 6 feet higher than the surface of the road. It is stamped PENON BLANCO 1956.

The distance between Reference Mark No. 1 and Reference Mark No. 2 is 63.0 feet.

*Refers to notes in manuals of triangulation and state publications of triangulation. ‡Direction-angle measured clockwise, referred to initial station.
†To nearest meter only, when an trigonometric leveling is being done.

16—66302-1 U. S. GOVERNMENT PRINTING OFFICE

8-4611-2

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PENON BLANCO YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

First -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,069,298.17 y 448,752.63	215°06'41" + 0 08 48	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°43'56"102 NORTH LONGITUDE: 120 15 37.351 WEST			877.2 METERS 2,878 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD ORDER 215°15'28"9		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PENON BLANCO LOOKOUT TOWER YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Third -ORDER Traverse SOURCE: G-11404 FIELD SKETCH: CALIF 427
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,069,300.89 y 448,663.13	+ 0 08 48	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°43'55"217 NORTH LONGITUDE: 120 15 37.320 WEST			METERS FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station PENON BLANCO			

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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 371201 STATION 1018
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

457

CALIFORNIA

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: RAWLES STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: H.E. Sylar YEAR: 1956 Described by: J.E. Johnson

NOTE.* 4 None HEIGHT OF TELESCOPE ABOVE STATION MARK 1.06 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡
	DREW (USGS)				0 00 00.00
	Az. Mk. (Station DUCKWALL (USGS))	N	(2.0 Mile)		241 40 48.8
12c	R M 1	N	65.76	20.043	246 11 40.
12c	R M 2	N	20.07	6.115	256 12 35.

The station is located about 13½ miles north northeast of Coulterville, 9 miles southeast of Tuolumne, 7½ miles northeast of Groveland and on a high prominent hill.

To reach from the Post Office in Tuolumne City, go north on Pine Street for 0.2 mile to a hard surface road,(0.05 mile north of the School) turn right and go 0.05 mile to three forks of the road, take the left fork of three towards Basin Creek for 0.3 mile to a fork, take right fork for about 200 feet to a fork, take left fork (Hard Surface) for 2.7 mile to a fork, take right fork across the N. Fork Tuolumne River for 2.9 mile to a fork, take right fork across creek for 0.4 mile to a fork, take left fork for 6.5 mile to a fork, take left fork for 1.3 mile to a fork, take left fork and go 3.0 mile to a fork, take right fork for about 1.5 mile to three forks of the road, take right fork as per sign "HUNTER BEND" and go 1.7 mile to a fork, take right fork as per sign "GRAPEVINE SPUR" and go uphill for 0.25 mile to the top of saddle, turn left off road and follow ridge up steep hill for about 0.15 mile to highest point and station.

Station Mark, a standard disk set in a drill hole in a boulder. It is stamped RAWLES 1956. 33½ feet west of a blazed tree with a nail in the center of blaze, about 22 feet east of center of ridge.
Reference Mark 1 is a standard disk set in a drill hole in a boulder. It is stamped RAWLES NO 1 1956 and it is about 3 feet lower than the station. About 50 feet east of center of ridge, 22 feet north of a broken top blazed pine tree and on the east slope of the ridge.
Reference Mark 2 is a standard disk set in a drill hole in a boulder. It is stamped RAWLES NO 2 1956 and it is about 22 feet west northwest of a blazed pine tree.
Azimuth Mark, is station DUCKWALL(USGS). To reach see station description.

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

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: RAWLES YEAR: 1956

STATE: Califonnia LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,115,512.90 y 507,273.27	+ 0 14 42	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°53'33".128	NORTH		1,407.6	METERS
	LONGITUDE: 120 05 58.943	WEST		4,618	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
DREW USGS	287°06'18".8		

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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 371201 STATION 1019
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SIXBIT STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: H.J.W.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.70 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK METERS.			
2	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ' "
	BIG HILL 1931				0 00 00.0
	Sonora,	NE	(14.5 miles)		83 25 39.1
	Azimuth mark	NE	(0.5 mile)		117 55 50.2
12c	RM 1	S	27.93	8.512	258 11 01.
12c	RM 2	W	21.03	6.411	352 59 01.

The station is located on a prominent oak covered hill 15 miles northwest of Coulterville, 13 miles southwest of Groveland, 6 miles southwest of Jacksonville, 6 miles south southwest of Chinese Station, 4½ miles southeast of Keystone and ½ mile south of a Hetch Hetchy power transmission line.

Station mark, stamped SIXBIT 1956, is a standard disk cemented in a drill hole in a flat topped boulder 5 feet in diameter and projects 4 feet. It is 28.7 feet northwest of a 30 inch oak tree with a triangular blaze and 23.0 feet north of a 10 inch oak tree.

Reference mark No. 1, a standard disk stamped SIXBIT NO 1 1956, is cemented in a drill hole in a 2 foot by 4 foot boulder. It is 19.5 feet west of a 30 inch oak tree, 12.0 feet southeast of a 10 inch oak tree, and 2 feet lower than the station. The boulder projects 2 feet above the ground.

Reference mark No. 2, a standard disk cemented in a drill hole in a 3 foot by 6 foot boulder projecting 3 feet, is stamped SIXBIT NO 2 1956. It is 19.0 feet northwest of a 10 inch oak tree, and 1 foot lower than the station mark.

Azimuth mark, a standard disk stamped SIXBIT AZIMUTH 1956, is cemented in a drill hole in the southwest footing of power transmission line tower No. 86. It is 235 feet south of the south right of way fence of an old railroad grade, 84 feet north of a property fence line and 31 feet southwest of a large oak tree. The footing projects 6 inches.

To reach from the post office in Chinese Station, go west 1 block to a secondary paved road, turn left, southwest, and follow paved road for 4.0 miles to a T intersection, turn left, south, on a paved road toward La Grange for 0.4 mile to a fork, take the right fork, south, for 1.9 mile to two metal gates on the left, turn left thru the second gate on a dirt road and go southeast for 0.6 mile to a fork, take the right fork uphill for 0.2 mile to a low saddle, turn left, east off the track road and go cross country for 0.2 mile around north side of hill to the summit and station.

To reach the azimuth mark, pass through the first one of two wire gates mentioned above and follow a gravel road along an old railroad grade for 1.2 mile, cross fence and walk east for 100 yards to power transmission line tower No. 86 and the azimuth mark.

A 4 wheel drive station.

J.S.R.

*Refers to notes in manuals of triangulation and state publications of triangulation. ‡Direction-angle measured clockwise, referred to initial station.
†To nearest meter only, where no trigonometric leveling is being done.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SIXBIT YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ION Δα ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,012,857.25 y 467,855.08	234°07'46 " + 0 01 38	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°47'05".816	NORTH		456.6	METERS
	LONGITUDE: 120 27 19.835	WEST		1,498	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD ORDER 234°09'24".2		

FORM 284 (3-51-63) USCOMM-DC 8287

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WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371201 STATION 1020,1020A
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

457

CALIFORNIA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 535
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SMITH PK STATE: Ca lifornia COUNTY Tuolumne & Mariposa

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: F.T.L.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.54 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

18 Surface-station mark.
11a Underground-station mark
DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
GROVELAND				00 00 00.0
Pilot Pk. L. O.	ESE			181 55 08.9
12c R. M. No. 1	SE	36.05	10.989	209 35 26
USFS BM Smith Peak L.O.	SE	20.37	6.207	217 45 10
R.M. No. 2	SW	20.44	6.231	314 21 27

The station is on a small prominen t hill at a lookout tower about 7 miles air-line east-southeast of Groveland, 8 miles airline northeast of Coulterville and about 13 1/2 miles southeast of Tuolumne.

To reach from the post office in G roveland, go east on State Highway 120 for 9.5 miles to side road right, this is 0.7 mile beyond Groveland Ranger Station, go right on dirt road for 1.7 miles, keep straight ahead at crossroad and go 0.5 mile to summit of hill and station site at base of lookout tower.

The station mark is 4.5 feet east of the northeast leg of lookout tower. The mark is set flush and the disk is stamped SMITH PK 1956

R. M. No. 1 is 12 feet east-southeast of a cedar tree and 10.5 feet east-northeast of metal flag pole. The boulder projects 18 inches and the disk is stamped SMITH PK NO 1 1956.

R. M. No. 2 is a standard reference mark disk set in a drill hole in the southeast corner of the concrete base for lookout stairs. The mark is flush and the disk is stamped SMITH PK NO 2 1956.

Another mark was cut in, a USFS mark stamped SMITH PEAK L. O. ELEVATION 3382. It is set in a drill hole in outcropping bedrock. It is 4 feet northwest of cedar tree.

Pilot Peak L. O. was cut in to ser ve as ground azimuth.

*Refer to notes in examples of triangulation and state publications of triangulation. †To nearest meter only, when no trigonometric leveling is being done. ‡Direction—angle measured clockwise, referred to initial station.

16-56252-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SMITH PEAK YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ION Δα ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,115,633.87 y 473,889.20	285°57'46" + 0 14 42	AZIMUTH MARK PILOT PEAK LOOKOUT TOWER
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°48'03".061 NORTH LONGITUDE: 120 05 59.215 WEST			1,180.6 METERS 3,873 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK PILOT PEAK LOOKOUT TOWER	THIRD ORDER 286°12'28".1	4,179803	15,128.7

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ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SMITH PEAK LOOKOUT USFS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second-ORDER Traverse SOURCE: G-11404 FIELD SKETCH: CALIF 427
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & ION Δα ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,115,646.46 y 473,873.17	+ 0 14 42	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°48'02".902 NORTH LONGITUDE: 120 05 59.059 WEST			METERS FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station SMITH PEAK			

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

CALIFORNIA 451
QUAD 371201 STATION 1021
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1945

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SPINN STATE: California COUNTY: Tuolumne 15 R.

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: F.T.L.

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.35 METERS† HEIGHT OF LIGHT ABOVE STATION MARK METERS

NOTE*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
		OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ' "
		COLFAX				00 00 00.0
		Duckwall L. O.	NW			105 07 10.6
12c		R.M. No. 2	NNW	29.56	9.010	134 18 08
12		R. M. No. 1	E	51.95	15.834	231 47 58

The station is on a small brush covered hill about 1/2 mile west of the main road to Early Intake. It is about 11 1/2 miles airline east of Groveland, 13 1/2 miles airline northeast of Coulterville, 3 1/2 miles southwest of Early Intake Powerhouse and 15 miles airline southeast of Tuolumne.

To reach from the post office in Groveland, go east on State Highway 120 for 15.1 miles to fork, take left fork, paved, and go 2.2 miles to dirt road left, turn back sharp left and go 0.5 mile, keep left on main road and go 0.25 mile to fork, go left and go 0.05 mile, turn left on old railroad grade and go 0.1 mile, take right fork and go 0.2 mile, turn right, up hill and go 0.1 mile to summit of hill and station site.

The station mark is 27 feet south-southwest of a boulder projecting 6 feet. The mark projects 1 foot and the disk is stamped SPINN 1956

R. M. No. 1 is about 1 foot lower than station. The mark projects 8 inches and the disk is stamped SPINN NO 1 1956.

R. M. No. 2 is 10 feet north-northwest of a 6 foot boulder. The mark is flush and the disk is stamped SPINN NO 2 1956 .

Duckwall Lookout Tower was cut in for ground azimuth.

*Refers to notes in manuals of triangulation and state publications of triangulation. †To nearest meter only, when no trigonometric leveling is being done. ‡Direction-angle measured clockwise, referred to initial station.

16—66852-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SPINN YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (FORWARD ANGLE)	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,142,425.82 y 488,414.42	145 04 24 + 0 18 07	AZIMUTH MARK DUCKWALL LOOKOUT TOWER
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°50'25".405	NORTH		1,069.19	METERS
	LONGITUDE: 120 00 24.442	WEST		3,507.8	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK DUCKWALL LOOKOUT TOWER	THIRD ORDER 145°22'30".9		

FEB 7 1981
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Form 284 (3-31-61)

USCOMM-DC 8267

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COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

CALIFORNIA

QUAD 371201 STATION 1022
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 120°00' TO 120°30'
DIAGRAM NJ 10-9 SAN JOSE

457

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 286
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SUGARLOAF STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: M. J. W.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.73 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK METERS.			
1a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
7a	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ′ ″
	DUCKWALL (USGS)				0 00 00.0
11a	RM 2	ESE	28.96′	8.826′	89 58 41.
	Sugarloaf (USFS)	S	47.49′	14.475′	162 24 45.0
	Sugarloaf Lookout	S	56.32′	17.164′	171 28 27.7
16a	Azimuth mark	N	(0.5 mile)		342 11 11.4
11a	RM 1	N	33.66′	10.262′	354 01 52.

The station is 10½ miles northeast of Moccasin, 6½ miles southeast of Tuolumne, 6 miles northeast of Groveland, on the south end of a north-south ridge, at a lookout house.

To reach the station from the post office in Tuolumne, go east 1 block, turn left, north on Pine Street for 0.2 mile to a T-intersection, turn right, east for 0.05 mile to an intersection, turn left, north east as per sign "Basin Creek" and go 0.3 mile to three forks, take the center fork, northeast on a gravel road for 2.3 mile to a fork, take the right fork, east, across the North Fork Tuolumne River and go 2.6 miles to a fork, take the right fork across a btream and go 0.3 mile to a fork, take the left fork, northeast, and go 6.6 mile to a fork at a sign "Sugarloaf L. O.", take the right fork, southeast, and go 0.2 mile to three forks, take the center fork up the ridge and go

1.1 mile to a high saddle and the azimuth mark on the left, continue southeast, downhill and go 0.55 mile to the lookout house and station.

The station mark, a standard disk stamped SUGARLOAF 1956 set in a concrete monument, is 47.5 feet north of lookout house. The monument is flush with the ground.

Reference mark No. 1, a standard disk stamped SUGARLOAF NO 1 1956 set in the top of a concrete monument, is 81.8 feet north of lookout house and 3 feet lower in elevation thanthe station mark. The monument projects 4 inches.

Reference mark No. 2, a standard disk stamped SUGARLOAF NO 2 1956 set in the top of a concrete monument, is 48.1 feet northeast of the northeast corner of lookout house and 1 foot lower in elevation than the station mark. The monument projects 2 inches.

Another mark, a U. S. Forest Service bronze disk stamped V.A.B.M. ELEV. 3880 SUGAR LOAF R.17E. T.1N. SEC. 31 1937, is cemented in the first concrete step leading to the lookout.

The azimuth mark, a standard reference disk stamped SUGARLOAF 1956 set in the top of a concrete monument, is 60 feet northeast of the center of road, 24 feet south of the center of a trank road, 20.7 fee t west of a 6 inch pine tree, and 19.9 feet southeast of a small pine tree. The monument projects 4 inches.

*Refers to notes in manuals of triangulation and state publications of triangulation. †To nearest meter only, when no trigonometric leveling is being done. ‡Direction-angle measured clockwise, referred to initial station.

10—61352-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SUGARLOAF YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second-ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (OR ANGLE)	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,102,454.63 y 509,219.71	178°16'28" + 0 13 03	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION
	LATITUDE: 37°53'52"893
	LONGITUDE: 120 08 41.755

TO STATION

AZIMUTH MARK

52.85

Sugarloaf to Sugarloaf LOH

120.000
8.000
41.755

7.000
46.000
46.500

POSITION
LAT. LONG.
375352.893
1200841.755
AZ.
74646.500
DIST.
56.320
BK. AZ.
1874646.442
LAT. LONG.
375352.341
LOH 1200841.850

37 119 4 CALIF. 455
37°45'
119°30'

NAME	STATION
DOUBLE	1005
MOUNT HOFFMAN	1014
SMITH	1018
TABLE	1019

CALIF. 455

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 371194 STATION 1005
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

37°45
119° 30'

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 524
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DOUBLE STATE: California COUNTY: Tuolumne-Mariposa

CHIEF OF PARTY: R. L. Engdahl YEAR: 1956 Described by: F. T. L.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.81 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK	METERS.
2	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION	

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡
	MT HOFFMANN				00° 00' 00.0"
12a	R. M. No. 1	SSW	15.20	4.633	69 25 33
	Cairn	SW			75 22 10.8
12a	R. M. No. 2	NNW	66.27	20.200	137 16 07

Detailed description:

The station is located on the highest point of the western of two rock pinnacles known as Double Rock. These rocks are about 40 feet higher than the rest of the mountain, the north side of which drops off for several thousand feet into the Tuolumne Gorge.

To reach the station from the White Wolf Pack Station in Yosemite National Park, take the Ten Lakes trail for about 10 miles to the top of the switch backs where there are seven trees in a group all with a diamond blaze, turn left and go west about 1.5 miles to Double Rock which is a very outstanding formation. The station mark is 2 feet east of the west edge, 2 feet west of the east edge, 16 feet north of the south edge and 8 feet south of the north edge of the highest point on the west pinnacle. The disk is flush and is stamped DOUBLE 1956

R. M. No. 1 is 1 foot west of the edge of pinnacle and about the same elevation as station. The disk is set flush and is stamped DOUBLE NO 1 1956.

R. M. No. 2 is on the highest part of the extreme west end of the west pinnacle. The disk is set flush and the disk is stamped DOUBLE NO 2 1956.

A cairn was cut in to be used as an Azimuth Mark for this station. It is located on a small plateau in a fairly deep saddle on the range of mountains to the south.

*Refers to notes in manuals of triangulation and state publications of triangulation. †To nearest meter only, when no trigonometric leveling is being done. ‡Direction-angle measured clockwise, referred to initial station.

20—62580-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DOUBLE YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: CALIF 430

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH OR ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,267,990.95 y 511,096.00	32°08'06" + 0 34 07	AZIMUTH MARK (CAIRN)
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°54'00".217 NORTH			2,981.2 METERS
	LONGITUDE: 119 34 16.351 WEST			9,781 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK (CAIRN)	THIRD-ORDER 32°42'12".8		

*Form 784 (3-31-51) USCOMM-DC 8207

JAN 1964

JULY 1963
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WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 371194 STATION 1006
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
FORM 526
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DREW (USGS) STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: H. E. Sylar YEAR: 1956 Described by: M. J. W.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.68 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark | DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ′ ″
	HUNTER POINT (USFS)				0 00 00.0
	RM 2 (USGS)	NE	22.99′	7.008′	119 26 21.
	Azimuth mark (Station SPINN)	SW	(2.3 miles)		297 24 17.2
12a	RM 1	SW	28.51	8.691	312 57 13.
	Station 10 (USFS)	WSW	36.36	11.084	322 04 47.

The station is 15½ miles southeast of Tuolumne, 15½ miles northeast of Coulterville, 13 miles east-northeast of Groveland, on a prominent, round, brush and timber covered peak.

To reach from the post office in Groveland, go east on State Highway 120 for 14.6 miles to a fork, take the left fork, northwest, toward Early Intake for 4.6 miles to a gravel side road left, turn left, southwest, and follow gravel road for 0.8 mile to the north base of hill and end of truck travel, climb southeast up steep hill to higheast point and the station.

Station mark, a U. S. Geological Survey bronze disk stamped DREW 1945 cemented in a drill hole in a boulder, is 4 feet northwest of an 18 inch pine tree. The boulder projects 4 inches.

Reference mark No. 1, a standard disk stamped DREW NO 1 1956 cemented in a drill hole in a boulder, is on the southwest slope of the peak, 5.5 feet lower in elevation than the station mark. The boulder projects 18 inches.

Reference mark No. 2, a U. S. Geological Survey bronze reference disk stamped DREW NO 2 cemented in a drill hole in outcropping bedrock, is 1 foot lower in elevation than the station mark. The outcrop projects 6 inches.

Another mark, a U. S. Forest Service bronze disk stamped STATION 10 V.A.B.M. ELEV. 4125 T1S R16E SEC. 10 1937 cemented in a drill hole in a boulder, is on the southwest slope of peak and 7 feet lower in elevation than the station mark.

Station SPINN will serve as an azimuth mark for this station. To reach the azimuth mark see detailed description to station.

A 15 minute pack.

Detailed descriptions

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

16—30073-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DREW USGS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,147,992.30 y 497,429.99	31°41'32" +0 18 50	AZIMUTH MARK SPINN
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°51'54".244	NORTH		1,258.5 METERS
	LONGITUDE: 119 59 14.433	WEST		4,129 FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK SPINN	SECOND-ORDER 32°00'22".13	3.509 1666	3,229.73

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: STATION 10 USFS YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second -ORDER Traverse SOURCE: G-11404 FIELD SKETCH: CALIF 427
(No check on this position)

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,147,962.00 y 497,409.91	+ 0 18 50	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE: 37°51'54".047	NORTH		METERS
	LONGITUDE: 119 59 14.812	WEST		FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from station DREW (USGS)			

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

FILE COPY

QUAD 371194 STATION 1013
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
FORM 525
REVISED 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: JUNE STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: N.E.Eylar YEAR: 1956 Described by: N.E.S.

NOTE,* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.54 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ ° ′ ″
NORTH MTN.				0 00 00.0
R.M.No.1.		42.28	13.191	104 31 52
R.M.No.1.		34.39	10.484	271 00 35
POOPANAUT	NE	about 3 miles.		67 33 34.8

Detailed description:

The station is on the south side of the main road between OAKLAND TUOLUMNE CAMP and MATHER, on a small rocky hump that projects about 15 feet, 3 meters south of the cut bank on the south side of the road, 10 meters west of the highest point of the hump and 3.8 meters northeast of a triangle blaze on a 12 inch pine tree.

Best reached from Groveland as follows: From the Post Office go east on Highway 120 for 15.5 miles, take left fork as per sign Cherry Valley Project and go 5.4 miles, take right fork as per sign Hetch Hetchy Dam 18 and go 5.7 miles to a small rocky hump on the south side of th e road and the station.

The station mark is a standard station mark disk stamped JUNE 1956 set in a large boulder.

Reference mark No.1. is a standard reference mark disk cemented in a drill hole in a large boulder, stamped JUNE NO 1 1956.

Reference mark No.2. is a standard reference mark disk cemented in a drill hole in a large boulder, stamped JUNE NO 2 1956.

No azimuth mark was set at this station, POOPANAUT will serve as tha azimuth mark.

*Refers to notes in manuals of triangulation and state publications of triangulation.
†To nearest meter only, when no trigonometric leveling is being done.
‡Direction-angle measured clockwise, referred to initial station.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: JUNE YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (OR ∠ ANGLE)	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,176,738.21 y 501,604.62	+0 22 30	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
LATITUDE:	37°52'33".809	NORTH		1,299.74	METERS
LONGITUDE:	119 53 15.620	WEST		4,264.2	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
NORTH MTN	166°37'23".4		

FORM 284 (3-21-58)

USCOMM-DC 62887

455 Cal, 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 371194 STATION 1014
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

CALIF 455

FILE COPY

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MT HOFFMANN STATE: California COUNTY: Mariposa

CHIEF OF PARTY: R. L. Engdahl YEAR: 1956 Described by: F. A. Martin

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.6 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark | DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION‡ °	′	″
	FORSYTH				00	00	00.0
17c	Azimuth Mark	S	(0.35 mile)		184	18	56.9
12c	Reference Mark No. 1	S	17.45	5.319	179	56	10
12c	Reference Mark No. 2	NNW	21.40	6.523	336	56	26

Detailed description

The station is on the highest part of Mt. Hoffmann, which is about 7½ miles east and 1½ miles south of White Wolf, about 7 miles northeast of Yosemite and about 1 mile west of May Lake. The station mark is 4 feet south of a cairn and is stamped MT HOFFMANN 1956.

Reference Mark No. 1 is 3 feet north of a cairn and 1 foot below station elevation and is stamped MT HOFFMANN NO 1 1956.

Reference Mark No. 2 is 4 feet south of a cairn and 1 foot below station elevation and is stamped MT HOFFMANN NO 2 1956.

The azimuth mark is on a prominent rock ridge that extends north and south. It is 1 foot west of a cairn and is stamped MT HOFFMANN 1956.

To reach the station from the Post Office in Groveland go east on State Highway 120 for 25.0 miles to the end of State Highway 120 and the entrance to Yosemite National Park. Continue into the park following the macadam road southeast for 6.8 miles to a junction just beyond the Crane Flat Ranger Station. Take left fork and follow Tioga Road northeast for 14.0 miles to the junction of Tioga Road and White Wolf Road. Continue southeasterly on Tioga Road for 13.8 miles to the May Lake Parking Area and the end of truck travel. From here pack north on well marked trail for about 1½ miles to May Lake. Then pack west across the south end of the lake passing to the left of a wooden water tank. Here take the Mt. Hoffmann trail and pack southwest thru a canyon and to the southwest end of a small meadow. Then follow the trail, which is well marked by ducks, west-northwest to the highest part of Mt. Hoffmann and the station and reference marks as described.

Length of pack about three hours.

To reach the azimuth mark from the station pack east for about 0.35 mile to the high part of a prominent rock ridge and the azimuth mark.

* Refers to notes in manuals of triangulation and state publications of triangulation.
† To nearest meter only, when no trigonometric leveling is being done.
‡ Direction-angle measured clockwise, referred to initial station.

30—55997-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MOUNT HOFFMAN YEAR 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

First -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 430

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,285,988.53 y 491,953.76	273°35'40" + 0 36 23	AZIMUTH MARK
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°50'49"146	NORTH		3,307.0	METERS
	LONGITUDE: 119 30 34.344	WEST		10,850	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
AZIMUTH MARK	THIRD ORDER 274°12'02"8		

FORM 284 (9-21-55) USCOMM-DC 5287

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Revised FEB 1964

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

FILE COPY

QUAD 371194 STATION 1017
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 528
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PILOT PK STATE: California COUNTY: Mariposa & Tuolumne

CHIEF OF PARTY: N. E. Sylar YEAR: 1956 Described by: H.J.W.

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.62 METERS.‡ HEIGHT OF LIGHT ABOVE STATION MARK METERS.

Surface-station mark, Underground-station mark | DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION† ° ′ ″
	PENON BLANCO				0 00 00.0
17c	Azimuth mark		(0.1 mile)		149 32 03.1
12c	RM 1		21.20′	6.463′	197 00 28.
	Pilot Peak Lookout (Pilot USGS)				258 12 29.2
	RM 2 (USGS)		32.94′	10.040′	278 56 27.

Detailed description:

The station is located 17½ miles southeast of Groveland, 1½ miles east-northeast of Coulterville, and 3 miles south of State Highway 120, on the summit of Pilot Peak.

Station mark, a standard disk stamped PILOT PK 1956 cemented in a drill hole in a boulder, is 45.0 feet north of the lookout house, 27.7 feet northeast of the northeast corner of garage, and 6.0 feet south of the north edge of earth fill. The boulder projects 6 inches.

Reference mark No. 1, a standard disk stamped PILOT PK NO 1 1956 cemented in a drill hole in a boulder, is 47.2 feet east of the northeast corner of garage, 40.2 feet north of the north edge of lookout house, and about the same elevation as the station. The boulder projects 3 inches.

Reference mark No. 2, a U. S. Geological Survey bronze reference disk cemented in a drill hole in a boulder, is stamped PILOT NO 2 1945. It is 27.1 feet southeast of the southeast corner of garage, 15.6 feet northwest of the northwest corner of lookout house, 8 feet southwest of a tree, on the south edge of steps leading to the lookout house. It is 2 feet higher in elevation than the station mark.

Azimuth mark, a standard disk stamped PILOT PK 1956 cemented in a drill hole in a boulder, is on a rocky knoll 100 feet east-southeast of road leading to the station, 30 feet southwest of summit of knoll, and 1.5 feet south of a small cairn. The boulder projects 8 inches.

To reach from the post office in Groveland, go east on State Highway 120 for 10.7 miles to Buck Meadows Lodge, take a graveled road right, south, then southeast for 5.8 miles to a T-intersection, turn left, east, and go 0.5 mile to a fork, take the left fork, east, along the north side of a creek and follow the main traveled road for 10.0 miles to a fork at an old fire guard station, take the left fork, west, uphill as per sign Pilot Peak L. O. 1.4 and go 1.25 miles to the azimuth mark on the left, continue uphill for 0.15 mile to lookout house and station.

* Refers to notes in manuals of triangulation and state publications of triangulation. † Direction—angle measured clockwise, referred to initial station.
‡ To nearest meter only, when no trigonometric leveling is being done.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PILOT PEAK YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

First -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427,430

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,163,334.23 y 460,290.60	+ 0 20 45	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°45'46".181	NORTH		1,830.6	METERS
	LONGITUDE: 119 56 05.909	WEST		6,006	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
PENON BLANCO	83°21'03".0		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PILOT PEAK LOOKOUT TOWER YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Third -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: CALIF 427,430

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (or Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,163,351.48 y 460,240.04	+ 0 20 45	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°45'45".680	NORTH		1,832	METERS
	LONGITUDE: 119 56 05.698	WEST		6,010	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from stations PENON BLANCO, SMITH PEAK, PILOT PEAK, NORTH MOUNTAIN, POOPANAUT, BALD			
No Description Available			

JULY 1963
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U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

FILE COPY

QUAD 37119⁴ STATION 1018
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

CALIF 455

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SMITH STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: R.L.Engdahl YEAR: 1956 Described by: K.D.Barber

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

4 Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING °	DISTANCE feet	DISTANCE meters	DIRECTION °	'	"
	GILLETT				0.	00	00.00
12c	R.M. No. 1	NE	68.40	20.850	62	40	52 -
12c	R.M. No. 2	NW	51.14	15.587	308	13	52 -

Detailed descriptions

The station is located on the highest part of Smith Peak, which is a bare topped hill with heavy timber on all sides. It is about 7 miles northeast of Mather, 6 miles northwest of White Wolf and 3 miles southeast of the O'Shaughnessy Dam. The mark is set on the highest point in a large boulder about 8 by 12 feet in diameter and is stamped SMITH 1956.

Reference Mark No. 1 is set near the northeast end of the mountain in and outcropping boulder and is about 2 feet lower than the station. It is stamped SMITH NO 1 1956 and set flush.

Reference Mark No. 2 is set in the top of a large boulder which is about 15 feet high and about 6 by 6 feet square and is 3 feet lower than the station. It is stamped SMITH NO 2 1956 and set flush with the rock.

To reach the station from the Joe Barnes Stables in Mather, follow the cottonwood trail to cottonwood Meadows, then follow the Smith Peak and Harden Lake Trail to the northeast corner of Smith Meadows, take the left fork and follow the Smith Peak Trail about 1.5 miles to the end of horse travel, from here pack south to the top of the peak and the station as described. A 15 minute pack.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
(Rev. Feb. 1948)

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: SMITH
ESTABLISHED BY: R.L.E. YEAR: 1956 STATE: California
RECOVERED BY:* U.S.E. YEAR: 1957 COUNTY: Tuolumne

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

Station recovered as described. Line of sight from standard T-2 tripod clear in all directions. Disc flush with rock top. Reference marks recovered in good condition.

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

Coast-DC 61207

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SMITH YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

First -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 430

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH (OR ANGLE)	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,220,929.00 y 520,426.03	+ 0 28 08	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°55'36".670	NORTH		2,363.0	METERS
	LONGITUDE: 119 44 02.548	WEST		7,753	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
GILLETT	166°12'51".6		

FORM 284 (9-31-50)

USCOMM-DC 9287

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HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

FILE COPY

CALIF. 455

QUAD 371194 STATION 1019
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: TABLE STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: R. L. Englahl YEAR: 1956 Described by: L. D. Fraser

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.68 METERS.†	HEIGHT OF LIGHT ABOVE STATION MARK 1.0 METERS.			
2	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION: ° ′ ″
	COLD MTN.				00 00 00.00
12a	Reference Mark No. 2	NW	19.83	6.059	221 43 27
12a	Reference Mark No. 1	ENE	18.99	5.783	331 53 50

Detailed descriptions

The station is located on the highest point of a north-south ridge, 1.0 mile east of Table Lake, 2.0 miles east southeast of Pleasant Valley, 1.5 miles west of Rodgers Canyon and 3.0 miles southwest of Benson Lake. It is a standard disk cemented in a drill hole in outcropping bedrock, projects 6 inches above the surface of the ground and is stamped "TABLE 1956".

Reference Mark No. 1 is a standard disk cemented in a drill hole in outcropping bedrock, projects 8 inches above the surface of the ground and is stamped "TABLE NO. 1 1956".

Reference Mark No. 2 is a standard disk cemented in a drill hole in outcropping bedrock, projects 8 inches above the surface of the ground and is stamped "TABLE NO. 2 1956".

No azimuth mark was established at this station.

To reach the station from White Wolf follow the Pate Valley Trail for 11.0 miles to Pate Valley and where the trail forks, take the Pleasant Valley Trail for 4.7 miles to where the trail forks, continue on the Pleasant Valley Trail for about 20 minutes to where the trail starts down grade and the end of horse travel, pack east to the summit of the ridge then turn left and pack northerly to highest point of ridge and station as described.

This station is about and 8 hour horse pack and 2 hour back pack.

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

30—46899-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TABLE YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Second ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: CALIF 430

GRID DATA		COORDINATES (Feet)		PLANE AZIMUTH θ ION Δα ANGLE	MARK
STATE:	Calif	x	2,276,262.87		
ZONE:	3	y	539,493.63	+ 0 35 12	
CODE:	0403				
STATE:		x			
ZONE:		y			
CODE:					

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
LATITUDE:	37°58'40".137	NORTH		2,939.1	METERS
LONGITUDE:	119 32 29.523	WEST		9,643	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
COLD MTN	295°03'52".3		

(Form 284 (5-31-52)

USCOMM-DC 8287

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HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

FILE COPY

QUAD 371194 STATIONS 1020
CALIF
LATITUDE 37°30' TO 38°00'
LONGITUDE 119°30' TO 120°00'
DIAGRAM NJ 11-7 MARIPOSA

456

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WOODS RIDGE STATE: California COUNTY: Tuolumne

CHIEF OF PARTY: R. L. Sylar YEAR: 1956 Described by: J. E. Johnson

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 31.963 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

1a Surface-station mark, 7a Underground-station mark — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION: °	′	″
	CONDON				0	00	00.00
	North Mtn. L.O.	SE	(4.5 Mile)		45	05	50.14
11a	Reference Mark NO. 2 (Center of Woods Ridge L.O.)		51.28	15.630	159	19	25.3
12a	Reference Mark NO. 1		113.62	34.631	312	02	10.

Detailed description:

The station is located about 17 miles northeast of Groveland, 6 miles north of the Early Intake Dam, 4½ miles northwest of North L.O., 4.5 miles west southwest of Lake Eleanor, and at the Woods Ridge Forest Service Lookout Tower .

To reach from the Post Office in Groveland, go east on State Highway 120 for 14.3 miles to the Cliff House and the South Fork of the Tuolumne River, continue on highway 120 for 0.5 mile to a fork, take left fork as per sign "Cherry Valley Dam" and go 5.3 mile to a fork, take left fork as per sign "Early Intake Dam" and go 3.0 mile to a bridge below the Early Intake Dam, continue on main traveled road for 11.1 mile to a "T" road left and sign on the right, camp 45 and Woods Ridge, turn left and go 0.15 mile to a fork, take left fork for 0.2 mile to a fork, take right fork and go 0.5 mile to three forks of the road , take extreme right for and .05 mile to a fork, take right fork, and go 1.25 mile to a fork and go 1.35 mile to the Woods Ridge L.O. and station.

The station is 51.28 feet northeast of the center of the Woods Ridge L.O. tower and in the center of a circle driveway. It is a standard disk and it is stamped WOODS RIDGE 1956 and it is set flush with the ground surface.

Reference Mark NO. 1 is 23 feet north northeast of driveway to L.O. cabin, 8 feet northeast of a 18" oak tree, and it is about 2 feet lower than the station. It is a standard disk set in a drill hole in bed rock and it is stamped WOODS RIDGE NO 1 1956 and it projects about 2 inches.

Reference Mark NO. 2 is set in the center of the Woods Ridge Forest Service L.O. tower and it is about 18 inches higher than the station. It is a standard disk stamped WOODS RIDGE NO 2 1956 and it is set flush with the ground surface.

No Azimuth Mark to this station.

*Refers to notes in manuals of triangulation and state publications of triangulation. †To nearest meter only, when no trigonometric leveling is being done. ‡Direction-angle measured clockwise, referred to initial station.

16—54373-1 U. S. GOVERNMENT PRINTING OFFICE

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WOODS RIDGE YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy To Mono Lake

Second -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: Calif 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,153,455.72 y 531,742.43	+ 0 19 33	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°57'33".176	NORTH		1,830.3	METERS
	LONGITUDE: 119 58 03.868	WEST		6,005	FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
CONDON	269°42'33".9		

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WOODS RIDGE LOOKOUT TOWER (WOODS RIDGE RM 2) YEAR: 1956

STATE: California LOCALITY: Hetch Hetchy to Mono Lake

Third -ORDER Triangulation SOURCE: G-11404 FIELD SKETCH: CALIF 427

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & (OR Δα) ANGLE	MARK
STATE: Calif ZONE: 3 CODE: 0403	x 2,153,407.94 y 531,723.84	+ 0 19 33	
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION	
	LATITUDE: 37°57'32".995	NORTH			METERS
	LONGITUDE: 119 58 04.466	WEST			FEET

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE LOGARITHM (Meters)	DISTANCE METERS
Computed from stations DREW (USGS), WOODS RIDGE, NORTH MOUNTAIN, PILOT PEAK			
No Description Available			