1408
Bench Line.
Rose Canyon T.

U.S. POSTS Cont. Res.

U.S. C[illegible]

LEVEL BOOK

No. 380

MICROFILMED
DEC 23 1964

1408

CITY ENGINEER

Our Leather Bound Engineers Note Books are carried in the following rulings:

No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.

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8-27-30

1

BENCH MARKS

U.S. COAST And Geodetic Datum

From Rose Canyon And Balboa Ave
To U.S. Gov't. RESERVATION -

	LINE Sunset	Approx. Cliffs	1 mile South of Blvd. And	LADERA St.	
	1.29	29.63		28.34 =	(25.45 USGS.)
T.P. #1	3.19	27.25	5.57	24.06	
T.P. #2	3.25	27.39	3.11	24.14	
T.P. #3	2.79	25.55	4.63	22.76	
T.P. #4	12.08	36.01	1.62	23.93	
T.P. #5	10.58	45.98	0.61	35.40	
T.P. #6	10.31	56.245	0.045	45.935	
T.P. #6	8.82	63.135	1.93	54.315	
T.P. #7	10.23	72.61	0.755	62.38	
			1.39	71.22	
T.P. #8	5.72	77.55	0.78	71.83	
			2.02	75.53	
T.P. #9	4.84	80.89	1.50	76.05	
T.P. #10	0.69	75.75	5.83	75.06 ✓	
			6.60	69.15	
			6.71	69.04	
T.P. #11	0.73	67.63	8.85	66.90	
T.P. #12	1.74	61.31	8.06	59.57	
T.P. #13	3.71	54.80	10.22	51.09	
T.P. #14	4.55	53.93	5.42	49.38	
			4.58	49.35	

Note: Level shots Approx. 300' dist.
Inst. shaded by Umbrella

1424

25.45
2.89
28.34

25.28 1424

U.S. Govt. B.M. #25 S.W. Rose Canyon And Balboa Ave.
3 Nails in Euc. tree 4th West of Above BM on South side Balboa Ave
" " " " 3rd East " Bridge Approx. 500' West " "
R.R. Spike in Guy Pole 3' Rt of Paving 300 " of Bridge Approx
Top of 2" Iron Pipe Marked Gas #7 10' Rt of Paving 700' " " "
R.R. Spike driven in Ground N.W. Grand & Garnet 4' East Blvd. stop sign
SET Brass Plug N.W. Garnet And Pendelton Sts.
" " " " " " olney "
on Rock 10' S.S.L. Garnet Ave 200' Approx. E.E.L. Noyes St.
N.W. Brass Plug Garnet Ave And NOYES St.
on cb Bet Noyes And Morrell on North side Garnet
N.W. B.P. Garnet And Morrell St
on cb North side Garnet Bet Morrell & Lamont St.
S.W. B.P. GARNET And LAMONT St.
N.W. 7' tack HORNBLEND And LAMONT St.
S.W. B.P. " " " "
N.W. B.P. GRAND Ave & LAMONT St.
on East cb Lamont 50' North Thomas
S.E. 7' tack REED And LAMONT Sts.
" " " " OLIVER " "

		53.99			
T.P. #15	1.05	45.34	9.64	44.29	
T.P. #16	1.87	37.56	9.65	35.69	
T.P. #17	4.46	35.17	6.85	30.71	
	6.01	33.78	7.40	27.77	
T.P. #18	7.02	38.53	2.27	31.51	
T.P. #19	3.81	36.39	5.95	32.58	
			5.70	30.69	
T.P. #20	3.16	31.85	7.70	28.69	
			4.69	27.16	
T.P. #21	4.93	29.14	7.64	24.21	
			3.95	25.19	
T.P. #22	11.83	40.10	0.87	28.27	
T.P. #23	6.96	43.81	3.25	36.85	✓ See Cont.
			6.46	37.35 =	Page 18
T.P. #24	0.85	38.28	6.38	37.43	
T.P. #25	6.78	32.35	12.71	25.57	
T.P. #26	8.08	34.99	5.44	26.91	
T.P. #27	3.46	33.90	4.55	30.44	
T.P. #28	4.47	31.42	6.95	26.95	* B.M. Transferred to M.I. Elev. El. 21.44 City Datum
T.P. #29	3.99	32.48	2.93	28.49	
T.P. #30	11.99	32.01	12.46	20.02	Note: this Line of Levels was Re-run See Page 18
			12.73	19.28	
T.P. #31	4.76	36.69	0.08	31.93	
T.P. #32	1.21	31.47	6.43	30.26	
T.P. #33	0.46	22.77	9.16	22.31	
			6.27	16.50	

N.E. 7' tack. PACIFIC AVE. and LAMONT St.

B.R. Spike in Guy Pole 250' South of Pacific on E side Lamont St.

3 Nails in crotch Euc. Tree 100' South Sunset Ave on W side Lamont St

B.R. Spike W edge Par. 35' North B.C. Par. End LAMONT St.

B.R. " S " " on North 7' Line La Playa Ave

on End ℄ on East side Crown Pt Drive

S.W. B.P. MOORLAND PLACE and CROWN POINT DRIVE

on cb.

S.W. B.P. LAMANCHA DRIVE and CROWN POINT DRIVE

on cb. Bet Lamancha & La Cima Drive W side " "

S.W. B.P. LA-CIMA DRIVE and CROWN " "

N.E. Cor. CAUSEWAY Bridge Brass Plug in Curb at End of Bridge

on Water Lead Main cb. 100' W Causeway Ent.

on East cb. The RIVIERA Drive 100' South of edge Cliff Drive

S.E. B.P. LACIMA Drive and THE RIVIERA

on W cb. THE RIVIERA & Lamancha Produced to W cb.

* S.E. B.P. " " and MOORLAND DRIVE

N.E. B.P. FRONTERA and LA PLYA St.

N.W. B.P. FRONTERA and ESTRELLA PL.

on West cb " " Approx. 400' North of Above B.P.

N.W. B.P. PACIFIC Ave and GRESHAM Sts.

on N cb. Approx. 100' West Fanuel St.

N.W. B.P. PACIFIC Ave and EVERTS St.

		22.77			
T.P. #34	2.30	14.39	10.68	12.09	
			4.74	9.65	
T.P. #35	4.90	14.43	4.86	9.53	
			3.30	11.13	
T.P. #36	1.47	12.23	3.67	10.76	
			4.89	7.34	
T.P. #37	6.90	18.54	0.59	11.64	
			2.48	16.06	
T.P. #38	2.59	18.71	2.42	16.12	Note: this line levels rerun see Page 18-19-20
T.P. #39	2.52	18.70	2.53	16.18	
T.P. #40	2.32	18.76	2.26	16.44	
			2.60	16.16	
T.P. #41	2.24	18.68	2.32	16.44	
T.P. #42	2.48	18.73	2.43	16.25	
T.P. #43	2.56	18.72	2.57	16.16	
			2.58	16.14	
T.P. #44	2.65	18.77	2.60	16.12	
T.P. #45	2.60	18.76	2.61	16.16	
T.P. #46	2.53	18.62	2.67	16.09	
			2.57	16.05	Note: All Elev. are 0.06 High From and Inc. T.P. #44 and Inc. T.P. #60
T.P. #47	2.60	18.66	2.56	16.06	
T.P. #48	2.63	18.67	2.62	16.04	
			2.57	16.10	
T.P. #49	2.54	18.62	2.59	16.08	
			2.04	16.58	
T.P. #50	1.81	18.67	1.76	16.86	

on N cb. Approx. 250' W. Everts St

B.P. on West cb East Brairfield Dr. And Mission Bay

on cb. on South Bt. " " " West Brairfield Drive

S.E. B.P. PACIFIC AVE. And BAYARD

on cb. on North 30' W Bayard St.

N.E. B.P. PACIFIC AVE. And MISSION Blvd.

3 Nails in Elec Pole on N cb Line Pacific Ave. Approx. 200' West Mission Blvd.

Brass Plug in top Sea Wall at North End Mission Beach Sea Wall

S.W. B.P. YORK Ct. And MISSION BEACH SEA WALL on Sea Wall

" " " " SAN RAFAEL PL. " " " " " " "

on 1½" Iron Pipe SALEM Ct. " " "

S.W. B.P. SAN JOSE PL. " " " " " " "

on top 1½" Pipe North end old Bath House " " "

S.W. B.P. SANTA CLARA PL. And Mission Beach Sea Wall " " "

on Sea Wall by Lamp Post #4399 NEWPORT Ct.

S.W. B.P. SAN JUAN PL. And " " " " " " "

on Sea Wall by Lamp Post #4404

S.W. B.P. EL CARMEL PL. And MISSION BEACH SEA WALL

on Sea Wall by Lamp Post # 4414

S.W. B.P. SAN LOUIS OBISPO PL. And " " " "

on Sea Wall by Lamp Post # 4419

" " " " " " # 4424

S.W. B.P. SANTA BARBARA PL. " " " "

on Sea Wall by Lamp Post # 4429

S.W. B.P. VENTURA PL. And " " " "

on Sea Wall by Lamp Post # 24-C

		18.67			
T.P.#51	1.77	18.67	1.77	16.90	on Sea Wall by Lamp Post #18-C
			2.11	16.56	B.P. in Sea Wall And L Subway
T.P.#52	1.80	18.63	1.84	16.83	on Sea Wall by Lamp Post #9-C
T.P.#53	2.11	18.75	1.99	16.64	S.W. B.P. SAN FERNANDO Pl. And MISSION BEACH SEA WALL
T.P.#54	2.80	18.89	2.66	16.09	on Sea Wall by Lamp Post #4438
			2.83	16.06	S.W. B.P. SAN GABRIEL PL. And " " " "
T.P.#55	2.77	18.84	2.82	16.07	on Sea Wall by Lamp Post #4443
T.P.#56	2.30	18.97	2.17	16.67	on 1½" Pipe CAPISTRANO Pl. " " " "
			2.77	16.20	B.P. South end Sea Wall MISSION Beach on " "
T.P.#57	2.21	14.28	6.90	12.07	on Water Cap 1st Alley South of End Sea Wall And STRAND WAY
T.P.#58	5.98	14.20	6.06	8.22	N.E. B.P. MISSION Blvd. And SAN LUIS REY Pl.
~~T.P.#59~~	~~12.14~~	~~20.09~~	~~6.34~~	~~7.86~~	~~N.E. " " SAN DIEGO Pl.~~
~~T.P.#60~~			~~3.25~~	~~16.75~~	~~Spk. in Bridge E Cb Approx center Bridge~~
T.P.#59	6.38	14.24	6.34	7.86	N.E. B.P. MISSION Blvd. And SAN DIEGO Pl.
T.P.#60	7.93	20.68	1.49	12.75	on E. Cb. Approx. 100' N end Mission Bridge
T.P.#61	5.87	21.88	4.67	16.01	Spk. in Wood Cb. on East 385' Approx. dist. South of N. end Mission Bridge
T.P.#62	3.90	20.63	5.15	16.73	" " " " 525' N of South end Mission Bridge
T.P.#63	3.05	15.35	8.33	12.30	B.P. in curb 9' South of South end Mission Bridge on East side
T.P.#64	4.09	15.70	3.74	11.61	on curb Return West Pt. Loma Blvd. And Abbot St.
T.P.#65	5.33	15.93	5.10	10.60	N.E. B.P. VOLTAIRE And WEST POINT LOMA Blvd.
			3.57	12.36	N.E. B.P. LONG BRANCH Ave. And ABBOT St.
T.P.#66	10.59	23.99	2.53	13.40	on W. cb. 25' S " " " on " "
			4.88	19.11	N.W. B.P. BRIGHTON Ave. And ABBOT "
T.P.#67	2.44	20.38	6.05	17.94	on E. cb. 10' N. of Cape May Ave. " "
			2.50	17.88	N.W. B.P. CAPE MAY Ave " " "
			6.28	14.10	N.W. 7' Tock. SARATOGA " " " "

All elev. in this Group 0.06 High.

0.06 High

		20.38			
T.P.#68	5.35	19.07	6.66	13.72	on West cb. Abbot st 10'N Alley Bet. Santa monica & Saratoga Ave's.
T.P.#69	8.19	22.61	4.65	14.42	on Walk next to Bld. N.W. Newport & Abbot sts.
			7.13	15.48	N.E. B.P. NEWPORT AVE. And ABBOT st.
T.P.#70	5.07	26.92	0.76	21.85	Top Fire Hydt. N.W. Newport & Bacon st.
			6.88	20.04	N.E. B.P. NEWPORT AVE And BACON st.
			4.96	21.96	N.W. B.P. NIAGARA AVE. " " "
T.P.#71	9.06	34.79	1.19	25.73	on W cb. 150' N Naragansett on " "
			6.74	28.05	N.W. B.P. NARAGANSETT And " "
T.P.#72	6.76	35.64	5.91	28.88	on N cb Naragansett 175' Approx. West " "
T.P.#73	11.05	46.52	0.17	35.47	on " " In Front House #5080 Naragansett
			1.14	45.38	B.M.B.P. in cb & NARAGENSETT End st. at ocean
T.P.#74	5.69	51.37	0.84	45.68	on Paving Stake in Vacant Lot Approx 75' West Naragansett 10'S Alley (Next Ocean)
T.P.#75	1.26	51.62	1.01	50.36	on N Alley Return End Del Monte
T.P.#76	1.05	40.95	11.72	39.90	on W.cb Del monte Approx. opposite 5044 Del monte
			7.95	33.00	N.W. B.P. DEL MONTE And BACON st.
T.P.#77	9.60	45.70	4.85	36.10	on South W Alley Return Bet Del monte And Santa Cruz on Bacon st.
			7.76	37.94	N.W. B.P. SANTA CRUZ AVE And BACON st.
T.P.#78	12.88	55.33	3.25	42.45	on Gas Plug Lead in cb. on W side Bacon 60' South Santa Cruz.
T.P.#79	8.08	60.27	3.14	52.19	on W.cb Bacon st. 50' N Coronado st.
"			5.79	54.48	N.E. B.P. CORONADO AVE And BACON st.
T.P.#80	0.23	49.44	11.06	49.21	on S.E. Alley Return " " East of " "
T.P.#81	4.14	43.91	9.67	39.77	
T.P.#82	2.12	43.63	2.40	41.51	
			6.09	37.54	S.E. B.P. CORONADO AVE. And CABLE st.
T.P.#83	11.36	52.87	2.12	41.51	on cb. N.W. DEL MAR Ave & Cable
			10.79	42.08	S.E. B.P. DEL-MAR Ave And CABLE st.

		52.87			
			1.70	51.17	
T.P. #84	3.06	50.51	5.42	47.45	
T.P. #85	1.41	43.12	8.80	41.71	
			4.03	39.09	
T.P. #86	1.57	39.07	5.62	37.50	
T.P. #87	2.47	39.97	1.57	37.50	
			2.97	37.00	
T.P. #88	2.06	33.99	8.04	31.93	
			4.07	29.92	
T.P. #89	7.43	35.73	5.69	28.30	
T.P. #90	7.36	41.79	1.30	34.43	
T.P. #91	6.50	44.85	3.44	38.35	
T.P. #92	6.38	48.01	3.22	41.63	
			5.83	42.18	
T.P. #93	6.29	50.44	3.86	44.15	
			4.39	46.05	
T.P. #94	11.60	58.47	3.57	46.87	
T.P. #95	12.25	70.11	0.61	57.86	
			4.70	65.41	
T.P. #96	0.20	66.59	3.72	66.39	
T.P. #97	0.45	54.65	12.39	54.20	
			4.23	50.42	
T.P. #98	3.36	52.57	5.44	49.21	
T.P. #99	10.61	56.65	6.53	46.04	
T.P. #100	11.42	64.18	3.89	52.76	
T.P. #101	10.15	71.75	2.58	61.60	

N.W. 7' Line ORCHARD Ave and CABLE ST.
on S cb. " " Approx. 100' E " "
on N cb. " " " 250' W Sunset Cliffs Blvd.
on N.W. C.T. 7' Line SUNSET CLIFFS Blvd and 7' Line ORCHARD Ave.
on E. cb. Sunset Cliffs Blvd. Approx 200' S Orchard St.
" " " " " " " " " " "

N.W. B.P. PESCADERO Ave and SUNSET CLIFFS BLVD.
on W cb. Sunset Cliffs Blvd Bet. Pescadero & Bermuda Ave.
N.W. B.P. BERMUDA Ave and SUNSET CLIFFS BLVD.
on E cb. Approx. 200' S Bermuda on " " "
S.E. B.P. ADAIR Ave & SUNSET " "
on E cb " " " Approx 300' S Adair St.
" " " in Front of J.P. Mills Res. " " "
S.E. B.P. OSPREY and " " "
on E. cb Approx S " " " " "
S.E. B.P. FROUDE " " " "
on E cb. Approx. 200' S Froude and " " "
" " " " 600' " " " " " "
S.E. B.P. GUIZOT St. " " " "
on Cb. S.W. Cordova " " " "
" " Approx. 150' N Hill " " " "
S.E. B.P. Hill St. " " " "
on E. cb. Approx 200' South " " "
S.E. B.P. MONACO St. " " " "
on Cb. Approx 500' S Monaco St. " " "
on NE cb. Return Carmelo St " " "

		71.75			
			8.31	63.44	
			2.86	68.89	
T.P.#102	3.95	73.83	1.87	69.88	contr. on p 8
	4.93	73.82	4.93	68.90 68.89=Corrected Elev.	
T.P.#1	2.85	68.42	8.26	65.56	
T.P.#2	3.06	58.72	12.76	55.65	
T.P.#3	10.29	64.22	4.78	53.93	
T.P.#4	11.420	75.540	0.100	64.120	
			4.390	71.150	
T.P.#5	12.710	87.180	1.070	74.470	
T.P.#6	3.715	82.705	8.190	78.990	
T.P.#7	3.030	73.345	12.390	70.315	
T.P.#8	10.470	82.565	1.250	72.095	
T.P.#9	7.170	89.145	0.590	81.975	
T.P.#10	6.040	88.585	6.600	82.545	
			6.900	81.685	
T.P.#11	10.250	96.165	2.670	85.915	
			5.875	90.290	
T.P.#12	2.060	90.175	8.050	88.115	
T.P.#13	2.725	86.550	6.350	83.825	
			14.235	72.315	
T.P.#14	9.740	93.565	2.725	83.825	
T.P.#15	5.005	95.285	3.285	90.280	
T.P.#14	2.340	88.245	9.380	85.905	
T.P.#15	6.640	89.185	5.700	82.545	
T.P.#16	3.400	79.885	12.700	76.485	

Cont. on Page 77

BENCH MARKS
From LADERA St. to U.S. Gov't Reservation

S.E. B.P. CARMELO St. and SUNSET CLIFFS BLVD.
N.E. B.P. LADERA ST. " " " "

N.E. B.P. LADERA ST. and SUNSET CLIFFS "
on Peg
on "
" "

on Paving stake 20' East Base Line Sta. 38400

" " " on ℄ " " " 34+75 = Δ #5
on Redwood Hub " " " " " 27+93.71

" " " " " " " 17+97.71 = Δ

on Paving stake 20' N.W. Δ #3 - Sta 11+50.91
on " " Δ #2 - Station 9+15.53

on " " Δ #1 - Station 3+66.45
" " " Station 0+00

on " " Δ #2
on " " Δ #3
on " " Δ #4

Walker
Bliss
Drobert
Rouner
8-30-30

BENCH MARKS

U.S. COAST AND GEODETIC DATUM
FROM LADERA St And SUNSET CLIFFS BLV'D.
TO ROSE CANYON " BALBOA AVE

	4.63	73.53		68.90	
			10.10	63.43	
T.P.#103	0.26	61.89	11.90	61.63	
T.P.#104	0.96	50.16	12.69	49.20	
.99			4.12	46.04	
T.P.#105	4.65	52.67	2.14	48.02	
T.P.#106	12.21	62.64	2.24	50.43	
T.P.#107	9.70	72.23	0.11	62.53	
T.P.#108	1.33	66.74	6.82	65.41	
T.P.#109	1.57	55.36	12.95	53.79	
T.P.#110	3.88	49.92	9.32	46.04	
T.P.#111	4.19	47.94	6.17	43.75	
			5.78	42.16	
T.P.#112	3.27	44.89	6.32	41.62	
T.P.#113	3.89	42.23	6.55	38.34	
T.P.#114	~~1.90~~	~~36.32~~	7.81	34.42	
T.P.#115	5.19	33.35	8.16	28.16	
			3.45	29.90	
T.P.#116	9.39	40.93	1.81	31.54	No Good
			3.98	36.95	
T.P.#117	6.79	44.29	3.43	37.50	
			5.24	39.05	
T.P.#118			1.10	43.19	
T.P.#114	2.46	36.890		34.43	Above B.M. See P-6 = Correct
T.P.#115	5.485	33.560	8.815	28.075	

N.E. B.P.	LADERA And SUNSET CLIFFS BLV'D.			
S.E. B.P.	CARMELO "	"	"	"
S.E. B.P.	MONACO	"	"	"
S.E. B.P.	HILL St.	"	"	"
S.E. B.P.	GUIZOT	"	"	"
S.E. B.P.	FROUDE	"	"	"
S.E. B.P.	OSPREY	"	"	"
on old T.P.#91				
S.E. B.P.	ADAIR St.	"	"	"
N.W. B.P.	BERMUDA	"	"	"
" " " "	PESCADERO	"	"	"
N.W. 7' tack.	on Prop L. orchard St.	"	"	"
S.E. B.P.	ADAIR	"	"	"

		33.560		
T.P. #116	8.380	38.305	3.635	29.925
T.P. #117	6.015	43.065	1.315	36.990
T.P. #118	9.53	48.61	3.925	39.080
T.P. #119	7.94	52.980	3.57	45.04
T.P. #120	9.345	62.230	0.095	52.885
T.P. #121	12.735	71.660	3.305	58.925
T.P. #122	2.985	67.815	6.830	64.830
			4.720	63.095
T.P. #123	0.045	56.840	11.020	56.795
T.P. #124	2.770	48.720	10.890	45.950
T.P. #125	2.83	43.120	8.430	40.290
			2.14	40.980
T.P. #126	5.530	40.475	8.175	34.945
T.P. #127	4.695	38.670	6.500	33.975
T.P. #128	5.895	39.270	5.295	33.375
T.P. #129	5.08	39.000	5.350	33.920
T.P. #130	5.805	38.745	6.060	32.940
T.P. #131	5.835	40.210	4.370	34.375
T.P. #132	4.575	39.815	4.970	35.240
T.P. #133	4.905	39.560	5.160	34.655
			5.050	34.510
T.P. #134	4.450	37.655	6.355	33.205
			4.410	33.245
T.P. #135	0.580	30.950	7.285	30.370
			2.505	28.445
T.P. #136	2.035	23.435	9.550	21.400

N.W. B.P. BERMUDA And SUNSET CLIFFS BLVD.

" " " " PESCADERO " " " "

" " C.T. 7 Line Orchard " 7 Line " " "

N.W. B.P. DEL-MAR. And " " "

1 Nail in Pole on W. side Sunset Cliffs Blvd. Bet. Del Mar & Coronado Aves.

N.W. B.P. CORONADO AVE. And SUNSET CLIFFS BLVD.

S.E. B.P. SANTA CRUZ Ave " " "

S.E. " " DEL MONTE AVE. " " "

S.E. " " NARRAGANSETT Ave " " "

N.W. " " NIAGRA AVE. And " " "

" " " " NEWPORT " " " "

S.E. B.P. SANTA MONICA Ave " " "

N.W. B.P. SARATOGA Ave " " "

N.W. B.P. CAPE MAY AVE. " " "

N.E. C Tack. 7 Line Sunset in C & Return BRIGHTON Ave " " "

on top of N.W. Return Long Beach & Sunset

S.W. B.P. VOLTAIRE St. And " " "

S.W. B.P. West POINT LOMA Blvd " " "

N.E. B.P. " " " " And LOTUS St.

		23435		
T.P.#137	4.065	19.535	7.965	15.470
T.P.#138	3.815	15.625	7.725	11.810
				3.390
T.P.#139	4.630	16.865	3.390	12.235
T.P.#140	4.740	18.495	3.110	13.755
T.P.#141	2.085	17.160	3.420	15.075
T.P.142	3.780	17.590	3.350	13.810
T.P.#143	3.980	17.770	3.800	13.790
T.P.#144	3.800	17.935	3.635	14.135
T.P.#145	2.630	17.735	2.830	15.105
T.P.#146	3.890	17.975	3.650	14.085
T.P.#147	2.720	17.285	3.410	14.565
T.P.#148	2.660	17.415	2.530	14.755
T.P.#149	4.125	17.790	3.750	13.665
T.P.#150	4.295	18.415	3.670	14.120
T.P.#151	2.175	16.695	3.895	14.520
T.P.#152	3.930	17.610	3.015	13.680
T.P.#153	2.845	18.050	2.405	15.205
T.P.#154	1.945	17.555	2.440	15.610
T.P.#155	3.410	17.020	3.945	13.610
T.P.#156	3.910	17.670	3.260	13.760
T.P.#157	3.070	18.340	2.400	15.270
			6.315	12.025
T.P.#158	5.360	21.380	2.320	16.020
T.P.#159	4.985	21.685	4.680	16.700
T.P.#160	3.500	14.070	11.115	10.570

B.M. B.P. on NLY Co. 115's Car Line West Pt. Loma Blvd. And Bacon St.

B.M. B.P. 9' South South end Mission Bridge

Spike on N Side Elec R.R. Pole #635 R. 300' N. B. of Ocean Beach Junction.

R.R. Spike in Pole West of R.R. Bridge Near O.B. Junction N Side of Track

" " " " " #627-R Along S.D. Elec Tracks

Spk. in Elec Pole #624-R " " " " "

" " " " #621-R " " " " "

" " " " #618-R " " " " "

" " " " #615-R " " " " "

" " " " #612-R " " " " "

" " " " #609-R " " " " "

" " " " #606-R " " " " "

" " " " #603-R " " " " "

" " " " #556-R " " " " "

" " " " #553-R " " " " "

" " " " #548-R " " " " "

" " " " #545-R " " " " "

" " " " #542-R " " " " "

" " " " 538-R

" " " " 532-R

B.M. B.P. in West Head Wall ℄ of Triple Box Culvert CAUSEWAY And 100' N. W. Pt. Loma Blvd

B.M. " " "Con. Mon. Approx. 8' E.E.L. Midway on S.L. U.S. Govt. Dyke. New CAUSEWAY

on 1"x1" Paving stake Approx 300' E Causeway on N Side Govt. Dyke

Spike in First S.D.C.G.&Elec. Pole East of Causeway #701-C " "

		14.070		
T.P.#161	4.29	15.390	3.970	11.100
T.P.#162	3.73	14.88	4.240	11.150
T.P.#163	12.15	23.86	3.17	11.71
T.P.#164	5.16	24.47	4.55	19.31
T.P.#165	4.83	25.02	4.28	20.19
T.P.#166	4.85	26.15	3.72	21.30
T.P.#167	5.44	26.02	5.57	20.58
T.P.#168	5.11	27.18	3.95	22.07
			5.43	21.75
T.P.#169	4.88	27.83	4.23	22.95
T.P.#170	5.025	27.445	5.41	22.42
T.P.#171	3.810	25.895	5.360	22.085
T.P.#172	3.040	23.665	5.270	20.625
T.P.#173	0.030	20.665	3.030	20.635
T.P.#174	6.135	19.800	7.000	13.665
T.P.#175	5.260	18.240	6.820?	12.980
T.P.#176	4.37	17.990	4.620	13.620
T.P.#177	4.360	17.780	4.570	13.420
T.P.#178	4.485	17.915	4.350	13.430
T.P.#179	3.310	18.565	2.660	15.255
T.P.#180	6.500	23.095	1.970	16.595
T.P.#181	3.630	22.615	4.110	18.985
T.P.#182	3.785	22.260	4.140	18.475
T.P.#183	4.855	23.245	3.870	18.390
			8.360	14.885
T.P.#184	4.800	23.195	4.850	18.395

See Continuation on P. 12

No Good

Spike in S.L. C.G.+E. Co. Pole #C-791 Along South side Govt. Dyke

4 Nails in " " " " " #C-865 " " " " "

R.R. Spike in " " " " #C-945 " " " " "

Nail in Paving Stake Along Govt. dyke N. edge

" " " " " " " "

" " " " " " " "

" " " " " " " "

" " " " " " " "

B.M. B.P. Top of S.W. Cor. Abutment South end Santa Fe Bridge of S.D. RIVER

Nail in Pav. Stake Along Santa Fe R.R. N. of River.

" " Wooden Abutment West side " " Bridge #D-264

Note All Elevations From And Including T.P.#175 to check out on U.S. Govt. B.M. at Rose Canyon And Balboa Ave are 1.00' Low. For Corrections See Transposition of Notes on PAGES 14 to 15

Cont. on P. 14

B.M. B.P. in top Santa Fe R.R. Culvert #A-263 West side Approx. 900' north Kennedy

23.195

T.P.#185	3.575	22.370	4.400	18.795
T.P.#186	4.030	20.920	5.480	16.890
T.P.#187	5.550	22.180	4.290	16.630
			2.620	19.560
T.P.#188	5.800	26.160	1.820	20.360
			3.685	22.475
T.P.#189	6.105	31.375	0.890	25.270
T.P.#190	5.610	36.335	0.650	30.725
			13.770	22.565
T.P.#191	8.430	43.080	1.685	34.650
T.P.#192	8.005	49.565	1.520	41.560
T.P.#193	5.360	49.345	5.580	43.985
T.P.#194	1.260	40.420	10.185	39.160
			9.890	30.530
T.P.#195	10.635	49.625	1.430	38.990
T.P.#196	2.545	49.210	2.960	46.665
			13.090	36.120
T.P.#197	7.060	52.815	3.455	45.755
T.P.#198	3.485	51.075	5.225	47.590
			8.070	43.005
T.P.#199	6.650	55.505	2.220	48.855
T.P.#200	0.165	45.560	10.110	45.395
T.P.#201	2.345	36.425	11.480	34.080
T.P.#202	1.310	29.655	8.080	28.345
T.P.#203	3.200	22.965	9.890	19.765
			4.765	18.200

Not good

B.M. B.P. Con. Mon. S.W. Cor. MORENA BLVD And JELLETT St. inside Santa Fe Rh. Way

~~B.M. B.P. Hd. Wall SANTA FE CULVERT # D-262 Approx. 400' N Jellett St.~~

B.M. B.P. in ℄ West end Hd. Wall SANTA FE CULVERT # D-262 Approx. 400' N Jellett St.

B.M. B.P. in SW. Cor. Wing Wall SANTA FE Culvert # C-262 Approx 225' N. Gesner St.

B.M. Nail in PEG Driven in 1¼" Iron Pipe West end SANTA FE Culvert a C-262

~~B.M. B.P. N.W. Cor. Wing Wall SANTA FE R.R. Culvert # B-262~~

B.M. B.P. N.W. Cor. Wing Wall SANTA FE. R.R. Culvert # B-262

B.M. B.P. N.W. Cor. Wing Wall SANTA FE R.R. Culvert # A-262

Approx. 150' North Mile Post # 261 And 262
B.M. B.P. top of West end Hd. Wall SANTA FE R.R. Culvert # F-261

Approx. 900' North Mile Post # 261 & 262
B.M. B.P. top of SW. Wing Wall SANTA FE R.R. Culvert # E-261

B.M. B.P. Con Mon. Approx. 5' E.E.L. Atlantic St. Ext Station 23+00

		22.965			
T.P. #204	5.410	23.115	5.260	17.705	
			4.935	18.180	
T.P. #205	6.100	25.120	4.095	19.020	
			4.990	20.130	No Good
T.P. #206	5.620	26.800	3.940	21.180	
T.P. #207	6.275	29.605	3.470	23.330	
			2.225	27.380	
				~~28.34~~	
				1.04 = Error.	
				0.96	

on Redwood peg by ℄ Sta. 17+00 Atlantic St Ext.

on E.C. Redwood Westerly edge Sta. 11+61.32 Atlantic St Ext.

US Gov't. BM Rose Canyon and Balboa Ave.

		19.800		
T.P.#175	5.260	19.240	5.820	13.980
T.P.#176	4.370	18.990	4.620	14.620
T.P.#177	4.360	18.780	4.570	14.420
T.P.#178	4.485	18.915	4.350	14.430
T.P.#179	3.310	19.565	2.660	16.255
T.P.#180	6.500	24.095	1.970	17.595
T.P.#181	3.630	23.615	4.110	19.985
T.P.#182	3.785	23.260	4.140	19.475
T.P.#183	4.855	24.245	3.870	19.390
			8.360	15.885
T.P.#184	4.800	24.195	4.850	19.395
T.P.#185	3.575	23.370	4.400	19.795
T.P.#186	4.030	21.920	5.480	17.890
T.P.#187	5.550	23.180	4.290	17.630
			2.620	20.560
T.P.#188	5.800	27.160	1.820	21.360
			3.685	23.475
T.P.#189	6.105	32.375	0.890	26.270
T.P.#190	5.610	37.335	0.650	31.725
			13.770	23.565
T.P.#191	8.430	44.080	1.685	35.650
T.P.#192	8.005	50.565	1.520	42.560
T.P.#193	5.360	50.345	5.580	44.985
T.P.#194	1.260	41.420	10.185	40.160
			9.890	31.530
T.P.#195	10.635	50.625	1.430	39.990

Bench Marks

Cont. from Page 11

B.M. B.P. in top Santa Fe R.R. Culvert #A-263 in ℄ on West side (Approx. 300' North Kennedys Road House)

B.M. B.P. Con. Mon. S.W. Cor. Morena Blvd. and Jellett St. (Inside Santa Fe R.R. of Way)

B.M. B.P. in ℄ West end Hd. Wall Santa Fe Culvert #D-262 Approx 400' N. Jellett St.

B.M. B.P. in S.W. Cor. Wing Wall Santa Fe Culvert #C-262 Approx. 225' N. Gesner St.

B.M. Nail in Pring Sub Driven in 1½" Iron Pipe ℄ Hd. Wall Santa Fe Culvert #AC-262

B.M. B.P. N.W. Cor. Wing Wall Santa Fe Culvert #B-262

		50.625			
T.P.#196	2.545	50.210	2.960	47.665	
			13.090	37.120	B.M. B.P. N.W. Cor. Wing Wall Santa Fe Culvert #A-262
T.P.#197	7.060	53.815	3.455	46.755	
T.P.#198	3.485	52.075	5.225	48.590	
			8.070	44.005	B.M. B.P. in top & Hd. Wall Santa Fe Culvert #F-261 Approx. 150' N. Mile Post #261 & #262
T.P.#199	6.650	56.505	2.220	49.855	
T.P.#200	0.165	46.560	10.110	46.395	B.M. B.P. S.W. Wing Wall Santa Fe Culvert #E-261 Approx. 900' North Mile Posts #261 & 262
T.P.#201	2.345	37.425	11.480	35.080	
T.P.#202	1.310	30.655	8.080	29.345	
T.P.#203	3.200	23.965	9.890	20.765	
			4.765	19.200	B.M. B.P. Con Mon Approx 5' E. & L. ATLANTIC St Ext. Sta 23+00
T.P.#204	5.410	24.115	5.260	18.705	
			4.935	19.180	on Redwood Peg & ATLANTIC ST Ext Sta. 17+00
T.P.#205	6.100	26.120	4.095	20.020	
			4.990	21.130	on E.C. Redwood Hub (Westerly edge) & ATLANTIC St. Ext. Sta. 11+61.32
T.P.#206	5.620	27.800	3.940	22.180	
T.P.#207	6.275	30.605	3.470	24.330	
Cht. U.S. Govt. B.M.			2.225	28.380	on Govt. B.M. Rose Canyon and Balboa Ave
				28.340 = Correct Elev.	U.S. Govt. " " " " " "
				0.040 = Error.	

Walker
Bliss
Drebert
Pearce
9-5-30

BENCH MARKS
U.S. COAST And GEODETIC DATUM
ALONG CAUSEWAY
FROM U.S. GOV'T. DYKE. TO CROWN POINT DRIVE.

	4.970	16.995		12.025
T.P.#1	3.13	14.185	5.940	11.055
T.P.#2	4.100	14.985	3.300	10.885
T.P.#3	4.540	15.275	4.250	10.735
T.P.#4	4.385	14.950	4.710	10.565
T.P.#5	4.300	15.300	3.950	11.000
T.P.#6	4.060	15.055	4.305	10.995
T.P.#8	4.850	15.545	4.360	10.695
T.P.#9	4.840	16.005	4.380	11.165
T.P.#10	4.125	15.270	4.860	11.145
T.P.#11	5.28	15.270	5.280	9.990
T.P.#12	5.365	15.595	5.04	10.230
T.P.#13	4.630	15.115	5.110	10.485
T.P.#14	5.250	15.605	4.760	10.355
T.P.#15	4.845	15.520	4.930	10.675
			4.670	10.850
Chk. on WATSON VALLE + GOUGHS B.M.			9.860	5.660
T.P.#16	10.740	25.610	0.650	14.870
T.P.#17	10.720	36.135	0.195	25.415
T.P.#18	1.110	34.625	2.620	33.515
T.P.#19	0.070	22.480	12.215	22.410
T.P.#20	5.030	15.835	11.675	10.805
T.P.#21	5.030	15.995	4.870	10.965
T.P.#22	5.190	15.885	5.300	10.695
T.P.#23	4.385	16.560	3.710	12.175

(See Page 10)

B.M. B.P. in top & Hd. Wall Triple Box Culvert Approx 100' N West Pt. Lomas Blvd

Note B.P. in Pav. 0.7' W. ℄ Note: this only Temp. B.M. Conc. Paving to be surfaced

B.M. B.P. B.C. 41+41.87 = CAUSEWAY Station

B.M. B.P. in top S.E. Wing Wall. 2nd Bridge South Crown Point Drive

on Spike in top 2"x4" Post Approx 350' South 2nd Bridge And 75' W ℄ Paving

B.M. B.P. in top N.E. Wing Wall 2nd Bridge South Crown Pt. Drive

		16.560			
			4.880	11.680	B.M. B.P. S.E. Cor. Wing Wall 1st Bridge South Crown Point Drive
T.P. #24	12.250	28.030	0.780	15.780	
T.P. #25	9.225	35.495	1.760	26.270	
T.P. #26	8.380	43.130	0.745	34.750	
			5.750	37.380	B.M. B.P. N.E. Causeway Bridge (See Page 2)
				37.35 = B.M. P-2	
				0.03 = Error.	

Method Bldg Department 9-10-90

CHECK LEVELS

BENCH MARKS

From North End Causeway North + West to South " Mission Bridge

	5.190	42.540		37.350	B.M. B.P. N.E. Cor. CAUSEWAY Bridge (See Page 2)
			5.130	37.410	B.P. N.W. Cor. " And THE RIVIERA by Lamp Post.
T.P. #1	0.815	30.615	12.740	29.800	
T.P. #2	4.755	32.930	2.440	28.175	
			6.015	26.915	S.E. B.P. LACIMA And THE RIVIERA
T.P. #3	5.700	33.845	4.785	28.145	
T.P. #4	4.395	34.720	3.520	30.325	
T.P. #5	6.090	34.020	6.790	27.930	
			7.090	26.930	S.E. B.P. MOORLAND " " "
T.P. #6	5.590	31.070	8.540	25.480	
			2.610	28.460	N.E. B.P. FRONTIER And LA PLYA
T.P. #7	6.585	35.180	2.415	28.595	
T.P. #8	0.400	27.135	8.445	26.735	
T.P. #9	9.015	28.250	7.900	19.235	N.W. B.P. FRONTIER And ESTRELLA
T.P. #10	10.200	38.120	0.330	27.920	
T.P. #11	4.645	36.185	6.580	31.540	
T.P. #12	2.590	32.785	5.990	30.195	Cont. P-19 — N.W. B.P. PACIFIC And GRESHAM.
T.P. #13	1.345	27.230	6.900	25.885	
T.P. #14	1.370	21.420	7.180	20.050	
			5.000	16.420	N.W. B.P. PACIFIC Ave And EVERTS st.
T.P. #15	0.950	13.360	9.010	12.410	
T.P. #16	4.670	14.110	3.920	9.440	Re Run. See P-19
			4.530	9.580	B.P. on West ch. EAST BRAIRFIELD Drive And MISSION BAY
T.P. #17	6.675	15.175	5.610	8.500	
			4.105	11.070	S.E. B.P. PACIFIC And BAYARD St.

		15.175			
T.P. #18	1.905	12.635	3.445	10.730	
T.P. #19	5.420	12.710	5.345	7.290	Re-Run See Notes Below.
T.P. #20	7.940	18.030	2.620	10.090	
			2.005	16.025	
T.P. #21	2.420	18.810	1.640	16.390	
T.P. #22			2.690	16.120	
T.P. #12	1.285	31.480		30.195	
T.P. #13	0.565	26.440	5.605	25.875	
T.P. #14	1.110	21.145	6.405	20.035	
			4.735	16.410	
T.P. #15	1.230	13.625	8.750	12.395	
T.P. #16	4.820	14.255	4.190	9.435	
			4.685	9.570	
T.P. #17	5.695	14.185	5.765	8.490	
T.P. #18	5.135	15.415	3.905	10.280	
			4.361	11.054	
T.P. #19	2.155	12.885	4.685	10.730	
T.P. #20	5.580	12.860	5.605	7.280	
T.P. #21	7.835	17.912	2.783	10.077	
			1.907	16.005	
T.P. #22	2.325	18.662	1.575	16.337	
			2.575	16.087	
T.P. #23	3.045	18.452	2.255	16.407	
T.P. #24	2.050	18.187	2.315	16.137	
T.P. #25	1.630	18.017	1.800	16.387	

N.E. B.P. PACIFIC and MISSION Blvd.

B.M. B.P. North end MISSION Beach Sea Wall

S.W. B.P. YORK COURT and " " " "

N.W. B.P. PACIFIC and GRESHAM.

N.W. B.P. PACIFIC " EVERTS

B.M. B.P. on West cb. EAST BRIARFIELD Drive and Mission Bay.

B.M. S.E. B.P. PACIFIC and BAYARD St.

N.E. B.P. PACIFIC " MISSION Blvd.

B.M. B.P. North end Mission Beach Sea Wall. on top.

S.W. B.P. YORK COURT and " " " " " "

S.W. B.P. SAN RAFAEL Pl. and Misson Beach Sea Wall

		18.017			
			1.925	16.092	S.M.B.P. San Jose Court and Mission Beach Sea Wall
T.P. #26	2.300	18.712	1.605	16.412	
			2.513	16.199	S.M.B.P. Santa Clara " " " " "
T.P. #27	1.625	18.127	2.210	16.502	
T.P. #28	1.940	18.047	2.020	16.107	
T.P. #29			1.965	16.082	S.M.B.P. San Juan " " " " "

Note: Continued Page 3 beginning with T.P. #44

Walker
Bliss
Drobert
9-11-30

CHECK LEVELS

BENCH MARKS

From T.P. 100' N N end Mission Bridge
to Sunset Cliffs Blvd And Orchard St.

				12.75 = Elev. T.P.		on E cb. 100' N. N. end Mission Bridge Cont. from P-4
				− 0.06 = Correction		
	8.05	20.740		12.69 = Correct Elev		T.P. on E cb. 100' " " " " "
T.P. #1	5.18	21.930	3.990	16.750		
T.P. #2	3.780	16.015	9.695	12.235	✓	B.P. ON E cb. 9' South South end " "
T.P. #3	4.945	16.235	4.725	11.290		
T.P. #4	4.840	15.370	5.705	10.530		N.E. B.P. VOLTAIRE And WEST POINT LOMA BLVD.
T.P. #5	11.825	24.110	3.085	12.285		N.E. B.P. LONG BRANCH AVE AND ABBOT ST.
			5.065	19.045		N.W. B.P. BRIGHTON And " "
T.P. #6	2.370	20.180	6.300	17.810		N.W. B.P. CAPE MAY AVE " " "
			6.135	14.045		N.W. 7' Tack SARATOGA " " "
T.P. #7	6.920	20.300	6.800	13.380		
			4.860	15.440		N.E. B.P. NEWPORT AVE. " " "
T.P. #8	7.430	26.030	1.700	18.600		
			6.040	17.990	19.990	N.E. B.P. " " " BACON ST.
T.P. #9	9.435	32.120	3.345	22.685		
			10.20	21.920		N.W. B.P. NIAGARA Ave " " "
			4.11	28.010		N.W. B.P. NARAGANSETT. " " "
			1.015	31.105		on S.W. Alley Return Bet. Naragansett & Del monte
T.P. #10	4.180	35.000	1.300	30.820		
T.P. #11	12.690	46.955	0.735	34.265		
			1.625	45.330		B.M. B.P. ℄ NARAGANSETT at end St. Near Ocean
T.P. #12	5.725	51.360	1.320	45.635		
T.P. #13	0.350	50.665	1.045	50.315		
T.P. #14	2.840	40.710	12.795	37.870		
			7.755	32.955		N.W. B.P. DEL MONTE Ave AND BACON ST.

		40.710			
T.P. #15	10.485	47.615	3.580	37.130	
			9.730	37.885	N.W.B.P. SANTA CRUZ AVE. and BACON ST.
T.P. #16	12.610	59.635	0.590	47.025	
			5.220	54.415	N.E.B.P. CORONADO " " " "
T.P. #17	2.760	51.915	10.480	49.155	
T.P. #19	3.945	43.665	12.195	39.720	
T.P. #20	7.275	44.775	6.165	37.50	S.E.B.P. CORONADO AVE and CABLE ST.
T.P. #21	10.920	52.960	2.735	42.04	S.E.B.P. DEL MAR " " " "
			1.835	51.125	N.W. 7' Sack. ORCHARD " " "
T.P. #22	3.265	50.680	5.545	47.415	
T.P. #23	3.335	45.835	8.180	42.500	
T.P. #24	8.110	47.170	6.775	39.060	N.W. 7' Sack " and SUNSET CLIFFS BLVD.
T.P. #25	8.810	53.825	2.155	45.015	N.W.B.P. DEL MAR " " " "
T.P. #26	10.695	62.630	1.890	51.935	
T.P. #27	12.400	71.300	3.730	58.900	N.W.B.P. CORONADO AVE " " " "
T.P. #28	2.385	67.190	6.495	64.805	
			4.115	63.075	S.E.B.P. SANTA CRUZ AVE " " " "

Walker
81155
Drobert 9-11-30

BENCH MARKS

U.S. COAST AND GEODETIC DATUM

Along Pacific Ocean

From Mission Beach Sea Wall & Pacific Ave to Lapolla. Cove

	2.265	18.270		16.005
T.P. #1	7.965	20.240	5.995	12.275
			6.160	14.080
T.P. #2	6.645	23.000	3.885	16.355
T.P. #3	8.290	29.270	2.020	20.980
			4.100	25.17
T.P. #4	9.660	37.245	1.685	27.585
T.P. #5	9.240	45.095	1.390	35.855
			3.710	41.385
T.P. #6	9.820	53.590	1.325	43.770
T.P. #7	5.925	51.050	8.465	45.125
			8.305	42.745
T.P. #8	11.960	58.235	4.775	46.275
T.P. #9			2.930	55.305

Abandoned

K & E Precise Level

B.M. B.P. North end Mission Beach Sea Wall (Approx. N.L.Y. Line Pacific Ave.)

~~N.E. B.P. THOMAS ST. AND ESPLANADE (Near Ocean)~~

N.E. B.P. THOMAS ST. AND Ocean BLVD. "

N.E. B.P. GARNET ST. AND Ocean BLVD. "

N.E. B.P. DIAMOND ST. " " "

N.E. B.P. LAY AVE " " "

S.E. B.P. LORING " " " "

Abandoned

CHECK LEVELS
over Line on Page 30

	2.585	57.890		55.305
T.P. #1	4.760	51.240	11.410	46.480
			8.310	42.930
T.P. #2			5.925	45.315

Abandoned

N.E. S.P. LAW AVE AND OCEAN BLVD.

Walker
Bliss
Diebert
9-12-30

BENCH MARKS

U.S. COAST AND GEODETIC DATUM.

Along Pacific Ocean

From N end Mission Beach Sea Wall To Lajolla Cove

	3.695	19.700		16.005 ← See P-19
T.P. #1	7.950	20.235	7.415	12.285
			6.135	14.100
T.P. #2	6.910	23.275	3.870	16.365
T.P. #3	8.680	29.665	2.290	20.985
			4.490	25.175
T.P. #4	9.790	37.390	2.065	27.600
T.P. #5	9.250	45.140	1.500	35.890
			3.715	41.425
T.P. #6	10.310	54.110	1.315	43.800 ← 1.340
T.P. #7	6.070	51.240	8.940	45.170
			8.455	42.785
T.P. #8	12.520	58.860	4.900	46.340
T.P. #9	10.180	65.350	3.690	55.170
T.P. #10	12.570	75.670	2.250	63.100
T.P. #11	12.550	87.060	1.160	74.510
			4.900	82.160
T.P. #12	3.380	83.700	6.740	80.320
T.P. #13	4.840	83.285	5.255	78.445
T.P. #14	10.355	92.365	1.275	82.010
			5.065	87.300
T.P. #15	1.670	85.685	8.350	84.015
T.P. #16	6.135	87.170	4.650	81.035
T.P. #17	5.750	90.050	2.870	84.300
T.P. #18	6.930	94.380	2.600	87.450

Note: Add 0.025' to each of these Elev. (See Notation P-42)

Cont. on P-33

And to Scripps Institution Oceanography.

B.M.B.P. North end Mission Beach Sea Wall (Approx. N Line Pacific Ave)

N.E.B.P. THOMAS ST. AND OCEAN BLVD.

N.E.B.P. GARNET ST. " " "

N.E.B.P. DIAMOND ST " " "

N.E.B.P. LAW AVE " " "

S.E.B.P. LORING ST. " " "

on C.T. in West cb. Lajolla Blvd. at E.C. Approx 400' West S.D.E.R.R. Bridge

S.W.B.P. COLIMA AND LAJOLLA BLVD.

N.E.B.P. MIDWAY " " "

S.W.B.P. FORWARD " " "

		94.380			Cont. from P.32
			6.020	88.360	
T.P. #19	3.205	91.005	6.580	87.800	
			5.850	85.155	
T.P. #20	5.220	87.415	8.810	82.195	
T.P. #21	5.620	89.560	3.475	83.940	
			3.800	85.760	
T.P. #22	6.460	92.530	3.490	86.070	
T.P. #23	5.095	92.605	5.02	87.510	
T.P. #24	5.620	94.355	3.870	88.735	
			5.510	88.845	
T.P. #25 A	6.375	97.655	3.075	91.280	
T.P. #25 B	1.410	93.435	5.630	92.025	
T.P. #26	3.645	91.460	5.620	87.815	
			7.200	84.260	
T.P. #27	1.265	86.425	6.300	85.160	
			5.650	80.775	
T.P. #28	2.085	78.430	10.080	76.345	
T.P. #29	12.500	89.620	1.310	77.120	
			8.280	81.340	
T.P. #30	6.920	93.270	3.270	86.350	
T.P. #31	1.245	82.605	4.910	88.360	
T.P. #32	3.090	83.195	9.500	80.105	
			6.095	77.100	
T.P. #33	5.730	83.115	5.810	77.385	
			3.960	79.155	
T.P. #34	3.205	82.860	3.460	79.655	Cont. on P.34

Note: Add 0.025' to each of these Elevations {See Notation P.42}

S.W. B.P. BIRD ROCK AVE AND LA JOLLA BLVD.

B.M. B.P. on W. Cb. La Jolla Blvd. Approx. 125' South of S.W. Cor. Camino De la Costa.

N.E. B.P. LA CANADA AND LA JOLLA BLVD.

B.P. N.W. Cor. VIA DEL NORTE " "

N.E. B.P. PALOMAR " "

S.W. B.P. DOL MAR " "

S.E. B.P. GRAVILLA " "

S.W. B.P. BON AIR " "

S.E. B.P. WESTBOURNE AVE " "

N.W. B.P. ARENAS " " "

N.E. B.P. CENTER " " "

		82.860			Cont. from P.33
T.P. #35	1.880	82.170	2.570	80.290	
T.P. #36	1.050	74.580	8.640	73.530	
T.P. #37	1.040	63.370	12.250	62.330	
T.P. #38	2.005	52.550	12.825	50.545	
			4.830	47.720	
T.P. #39	0.445	41.795	11.200	41.350	
T.P. #40	1.380	31.645	11.530	30.265	
T.P. #41	8.185	30.545	9.285	22.360	
T.P. #42	6.310	34.120	2.735	27.810	
			5.000	29.120	
T.P. #43	9.730	40.660	3.190	30.930	
T.P. #44	12.910	53.085	0.485	40.175	
T.P. #46	11.250	63.500	0.835	52.250	
			4.065	59.435	
T.P. #47	0.785	52.955	11.330	52.170	
T.P. #48	1.480	43.905	10.530	42.425	
T.P. #49	3.405	37.980	9.330	34.575	
T.P. #50	11.245	48.855	0.370	37.610	
			4.890	43.965	
T.P. #51	6.790	51.220	4.425	44.430	
T.P. #52	9.090	59.215	1.095	50.125	
			2.855	56.360	
T.P. #53	0.255	48.110	11.360	47.855	
T.P. #54	2.800	43.215	7.695	40.415	
			6.485	36.730	
T.P. #55	10.950	52.845	1.320	41.895	Cont. on P.35

Note: Add: 0.025 to each of these Elev. {See notation P.42}

BM S.W. Tack Pearl St. and La Jolla Blvd.

S.E. B.P. Ravina & Olivetas St.

N.E. B.P. " " Prospect St.

N.E. B.P. Coast Blvd and Coast Blvd South

S.E. B.P. " " " " " "

Nail in stub on West of Park

S.E. B.P. Cuvier St. and Coast Blvd.

N.E. B.P. Jenner " " "

S.W. B.P. Girard " " "

B.M. B.P. West end Concrete Wall at Bathing Cove and Coast Blvd.

		52.845			Cont. from P.34
T.P.#56	11.455	64.300	00.000	52.845	
T.P.#57	12.795	76.535	0.560	63.740	
T.P.#58	11.670	88.135	0.070	76.465	
			4.820	83.315	BM. B.P. in ℄ Cave st. on N.Y. cb. Line Coast Blvd.
T.P.#59	12.965	100.855	0.245	87.890	
			2.235	98.620	BM B.P. in cb. Return on Cave st. at Most Easterly Cor Tyrolean Tavern
T.P.#60	12.610	113.315	0.150	100.705	
T.P.#61	12.520	125.735	0.100	113.215	
			3.215	122.520	N.W. B.P. Cave st. and Prospect Pl.
T.P.#62	11.970	136.640	1.065	124.670	
T.P.#63	7.360	143.180	0.820	135.820	
T.P.#64	12.810	153.945	2.045	141.135	S.W. Cor B.P. Park Row. " " "
T.P.#65	9.150	162.780	0.315	153.630	
			1.190	161.590	S.E. 7' tock. Torrey Rd. " " "
T.P.#66	0.965	150.825	12.920	149.860	Note: Add 0.225 to each of these Elev. See notation P.42
T.P.#67	1.330	139.325	12.830	137.995	
T.P.#67B	0.705	129.595	10.435	128.890	
			6.715	122.880	S.W. B.P. Torrey " " Coast Blvd.
T.P.#68	1.660	121.665	9.590	120.005	
T.P.#69	0.325	111.235	10.755	110.910	
T.P.#70	0.745	99.775	12.205	99.030	
T.P.#71	6.115	98.645	7.245	92.530	
			4.050	94.595	B.M. C.T. in top E. cb. Torrey R. and ℄ Princess st.
T.P.#72	0.440	88.700	10.385	88.260	
T.P.#73	4.325	82.585	10.440	78.260	S.W. B.P. Princess st. and Spindrift st.
T.P.#74	0.150	73.465	9.270	73.315	Cont. on P.36

		73.465			
T.P. #75	1.780	62.805	12.440	61.025	
T.P. #76	2.000	51.920	12.885	49.920	
			5.185	46.735	
T.P. #77	0.865	40.195	12.590	39.330	
T.P. #78	0.535	27.845	12.885	27.310	
T.P. #79	0.575	16.960	11.460	16.385	
			5.465	11.495	Note: Add 0.025' to Each of these Elev.
T.P. #80	6.130	15.830	7.260	9.700	
T.P. #81	5.370	15.965	5.235	10.595	
			3.095	12.870	
T.P. #82	2.985	15.830	3.120	12.845	
T.P. #83	3.085	15.805	~~3.110~~ 3.085	12.720	See notation on P.42
T.P. #84	2.990	15.740	3.055	12.750	
T.P. #85	12.195	24.990	2.945	12.795	
T.P. #86	11.695	35.745	0.940	24.050	
T.P. #87	9.705	44.940	0.510	35.235	Add 0.050' to these Elev.
			4.020	40.920	
T.P. #88	1.09	35.395	10.635	34.305	
T.P. #89	3.025	25.635	12.785	22.610	
T.P. #90	3.365	23.200	5.800	19.835	
			8.045	15.155	14.88 = BM according to diagram 0.275 = Error.
T.P. #91	12.370	34.545	1.025	22.175	
			0.185	34.360	34.080 = B.M. 0.280 = Error.
T.P. #91	6.015	39.545	1.015	33.530	

S.E. B.P. NEWPORT TERRACE AND SPINDRIFT DRIVE

S.E. B.P. EL PASEO GRANDE " " "

B.M. B.P. LAJOLLA SHORES SEW WELL on Production NLY line 10' N of AVENIDA DE LA PLAYA ST.

B.M. B.P. " " " " "Production NLY. cb. line 2nd St North Avenida De La Playa

B.M. B.P. " " " " " " SLY. cb." 4th St North of Avenida De La Playa St.

N.E. B.P. Most NLY and Most WLY St Lajolla shores.

U.S. C. & G. B.M. #4 Scripps Institution Oceanography.

U.S. C. & G. B.M. #3 " " "

		39.545		
T.P.#92	4.810	40.245	4.110	35.435
T.P.#93	12.740	50.760	2.225	38.020
T.P.#93	6.530	56.170	1.120	49.640
			4.040	52.130

34.97

USC&G. B.M.#2 SCRIPPS INSTITUTION OCEANOGRAPHY

U.S.C&G. Survey BASIC BENCH MARK. Approx. 200' North of Museum on E. side of St. Brass Disc. Set in Con. Mon. 1.0' Square at top chamfered to 1.5' and is on a Concrete Base 10' in Ground

51.66

52.13
9.01
43.12 Gdy.

49.07
6.06
43.01 1929

32.387
6.06
26.327

35.435
9.01
26.425

Walker
Drebert
3-29-30

CHECK LEVELS over Line Pages 32-37
BENCH MARKS
From Scripps Institution Oceanography
to NLY End Mission Beach Sea Wall

	8.045	23.200		15.155	B.M. #4 from South
T.P. #1	5.800	25.635	3.365	19.835	
T.P. #2	12.810	35.425	3.020	22.615	
T.P. #3	7.750	41.720	1.455	33.970	
			0.800	40.920	
T.P. #4	0.120	30.510	11.330	30.390	
T.P. #5	0.060	17.650	12.920	17.590	
			4.850	12.800	
T.P. #6	3.250	16.040	4.860	12.790	
T.P. #7	3.290	16.010	3.320	12.720	
T.P. #8	2.665	15.495	3.180	12.830	
			2.650	12.845	
T.P. #9	3.075	15.220	3.350	12.145	
T.P. #10	11.200	22.400	4.020	11.200	
			10.930	11.470	
T.P. #11	12.720	34.920	0.200	22.200	
T.P. #12	12.510	47.220	0.210	34.710	
T.P. #13	11.660	58.360	0.520	46.700	
T.P. #14	11.350	69.505	0.205	58.155	
T.P. #16	12.840	82.155	0.190	69.315	
T.P. #17	11.985	90.720	3.420	78.735	
			12.500	78.220	
T.P. #18	8.425	98.635	0.510	90.210	
			4.075	94.560	
T.P. #19	12.015	104.51	6.140	92.495	

Cont. on P. 39

Note: Add 0.50' to each of these Elevations
See notation P. 42

on T.P. #90	
on T.P. #89	
S.E. B.P.	Most NLY & Most WLY St Lapolla Shores
~~B.M. B.P.~~	~~on Lapolla Shores Sea Wall 4th St. North~~ Production S cb Line Avenida De La Playa
B.M. B.P.	on Lapolla Shores Sea Wall. 4th St. North Avenida De La Playa Production S cb Line
B.M. B.P.	" " " " " Prot. NLY cb. Line 2nd St. North, Avenida De La Playa
B.M. B.P.	" " " " " 10' N.W. cb. Line Produced AVENIDA DE LA PLAYA
S.E. B.P.	EL PASEO GRANDE AND SPINDRIFT DRIVE.
S.E. B.P.	NEWPORT TERRACE " " "
S.W. B.P.	PRINCESS St. " " "
B.M. C.T. in E cb.	Torrey Rd. " & Princess St.

CHECK LEVELS

		104.510			
T.P. #20	12.525	116.630	0.405	104.105	
T.P. #21	11.255	127.835	0.050	116.580	
			4.990	122.845	S.W. B.P. TORREY RD. AND COAST BLVD.
T.P. #22	12.690	140.105	0.420	127.415	
T.P. #23	11.995	151.780	0.320	139.785	
T.P. #24	11.405	163.075	0.110	151.670	
			1.530	161.545	S.E. 7' tack. TORREY RD. AND PROSPECT PL.
T.P. #25	0.010	150.315	12.770	150.305	
T.P. #26	1.540	142.635	9.220	141.095	S.W. B.P. PARK ROW " " "
T.P. #27	0.270	131.315	11.590	131.045	
			8.840	122.475	N.W. B.P. CAVE ST. " " "
T.P. #28	0.225	118.920	12.620	118.695	
T.P. #29	0.055	105.995	12.980	105.940	
			7.430	98.565	B.M. B.P. in cb Return on CAVE ST. West Estly Cor. Tyrolean Tavern.
T.P. #30	0.390	93.735	12.650	93.345	
			10.475	83.260	B.M. B.P. in Curb & CAVE ST. on N.L.Y. cb. Line COAST BLVD.
T.P. #31	0.005	80.820	12.920	80.815	
T.P. #32	0.000	67.835	12.985	67.835	
T.P. #33	0.345	55.195	12.985	54.850	
T.P. #34	0.645	44.170	11.670	43.525	
			7.500	36.670	B.M. B.P. at West end Con. Wall at Bathing Cove on W. side COAST BLVD.
T.P. #35	12.750	55.810	1.110	43.060	
T.P. #36	1.140	56.700	0.250	55.560	
			0.420	56.280	S.W. B.P. GIRARD ST. AND COAST BLVD.
T.P. #37	4.600	50.615	10.685	46.015	
T.P. #38	12.115	56.010	6.720	43.895	N.E. B.P. JENNER " " "

Add 0.050 to Each Elev. See notation P.42

Cont. on P-40

CHECK LEVELS

		⊼ 56.010		
T.P. #39	0.670	55.240	1.440	54.570
			2.880	52.360
T.P. #40	11.145	60.625	5.760	49.480
			1.255	59.370
T.P. #41	0.110	56.015	4.720	55.905
T.P. #42	3.795	48.390	11.420	44.595
			8.290	40.100
T.P. #43	1.330	40.915	8.805	39.585
			2.475	38.440
			11.870	29.045
T.P. #44	4.360	32.660	12.615	28.300
T.P. #45	12.855	44.995	0.520	32.140
			3.740	41.255
T.P. #46	12.400	56.950	0.445	44.550
			9.320	47.630
T.P. #47	12.025	68.465	0.510	56.440
T.P. #48	12.360	80.445	0.380	68.085
			7.015	73.430
T.P. #49	3.070	82.830	0.685	79.760
T.P. #50	4.375	83.430	3.775	79.055
			6.430	77.000
T.P. #51	9.370	87.780	5.020	78.410
T.P. #52	5.195	92.735	0.240	87.540
			4.475	88.260
T.P. #53	0.175	85.950	6.960	85.775

Cont. on P-41

Add 0.050' to each Elev. See notation P-42

N.E. B.P. EADS St. And COAST BLVD. South. 43.08 = city

S.E. B.P. CUVIER St. " " BLVD.

S.E. B.P. COAST BLVD. " " " "

S.E. B.P. LAJOLLA Blvd " " " "

N.E. B.P. COAST BLVD " " " "

N.E. B.P. RAVINA St. And PROSPECT St.

S.E. B.P. " " " OLIVETAS St.

S.W. 7' tack. PEARL St. And LAJOLLA Blvd.

N.E. B.P. GENTER " " "

N.W. B.P. ARENAS " " "

S.E. B.P. WESTBOURNE " " "

		CHECK LEVELS			
		85.950			
			4.720	81.230	
T.P. #54	7.230	84.430	3.450	76.500	
			3.770	80.660	
T.P. #55	12.620	94.110	2.940	81.490	
T.P. #56	5.785	93.490	9.970	84.140	
~~T.P. #56~~	~~7.190~~	~~94.835~~	6.405	87.705	Cock Elev.
T.P. #57	2.960	95.670	2.125	92.710	
T.P. #58	4.270	92.980	6.960	88.710	RERUN
T.P. #59	4.300	91.740	5.540	87.440	
T.P. #60			6.135	85.605	
T.P. #58	8.130	99.455	2.165	91.325	Add 0.050 to
T.P. #59	2.545	93.795	8.205	91.250	
			5.045	88.750	
T.P. #60	4.400	92.675	5.520	88.275	
T.P. #61	4.560	91.475	5.760	86.915	
T.P. #62	3.205	88.865	5.815	85.660	See notation P. 42
T.P. #63	2.620	85.870	5.615	83.250	
T.P. #64	8.235	89.935	4.170	81.700	
			4.900	85.035	
T.P. #65	6.750	93.605	3.080	86.855	
T.P. #66	2.180	90.415	5.370	88.235	
T.P. #67	3.840	88.675	5.580	84.835	
			4.500	84.175	
T.P. #68	3.255	85.760	6.170	82.505	
T.P. #69	7.910	88.820	4.850	80.910	
T.P. #70	0.555	87.715	1.660	87.160	Add 0.110 to Each Elev.

Cont. on Page 42

S.W. B.P. Bon Air St. And La Jolla Blvd.

S.E. B.P. Gravilla " " "

S.W. B.P. Kolmar " " "

N.E. B.P. Polomar " " "

~~N.W. B.P. Via del Norte " " "~~

~~N.E. B.P. La Canada " " "~~

N.W. B.P. Via del Norte " " "

N.E. B.P. La Canada St. " " "

BM on W.cb. Approx. 125' South S.W. Cor. Camino de la Costa And La Jolla Blvd.

S.W. B.P. Bird Rock Ave And La Jolla Blvd.

S.W. B.P. Forward St. " " "

N.E. B.P. Midway " " " "

N.E. B.P. Colima " " " "

CHECK LEVELS

		87.715			
T.P. #71	2.415	82.790	7.340	80.375	
T.P. #72	5.165	83.470	4.485	78.305	
T.P. #73	5.150	85.335	3.285	80.185	
			3.325	82.010	C.T. on West cb. at E.C. LAJOLLA BLVD. Approx. 400' West S.D.E. R.R. Bridge
T.P. #74	1.330	75.695	10.970	74.365	
T.P. #75	1.375	70.640	6.430	69.265	
T.P. #76	7.230	65.170	12.700	57.940	
T.P. #77	3.460	58.495	10.135	55.035	S.E. B.P. LORING St. AND OCEAN BLVD.
T.P. #78	3.580	53.450	8.625	49.870	
T.P. #79	2.545	50.300	5.695	47.755	
			7.640	42.660	N.E. B.P. GAY AVE. " " "
T.P. #80	7.730	52.770	5.260	45.040	
T.P. #81	1.445	47.305	6.910	45.860	
			6.060	41.245	N.E. B.P. DIAMOND St. " " "
T.P. #82	0.485	39.550	8.240	39.065	
T.P. #83	1.625	32.395	8.780	30.770	
			7.400	24.995	N.E. B.P. GARNET St. " " "
T.P. #84	0.725	25.055	8.065	24.330	
T.P. #85	2.305	20.270	7.090	17.965	
T.P. #86	6.125	20.055	6.340	13.930	N.E. B.P. THOMAS St. " " "
T.P. #87	6.190	19.360	6.885	13.170	
chk. on	B.M. N end	Sea Wall	3.515	15.845	→ B.P. N end Mission Beach Sea Wall
				0.075	
				15.920	
				16.005 = BM.	
	14 Mile Circuit			0.085 = Error.	

Add 0.110' to each Elev.

Add 0.075' to each Elev.

Note: After adding the amounts as noted, from Pages 32 to 42 to obtain Correct Elevations of all Turne Points AND BENCH MARKS the Above 0.085' should be Pooted Among the 177 turns And added.

Walter Bliss
Diebert
10-7-30

~~~ BENCH MARKS ~~~
FROM
SCRIPPS INSTITUTION OCEANOGRAPHY
North Along the Shore Line Pacific Ocean
to U.S.C.&G. B.M. Near the top of HIGHWAY
GRADE Approx. 1/2 mile North SANTA Fe Bridge and
Highway. on old AT&S.F. R.R. Rt. of Way And thence
in a South easterly direction Along old R.R.
to B.M. on SANTA FE R.R. at SORRENTO

				15.155 = U.S.C.&Geodetic	B.M. According to Notes on Page 36
				0.050 = addition	as noted " " "
				15.205 = Elev. B.M.	before Prorating the 0.085' Error Shown on Page 42
				0.045 = Prorated	error.
	4.195	19.445		15.250 = Correct	Elev. B.M. According to Notes Pages 32 to 42
T.P. #1	3.545	11.070	11.920	7.525	
			6.840	4.230	B.M. on LEG SCREW Chas. Moores M.H.T. Base Line Sta. 106+23.93
T.P. #2	12.060	16.770	6.360	4.710	
T.P. #3	6.700	16.400	7.070	9.700	B.M. LEG SCREW " " " " " " " 113+00.53
T.P. #4	6.270	18.340	4.330	12.070	B.M. R.R. SPIKE in Rock Near. " " " " " " " 120+69.73
T.P. #5	3.670	13.190	8.820	9.520	
			3.145	10.045	B.M. tack in Lead Plug " " " " " " " 124+16.33
T.P. #6	3.485	12.130	4.545	8.645	
			4.985	7.145	B.M. SPIKE in Rock " " " " " " " 128+96.60
T.P. #7	4.985	12.590	4.525	7.605	
T.P. #8	4.085	12.455	4.220	8.370	
T.P. #9	3.290	12.095	3.650	8.805	
T.P. #10	4.865	14.420	2.540	9.555	
T.P. #11	1.305	11.300	4.425	9.995	
T.P. #12	4.170	11.280	4.190	7.110	B.M. R.R. SPIKE in Rock at slide
T.P. #13	4.225	10.245	5.260	6.020	
~~~

BENCH MARKS

		10.245			
T.P. #14	4.075	10.665	3.655	6.590	
T.P. #15	4.250	10.690	4.225	6.440	
T.P. #16	4.085	9.855	4.920	5.770	
T.P. #17	3.640	11.295	2.200	7.655	B.M. R.R. Spike in Rock at slide South of Indian Trail
T.P. #18	6.79	14.490	3.595	7.700	
			1.310	13.180	B.M. " " " Wall 20' North of Entrance to " "
T.P. #19	2.370	10.660	6.200	8.290	
T.P. #20	4.870	10.715	4.815	5.845	
T.P. #21	4.270	10.580	4.405	6.310	
T.P. #22	4.035	10.020	4.595	5.985	
T.P. #23	4.870	10.040	4.850	5.170	
T.P. #24	3.475	12.615	0.900	9.140	B.M. Spike in Rock 1st Point North Indian Trail Sta = 252+00
T.P. #25	4.285	11.220	5.680	6.935	
T.P. #26	4.460	10.735	4.945	6.275	
T.P. #27	5.080	11.130	4.685	6.050	
T.P. #28	2.070	10.985	2.215	8.915	B.M. Galv. Leg Screw Chas. Moores M.H.T. Base Line Station 279+42.18 ✓
T.P. #29	4.190	11.405	3.770	7.215	
T.P. #30	4.895	11.830	4.470	6.935	
T.P. #31	4.680	11.840	4.670	7.160	
T.P. #32	4.470	12.320	3.990	7.850	
T.P. #33	4.155	11.790	4.685	7.635	
T.P. #34	7.120	14.680	4.230	7.560	
T.P. #35	0.870	13.460	2.090	12.590	Nail in Stake Bottom Torrey Grade
	12.650	25.240		12.590	
T.P.	12.340	37.400	0.180	25.060	
T.P.	7.015	42.96	1.455	35.945	

See Cont. on P-45

Above T.P. #35 Side shots to check B.P. in Cb. Ft. of Torrey Pines Grade

		42.960			
			2.925	40.035	Brass Plug in cb Ft. of Torrey Grade
				− 9.010	
				31.025	
				30.500 = BM.	
				0.525 = diff.	
		13.460			
T.P. #36	4.150	11.410	6.200	7.260	
T.P. #37	4.250	11.000	4.660	6.750	
T.P. #38	4.720	11.185	4.535	6.465	
T.P. #39	4.080	10.845	4.420	6.765	
T.P. #40	12.610	19.055	4.400	6.445	
T.P. #41	3.520	16.415	6.160	12.895	
T.P. #42	10.265	21.880	4.800	11.615	B.M. 8P 5th Wing Wall Santa Fe R.R. Bridge & Under Pass — this BM. set by Chas. Moore see tide Survey Book
T.P. #43	10.640	32.115	0.405	21.475	Side Line to chk. BM in Wing Wall
T.P. #44	7.010	36.925	2.200	29.915	11.(2
T.P. #45	6.780	39.820	3.885	33.040	9.01
T.P. #46	6.090	43.020	2.890	36.930	2.(1
T.P. #47			3.110	39.910	2.03
					0.58 d.f.
					Nail in Paving Stake
T.P. #40	3.860	10.305	4.400	6.445	
T.P. #41	4.230	9.390	5.145	5.160	
T.P. #42	5.030	9.360	5.060	4.330	
T.P. #43	10.810	15.885	4.285	5.075	
T.P. #44	12.935	28.295	0.525	15.360	
T.P. #45	12.990	41.015	0.270	28.025	
			1.115	39.900	chk. on above side line T.P. #47

		41.015			
T.P. #46	11.485	51.260	1.240	39.775	
T.P. #47	12.960	64.220	0.000	51.260	
T.P. #48	12.375	76.255	0.340	63.880	
T.P. #49	12.040	88.115	0.180	76.075	
T.P. #50	11.260	99.265	0.110	88.005	
T.P. #51	13.000	111.885	0.380	98.885	
T.P. #52	11.725	123.520	0.090	111.795	
T.P. #53	11.790	135.215	0.095	123.425	
T.P. #54	12.485	147.515	0.185	135.030	
T.P. #55	10.960	157.700	0.775	146.740	
			2.315	155.385 = USC&G Datum	U.S.C&G BM. = [illegible] Near Top of Grade North of Santa Fe
				2.890	Under-Pass Approx. 50' East & old AT&SF Location 10' Above
				152.495 = U.S.G.S. Datum.	Roadbed and About 75' or 100' South of Highway and about
				151.995 = BM.	50' South from Torrey Pine Tree 4" Iron Post With Brass Cap. Marked
				0.500 = Error.	U.S. Coast & Geodetic Survey
	Levels Cont. to U.S.C&G BM. at Sorrento				
	1.200	156.585		155.385 = Above BM.	as Brought up from Scripps Institution
T.P. #1	3.385	147.540	12.430	144.155	
T.P. #2	2.225	141.935	7.830	139.710	
T.P. #3	1.885	135.655	8.165	133.770	
T.P. #4	1.520	126.195	10.980	124.675	
T.P. #5	1.575	118.525	9.245	116.950	
T.P. #6	0.685	109.915	9.295	109.230	
T.P. #7	1.715	102.335	9.295	100.620	
T.P. #8	3.110	97.320	8.125	94.210	
T.P. #9	5.385	90.885	11.820	85.500	

		90.885		
T.P. #10	1.030	81.450	10.465	80.420
T.P. #11	1.915	74.980	8.385	73.065
T.P. #12	1.025	69.495	6.510	68.470
T.P. #13	2.820	61.290	11.025	58.470
T.P. #14	1.410	50.215	12.485	48.805
T.P. #15	2.035	40.010	12.240	37.975
T.P. #16	2.495	33.740	8.765	31.245
T.P. #17	2.030	23.375	12.395	21.345
T.P. #18	2.450	17.110	8.715	14.660
T.P. #19	6.710	15.490	8.330	8.780
T.P. #20	7.870	15.095	8.265	7.225
T.P. #21	4.850	15.195	4.750	10.345
T.P. #22	4.120	14.785	4.530	10.665
T.P. #23	4.995	15.740	4.040	10.745
T.P. #24	5.060	16.125	4.675	11.065
T.P. #25	5.845	17.430	4.540	11.585
T.P. #26	6.385	21.180	2.635	14.795
T.P. #27	5.210	22.720	3.670	17.510
T.P. #28	5.670	24.660	3.730	18.990
T.P. #29	4.760	26.480	2.940	21.720
T.P. #30	5.400	28.640	3.240	23.240
T.P. #31	4.885	30.785	2.740	25.900
T.P. #32	6.075	33.245	3.615	27.170
T.P. #33	4.670	34.095	3.820	29.425
T.P. #34	5.170	36.260	3.005	31.090
T.P. #35	4.995	37.215	4.040	32.220

		π 37.215			
T.P. #36	6.005	40.040	3.180	34.035	
T.P. #37			4.760	35.280	Set B.M. B.P. in Conc. Base SANTA FE WATER TANK Approx. 100' East Road Crossing of SORRENTO. Brass Plug is on W'ly. side of tank and is 32.4' North of ℄ Main Line Track
	See Page 58 For Gov. B.M.				
	LINE UP SORRENTO Rd. to Rose CANYON				
Above T.P. #37	4.885	40.165		35.280 = Above B.M.	
T.P. #38	12.890	51.655	1.400	38.765	
T.P. #39	4.420	54.625	1.450	50.205	
T.P. #40	10.970	64.785	0.810	53.815	
T.P. #41	12.010	76.330	0.465	64.320	
T.P. #42	13.065	89.045	0.350	75.980	
T.P. #43	11.385	99.290	1.140	87.905	
			2.435	96.855	B.M. R.R. SPIKE in Pole # 7259 U.S. Approx 1/2 mile South SORRENTO Store
T.P. #44	12.350	111.160	0.480	98.810	
T.P. #45	10.740	119.830	2.070	109.090	
T.P. #46	9.350	128.290	0.890	118.940	
			4.600	123.690	B.M. R.R. SPIKE in Pole # 7267-U.S. 3/4 mile South SORRENTO Store 1.0 mile N. Marine Range
T.P. #47	8.430	136.220	0.500	127.790	
T.P. #48	11.585	146.960	0.845	135.375	
T.P. #49	11.760	156.600	2.120	144.840	
T.P. #50	10.015	166.135	0.480	156.120	
			3.280	162.855	B.M. 3 nails in Pole # D 80617-T 1.2 miles South Sorrento Store
T.P. #51	10.175	176.005	0.305	165.830	
T.P. #52	12.480	185.705	2.780	173.225	
T.P. #53	12.730	197.825	0.610	185.095	
T.P. #54	12.865	210.280	0.410	197.415	

Bench Marks — Rose Canyon

		↑ 210.280			
T.P. #55	12.960	222.800	0.440	209.840	
T.P. #56	13.015	235.530	0.285	222.515	
T.P. #57	12.710	248.065	0.175	235.355	
T.P. #58	11.865	259.775	0.155	247.910	
T.P. #59	12.100	271.655	0.220	259.555	
T.P. #60	12.025	283.485	0.195	271.460	
T.P. 61	11.680	294.930	0.235	283.250	
T.P. #62	13.210	307.780	0.360	294.570	
T.P. #63	11.615	319.065	0.330	307.450	
T.P. #64	12.785	331.445	0.405	318.660	
T.P. #65	12.295	343.610	0.130	331.315	
T.P. #66	12.785	356.065	0.330	343.280	
T.P. #67	12.185	368.160	0.090	355.975	
T.P. #69	12.795	380.855	0.100	368.060	
T.P. #70	7.085	385.695	2.245	378.610	
			4.425	381.270	B.M.
T.P. #71	10.270	395.660	0.305	385.390	
T.P. #72	12.500	407.010	1.150	394.510	
T.P. #73	8.795	415.515	0.290	406.720	
T.P. #74	1.370	407.040	9.845	405.670	B.M. on Con. Mon on East side Rose Canyon Sta. 280+86.38 — B.M. is on the Copper Wire in top Mon.
T.P. #75	0.72	398.085	9.675	397.365	
T.P. #76	0.470	389.165	9.390	388.695	
T.P. #77	0.450	378.750	10.865	378.300	
			10.950	367.800	B.M. on Wire in top Con. Mon on East side Rose Canyon Sta 269+30.60 E.C.
T.P. #78	0.215	368.405	10.560	368.190	
T.P. #79	0.505	356.940	12.470	355.935	

Bench Marks — Rose Canyon

		356.440		
T.P. #80	0.455	344.215	12.680	343.760
T.P. #81	1.090	334.800	10.505	333.710
T.P. #82	0.075	325.125	9.680	325.120
			3.275	321.920
T.P. #83	0.705	316.870	9.030	316.165
T.P. #84	0.300	307.385	9.785	307.085
T.P. #85	0.030	298.075	9.340	298.045
			3.235	294.840
T.P. #86	0.800	289.535	9.34	288.735
T.P. #87	0.380	280.775	9.140	280.395
	0.810	271.605	9.980	270.795
			~~8.360~~	
T.P. #88	2.785	264.620	9.770	261.835
T.P. #89	1.095	257.155	8.560	256.060
T.P. #90	0.880	249.645	8.390	248.765
T.P. #91	1.880	244.855	6.670	242.975
T.P. #92	1.900	242.070	4.685	240.170
			5.140	236.930
T.P. #93	4.290	240.025	6.335	235.735
			6.575	233.450
T.P. #94	1.355	233.610	7.770	232.255
T.P. #95	0.120	223.510	10.220	223.390
			11.120	212.390
T.P. #96	0.630	212.690	11.450	212.060
T.P. #97	0.710	202.535	10.865	201.825
T.P. #98	0.545	192.150	10.930	191.605

B.M. Wire in top Con. Mon on West Side Rose Canyon 259+77.8° B.C.

B.M. Wire in top Con. Mon on West Side Rose Canyon 254+62.9' E.C.

B.M. Wire in top Con. Mon on East Side Rose Canyon 244+75.83

B.M. Wire in top Con. Mon. West side Rose Canyon 219+69.54 = E.C. = 219+84.87

B.M. on Wire in top Con. Mon East side Rose Canyon 213+28.13 = B.C.

B.M. on Wire in top Con. Mon. West side Rose Canyon 197+13.63 = E.C.

		192.150	~Bench Marks~	
			6.020	186.130
T.P. #99	0.280	181.325	11.105	181.045
T.P. #100	0.450	172.070	9.705	171.620
T.P. #101	0.660	163.500	9.230	162.840
T.P. #102	11.630	163.130	12.000	151.500
			11.340	151.790
T.P. #103	13.135	175.755	0.510	162.620
T.P. #104	11.500	186.835	0.420	175.335
			6.840	179.995
T.P. #105	0.205	174.110	12.930	173.905
T.P. #106	0.220	161.645	12.685	161.425
T.P. #107	1.445	151.510	11.580	150.065
T.P. #108	0.780	143.605	8.685	142.825
T.P. #109	2.080	133.445	12.240	131.365
T.P. #110	2.630	129.725	6.350	127.095
			7.945	121.780
T.P. #111	3.230	129.125	3.830	125.895
T.P. #112	2.615	125.170	6.570	122.555
			2.350	122.820
T.P. #113	2.770	122.285	5.655	119.515
T.P. #114	3.190	118.885	6.590	115.695
			2.340	116.545
T.P. #115	2.67	114.045	7.510	111.375
			2.560	111.485

~Rose Canyon~

B.M. Wire in top Con. Mon. West side Rose Canyon sta. 183+88.12 = E.C.

B.M. Wire in top Con. Mon. West side Rose Canyon sta. 172+51.03 = E.C.

U.S.G.S. B.M. Brass Disc. on Approx 4" Pipe old Road Rose Canyon. N.N. Brickyard

B.M. Wire in top Con. Mon. W. side Rose Canyon. sta. 164+16.33 = E.C.

B.M. Wire in top Con. Mon East side Rose Canyon sta. 156+ = E.C.

B.M. Wire " " " " " " " 144+ = B.C

B.M. Wire " " " " " " " " sta. 132+97.13 = E.C.

B.M. " " " " West side " " " 128+57.31 = B.C.

		114.045	~~ BENCH MARKS ~~		~~ ROSE CANYON ~~
T.P.# 116	2.525	110.085	6.485	107.560	
T.P.# 117	5.480	108.995	6.570	103.515	
			4.775	104.220	B.M. Wire in top Con. Mon West side Rose Canyon Rd. Sta. 113+
T.P.# 118	11.905	120.415	0.485	108.510	
T.P.# 119	10.350	130.265	0.500	119.915	
T.P.# 120	6.450	133.585	3.130	127.135	
T.P.# 121	3.805	134.000	3.390	130.195	
T.P.# 122	3.140	130.700	6.440	127.560	
T.P.# 123	8.920	133.215	6.405	124.295	
			1.410	131.805	B.M. Wire in top Con. Mon. West side Rose Canyon Rd. Sta 84+89.90 = P.C.C.
T.P.# 124	0.870	121.980	12.105	121.110	
T.P.# 125	1.035	114.340	8.675	113.305	
			3.490	110.850	B.M. " " " " " East " " " " Sta. 73+
T.P.# 126	2.110	107.260	9.190	105.150	
T.P.# 127	1.060	98.810	9.510	97.750	
T.P.# 128	1.160	91.410	8.560	90.250	
T.P.# 129	0.875	83.370	8.915	82.495	
T.P.# 130	1.060	75.910	8.520	74.850	
T.P.# 131	0.620	67.710	8.820	67.090	
T.P.# 132	0.440	58.525	9.625	58.085	
T.P.# 133	0.530	49.340	9.715	48.810	
T.P.# 134	0.480	40.050	9.770	39.570	
			10.140	29.910	B.M. Wire in top Con. Mon. West side Rose Canyon Rd. Sta 15+
T.P.# 135	4.105	35.775	8.380	31.670	
T.P.# 136	4.260	34.340	5.695	30.080	
T.P.# 137	3.920	32.980	5.280	29.060	

		32.980									
			4.270	28.710	check on U.S. Govt. BM #25 Page 1 this Book. Balboa + Rose Canyon						
				28.340 = U.S. Govt. BM							
				0.370 = Error.							
	U.S.G.S. Datum										
BM H	1.337	41.749		40.422	Mon Sorrento 75' Meter Su. East End Gas	West Santa Fe Station Pumps Sorrento Store				2-6-33 Moore	
BM			9.905	31.844	B.P. in Conc. 100' E of Rear 3528	Base Santa Fe Water Tank Crossing Sorrento Wly Side of Tank 324 North of ℄ Main Line U.S.C.&G. Datum See 1440 Page 56					

Soledad B.M.s
Lamont, Garnet to Wilbur

Moore
Sisson
Northern
6-21-37

				CITY	USC&G
	12.51	78.56		66.05	75.06
					901
#1 T.P.	11.21	89.38	0.39	78.17	66.05
#2 T.P.	12.61	101.83	0.16	89.22	
#3 T.P.	10.35	111.43	0.75	101.08	
			5.40	106.03	
#4 T.P.	12.53	123.65	0.31	111.12	
#5 T.P.	12.71	135.66	0.70	122.95	
#6 T.P.	12.95	148.34	0.27	135.39	
#7 T.P.	12.88	161.00	0.22	148.12	
#8 T.P.	12.80	173.35	0.45	160.55	
#9 T.P.	12.46	185.60	0.41	172.94	
#10 T.P.	6.05	190.78	0.87	184.73	
			4.49	186.29	

Indexed and Posted
C.S.K.

51

Walker See 1408-1

El. 65.83 = old City (dif. 0.22) SWBP Lamont & Garnet ✓
= Milan

105.95 = old City (dif. = 0.08) SWBP " & Diamond ✓

186.06 = old City (dif. 0.23) S.E. 7' C.T. Lamont & Wilbur ✓

Soledad Mt. B.M.
Soledad Rd. to Muirlands

	9.44	673.23		663.79	663.56 = 0.23 = 663.79
#1 T.P.	3.94	674.24	2.81	670.42	
#2 T.P.	0.13	661.59	12.88	661.46	
#3 T.P.	0.84	649.47	12.96	648.63	
#4 T.P.	0.16	636.88	12.75	636.72	Corrected
#5 T.P.	0.36	624.24	13.00	623.88	El.
#6 T.P.	0.86	613.04	12.06	~~612.18~~	612.19
#7 T.P.	0.20	600.20	13.04	600.00	
#8 T.P.	0.05	587.23	13.02	587.18	
#9 T.P.	0.74	574.88	13.09	574.14	
#10 T.P.	7.49	570.50	11.87	563.01	
#11 T.P.	12.83	573.25	10.08	560.42	
			4.84	~~568.41~~	568.42
#12 T.P.	5.12	574.82	3.55	569.70	
#13 T.P.	4.72	578.39	1.15	573.67	
#14 T.P.	0.14	565.58	12.95	565.44	
			9.38	~~556.20~~	556.22
#15 T.P.	0.17	553.49	12.26	553.32	
#16 T.P.	0.32	540.89	12.92	540.57	
#17 T.P.	0.74	528.98	12.45	528.24	
			7.98	521.00	521.02
#18 T.P.	3.55	526.79	5.74	523.24	
	2.995	526.625	3.18	~~523.61~~	523.43
B.M. B.P. in Ledge pav.			5.235	521.39	Found 521.41

Soledad Rd. P.I. Conc. Mon. Sta. 106+78
added for dif. betw. old & new El. of B.M. at Lamont & Wilbur

Set B.M. 2x2 R.W. Hub P.O.T. Sta. 15+00 F.B. 1291-78 Ext. Camino Del Teatro. Prop. Rd. Survey Muirlands to Soledad Rd.

Set B.M. 2x2 R.W. Hub B.C. = 0+00 F.B. 1291-78 "

B.M. chiseled on Brick

Set B.M. 5/8" Iron P.M. Nly Cor. Brick Pillar. Most Nly Cor. of J. Serrano Prop. approx. 1000 E of Muirland Dr. on Camino La Cumbre Dr.

Set B.M. on Ld. & C.T. Sly end Tang. opp. Nwly Cor Lot 2 Blk 15 Muirlands & Pav. on Muirland Drive N of La Cumbre Drive

Top F.H. Swly Cor. Muirlands Dr. & Sumidad Dr.
B.P. 5' N of F.H. " " " "

Soledad Mt. BMs
Muirlands to So. La Jolla

					Corrected	
	0.236	521.236		521.00	521.02	Ld + C.T. & pav. opp. nwly Cor. Lot 2 Blk 15 The Muirlands
#1 T.P.	0.885	510.201	11.92	509.316		
			9.611	500.59	500.62	Set B.M. B.P. N.E. ly Cor. Camino del Teatro + Muirland Dr. in N. end of curb of curb inlet.
#2 T.P.	0.697	497.885	13.013	497.188		
#3 T.P.	0.150	485.025	13.010	484.875		
#4 T.P.	0.307	472.647	12.685	472.340		
#5 T.P.	0.153	459.937	12.863	459.784		
#6 T.P.	0.445	447.495	12.887	447.050		
#7 T.P.	0.145	434.658	12.982	434.513		
#8 T.P.	0.643	422.626	12.675	421.983		
Side	Shot		3.695	418.930		
#9 T.P.	0.083	409.889	12.820	409.806	~~409.813~~	Fd. B.P. Set by Comley on Conc base of Lamp Post. on Line of Lot 1 & 2 Blk 19 Muirlands
#10 T.P.	0.167	397.313	12.743	379.146		
#11 T.P.	0.60	385.026	12.887	384.426		
#12 T.P.	0.77	374.131	11.665	373.361	373.40	Fd. B.P. by Comley on Con. Base Lamp Post intersect of Muirland Dr. Camino Teatro
#13 T.P.	0.083	361.241	12.973	361.158		
#14 T.P.	0.200	348.473	12.968	348.273		
#15 T.P.	0.715	336.355	12.833	335.640		
			9.193	327.162	327.21	Set B.M. on Ld + C.T. & Pav. B.C. N of NW Cor. 1/17 Muirlands
#16 T.P.	0.068	323.408	13.015	323.340		
#17 T.P.	0.025	310.546	12.887	310.521		
#18 T.P.	0.175	297.798	12.923	297.623		
#19 T.P.	0.877	285.685	12.990	284.808		
#20 T.P.	0.365	273.050	13.000	272.685		
#21 T.P.	0.315	260.622	12.743	260.307		

Muirlands Dr.

					Corrected	
		260.622				
#22 T.P.	0.288	247.997	12.913	247.709		
			1.118	246.879	246.93	Set Ld. Plug & nail B.M. 1' from S. edge Pav. approx ½ way betw. Muirlands & La Jolla Hi-School approx. midway of Longest Tangent and on Short Summit of hill.
#23 T.P.	0.063	235.313	12.747	235.250		
#24 T.P.	0.18	222.566	12.927	222.386		
#25 T.P.	0.15	209.868	12.848	209.718		
#26 T.P.	0.217	197.865	12.22	197.648		
#27 T.P.	0.435	185.610	12.49	185.175		
#28 T.P.	0.743	173.711	12.642	172.968		
#29 T.P.	1.75	162.411	13.05	160.661		
#30 T.P.	1.778	151.891	12.298	150.113		
			2.668	149.223	149.29	Set B.M. Ld. Plug & nail SW Curb Return Fay & Rushville
#31 T.P.	0.352	139.433	12.81	139.081		
#32 T.P.	0.89	127.905	12.418	127.015		
#33 T.P.	0.742	115.757	12.89	115.015		
#34 T.P.	0.10	104.644	11.213	104.544	104.62	Set B.M. Ld plug & nail SW Curb Return Draper & Rushville
#35 T.P.	0.605	92.444	12.805	91.839		
#36 T.P.	4.80	84.616	12.628	79.816		
Check to Walker's B.M.			5.33	79.286	79.38 =	Walker El. S.E. B.P. in Curb La Jolla Blvd. & Westbourne
				0.094	error	

79.01

Muirlands Dr.

					Corrected as per Page 55 bottom line F.O.	
	2.523	523.913		521.39	521.41	Found B.P. in pav. 5' N of F.H. Muirland Dr. + Sumidad
T.P.	0.895	511.978	12.83	511.083		
T.P.	0.02	499.075	12.923	499.055		
T.P.	0.742	486.832	12.985	486.090		
T.P.	0.740	474.667	12.905	473.927		
T.P.	2.84	464.954	12.553	462.114		
T.P.	2.743	459.467	8.23	456.724		
T.P.	0.56	447.977	12.05	447.417		
T.P.	0.575	435.589	12.963	435.014		
T.P. B.M.	0.165	424.967	10.787	424.802	424.82	Set B.M. B.P. 5' N of F.H. on S edge pav. Wlyend Solymar + Muirland Dr.
T.P.	0.605	412.554	13.018	411.949		
Fd. B.P.			13.16	399.394	399.41	B.P. in Con. Base Lamp Post. line of Lots 4-5/10 Muirlands

La Jolla Mesa Drive

	11.195	532.585		521.39	521.41	B.P. in Pav. 5' N of F.H. Muirland Dr. + Sumidad
T.P.	7.185	538.16	1.61	530.975		
T.P.	7.163	544.208	1.115	537.045		
B.M. Top F.H.			2.46	541.748	541.77	approx. 1500' Sly from Sumidad + Muirland Dr. Junction of oiled road to east.
T.P.	0.727	543.815	1.12	543.088		
T.P.	2.437	533.867	12.385	531.43		
B.M. B.P. in Mon.			6.353	527.514	527.53	approx 2500' Sly from Muirland Dr. = S.E. Cor Bescaino + La Jolla Mesa Dr.

check walker Levels
S. Fe RR BM. to Causeway

Clear
Windy

Moore
Sisson
Northern
11-30-37

B.M. B.P.		Corrected	1423-7	21.71	S. end
S.W. Cor S. abut.	9.17	30.92		~~21.75~~	S. Fe RR Bridge
on Brass disc same location			9.154		
T.P. #1	4.155	27.062	8.013	22.907	
T.P. #2	4.265	26.354	4.973	22.089	
T.P. #3	4.31	25.611	5.050	21.301	
T.P. #4	4.142	24.838	4.915	20.696	
T.P. #5	3.815	24.523	4.130	20.708	
T.P. #6	4.185	23.296	5.412	19.111	
T.P. #7	4.050	22.340	5.006	18.290	
T.P. #8	4.167	21.987	4.520	17.820	
T.P. #9	3.695	20.986	4.696	17.291	
T.P. #10	4.318	19.431	5.873	15.113	
			7.513	11.918	12.007

9.17
9.154
.014

65' Ely of ℄ Causeway on ℄ bet. double track of Pt. Loma R.R.
U.S.C. & G. B.M. Brass disc in Conc. Mon. Marked F 61 1927
CITY B.M. B.P. in headwall Triple Box Culv. Pt. Loma RR & Causeway

Walker = X
Hardin = Notes
Wirt = Red

— Bench Marks —

From N end Mission Beach Sea Wall
To Scripps Institute

	+	X	−	Elev
	0.645	16.650		16.005
T.P. #1	8.733	19.381	6.002	10.648
T.P. #2	6.635	20.621	5.395	13.986
T.P. #3	6.563	23.957	3.227	17.394
T.P. #4	7.702	27.977	2.682	20.275
T.P. #5	7.557	32.734	2.800	25.177
T.P. #6	7.701	38.246	2.189	30.545
T.P. #7	7.602	43.853	1.995	36.251
T.P. #8	5.450	46.861	2.442	41.411
T.P. #9	8.728	48.849	6.740	40.121
			0.154	48.695

Brass Plug N end Mission Beach Sea Wall

N.E. Brass.P Thomas Street at ocean Boulevard

N.E. B.P. Garnett Street at ocean Blvd

N.E. B.P. Diamond Street at ocean Blvd
S.W. B.P. Diamond street at Mission Blvd

~ BENCH MARKS ~

Walter Pope
R-Sisson
11-13-50

on GESNER St.

				Elev.
	12.76	6483		52.07
T.P. #1	12.675	76.885	0.62	64.21
TP #2	12.975	89.317	0.543	76.342
TP #3	12.800	101.454	0.663	88.654
T.P. #4	13.092	114.516	0.030	101.424
T.P. #5	12.690	126.684	0.522	113.994
T.P. #6	13.002	139.662	0.024	126.660
T.P. #7	12.960	152.362	0.260	139.402
T.P. #8	12.482	162.004	2.840	149.522
T.P. #9	8.661	170.043	0.622	161.382
T.P. #10	12.810	176.411	6.442	163.601
T.P. #11	13.040	189.085	0.366	176.045
T.P. #12	10.290	198.743	0.632	188.453
T.P. #13	6.850	205.373	0.220	198.523
T.P. #14	9.100	209.125	5.348	200.025
~~T.P. #15~~			~~0.430~~	~~208.695~~
T.P. #15	13.070	217.730	4.465	204.660
				204.47 → Elev
				0.19 = diff
T.P. #16	12.758	230.400	0.088	217.642
T.P. #17			0.933	229.467

61

B.M. on Conc. Mon ℄ Gesner NELY Baltimore ✓ F.B. 1647-80

INDEXED
MK
NOV 14 1950

Set B.M. Conc. Mon ℄ Gesner & SWLY. Galveston. ✓

CLAIREMONT COURT ?

INDEXED
MK
NOV 14 1950

Block 115 Morena
Set Brass Plg. in cb N.E.B.C. Banjo & Clairmount Dr.

on Hub
Chk B.M. Set By Private Engr.
written on Marker

INDEXED
MK
NOV 14 1950

℄ Nail Diled Road 15+00

INDEXED
JJ ER

12-09-55

CHECK ON TOP OF 16"X12" WATER LINE JUNCTION MORAGO & ECOCHEE CLAIREMONT UNIT Nº 17 W.O. 23874

Ref Dwg 11,662-L Sheet Nº 3

Stamper
Huffman
Blunt
Kelley

3.47' Cover

297.80 Top of 12" C.I. Water Line

1+16 Along ℄ Morago 301.27 Fin Grade @ B.C.

Top of 12" C.I. Valve 299.39

2.13 = Coverage Over 16" H_2O Pipe

299.52 = ℄ Morago & Ecochee Finish Grade

Top 16" Tee = 0+00 297.39 Top 16" H_2O Junction Morago & Ecochee

B.M. 300.92 Private Engr "1X2" & Nail

X

π

20.00

3.00

- 1.2
5.2
4.0
25.00
30.00

Walker
Bliss
Drebert
9-25-30

BENCH MARKS
ON WEST POINT LOMA BLVD.
From Sunset Cliffs Blvd.
to

	5.120	38.365		33.245	S.W. B.P. West Point Loma Blvd. and Sunset Cliffs Blvd.
T.P. #1	6.715	42.825	2.255	36.110	
			3.585	39.240	S.E. B.P. Ebers St and West Point Loma Blvd.
T.P. #2	4.730	41.845	5.710	37.115	
T.P. #3	0.810	38.385	4.270	37.575	S.E. B.P. Sea Side St. " " " " "
T.P. #4	2.810	28.530	12.665	25.720	
	4.950	20.530	12.950	15.580	
			6.430	14.100	Chk. on T.P. #146 - Page 10
				14.085	
				0.015 = Error.	

79.885

BENCH MARKS

Cont. From Page 7

T.P. #17	6.385	75.140	11.130	68.755	
T.P. #18	12.615	84.395	3.360	71.780	
T.P. #19	0.835	75.295	9.935	74.460	on T.P. #5 on Page 7
T.P. #20	5.570	69.685	11.180	64.115	
T.P. #21	5.820	74.775	0.730	68.955	
T.P. #23			5.875	68.900	chk. on B.M. Lodera & Sunset Cliffs Blvd.

68.89 = Correct Elev.
0.01 = Error.

Walker
Bliss
Diebert
9-4-30

BENCH MARKS

U.S. GEOLOGICAL SURVEY DATUM.

ALONG WEST ATLANTIC ST.
FROM THORN St. TO BORNETT and MIDWAY St.

	4.250	24.872		20.622	Brass Cap U.S.C.&G. B.M. West End top of Culvert #C-266 Thorn St & Santa Fe R.R.
T.P. #1	3.623	20.240	8.255	16.617	Nail in top Paving Stake
T.P. #2	3.470	18.490	5.220	15.020	" " " " "
T.P. #3	5.520	20.985	3.025	15.465	" " " " "
T.P. #4	0.330	16.555	4.760	16.225	N.W. B.P. HARASTHY and WEST ATLANTIC St.
T.P. #5	3.700	14.585	5.670	10.885	S.E. B.P. SUTHERLAND " " " "
T.P. #6	4.120	14.450	4.255	10.330	on Paving stake
T.P. #7	4.070	13.190	5.330	9.120	
T.P. #8	5.650	13.720	5.120	8.070	
T.P. #9	4.345	12.670	5.395	8.325	
			4.020	8.650	B.M. B.P. on Most Westerly Top Abument of Subway on Witherby St.
T.P. #10	4.530	11.800	5.400	7.270	
T.P. #11	5.800	12.830	4.770	7.030	
T.P. #12	4.705	12.625	4.910	7.920	
T.P. #13	5.110	12.425	5.310	7.315	
			4.735	7.690	N.E. B.P. BARNETT Rd and MIDWAY
T.P. #14	3.080	10.395	5.110	7.315	
T.P. #15	4.375	11.340	3.430	6.965	
T.P. #16	4.990	12.070	4.260	7.080	
T.P. #17	4.390	12.175	4.285	7.785	
T.P. #18	5.205	11.760	5.620	6.555	
T.P. #19	7.280	15.550	3.490	8.270	
T.P. #20	11.995	26.510	1.035	14.515	

		26.510		
T.P. #21	6.090	31.880	0.720	25.790
			6.395	25.485
			B.M. →	25.436
				0.049 = Error.
	5.245	30.681		25.436 = Above B.M.
			1.515	29.166
				− 6.12
			City Datum =	23.046
				23.07 = Above BM.
				0.024 = Error.

B.Ms to SD. RIVER Along

	5.245	30.681		25.436
T.P.	0.565	29.731	1.515	29.166
T.P.	0.200	23.250	6.681	23.050
T.P.	1.625	15.805	9.070	14.180
			4.860	10.945
T.P.	6.700	18.460	4.045	11.760
T.P.	5.785	21.435	2.810	15.650
			2.615	18.820
				+ 2.89
				21.71 = USC&G Datum
				− 9.01
				12.70 = City Datum.

230.7
6.12
29.17

B.M.
U.S.C.&Geodetic in front old Public School in old Town on Mason St.

B.M. S.E. 7' Rock San Diego Ave. and Mason St.

SANTA FE R.R.

B.M. USC&Geodetic in front old Public School in old Town on Mason St.

B.M. R.R. Spike in top Cemente. East End Culvert Santa Fe R.R. Approx. 50' N. Taylor St.

(See Page 11)

B.M. B.P. West end Abutment South end Santa Fe R.R. Bridge at SD River

1602
901
701

80

13.665 = TP #174
4.605 -
18.270 - T
4.29 -
13.98

IMPROVED TABLES

AND

INFORMATION

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

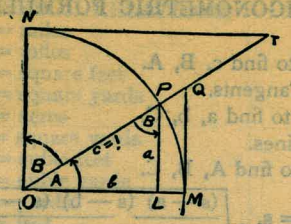


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$

$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$

$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$

$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$

$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$

$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$

$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B$ #

$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$

$\text{exsec } A = PQ = \text{coexsec } B$

$\text{coexsec } A = PT = \text{exsec } B$

$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \text{Cos } A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \text{Cos } A}{2}}$

$\sin 2A = 2 \sin A \cos A \qquad \cos 2A = \cos^2 A - \sin^2 A$

Law of Sines $\frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$

Law of Cosines $c^2 = a^2 + b^2 - 2\,ab \cos C$

Law of Tangents $\frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$

Table II—Continued

TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.
Use Law of Tangents.

Given A. B. c; to find a, b, C.
Use Law of Sines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \quad \sqrt{\frac{(s-a)\,(s-b)\,(s-c)}{s}} = r$$

$$\sin \tfrac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \tfrac{1}{2} A = \frac{r}{s-a}$$

$$\tan \tfrac{1}{2} B = \frac{r}{s-b}$$

$$\tan \tfrac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

Area $= \frac{1}{2}$ ab Sin C

Area $= \sqrt{s\,(s-a)\,(s-b)\,(s-c)}$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6}\,(B+b+4M)$$

h = altitude; b B = bases; M = midsection

Table III

INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11	
1/16	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	9219	1/16
1/8	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	1/8
3/16	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	3/16
1/4	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	1/4
5/16	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427	5/16
3/8	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	3/8
7/16	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	7/16
1/2	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	1/2
9/16	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	9/16
5/8	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	9688	5/8
11/16	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	11/16
3/4	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	3/4
13/16	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	13/16
7/8	.0729	.1563	.2396	.3229	4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	7/8
15/16	.0781	.1615	.2448	.3281	.4115	4948	.5781	.6615	.7448	.8281	.9115	.9948	15/16
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

Table IV

USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links

$360° = 21600' = 1296000''$

Radius = arc of 57.2957790°

Arc of 1° (radius = 1) = .017453292

Arc of 1′ (radius = 1) = .000290888

Arc of 1″ (radius = 1) = .000004848

$\pi = 3.141592654$ $\qquad \sqrt{\frac{1}{4}} = 0.564190$

$\frac{\pi}{4} = 0.785398163$ $\qquad \sqrt[3]{\frac{6}{\pi}} = 1.240700982$

$\frac{\pi}{6} = 0.523598776$ $\qquad \pi^2 = 9.869604401$

$\sqrt{\frac{4}{\pi}} = 1.128379167$ $\qquad \frac{1}{\pi^2} = 0.101321184$

$\frac{\pi}{6} = 0.523598776$ $\qquad \sqrt{\pi} = 1.772453851$

$\frac{4.\pi}{3} = 4.188790205$ $\qquad \frac{1}{\pi} = 0.3183099$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)^2

Difference between arc and chord length, 0.05 feet in 11½ miles

$$\text{Probable error of a single observation} = 0.6754\sqrt{\frac{\Sigma v^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULÆ.

Horizontal Distance $= R - R \sin^2 a + C \cos a$

Vertical Distance $= R\ \frac{1}{2} \sin 2\,a + C \sin a$

$$R = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

Table X.

MIDDLE ORDINATES OF RAILS

Length of Rail (feet)

C ° ′	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch
0–20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0–40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1–0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1–20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1–40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2–0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2–20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2–40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3–0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3–20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3–40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4–0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4–20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4–40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

Table XI.

SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

Table XII.

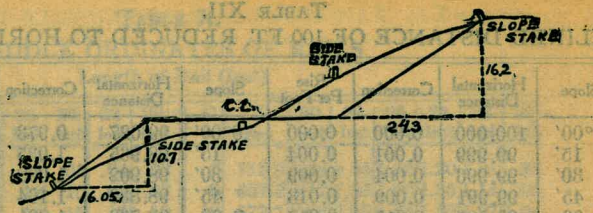
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
0°00′	100.000	0.000	0.000	8°00′	99.027	0.973	0.139
15′	99.999	0.001	0.004	15′	98.965	1.035	0.143
30′	99.996	0.004	0.009	30′	98.902	1.098	0.148
45′	99.991	0.009	0.013	45′	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

Table XIII.

MINUTES IN DECIMALS OF A DEGREE.

0 30″	.00833	10′ 30″	.17500	20′ 30″	.34167	30′ 10″	.50833	40′ 30″	.67500	50′ 10″	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

U.S.C.G.S. = B.M. Balboa & Rose Canyon
= 28.34

41 + 41.87 = 1st B.C. North of US Govt Dyke
B.P. 0.7' West of Paving

AVENIDA DE LA PLAYA

4599

43.77
476
48.53

46275
476
51035
831
42.72

680
80
760
95
751.5
1140
760
265
2916.5
80
2836.5
30
8609.5
170
8979.5

120.0

51035
5925
45115
5517
901
46.16

77.98 = S.W.B.P. Cabrillo & Lujolla Blvd.

8836
901
79.35

87815
7822
959
17676

179.995
289
177.105

176.64 = U.S.G.S. North Brick Yard Rose Canyon

1058
3655
14.235