Notes Ck'd by	Survey of
Map No.	W. O. Tape No. St'd PF
Office Work	Surveyed by
Checked	Notes Date
Date	Indexed C. Johnson

Continued From F.B. 1216.

PIER SURVEYS & SOUNDING DATA
Taken At

SEAL BEACH	See Pg. 5 + Contd
BELMONT - E. LONG B.	" " 61 + " "
REDONDO - MONSTAD:	" " 89 + " "
HERMOSA	" " 117 + " "
MANHATTAN	" " 145 + " "
OCEAN PARK	" " 173 + " "
SANTA MONICA	" " 201 + " "
MALIBU SPORT FISHING PIER.	" " 229 + " "

Beginning of Sounding Period For This Book - - - - - - - April 28, 1947.

End of Sounding Period For This Book - - - - - - - June 3, 1948.

J.N. 8429

G.W. Kleineck.
L. DeTilla.
J.W.S Moore.
R. Anderson.
A.J. Stangeland.
G.O. Harris
C. Smith
H. Raphael
T. Larson.

Contd in F.B. 1291

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 2

FORM 247 BM 1-41

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of
W. O. Tape No. Std. °F
Surveyed by
Notes Date
Indexed

F.B. 1291 PG. 3

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 4

Notes Ck'd by		Survey of Pier Soundings	F.B. 1291 PG. 5
Map No.		W. O. 8629 Tape No.	St'd °F
Office Work		Surveyed by G. Klemeck	
Checked		Notes	Date
Date		Indexed A. C. Johnson 5-9-47	

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247 BM 11-41

~ SEAL BEACH PIER ~

SURVEY & SOUNDING DATA.

April 28, 1947 to June 3, 1948.

~ INDEX ~

For:-

Sketch & Survey See F.B. 1216 - 5.
Profile Levels " " - 33.

	This Book	Page.
Soundings & Etc. - April 28, 1947		7

NOTE

WIND.

Bearings for direction of wind indicate the direction from which the wind is blowing

WAVES

Bearings of waves indicate the bearing of the longitudinal axis of wave. Height indicates distance trough to crest.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1791 PG. 8

Profile	Notes Red.	Plotted	Job No. 8429	Division No.	FB 1291 PG. 7
No.	Date	Date	Survey of Pier Soundings - Seal Beach		
X-Sec.	Notes Chkd.	Checked	Survey by Kleineck	Notes T.W.S.M.	Date 4-28-47
No.	Date	Date	Map No.	Indexed C. Johnson	Date

~ PIER SOUNDINGS ~

"SEAL BEACH"

April 28, 1947

Elevations based on MLLW.

STATION	B. S.	Elev. Sta.	F. S.	ELEV.
Sta. No. 1		233	118	+115
2		232	121	+111
3		232	126	+106
4		232	129	+103
5		232	130	+102
6		233	119	+114
7		232	127	+105
8		233	139	+94
9		233	149	+84
10		233	158	+75
11		233	168	+65
12		233	179	+54
13		233	190	+43
14		233	205	+28
15		232	219	+13
16		233	226	+07
17		233	230	+03
18		233	240	-07
19		232	247	-15
20		232	249	-17
21		233	255	-22

Wave Hght. 1.2'

Contd on pg. 8

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 307 2M 11-41

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta	F. S. (—)	ELEV. Bottom		
Sta. No 22		233	264	-31	Contd from pg. 7	
23		233	267	-34		
24		233	270	-37		
25		233	275	-42		
26		233	274	-41		
27		233	282	-49		
28		232	290	-58		
29		233	298	-65		
30		233	308	-75		
31		233	321	-88		
32		233	330	-97		
33		233	340	-107		
34		233	358	-125		
35		234	360	-126		
36		233	369	-136		
37		233	375	-142		
38		233	379	-146		
39		233	378	-145		
40		233	378	-145		
41		233	380	-147		
42		233	384	-151		

Contd on pg. 9

F B ~~1290~~ 1291 PG. 8 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Fier Soundings - Seal Beach Date Date No.
Survey by Kleinert Notes Chkd. Checked X-Sec.
Indexed C. Tonnes Date Date No.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 43		233	389	-156	Cont'd from pg. 8	
44		233	389	-156		
45		233	396	-163		
46		233	389	-156		
47		233	381	-148		

Element	Time	Direction	Velocity	Height
WIND	10:15 A.M.	S 85° W.	6 miles per hr.	—
WAVES	"	N 37° W.	7 " " "	1.2'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Tide
400' Up Coast	11 A.M.	Short reversals	Not continuous or definite.	low.
400' Down "	10:30 "	" "	" " " " "	"

Hgt. -0.6 Low.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8424 Division No. ____ F.B. 1291 Pg. 9
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
Notes Chkd. ____ Checked ____ Survey by Alaniz & Johnson Notes J.W.S.M. Date 4-28-47
Date ____ Date ____ Map No. ____ Indexed ____ Date ____

1291
FB 1288 PG. 10 | Job No. 8429 | Division No. | Notes Red. | Plotted | Profile

Survey of | Date | Date | No.

Survey by | Notes | Notes Chkd. | Checked | X-Sec.

Indexed | Date | Date | Date | No.

STATION	B. S.	H. I.	F. S.	ELEV.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B 1291 Pg. 11

X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach

Notes Chkd. ____ Checked ____ Survey by Kleineck Notes G.W.K.-J.M. Date 7-16-47

Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

— PIER SOUNDINGS —

"SEAL BEACH"

July 16, 1947.

Elevations based on M.L.L.W.

STATION	B. S.	Elev. - Sta.	F. S.	ELEV. Bottom
No. 1		233	119	+114
2		232	120	+112
3		232	122	+110
4		232	130	+102
5		232	129	+103
6		233	120	+113
7		232	121	+111
8		233	133	+100
9		233	148	+85
10		233	160	+73
11		233	169	+64
12		233	175	+58
13		233	182	+51
14		233	194	+39
15		232	205	+27
16		233	229	+04
17		233	221	+12
18		233	239	-06
19		232	239	-07
20		232	240	-08
21		233	249	-16

Contd on pg. 12

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
No 22		233	255	-22	Contd from pg. 11	
23		233	264	-31		
24		233	280	-47		
25		233	289	-56		
26		233	303	-70		
27		233	308	-75		
28		232	311	-79		
29		233	325	-92		
30		233	340	-107		
31		233	340	-107		
32		233	340	-107		
33		233	338	-105		
34		233	361	-128		
35		234	361	-127		
36		233	375	-142		
37		233	378	-145		
38		233	378	-145		
39		233	374	-141		
40		233	379	-146		
41		233	380	-147		
42		233	384	-151		

Contd on pg. 13.

F.B. 1291 PG. 12 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Seal Beach Date Date No.
Survey by Meinert Notes GWK - J. Moore Notes Chkd. Checked X-Sec.
Indexed Date Date No.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev.-Sta.	F. S. (-)	ELEV. Bottom		
No 43		233	388	-155	Cont'd from pg. 12.	
44		233	388	-155		
45		233	394	-161		
46		233	383	-150		
47		233	376	-143		

Element	Time	Direction	Velocity	Height
WIND	10 A.M.	N. 18° E.	4 miles per hr.	—
WAVES	"	N 41° W.	11 " " "	2.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Tide
400' Up Coast	10:30 A.M.	100' in 3 mins (= 33 ft. per min)	Up Coast	Mean ebb
400' Down "	10:15 "	100' in 5 " (= 20' per min)	" "	" "
				3.2 Falling.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 84629 Division No. ____ F B 129 Pg. 13
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
Notes Chkd. ____ Checked ____ Survey by Maineck Notes GK-JM Date 7-16-47
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

F B 129/Pg. 14 | Job No. | Division No. | Notes Red. | Plotted | Profile

Survey of | Date | Date | No.

Survey by | Notes | Notes Chkd. | Checked | X-Sec.

Indexed A. C. Johnson Date | Date | Date | No.

STATION	B. S.	H. I.	F. S.	ELEV.	

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Profile No.	Notes Red.	Plotted	Job No. 8424	Division No.	F. B. 1291 PG. 15
	Date	Date	Survey of Pier Soundings - Seal Beach		
X-Sec. No.	Notes Chkd.	Checked	Survey by Kleinack	Notes G.H.-GWK	Date 8-4-'47
	Date	Date	Map No.	Indexed Johnson	Date

~ PIER SOUNDINGS ~

"SEAL BEACH"

Aug. 4, 1947.

Elevations based on M.L.L.W.

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom	
Sta. 1		233	11.9	+11.4	Average Water At 1.3
2		232	12.0	+11.2	
3		232	12.2	+11.0	
4		232	13.0	+10.2	
5		232	12.9	+10.3	
6		233	12.0	+11.3	
7		232	12.1	+11.1	
8		233	13.0	+10.3	
9		233	14.8	+8.5	
10		233	16.1	+7.2	
11		233	17.0	+6.3	
12		233	18.0	+5.3	
13		233	18.9	+4.4	
14		233	19.8	+3.5	
15		232	20.8	+2.4	
16		233	22.0	+1.3	
17		233	22.1	+1.2	
18		233	23.1	+0.2	
19		232	23.5	−0.3	
20		232	23.5	−0.3	
21		233	24.1	−0.8	

Contd on pg. 16

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		233	25.0	−17	Cont'd from pg. 15.	
23		233	25.2	−19		
24		233	26.5	−32		
25		233	28.8	−55		
26		233	28.9	−56		
27		233	29.8	−65		
28		232	30.4	−72		
29		233	31.0	−77		
30		233	31.2	−79		
31		233	32.1	−88		
32		233	33.8	−105		
33		233	34.0	−107		
34		233	35.8	−125		
35		234	35.9	−125		
36		233	37.1	−138		
37		233	37.2	−139		
38		233	37.7	−144		
39		233	37.2	−139		
40		233	37.9	−146		
41		233	38.0	−147		
42		233	38.2	−149		

Cont'd on pg. 17.

F. B. 129/PG. 16 Job No. 8424 Division No. Notes Red. Plotted Profile
Survey of Pier Sounding - Seal Beach Date Date No.
Survey by Hamack Notes G.H. - Gulk Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

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Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV.		
Sta. No 43		233	38.4	-151	Cont'd from pg. 16	
44		233	38.8	-155		
45		233	39.1	-158		
46		233	38.5	-152		
47		233	37.5	-142		

Element	Time	Direction	Velocity	Height
WIND	10:45 A.M.	S 57° W	6 miles per hr.	—
WAVES	"	N 38° W.	7 " " "	1.3'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per Min.	Tide.
400' Up Coast	10:45 A.M.	Short reversals - No appreciable drift		0	High
400' Down "	11:15 "	50' in 5½ mins.	Up Coast.	9'	"
				4.1	High.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 1429 Division No. ____ F. B. 1291 Pg. 17
X-Sec. No. ____ Date ____ Date ____ Survey of Per Soundings - Seal Beach
Notes Chkd. ____ Checked ____ Survey by Klemeck Notes G.H.-G.K. Date 8-4-47
Date ____ Date ____ Map No. ____ Indexed Johnson Date ____

F. B. 1291 PG. 18 | Job No. | Division No. | Notes Red. | Plotted | Profile No.

Survey of | Date | Date

Survey by | Notes | Notes Chkd. | Checked | X-Sec. No.

Indexed | Date | Date | Date

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

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Do not extend notes this side of this line

STATION	B. S.	H. I.	F. S.	ELEV.

Profile	Notes Red.	Plotted	Job No. 8429	Division No.	F B. 1291 PG. 19
No.	Date	Date	Survey of Pier Soundings - Seal Beach		
X-Sec.	Notes Chkd.	Checked	Survey by Mleineck	Notes GWK	Date 9-8-'47
No.	Date	Date	Map No.	Indexed [illegible]	Date

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

— PIER SOUNDINGS —
"SEAL BEACH"
Sept. 8-'47
Elevations based on M.L.L.W.

STATION	B. S.	Elev. I. Sta.	F. S. (-)	ELEV. Bottom
Sta. No 1		233	117	+116
2		232	120	+112
3		232	120	+112
4		232	128	+104
5		232	127	+105
6		233	120	+113
7		232	120	+112
8		233	132	+101
9		233	148	+85
10		233	160	+73
11		233	169	+64
12		233	179	+64
13		233	188	+45
14		233	200	+33
15		232	211	+21
16		233	229	+04
17		233	228	+05
18		233	240	-07
19		232	240	-08
20		232	241	-09
21		233	249	-16

Cont'd on pg. 20

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. = Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		233	251	−18	Cont'd from pg.	19
23		233	257	−24		
24		233	279	−46		
25		233	292	−59		
26		233	295	−62		
27		233	302	−69		
28		232	312	−80		
29		233	318	−85		
30		233	329	−96		
31		233	333	−100		
32		233	338	−105		
33		233	342	−109		
34		233	355	−122		
35		234	360	−126		
36		233	363	−130		
37		233	370	−137		
38		233	378	−145		
39		233	380	−147		
40		233	380	−147		
41		233	381	−148		
42		233	381	−148		

Cont'd on pg. 21

F.B. 1291 PG. 20 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Seal Beach Date Date No.
Survey by Bleimeck Notes Bulk Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No 43		233	388	-155	Contd from pg. 20.	
44		233	388	-155		
45		233	393	-160		
46		233	382	-149		
47		233	378	-145		

Element	Time	Direction	Velocity	Height.
WIND:	10:30 A.M.	S 16° E	7 miles per hr.	—
WAVES	"	S 70° E	11 " " "	2.1'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per Min.	Tide.
400' Up Coast.	10:45 A.M.	100' in 2½ mins.	Up Coast	40'	Mean Flood.
400' Down "	11 A.M.	100' in 4½ "	" "	22'	" "
					4.6 Rising

Profile • Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B 1291 PG. 21
No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
X-Sec. Notes Chkd. ____ Checked ____ Survey by Heinreck Notes Bulk Date 9-8-'47
No. ____ Date ____ Date ____ Map No. ____ Mapped C. Johnson Date ____

F.B. 179/PG. 22 | Job No. | Division No. | Notes Red. | Plotted | Profile

Survey of | Date | Date | No.

Survey by | Notes | Notes Chkd. | Checked | X-Sec.

Indexed | Date | Date | Date | No.

STATION	B. S.	H. I.	F. S.	ELEV.	

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 PG. 23

Date ____ Date ____ Survey of Pier Soundings - Seal Beach

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinrock Notes GWK Date 9-29-'47

Date ____ Date ____ Map No. ____ Indexed ____ Date ____

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

~ PIER SOUNDINGS ~

"SEAL BEACH"

Sept. 29, 1947

Elevations based on M.L.L.W.

STATION	B. S.	Elev. Sta.	F. S. (-)	ELEV. Bottom
Sta. No. 1		233	115	+118
2		232	119	+113
3		232	120	+112
4		232	126	+106
5		232	125	+107
6		233	118	+115
7		232	118	+114
8		233	136	+97
9		233	144	+89
10		233	158	+75
11		233	170	+63
12		233	180	+53
13		233	189	+44
14		233	194	+39
15		232	205	+27
16		233	217	+1.6
17		233	213	+20
18		233	221	+12
19		232	231	+01
20		232	235	-03
21		233	247	-14

Notes Cont'd on pg. 24

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No. 22		233	248	-15	Notes Contd from pg. 23	
23		233	253	-20		
24		233	280	-47		
25		233	291	-58		
26		233	294	-61		
27		233	303	-70		
28		232	311	-79		
29		233	312	-79		
30		233	319	-86		
31		233	326	-93		
32		233	338	-105		
33		233	341	-108		
34		233	360	-127		
35		234	364	-130		
36		233	367	-134		
37		233	370	-137		
38		233	378	-145		
39		233	370	-137		
40		233	378	-145		
41		233	380	-147		
42		233	382	-149		

Notes Contd on pg. 25

F.B. 129 PG. 24

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Seal Beach Date Date No. X-Sec.

Survey by Meineck Notes G.W.K. Notes Chkd. Checked

Indexed A. C. Jeb[illegible] Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta. No 43		233	387	-154	Notes Cont'd from pg. 24.	
44		233	388	-155		
45		233	394	-161		
46		233	389	-156		
47		233	378	-145		

Element	Time	Direction	Velocity	Height
WIND	10:45 A.M.	S 42° W.	5 miles per hr.	—
WAVES	"	N 30° W	11 " " "	1.3'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per Min.	Tide.
400' Up Coast	11:20 A.M.	100' in 12½ mins.	Up Coast	8'	Mean ebb
400' Down "	11 A.M.	100' in 5½ "	" "	18'	" "
					3.5 Falling.

Profile No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
Notes Chkd ____ Checked ____ Survey by Kleiner Notes BWK Date 9-29-47
Date ____ Date ____ Map No. ____ Indexed ____ Date ____

F.B. 129 / Pg. 25

F.B. 129 PG. 26

Job No. _____ Division No. _____ Notes Red. _____ Plotted _____ Profile

Survey of _____ Date _____ Date _____ No. _____

Survey by _____ Notes _____ Notes Chkd. _____ Checked _____ X-Sec.

Indexed _____ Date _____ Date _____ Date _____ No. _____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

STATION	B. S.	H. I.	F. S.	ELEV.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 29 PG. 27

Date _____ Date _____ Survey of Pier Soundings - Seal Beach

X-Sec. No. _____ Notes Chkd. _____ Checked _____ Survey by Kleineck Notes GWK-CN Date 11-3-'47

Date _____ Date _____ Map No. _____ Indexed C. Johnson Date 11-10-47

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

~ PIER SOUNDINGS ~
"SEAL BEACH"
Nov. 3, 1947
Elevations based on M.L.L.W.

STATION	B.S.	Elev. ~~H.I.~~ Sta.	F.S. (-)	ELEV. Bottom
Sta. No. 1		233	11.5	+118
2		232	11.9	+113
3		232	12.0	+112
4		232	12.7	+105
5		232	12.5	+107
6		233	11.7	+116
7		232	11.8	+114
8		233	12.6	+107
9		233	13.2	+101
10		233	14.8	+85
11		233	15.8	+75
12		233	16.9	+64
13		233	17.8	+55
14		233	18.9	+44
15		232	20.5	+27
16		233	21.9	+14
17		233	22.1	+12
18		233	23.6	-03
19		232	23.9	-07
20		232	24.2	-10
21		233	25.4	-21

Notes cont'd on pg. 28

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		233	256	-23	Notes Contd from pg. 27	
23		233	258	-25		
24		233	273	-40		
25		233	290	-57		
26		233	291	-58		
27		233	305	-72		
28		232	310	-78		
29		233	315	-82		
30		233	318	-85		
31		233	329	-96		
32		233	337	-104		
33		233	339	-106		
34		233	359	-126		
35		234	367	-133		
36		233	370	-137		
37		233	374	-141		
38		233	378	-145		
39		233	378	-145		
40		233	371	-13[illegible]		
41		233	380	-147		
42		233	381	-148		

Notes Contd on pg. 29

F.B. 129 PG. 28

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Sea Beach Date Date X-Sec.

Survey by Flaneck Notes Gulk-C.N. 11-3-'47 Notes Chkd Checked No.

Indexed C. Johnson Date Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 43		23 3	38 5	-15 2	Notes Cont'd from pg. 28	
44		23 3	38 8	-15 5		
45		23 3	39 4	-16 1		
46		23 3	38 6	-15 3		
47		23 3	37 9	-14 6		

Element	Time	Direction	Velocity	Height
WIND	9:45 AM	S. 45° W.	2 miles per hr.	—
WAVES	"	N 33° W	9 " " "	1.0'

—LITTORAL DRIFT—

Observation At	Time	Drift	Direction	Feet per Min.	Tide
400' Up Coast	10:30 AM	100' in 4½ mins.	Down Coast	22'	High flood
400' Down "	10:45 "	100' in 6½ "	Up "	15'	"

5.6 Rising

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Seal Beach
No. ____ Date ____ Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes Chk. Date 11-3-47
Map No. ____ Date ____ Date ____ Date ____ Date ____

F.B. 1291 PG. 29

F.B. 129 PG. 30

Job No.____ Division No.____ Notes Red.____ Plotted____ Profile

Survey of____ Date____ Date____ No.____

Survey by____ Notes____ Notes Chkd.____ Checked____ X-Sec.

Indexed____ Date____ Date____ Date____ No.____

STATION	B. S.		F. S.	ELEV.

Do not extend notes this side of this line.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

FORM 307 10M 10-46

Profile No. _____ Notes Red _____ Plotted _____ Job No. 8429 Division No. _____

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Seal Beach

Notes Chkd. _____ Checked _____ Survey by Kleineck Notes [illegible] Date 12-2-41

Date _____ Date _____ Map No. _____ Indexed [illegible] Date _____

F.B. 129 PG. 31

~ PIER SOUNDINGS ~

"SEAL BEACH"

Dec. 2, 1947

Elevations based on MLLW.

Notes Contd on pg 32

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

STATION	B.S.	Elev. ~~H.I.~~ Sta.	F.S. (-)	ELEV. Bottom	
Sta No. 1		233	113	+120	Wave Height 1.3'
2		232	116	+116	
3		232	119	+113	
4		232	123	+109	
5		232	123	+109	
6		233	113	+120	
7		232	108	+124	
8		233	114	+119	
9		233	128	+105	
10		233	139	+94	
11		233	150	+83	
12		233	159	+74	
13		233	168	+65	
14		233	185	+48	
15		232	204	+28	
16		233	222	+11	
17		233	229	+04	
18		233	240	-07	
19		232	256	-24	
20		232	257	-25	
21		233	261	-28	

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 22		233	26[illegible]	[illegible]	Notes Contd from pg. 31	
23		233	264	[illegible]		
24		233	274	[illegible]		
25		233	280	[illegible]		
26		233	279	[illegible]		
27		233	280	[illegible]		
28		232	281	[illegible]		
29		233	281	[illegible]		
30		233	288	[illegible]		
31		233	302	[illegible]		
32		233	317	[illegible]		
33		233	333	[illegible]		
34		233	353	[illegible]		
35		234	360	[illegible]		
36		233	362	[illegible]		
37		233	365	[illegible]		
38		233	364	[illegible]		
39		233	373	[illegible]		
40		233	370	[illegible]		
41		233	379	[illegible]		
42		233	380	[illegible]	Notes Contd on pg 33	

F.B. 129 Pg. 32

Job No. 5129 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings 1-Seal Beach Date Date X-Sec.

Survey by Flemack Notes [illegible] Notes Chkd. Checked No.

Indexed A. C. Johnson Date Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. Sta	F. S. (-)	ELEV. Bottom		
Sta. No. 43		233	38 2	-[illegible]	Notes Cont'd from	pg. 32
44		233	38 7	-[illegible]54		
45		233	39 [illegible]	-[illegible]		
46		233	39 1	-[illegible]		
47		233	38 3	-[illegible]		

Element	Time	Direction	Velocity	Height
WIND	[illegible] AM	S 36° E	8 miles per hr.	—
WAVES		S 4[illegible] E	[illegible] " " "	1.3'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per Min.	Tide
400' Up Coast	[illegible] AM	100' in 4 mins.	Up Coast	25'	High Flood
400' Down "	[illegible] AM	190' in 2 "	" "	24'	" "
					5.6 Rising.

Profile No. ____ Notes Red ____ Plotted ____ Job No. [illegible] Division No. ____
X-Sec. No. ____ Date ____ Date ____ Survey of [illegible] Beach
Notes Chkd ____ Checked ____ Survey by [illegible] Notes [illegible] Date [illegible]
Date ____ Date ____ Map No. ____ Indexed [illegible] Date [illegible]

F.B. 129 PG. 33

F.B. 129 PG. 34

Job No. 5-1-29 Division No. Notes Red. Plotted

Survey of Pier Soundings - Seal Beach Date Date No.

Survey by Meinock Notes Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

Profile

X-Sec.

FORM 307 10M 10-46

PLEASE RETURN TO

LOS ANGELES COUNTY SURVEYOR

700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H.I.	F. S.	ELEV.
		[illegible]	[illegible]	[illegible]

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 35

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Seal Beach

Notes Chkd. _____ Checked _____ Survey by Kleinert Notes A.S.-G.K. Date 1-5-'48

Date _____ Date _____ Map No. _____ Indexed _____ Date _____

~ PIER SOUNDINGS ~

"SEAL BEACH"

Jan. 5 - 1948.

Elevations based on M.L.L.W.

Notes Cont'd on pg. 36

STATION	B. S.	Elev. Sta.	(Rec.)	ELEV. Bottom
Sta. No. 1		233	11.4	+119
2		232	11.5	+117
3		232	12.0	+112
4		232	12.3	+109
5		232	12.2	+110
6		233	11.2	+121
7		232	10.8	+124
8		233	11.3	+120
9		233	12.1	+112
10		233	13.1	+102
11		233	13.9	+94
12		233	15.0	+83
13		233	15.9	+74
14		233	17.4	+59
15		232	19.4	+38
16		233	20.8	+25
17		233	21.3	+20
18		233	23.3	00
19		232	23.8	-06
20		232	24.0	-08
21		233	24.2	-09

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta.	~~(-)~~	ELEV. Bottom		
Sta. No. 22		233	24.3	-10	Notes Cont'd from	pg. 35
23		233	24.8	-15		
24		233	25.5	-22		
25		233	26.2	-29		
26		233	25.8	-25		
27		233	26.8	-35		
28		232	27.8	-46		
29		233	28.5	-52		
30		233	29.1	-58		
31		233	31.0	-77		
32		233	32.1	-8[illegible]	Average Wave Ht = [illegible]	
33		233	33.5	-102		
34		233	35.1	-118		
35		234	35.5	-121		
36		233	36.1	-12[illegible]		
37		233	36.6	-133		
38		233	36.7	-12[illegible]		
39		233	37.3	-14[illegible]		
40		233	37.1	-13[illegible]		
41		233	37.7	-14[illegible]		
42		233	37.9	-146	Notes Cont'd on	pg. 37

F.B. 1/11 PG. 36 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Seal Beach Date Date No. X-Sec.
Survey by G. Wemmer Notes 9-6-47 1-5-48 Notes Chkd. Checked
Indexed C. Jordan Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	~~(T.S.)~~ (—)	ELEV. Bottom		
Sta. No. 43		233	38.1	-148	Notes Cont'd from pg. 36.	
44		233	38.3	-150		
45		233	39.0	-157		
46		233	39.3	-160		
47		233	38.0	-147		

Element	Time	Direction	Velocity	Height
WIND	10:45 A.M.	N 8° E	5 miles per hr	—
WAVES	"	N 54° W.	9 " " "	0.8'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per Min.	Tide
400' up Coast	10:45 A.M.	100' in 8¼ min's	Down Coast	12'	Low ebb
400' down "	11 A.M.	115' in 11¼ "	Up "	10'	" "
				1.0	Falling

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
Date ____ Date ____ Survey of Pier Soundings - Seal Beach
X-Sec. Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes Bulk Date 1-5-48
No. ____ Date ____ Date ____ Map No. ____ Indexed ____ Date ____

F.B. 129 PG. 38

F.B. 129 PG. 38

Job No.______ Division No.______ Notes Red.______ Plotted______ Profile

Survey of______ Date______ Date______ No.______

Survey by______ Notes______ Notes Chkd.______ Checked______ X-Sec.

Indexed______ Date______ Date______ Date______ No.______

STATION	B.S.	H.I.	F.S.	ELEV.

Do not extend notes this side of this line.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

FORM 307 10M 10-46

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 1219 PG. 39

Date ____ Date ____ Survey of Pier Soundings - Seal Beach

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinock Notes G.H.-H.K. Date 2-3-'48

Date ____ Date ____ Map No. ____ Indexed [illegible] Date ____

~ PIER SOUNDINGS ~

"SEAL BEACH"

Feb. 3, 1948.

Elevations based on M.L.L.W.

Notes cont'd on pg. 40

STATION	B.S.	Elev. L.S.	F.S. (-)	ELEV. Bottom
STA No. 1		23.3	11.3	+12.0
2		23.2	11.6	+11.6
3		23.2	11.9	+11.3
4		23.2	12.2	+11.0
5		23.2	12.2	+11.0
6		23.3	11.1	+12.2
7		23.2	10.9	+12.3
8		23.3	11.1	+12.2
9		23.3	11.7	+11.6
10		23.3	12.2	+11.1
11		23.3	13.3	+10.0
12		23.3	14.8	+8.5
13		23.3	15.7	+7.4
14		23.3	17.5	+5.8
15		23.2	19.4	+3.8
16		23.3	19.4	+3.9
17		23.3	20.8	+2.5
18		23.3	22.4	+0.9
19		23.2	22.7	+0.5
20		23.2	22.8	+0.4
21		23.3	23.4	-0.1

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~A.H.I.~~ Elev.-Sta.	(F.S.)	~~ELEV.~~ Bottom		
22		233	24 1	-[illegible]	Notes Cont'd From pg. 39.	
23		233	25 0	-[illegible]7		
24		233	26 4	-[illegible]1		
25		233	27 0	-[illegible]		
26		233	26 6	-[illegible]3		
27		233	27 4	-11 1		
28		232	28 7	-[illegible]		
29		233	29 0	-[illegible]7		
30		233	29 7	-[illegible]4		
31		233	31 0	-[illegible]7		
32		233	32 0	-[illegible]		
33		233	33 3	-10 0		
34		233	35 2	-11 9		
35		234	35 2	-11 8		
36		233	35 9	-12 6		
37		233	36 2	-12 9		
38		233	36 6	-13 3		
39		233	37 3	-14 0		
40		233	37 1	-13 7		
41		233	37 3	-14 0		
42		233	37 9	-14 6	Notes Cont'd on pg. 41	

F.B. 1219 PG. 40

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Seal Beach Date Date No. X-Sec.

Survey by G. Kleinert Notes G.W.K. - H.K. Notes Chkd. Checked

Indexed C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 43		233	379	-146	Notes Cont'd from pg. 40	
44		233	382	-149		
45		233	390	-157		
46		233	390	-157		
47		233	377	-144		

Element	Time	Direction	Velocity	Height
WIND	9:30 AM	N 47° E	5 miles per hr.	—
WAVES	"	Quiet - Smooth	—	0.4

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per Min.	Tide
400' Up Coast	10:15 AM	Not definite	Reversals	0	Low ebb
400' Down "	9:45 "	175' in 3½ mins.	Down Coast	55'	" "
					1.0 Falling.

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. No. ____ Date ____ Notes Chkd. ____ Checked ____ Survey of Pier Soundings - Seal Beach
Survey by Weinack Notes Chk. HK. Date 2-3-48
Map No. ____ Indexed A. C. Johnson

F.B. 129 PG. 41

F.B. 29 Pg. 42 | Job No. | Division No. | Notes Red. | Plotted | Profile

Survey of | Date | Date | No.

Survey by | Notes | Notes Chkd. | Checked | X-Sec.

Indexed | Date | Date | Date | No.

STATION	B. S.	H. I.	F. S.	ELEV.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		233	11.5	+11 8	Average Wave Ht = 21.0'	
2		232	11.8	+11 4		
3		232	12.2	+11 0		
4		232	12.5	+10 7		
5		232	12.5	+10 7		
6		233	11.5	+11 8		
7		232	11.3	+11 9		
8		233	11.2	+12 1		
9		233	12.0	+11 3		
10		233	13.0	+10 3		
11		233	14.0	+9 3		
12		233	14.6	+8 7		
13		233	16.0	+7 3		
14		233	17.9	+5 4		
15		232	19.3	+3 9		
16		233	20.2	+3 1		
17		233	21.0	+2 3		
18		233	22.6	+0 7		
19		232	22.4	+0 8		
20		232	23.5	-0 3		
21		233	24.0	-0 7		

~ PIER SOUNDINGS ~
"SEAL BEACH"
March 1, 1948
Elevations based on M.L.W.

Notes Contd on pg. 44.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ FB 1291 Pg. 43
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes A.S.-Gk Date 3-1-48
Date ____ Date ____ Map No. ____ Indexed C. Jonn Date 4-22-48

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 22		23 3	24.8	-15	Notes Cont'd from pg. 43	
23		23 3	25.0	-17		
24		23 3	26.5	-32		
25		23 3	27.1	-38		
26		23.3	27.2	-39		
27		23 3	28.1	-48		
28		23 2	29.0	-58		
29		23 3	29.5	-62		
30		23.3	30.0	-67		
31		23 3	31.2	-79		
32		23 3	32.5	-92		
33		23 3	33.8	-105		
34		23 3	35.2	-119		
35		23 4	35.3	-124		
36		23 3	36.4	-131		
37		23 3	36.8	-135		
38		23 3	37.0	-137		
39		23 3	37.6	-143		
40		23 3	37.5	-142		
41		23 3	37.7	-144		
42		23 3	37.9	-146		

Notes Cont'd on pg. 45

FB 1291 PG. 44 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Seal Beach Date Date No.
Survey by Klemack Notes A.S.-GWK 3-1-48 Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	Elev. Sta.	F. S. (—)	ELEV. Bottom		
Sta. No 43		233	38.0	-147	Notes Cont'd from pg. 44	
44		233	38.5	-152		
45		233	39.0	-157		
46		233	39.[illegible]	-157		
47		233	37.8	-145		

Element	Time	Direction	Velocity	Height
WIND	10:45 A.M.	S 55° E.	9 miles per hr.	—
WAVES	"	S 69° W.	9 " " "	1.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per Min.	Tide
400' Up Coast	10:45 A.M.	100' in 6 mins.	Up Coast	17'	Low fbed
400' Down "	10:30 "	" " 6 "	" "	17'	" "

1.2 Rising.

Profile Notes Red. ____ Plotted ____ Job No. S4[illegible] Division No. ____ F.B. 1291 PG. 45
No. ____ Date ____ Date ____ Survey of Pier Sundings - Seal Beach
X-Sec. Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes 95-6K Date 3-1-48
No. ____ Date ____ Date ____ Map No. ____ Indexed C. John Date ____

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Job No. Division No. Notes Red. Plotted Profile
Survey of Date Date No. X-Sec.
Survey by Notes Notes Chkd. Checked
Indexed Date Date Date No.

FB 129 PG. 46

STATION	B. S.	H. I.	F. S.	ELEV.		

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~	F. S.	~~ELEV.~~		
[illegible] 1		233	11.6	+117	AVERAGE WAVE	HT. = 01.2
2		232	12.0	+112		
3		232	12.1	+111		
4		232	12.6	+106		
5		232	12.5	+107		
6		233	11.6	+117		
7		232	11.5	+117		
8		233	11.4	+119		
9		233	12.3	+110		
10		233	13.1	+102		
11		233	13.7	+96		
12		233	14.9	+84		
13		233	16.2	+71		
14		233	18.3	+50		
15		232	20.2	+30		
16		233	21.4	+19		
17		233	21.8	+15		
18		233	22.4	+09		
19		232	23.1	+01		
20		232	23.3	-01		
21		233	23.9	-06		

— PIER SOUNDINGS —
"SEAL BEACH"
April 14, 1948.
Elevation based on M.L.L.W.

Contd on Pg. 48

Profile Notes Red ____ Plotted ____ Job No. ____ Division No. ____
No. ____ Date ____ Date ____ Survey of [illegible]
X-Sec. Notes Chkd ____ Checked ____ Survey by [illegible] Notes TL-GK Date 4-14-48
No. ____ Date ____ Date ____ Map No. ____ Indexed C. Johns Date 4-22-48

F.B. 129 PG. 47

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I.	F. S.	ELEV.		
[illegible]		233	24.8	-15	Cont'd from pg. 47	
23		233	25.8	-25		
24		233	27.3	-40		
25		233	28.0	-47		
26		233	28.1	-48		
27		233	29.0	-57		
28		232	29.9	-67		
29		233	30.1	-68		
30		233	31.0	-77		
[illegible]		233	32.0	-87		
[illegible]		233	32.9	-96		
[illegible]		233	33.5	-102		
[illegible]		233	35.0	-117		
[illegible]		234	35.2	-118		
[illegible]		233	35.7	-124		
[illegible]		233	36.4	-131		
[illegible]		233	36.8	-135		
[illegible]		233	36.9	-136		
[illegible]		233	36.9	-136		
[illegible]		233	37.3	-140		
[illegible]		233	37.7	-144		

Cont'd on pg. 49.

F.B. 129 / Pg. 48

Job No. [illegible] Division No. [illegible] Notes Red. Plotted Date No. Profile

Survey of [illegible] Date Date No. X-Sec.

Survey by [illegible] Notes TL-GK 4-14-43 Notes Chkd. Checked Date No.

Indexed A. C. Johnson Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~	F. S.	~~ELEV.~~		
[illegible]		233	38.0	-147	Cont'd from pg. 48	
44		233	38.5	-152		
45		233	39.0	-157		
46		233	38.5	-152		
47		233	37.8	-145		

Element	Time	Direction	Velocity	Height
WIND	10 A.M.	Calm	—	—
WAVES	"	S 70° E.	11 miles per hr	1.2'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	10:15 A.M.	100' in 5¼ mins.	Up Coast	19'	Mean flood
400' Down "	10:45 "	200' in 4¼ "	" "	47'	" "
					1.4 Rising

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. [illegible] Division No. ____
X-Sec. No. ____ Date ____ Notes Chkd ____ Checked ____ Survey of [illegible] Survey by [illegible] Notes TL-GK Date 4-14-'48
Map No. ____ Date ____ Indexed [illegible] Date ____

F.B. 129 PG. 49

F.B. 129 PG. 50

Job No. 8429 Division No. _____ Notes Red. _____ Plotted _____ Profile

Survey of Pier Soundings Date _____ Date _____ No. _____

Survey by G. Meweck Notes _____ Notes Chkd. _____ Checked _____ X-Sec.

Indexed _____ Date _____ Date _____ Date _____ No. _____

FORM 307 10M 10-46

PLEASE RETURN TO

LOS ANGELES COUNTY SURVEYOR

700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I.	F. S.	ELEV.	

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 1		233	11.6	+117	AVERAGE WAVE	Ht. = 1.3 FT.
2		232	12.0	+112		
3		232	12.2	+110		
4		232	12.7	+105		
5		232	12.7	+105		
6		233	11.7	+116		
7		232	11.5	+117		
8		233	11.4	+119		
9		233	12.1	+112		
10		233	13.2	+101		
11		233	14.6	+87		
12		233	15.9	+74		
13		233	17.0	+63		
14		233	18.8	+45		
15		232	20.3	+29		
16		233	21.5	+18		
17		233	21.5	+18		
18		233	22.5	+08		
19		232	23.8	-06		
20		232	24.0	-08		
21		233	24.0	-07	Notes Contd on pg. 52	

~ PIER SOUNDINGS ~
"SEAL BEACH"
May 4, 1948
Elevations Sta. on MLLW

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Date ____ Job No. 8424 Division No. ____ Survey of Pier Soundings - Seal Beach
X-Sec. No. ____ Date ____ Notes Chkd. ____ Checked ____ Date ____ Survey by Moineck Notes H.E.-Ed. Date 5-4-48
Map No. ____ Indexed ____ Date 5-17-48

F.B. 124 Pg. 51

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	~~ELEV.~~ Bottom	
Sta. N-22		233	25.0	[illegible]	Cont'd from pg. 51
23		233	25.5	[illegible]	
24		233	27.6	[illegible]	
25		233	28.3	[illegible]	
26		233	28.5	[illegible]	
27		233	29.0	[illegible]	
28		232	29.8	[illegible]	
29		233	30.2	[illegible]	
30		233	31.0	[illegible]	
31		233	31.9	[illegible]	
32		233	32.5	[illegible]	
33		233	33.5	[illegible]	
34		233	34.6	[illegible]	
35		234	35.0	[illegible]	
36		233	35.7	[illegible]	
37		233	36.0	[illegible]	
38		233	35.6	[illegible]	
39		233	36.8	[illegible]	
40		233	36.8	[illegible]	
41		233	37.2	[illegible]	
42		233	37.7	[illegible]	Cont'd on pg. 53

F.B. 1249 PG. 52
Job No. 8429 Division No. Notes Red. Plotted Date No. Profile
Survey of Pier Soundings Seal Beach Date Checked Date No. X-Sec.
Survey by G. Kleineck Notes H.E. [illegible] Notes Chkd. Date
Indexed [illegible] Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. 1+43		233	38.0	-147	Cont'd from pg. 52	
44		233	38.7	-154		
45		233	38.9	-1[illegible]		
46		233	38.5	-1[illegible]		
47		233	37.6	-143		

Element	Time	Direction	Velocity	Height
WIND	9:45 AM	S 17° W	4-5 miles per hr.	—
WAVES	"	S 43° E	13 miles per "	1.3'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	10 AM	150' in 4½ mins.	Up Coast	33'	Mean ebb
400' Down "	10:15 "	Not definite	Reversals	0	" "
					1.6, Falling

Profile Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
X-Sec. Notes Chkd ____ Checked ____ Survey by Kleinert Notes HF-EK Date 5-4-48
No. ____ Date ____ Date ____ Map No. ____ Indexed C. Johnson Date ____

F.B. 29 Pg. 53

F.B. 124 PG. 54 | Job No.______ Division No.______ Notes Red.______ Plotted______ | Profile

Survey of______ Date______ Date______ No.______

Survey by______ Notes______ Notes Chkd.______ Checked______ X-Sec.

Indexed A. G. Johnson Date______ Date______ Date______ No.______

STATION	B.S.	H.I.	F.S.	ELEV.	

Do not extend notes this side of this line.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev-Sta.	~~F. S.~~ (-)	ELEV. Bottom		
Sta. No 1		233	11.6	+117	AVERAGE WAVE HT. = 01.1 FT.	
2		232	11.9	+113		
3		232	12.0	+112		
4		232	12.8	+104		
5		232	12.4	+108		
6		233	11.7	+116		
7		232	11.4	+118		
8		233	11.3	+120		
9		233	12.0	+113		
10		233	13.0	+103		
11		233	14.1	+92		
12		233	15.9	+74		
13		233	17.0	+63		
14		233	18.9	+44		
15		232	20.5	+27		
16		233	21.9	+14		
17		233	21.9	+14		
18		233	22.7	+06		
19		232	23.1	+01		
20		232	23.4	-02		
21		233	24.2	-09		

— PIER SOUNDINGS —
"SEAL BEACH"
June 3, 1948
Elevations based on M.L.L.W.

Notes Cont'd on Pg. 56

Profile
No. ____ Notes Red. ____ Plotted ____ Job No. 8428 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Seal Beach
No. ____ Notes Chkd. ____ Checked ____ Survey by Meinecke Notes TL-GWK 6-3-48
Date ____ Date ____ Map No. ____ Indexed P. C. Johnson Date 6-8-48

F.B. 129 Pg. 55

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. L.~~ Elev. Sta.	~~F. S.~~ (-)	ELEV. Bottom		
Sta. No. 22		233	25.7	-24	Notes Cont'd from pg. 55	
23		233	26.7	-34		
24		233	28.1	-48		
25		233	28.6	-53		
26		233	28.8	-55		
27		233	29.1	-58		
28		232	30.0	-68		
29		233	30.5	-72		
30		233	30.9	-76		
31		233	32.0	-87		
32		233	32.9	-96		
33		233	33.5	-102		
34		233	35.0	-117		
35		234	35.0	-116		
36		233	35.9	-126		
37		233	36.6	-133		
38		233	36.7	-134		
39		233	36.9	-136		
40		233	36.8	-135		
41		233	37.2	-139		
42		233	37.5	-142		

Notes Cont'd on pg. 57

F.B. 129 PG. 56

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Seal Beach Date Date No.

Survey by G. Kleiner Notes T.L. - G.K. 6/3/48 Notes Chkd. Checked X-Sec.

Indexed Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	~~F. S.~~ C. S.	ELEV. Bottom		
Sta. No. 43		233	38.0	-14.7	Notes Cont'd from pg. 56	
44		233	38.6	-15.3		
45		233	38.8	-15.5		
46		233	38.3	-15.0		
47		233	37.4	-14.1		

Element	Time	Direction	Velocity	Height
WIND	9:30 A.M.	N. 27° E	1-2 miles per hr.	—
WAVES	"	S. 33° E	9 " " "	1.1'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	9:45 A.M.	150' in 4½ min's.	Up Coast	33'	Mean ebb
400' Down "	10 "	150' in 3½ "	" "	43'	" "

1.9 Falling.

Profile
Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
No. ____ Date ____ Date ____ Survey of Pier Soundings - Seal Beach
X-Sec. Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes TL-6K Date 6-3-'48
No. ____ Date ____ Date ____ Map No. ____ Indexed ____ Date 6-8-48

F.B. 124 PG. 57

F.B. 291 PG. 58

Job No. _____ Division No. _____ Notes Red. _____ Plotted _____ Profile

Survey of _____ Date _____ Date _____ No. _____

Survey by _____ Notes _____ Notes Chkd. _____ Checked _____ X-Sec.

Indexed _____ Date _____ Date _____ Date _____ No. _____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I.	F. S.	ELEV.	

Notes Ck'd by		Survey of Pier Soundings	F.B. 1291 PG. 61
Map No.		W. O. 8429 Tape No.	St'd °F
Office Work		Surveyed by F. Meinecke	
Checked		Notes	Date
Date		Indexed A. C. Johnson 5-9-47	

BELMONT PIER - E. LONG BEACH
SURVEY & SOUNDING DATA.
April 28, 1947 to June 3, 1948.

~ INDEX ~

For:-		Page.
Stretch & Survey	See F.B. 1216	9.
Profile Levels	" "	53.
Soundings & Etc. - April 28, 1947	This Book	63.

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 647-SM-11-41

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 Pg. 62

Profile	Notes Red.	Plotted	Job No. 8429	Division No.	F B. 1296 PG. 63
No.	Date	Date	Survey of Pier Soundings - Belmont		
X-Sec.	Notes Chkd.	Checked	Survey by Meineck	Notes J.M.-GWK	Date 4-28-47
No.	Date	Date	Map No.	Indexed A.C. Johnson	Date

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

~PIER SOUNDINGS~

"BELMONT-E. LONG BEACH"

April 28, 1947

Elevations based on M.L.L.W.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom	
Sta. No. 1		232	120	+112	Wave Hght. 1.5'
2		232	113	+119	
3		231	130	+101	
4		232	133	+99	
5		232	140	+92	
6		232	140	+92	
7		231	130	+101	
8		231	135	+96	
9		231	165	+66	
10		231	183	+48	
11		231	190	+41	
12		232	198	+34	
13		231	200	+31	
14		232	209	+23	
15		232	212	+20	
16		232	220	+12	
17		232	228	+04	
18		232	235	-03	
19		231	242	-11	
20		232	250	-18	
21		231	253	-22	

Contd on pg. 64

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta. No 22		232	26 3	-31	Cont'd from pg. 63	
23		232	27 5	-43		
24		232	29 0	-58		
25		232	31 3	-81		
26		232	34 2	-110		
27		232	36 1	-129		
28		232	37 5	-143		
29		233	38 9	-156		
30		232	40 0	-168		
31		231	41 0	-179		
[illegible]		230	41 3	-183		
[illegible]		230	42 2	-192		

Element	Time	Direction	Velocity	Height
WIND	11:45 A.M.	S 58 W.	7 miles per hr.	—
WAVES	" "	Choppy	—	1.5'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	12 Noon	100' in 2½ mins.	Up Coast	40'	Low flood.
400' Down "	11:45 A.M.	100' in 5½ "	Down "	18'	" "

— 0.4 Rising.

F. E. 129 / PG. 64 Job No. 8469 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Belmont Date Date No.
Survey by Mlaneck Notes J.M. - G.W.K. Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 129/PG. 65

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Belmont

Survey by Meineck Notes GWK-JM Date 7-16-'47

Map No. ____ Indexed A. C. Johnson Date ____

— PIER SOUNDINGS —

"BELMONT - E. LONG BEACH"

July 16, 1947

Elevations based on M.L.L.W.

STATION	B. S.	H.I. Elev.	F. S.	ELEV. Bottom
No. 1		232	118	+114
2		232	113	+119
3		231	130	+101
4		232	134	+98
5		232	140	+92
6		232	141	+91
7		231	122	+109
8		231	135	+96
9		231	167	+64
10		231	180	+51
11		231	190	+41
12		232	199	+33
13		231	203	+28
14		232	205	+27
15		232	210	+22
16		232	217	+15
17		232	220	+12
18		232	232	00
19		231	240	-09
20		232	248	-16
21		231	251	-20

Contd on pg. 66

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Form 307 5M 5-39

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev - Sta	F. S. (-)	ELEV. Bottom		
No 22		232	261	-29	Cont'd from pg. 65	
23		232	274	-42		
24		232	292	-60		
25		232	310	-78		
26		232	330	-98		
27		232	361	-129		
28		232	365	-133		
29		233	388	-155		
30		232	398	-166		
31		231	405	-174		
32		230	412	-182		
33		230	422	-192		

Element	Time	Direction	Velocity	Height
WIND	11:15 A.M.	N 20° E.	8 miles per hr.	
WAVES	"	Light Choppy	———	1.6'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	11:30 A.M.	100' in 5 mins	Up Coast	20'	Mean ebb
400' Down	" 11:20 "	100' in 3½ "	" "	29'	" "

2.6 Falling

F. B. 129 Pg. 66 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Belmont Date Date No.
Survey by Wieneck Notes Bulk - J. Moore Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Form 307 5M 11-35

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700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Profile No. ____ Notes Red ____ Plotted ____ Job No. 2446 Division No. ____
Date ____ Date ____ Survey of Pt. Dume Survey - Pt. Dume Rd.
X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Theuerkauf Notes 234-44 Date 2-4-'44
Date ____ Date ____ Map No. ____ Indexed ____ Checked ____ Date ____

F. B. 1221 PG. 69

STATION	B. S.	H.I. Elevation	F. S. (−)	ELEV. Bottom		
Sta. 16+1		232	11.9	+11 9	Average Wave Ht. 1.6	
2		232	11.5	+11 7		
3		231	13.0	+10 1		
4		231	13.4	+9 8		
5		232	14.0	+9 2		
6		232	14.1	+9 1		
7		232	12.0	+11 2		
8		232	14.0	+9 1		
9		232	17.0	+6 1		
10		231	18.7	+4 4		
11		231	19.2	+3 9		
12		232	20.0	+3 2		
13		231	19.9	+3 2		
14		232	20.1	+3 1		
15		232	20.9	+2 3		
16		232	21.5	+1 7		
17		232	22.0	+1 2		
18		232	23.2	+0 0		
19		231	24.1	−1 0		
20		232	25.0	−1 8		
21		231	25.1	−2 0		

~ Page 2 Soundings ~
"Belmont-E. Long Beach"
Aug. 4 1941
Elevations Based on M.L.L.W.

F.S. Carried on pg. 68

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta. No. 22		232	26.4	-32	Cont'd from pg. 67	
23		232	27.9	-47		
24		232	29.9	-67		
25		232	31.2	-80		
26		232	33.2	-100		
27		232	36.0	-128		
28		232	36.3	-131		
29		233	38.3	-130		
30		232	39.9	-147		
31		231	40.9	-148		
32		230	41.3	-143		
33		230	42.5	-155		

Element	Time	Direction	Velocity	Height
WIND	11:05 A.M.	S 49° W	8 miles per hr.	—
WAVES	"	Choppy	?	1.5'

~ LITTORAL DRIFT ~

Observation At.	Time	Drift.	Direction	Feet per min.	Tide.
400' Up Coast	12 Noon	50' in 8½ mins.	Down Coast	5.9'	High ebb
400' Down "	12:30 P.M.	100' in 5½ "	"	18'	" "
				3.8	Falling

F. B. 129 PG. 68 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Sounding - Belmont Date Date No.
Survey by Kleineck Notes G.H. - G.W.K. Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 129 / PG. 69

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Belmont

Survey by Kleineck Notes GWK Date 9-8-'47

Map No. ____ Indexed Johnson Date ____

Form 307 5M 5-39

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700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

~PIER SOUNDINGS~

"BELMONT - E. LONG BEACH"

Sept. 8, 1947.

Elevations based on M.L.L.W.

STATION	B. S.	Elev. I. Sta.	F. S.	ELEV. Bottom
Sta. No. 1		232	116	+116
2		232	113	+119
3		231	128	+103
4		232	132	+100
5		232	140	+92
6		232	139	+93
7		231	112	+119
8		231	135	+96
9		231	164	+67
10		231	181	+50
11		231	190	+41
12		232	202	+30
13		231	198	+33
14		232	207	+25
15		232	210	+22
16		232	220	+12
17		232	234	-02
18		232	242	-10
19		231	240	-09
20		232	247	-15
21		231	256	-25

Cont'd on pg. 70

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta. No 22		232	279	-47	Cont'd from pg. 69	
23		232	308	-76		
24		232	320	-88		
25		232	359	-127		
26		232	362	-130		
27		232	377	-145		
28		232	395	-163		
29		233	397	-164		
30		232	399	-167		
31		231	410	-179		
32		230	409	-179		
33		230	420	-190		

Element	Time	Direction	Velocity	Height
WIND	11:30 A.M.	S 10° W.	3 miles per hr.	—
WAVES	"	N 63° E.	10 " " "	1.6'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	12 Noon	100' in 3½ mins.	Up Coast	29'	High Flood
400' Down	"	11:45 A.M. 100' in 8 mins.	Up Coast	13'	" "
				4.9	Rising

F.B. 1291 Pg. 70 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Belmont Date Date No.
Survey by Hlemeck Notes GWK Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ Survey of Pier Soundings - Belmont Survey by Mleinack Notes GWK Date 9-29-'47 Map No. ____ Indexed O. Johnson Date ____

F.B. 1291 PG. 71

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____

~ PIER SOUNDINGS ~

"BELMONT - E. LONG BEACH"

Sept. 29, 1947.

Elevations based on M.L.L.W.

Notes Contd on pg. 72.

STATION	B.S.	Elev. - Sta.	F.S.	ELEV. Bottom
Sta. No 1		232	115	+117
2		232	113	+119
3		231	128	+103
4		232	132	+100
5		232	140	+92
6		232	139	+93
7		231	112	+119
8		231	138	+93
9		231	150	+81
10		231	173	+58
11		231	183	+48
12		232	191	+41
13		231	198	+33
14		232	201	+31
15		232	208	+24
16		232	215	+17
17		232	227	+05
18		232	230	+02
19		231	238	-07
20		232	242	-10
21		231	250	-19

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

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PLEASE RETURN TO
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700 HALL OF RECORDS

FORM 307 2M 11-41

FORM 307 2M 11-41

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LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta	F. S. (-)	ELEV. Bottom		
Sta. No 22		232	264	-32	Cont'd from pg 71.	
23		232	279	-47		
24		232	295	-63		
25		232	319	-87		
26		232	336	-104		
27		232	353	-121		
28		232	362	-130		
29		233	387	-154		
30		232	395	-163		
31		231	403	-172		
32		230	409	-179		
33		230	420	-190		

Element	Time	Direction	Velocity	Height
WIND	12:30 Noon	S 50° W	6 miles per hr.	—
WAVES	"	Choppy	7 " " "	1.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up. Coast.	1 P.M.	45 in 10	min's. Up Coast	4.5'	Low ebb
400' Down	" 12:45 "	100' in 11	" " "	9'	" "
				1.7	Falling

F B 1291 Pg. 72 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Sandings - Belmont Date Date No.
Survey by Meinecke Notes GWK. Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. _____ Notes Red _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 73

Date _____ Date _____ Survey of Pier Soundings - Belmont

X-Sec. No. _____ Notes Chkd. _____ Checked _____ Survey by Fleinecke Notes R.M.-GWK Date 11-3-47

Date _____ Date _____ Map No. _____ Indexed Johnson Date 11-10-47

~ PIER SOUNDINGS ~

"BELMONT - E. LONG BEACH"

NOV. 3, 1947.

Elevations based on MLLW.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

STATION	B. S.	Elev. H.I. Sta.	F. S. (-)	ELEV. Bottom
Sta. No. 1		232	11.5	+11.7
2		232	11.4	+11.8
3		231	12.8	+10.3
4		232	13.1	+10.1
5		232	13.7	+9.3
6		232	13.6	+9.6
7		231	13.3	+11.8
8		231	13.1	+10.0
9		231	15.7	+7.4
10		231	17.5	+5.6
11		231	18.1	+5.0
12		232	19.4	+3.8
13		231	18.9	+4.2
14		232	19.8	+3.4
15		232	20.2	+3.0
16		232	21.0	+2.2
17		232	21.9	+1.3
18		232	22.9	+0.3
19		231	23.8	-0.7
20		232	25.0	-1.8
21		231	25.5	-2.4

Notes Contd on pg. 74

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		232	37 1	-3 1	Notes Contd from pg. 73	
23		232	35 5	-3 3		
24		232	34 6	-6 4		
25		232	31 6	-8 4		
26		232	35 [illegible]	-10 6		
27		232	35 [illegible]	-12 [illegible]		
28		232	[illegible]	-13 [illegible]		
29		233	38 1	-15 [illegible]		
30		232	39 2	-16 [illegible]		
31		231	40 1	-17 [illegible]		
32		230	40 6	-17 5		
33		230	42 0	-19 0		

Element	Time	Direction	Velocity	Height
WIND	11:15 A.M.	S 43° W	5 miles per hr.	—
WAVES	"	Choppy	?	0.8'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide.
400' up Coast	11:45 A.M.	50' in 7 mins	Down Coast	7'	High
400' Down	" 11:30 "	No drift	—	0	"
				5.7	HIGH

F.B. 129 Pg. 74

Job No. 8429 Division No. Bay Soundings - Belmont Notes Red. Plotted No. Profile

Survey of Bay Soundings - Belmont Date Date X-Sec.

Survey by Steiner Notes Chkd. Checked No.

Indexed A. C. Johnsen Date Date Date

Profile No. ____ Notes Red ____ Plotted ____ Job No. 5-12-4 Division No. ____ F.B. 129 PG. 75

Date ____ Date ____ Survey of Pier Soundings – Belmont

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Meinert Notes C.N.+G.K. Date 12-2-'47

Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

~PIER SOUNDINGS~

"BELMONT – E. LONG BEACH"

Dec. 2, 1947

Elevations based on MLLW.

Notes Cont'd on pg 76

STATION	B.S.	H.T. Elev. Sta	F.S.	ELEV. Bottom	
[illegible]		232	113	+119	Wave Ht 1.1
[illegible]		232	113	+119	
[illegible]		231	123	+108	
[illegible]		232	130	[illegible]	
[illegible]		232	136	+96	
[illegible]		232	134	[illegible]	
[illegible]		231	113	+118	
[illegible]		231	130	+101	
[illegible]		231	157	+74	
[illegible]		231	172	+59	
[illegible]		231	178	+53	
[illegible]		232	189	[illegible]	
[illegible]		231	185	+46	
[illegible]		232	192	+40	
[illegible]		232	199	+23	
[illegible]		232	207	+25	
[illegible]		232	218	+14	
[illegible]		232	221	+11	
[illegible]		231	234	-03	
[illegible]		232	244	-12	
[illegible]		231	250	-19	

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

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700 HALL OF RECORDS

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FORM 307 10M 10-46

FORM 307 10M 10-46

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LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No 22		232	262	-030	Notes Cont'd from pg. 75	
23		232	278	-46		
24		232	294	-62		
25		232	312	-80		
26		232	331	-99		
27		232	348	-116		
28		232	361	-129		
29		233	378	-145		
30		232	391	-159		
31		231	410	-179		
32		230	402	-172		
33		230	418	-188		

Element	Time	Direction	Velocity	Height
WIND	11 A.M.	519° [illegible]	8 miles per hr	—
WAVES	"	577° [illegible]	8 " " "	11'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	11:30 AM	[illegible]	6 mins. Up Coast	17'	High
400' Down "	11:15 "	[illegible]	8 " " "	13'	"

5.8 HIGH.

F.B. 129 PG. 76 | Job No. 5424 | Division No. | Notes Red. | Plotted | Profile
Survey of Pier Soundings L Belmont | Date | Date | No. | X-Sec.
Survey by Hemeck | Notes C.N. & Sh. 12/2/47 | Notes Chkd. | Checked | No.
Indexed A. C. Johnson | Date | Date | Date | No.

Profile No. _____ Notes Red _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 1219 Pg. 77

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Belmont

Notes Chkd. _____ Checked _____ Survey by Klemack Notes H.K.-G.K. Date 1-5-48

Date _____ Date _____ Map No. _____ Indexed _____ Date _____

~ PIER SOUNDINGS ~

"BELMONT - E. LONG BEACH"

Jan. 5, 1948.

Elevations based on M.L.L.W.

Notes Contd on pg. 78

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

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FORM 307 10M 10-46

STATION	B.S.	Elev. Sta.	Elev. (=)	ELEV. Bottom	
Sta. No. 1		232	[illegible]	+119	Average [illegible]
2		232	11.3	+119	
3		231	12.7	+104	
4		232	15.0	+102	
5		232	15.[illegible]	+97	
6		232	15.[illegible]	+97	
7		231	[illegible]	+116	
8		231	13.3	+108	
9		231	15.0	+81	
10		231	6.8	+63	
11		231	[illegible]	+57	
12		232	18.0	+52	
13		231	18.2	+49	
14		232	[illegible]	+42	
15		232	[illegible]	+36	
16		232	[illegible]	+30	
17		232	[illegible]	+21	
18		232	[illegible]	+12	
19		231	23.0	+01	
20		232	24.3	-11	
21		231	25.4	-23	

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	Elev. - Sta.	[illegible]	ELEV. Bottom		
Sta. No. 22		232	27.0	-28	Notes Cont'd from pg. 77	
23		232	28.[illegible]	-50		
24		232	31.8	-66		
25		232	31.7	-[illegible]		
26		232	33.2	-[illegible]		
27		232	34.9	-117		
28		232	36.1	-12[illegible]		
29		233	38.0	-14[illegible]		
30		232	39.0	-1[illegible]		
31		231	40.0	-16[illegible]		
32		230	40.0	-1[illegible]		
33		230	41.6	-1[illegible]		

Element	Time	Direction	Velocity	Height
WIND	11:30 AM.	Calm	—	—
WAVES	" "	"	—	0.6'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Drift	Feet per min.	Tide
400' Up Coast	12 Noon	17' in 10 mins.	Down Coast	1.7'	Low.
400' Down "	11:45 AM	40' in 11½ "	" "	3.6'	"
				0.5	Low.

F.B. 1219 PG 78
Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Belmont Date Date No.
Survey by G. Kleiner Notes HK-GK 1-5-48 Notes Chkd. Checked X-Sec.
Indexed [illegible] Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 1		232	11.3	+11.9	AVERAGE WAVE	HT. = 0.2 FT.
2		232	11.3	+11.9		
3		231	12.6	+10.5		
4		232	13.0	+10.2		
5		232	13.6	+9.6		
6		232	13.5	+9.7		
7		231	11.4	+11.7		
8		231	12.5	+10.6		
9		231	14.2	+8.9		
10		231	16.1	+7.0		
11		231	17.0	+6.1		
12		232	17.8	+5.4		
13		231	18.0	+5.1		
14		232	18.9	+4.3		
15		232	19.5	+3.7		
16		232	20.0	+3.2		
17		232	21.0	+2.2		
18		232	21.9	+1.3		
19		231	23.1	+0.0		
20		232	24.2	-1.0		
21		231	24.5	-1.4	Notes Contd on pg. 80	

— PIER SOUNDINGS —
"BELMONT - E. LONG BEACH"
Feb. 3-1948.
Equations Based on 7/4 L.W.

Profile
No. ____ Notes Red. ____ Plotted ____ Job No. 84-4 Division No. ____
X-Sec. ____ Date ____ Date ____ Survey of Pier Soundings - Belmont
No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinak Notes S.K.-H.K. Date 2-3-'48
Date ____ Date ____ Map No. ____ Indexed A. C. Jon Date ____

F.B. 1214 PG. 79

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		232	26.1	-29	Notes Contd from pg. 79	
23		232	27.9	-47		
24		232	29.3	-61		
25		232	31.3	-81		
26		232	33.0	-98		
27		232	34.9	-117		
28		232	36.2	-130		
29		233	37.9	-146		
30		232	38.9	-157		
31		231	39.8	-167		
32		230	40.5	-175		
33		230	41.9	-189		

Element	Time	Direction	Velocity	Height
WIND	10:30 AM	V 35° W.	2 miles per hr.	—
WAVES	"	Calm - Smooth	—	0.2'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	11:15 A.M.	10' in 10 mins.	Up. Coast.	1'	Low ebb.
400' Down "	10:45 "	25' in 9½ "	" "	2.6'	" "

0.5 Falling

F.B. 1219 PG. 80 Job No. 8429 Division No. Notes Red. Plotted Date No. Profile
Survey of Per Soundings - Belmont Date Notes Chkd. Checked Date No. X-Sec.
Survey by G. Klewack Notes G.W.K. - H.K. Date
Indexed A. C. Johnson Date

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev. - Sta.	(-) ~~F. S.~~	~~ELEV.~~ Bottom		
Sta. No 1		232	11.2	+120	AVERAGE WAVE HGT. = 01.1	
2		232	11.2	+120		
3		231	12.5	+106		
4		232	13.0	+102		
5		232	13.6	+96		
6		232	13.5	+97		
7		231	11.5	+116		
8		231	12.8	+103		
9		231	14.5	+86		
10		231	15.9	+72		
11		231	16.9	+62		
12		232	17.4	+58		
13		231	17.9	+52		
14		232	18.6	+46		
15		232	19.2	+40		
16		232	20.1	+31		
17		232	21.0	+22		
18		232	22.1	+11		
19		231	22.6	+05		
20		232	24.1	-09		
21		231	24.8	-17		

Cont'd on pg. 82

PIER SOUNDINGS
"BELMONT - E. LONG BEACH"
March 1, 1948
Elevations based on M.L.L.W.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ FB 129 Pg. 81
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Belmont
Notes Chkd. ____ Checked ____ Survey by Hennecke Notes Chk. Date 3-1-48
Date ____ Date ____ Map No. ____ Indexed C. Jones Date 4-22-48

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Profile No. ____ X-Sec. No. ____
Plotted ____ Date ____ Checked ____ Date ____
Notes Red. ____ Date ____ Notes Chkd. ____ Date ____
Job No. 6129 Division No. ____ Notes Hor. ____ Date ____
Survey of Del Aire Gardens - Belmont
Survey by Steiner & Johnson Notes Ver. 3-1-42
Indexed by C. Johnson Date ____
F.B. 29 Pg. 52

STATION	B. S.	H. I. Sta.	(−) F.S.	ELEV.		
Sta. No 22		232	26.2	−3.0	Contd from pg. 81.	
23		232	27.9	−4.7		
24		232	29.2	−6.0		
25		232	31.1	−7.9		
26		232	33.0	−9.8		
27		232	34.7	−11.5		
28		232	35.0	−12.7		
29		233	37.5	−14.2		
30		232	39.0	−15.8		
31		231	40.0	−16.9		
32		230	40.1	−17.1		
33		230	41.5	−18.5		

Element	✓ Time	✓ Direction	✓ Velocity	✓ Height
WIND	11:15 A.M.	S. 46° E.	13 miles per hr	—
WAVES	"	S. 62° W.	8 " "	1.1'

— CURRENT DRIFT —

Observation At	✓ Time	✓ Drift	✓ Direction	Feet per min.	✓ Tide
400' Up Coast	11:45 A.M.	200' in 2 min.	Up Coast	100'	Mean Flood.
400' Down "	11:30 "	200' in 1¾ "	" "	114'	"
					1.7 Rising

Profile No. _____ Notes Red. _____ Plotted _____ Job No. [illegible] Division No. _____

X-Sec. No. _____ Date _____ Date _____ Survey of [illegible] Belmont

Notes Chkd. _____ Checked _____ Survey by [illegible] Notes HR-GK Date 4-14-48

Date _____ Date _____ Map No. _____ Indexed A. C. Johnson Date _____

F.B. 129 Pg. 83

~ PIER SOUNDINGS ~

"BELMONT - E. LONG BEACH"

April 14, 1948.

Elevations based on M.L.L.W.

Contd on pg. 84

STATION	B.S.	H.I.	F.S.	ELEV.
[illegible]		232	[illegible]	+118
2		232	[illegible]	+117
3		231	[illegible]	+104
4		232	[illegible]	+101
5		232	[illegible]	+97
6		232	[illegible]	+97
[illegible]		231	[illegible]	+113
[illegible]		231	[illegible]	+101
[illegible]		231	[illegible]	+86
[illegible]		231	14.6	+85
[illegible]		231	[illegible]	+78
[illegible]		232	[illegible]	+68
[illegible]		231	17.3	+58
[illegible]		232	19.0	+42
[illegible]		232	19.3	+34
[illegible]		232	20.5	+27
[illegible]		232	[illegible]	+21
[illegible]		232	[illegible]	+12
[illegible]		231	[illegible]	+01
[illegible]		232	[illegible]	-09
[illegible]		231	[illegible]	-24

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I.	F. S.	ELEV.		
[illegible]		232	[illegible]	-33	Contd from pg. 83.	
23		232	[illegible]	-48		
24		232	[illegible]	-59		
[illegible]		232	[illegible]	-78		
[illegible]		232	[illegible]	-99		
[illegible]		232	[illegible]	-117		
[illegible]		232	[illegible]	-130		
[illegible]		233	[illegible]	-147		
[illegible]		232	[illegible]	-159		
[illegible]		231	[illegible]	-169		
[illegible]		230	[illegible]	-176		
[illegible]		230	[illegible]	-18[illegible]		

Element	Time	Direction	Velocity	Height
WIND	11 A.M.	S 62° W.	4 miles per hr.	—
WAVES	"	S 80° E	? Very light surf.	0.4'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	11:45 A.M.	50' in 10 min's	Up Coast	5'	Mean flood
400' Down	"	11:15 " 50' in 10¼ "	" "	4.9'	" "

1.6 Rising.

F.B. 129/Pg. 84

Job No. [illegible] Division No. [illegible] Notes Red. [illegible] Plotted [illegible] Profile

Survey of [illegible] Date [illegible] Date [illegible] No. [illegible]

Survey by [illegible] Notes [illegible] Notes Chkd. [illegible] Checked [illegible] X-Sec.

Indexed C. Johnson Date [illegible] Date [illegible] Date [illegible] No. [illegible]

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 1		232	11.4	+118	AVERAGE WAVE [illegible] : 0.5 FT.	
2		232	11.4	+118		
3		231	12.7	+[illegible]		
4		232	13.1	+101		
5		232	13.6	+96		
6		232	13.7	+[illegible]		
7		231	11.7	+114		
8		231	13.1	+100		
9		231	14.1	+90		
10		231	15.7	+74		
11		231	16.4	+67		
12		232	17.0	+62		
13		231	17.7	+54		
14		232	19.0	+42		
15		232	20.1	+31		
16		232	20.9	+23		
17		232	22.3	+09		
18		232	22.9	+03		
19		231	23.2	−01		
20		232	24.3	−11		
21		231	25.0	−19	Notes Cont'd on pg. 86.	

~PIER SOUNDINGS~
"BELMONT-E. LONG BEACH"
May 4, 1948
Elevations based on M.L.L.W.

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8426 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Belmont
No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinsch Notes TL-GK Date 5-4-48
Date ____ Date ____ Map No. ____ Indexed ____ Date 5-17-48

F.B. 1291 Pg. 55

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		232	26.9	-[illegible]	Cont'd from pg. 85.	
23		232	27.9	-[illegible]		
24		232	29.1	-[illegible]		
25		232	30.[illegible]	-[illegible]		
26		232	33.0	-[illegible]		
27		232	34.9	-[illegible]		
28		232	36.0	-[illegible]		
29		232	38.0	-[illegible]		
30		232	39.0	-[illegible]		
31		231	40.0	-[illegible]		
32		230	40.5	[illegible]		
33		230	42.0	-[illegible]		

Element	Time	Direction	Velocity	Height
WIND	10:45 A.M.	S 04° E.	2 miles per hr.	—
WAVES	"	S 82° W.	6 " " "	0.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Speed	Tide
400' Up Coast	11:15 A.M.	No drift	—	0	Low ebb
400' Down "	11 A.M.	" "	—	0	" "

0.8 Falling

F.B. 129 PG. 86

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Belmont Date Date No.

Survey by G. Kleinack Notes T.L. 6H. 5/4/48 Notes Chkd. Checked X-Sec.

Indexed A. C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	~~F. S.~~ (−)	ELEV. Bottom		
Sta. No. 1		232	11.3	+119		
2		232	11.4	+118	AVERAGE WAVE HGT. = 0.3	
3		231	12.6	+105		
4		232	13.0	+102		
5		232	13.5	+97		
6		232	13.5	+97		
7		231	11.7	+114		
8		231	13.1	+100		
9		231	14.0	+91		
10		231	14.9	+82		
11		231	15.6	+75		
12		232	15.8	+74		
13		231	17.3	+58		
14		232	18.1	+51		
15		232	19.0	+42		
16		232	19.9	+33		
17		232	20.4	+28		
18		232	21.5	+17		
19		231	22.6	+05		
20		232	24.1	−09		
21		231	24.9	−18		

~ PIER SOUNDINGS ~
"BELMONT - E. LONG BEACH"
June 3, 1948
Elevations based on M.L.L.W.

Notes Cont'd on pg. 88

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 Pg. 87
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Belmont
Notes Chkd. ____ Checked ____ Survey by Weinecke Notes H.R. Date 6-3-48
No. ____ Date ____ Date ____ Map No. ____ Indexed C. John Date 6-7-48

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	~~F. S.~~ (-)	~~ELEV.~~ Bottom		
Sta. No 22		232	26.8	-36	Notes Cont'd from pg. 87	
23		232	27.8	-46		
24		232	29.1	-59		
25		232	30.9	-77		
26		232	33.0	-98		
27		232	34.9	-117		
28		232	36.0	-128		
29		233	38.0	-147		
30		232	39.0	-158		
31		231	40.0	-169		
32		230	40.2	-172		
33		230	41.6	-186		

Element	Time	Direction	Velocity	Height
WIND	10:30 A.M.	S. 9° E.	2-3 miles per hr.	—
WAVES	"	S. 16° E.	8-10 " (Estimated)	0.3'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Speed	Tide
400' Up Coast	11:15 A.M.	No drift	—	0	Mean ebb
400' Down	" "	" "	—	0	" "
				1.4	Falling

F.B/29/PG. 88

Job No. 8424 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Belmont Date Date No. X-Sec.

Survey by G. Kleinecke Notes H.R.-G.K. 6/3/48 Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

Notes Ck'd by		Survey of Pier Soundings	F.B. 1291 PG. 89
Map No.		W. O. 8429 Tape No.	St'd °F
Office Work		Surveyed by G. Weinreich	
Checked		Notes	Date
Date		Indexed A. C. Johnson 5-8-47	

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247 SM 11-41

— REDONDO - MONSTAD PIERS —

SURVEY & SOUNDING DATA.

April 28, 1947 to June 3, 1948

— INDEX —

For:-	Page
Sketch & Survey See F.B. 1216	11
Profile Levels " "	110
Soundings & Etc. - April 28, 1947 - This Book.	91.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 90

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		220	43 3	-213	Wave Hght. 1.8	~ PIER SOUNDINGS ~
2		216	35 2	-136		"MONSTAD - HORSESHOE PIER"
3		218	27 1	-53		Redondo, Calif.
4		204	21 7	-13		April 28, 1947
5		240	27 2	-32		Elevations based on MLLW.
6		241	31 0	-69		
7		241	35 0	-109		
8		241	38 6	-145		
9		238	38 1	-143		
10		236	37 8	-142		
11		241	37 0	-129		
12		240	35 0	-110		
13		235	31 3	-78		
14		221	25 6	-35		
15		217	21 8	-01		
16		222	25 2	-30		
17		236	30 1	-65		
18		241	33 7	-96		
19		241	34 0	-99		
20		240	37 0	-130		
21		239	34 4	-105		

Cont'd on page 92

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8426 Division No. ____ FB 1291 Pg. 91
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Redondo
Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes R.A.-GWK Date 4-28-47
Date ____ Date ____ Map No. ____ Index Johnson Date ____

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		240	29 8	−58	Cont'd from pg.	91
23		240	26 9	−2[illegible]		
24		201	19 8	+03		
25		193	17 9	+14		
26		193	13 6	+57		
27		194	11 0	+84		
28		196	8 6	+110		
29		197	7 8	+119		

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S. 59° W.	9 miles per hr.	—
WAVES	"	N 22° W	8 " " "	1.8'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Down Coast	2 P.M.	100' in 4¾ mins.	Up Coast	21'	Mean flood

1.9 Rising

F.B. 129 PG. 92 Job No. 8429 Division No. ____ Notes Red. ____ Plotted ____ Profile ____
Survey of Pier Soundings - Redondo Date ____ Date ____ No. ____
Survey by Kleinecke Notes R.A. - GWK Notes Chkd. ____ Checked ____ X-Sec. ____
Indexed A. C. Tabasco Date ____ Date ____ No. ____

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 1291 PG. 93

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Redondo

Survey by Kleineck Notes GWK-JM Date 7-16-47

Map No. ____ Indexed A. C. Johnson Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

— PIER SOUNDINGS —

"MONSTAD — HORSESHOE PIER"

July 16, 1947

Elevations based on M.L.L.W.

STATION	B. S.	~~H.I.~~ Elev. - sta	F. S. (-)	ELEV. Bottom
No 1		220	429	-209
2		216	349	-133
3		218	(284) 384 (?)	(-66) -166 (?)
4		204	218	-14
5		240	279	-39
6		241	318	-77
7		241	349	-108
8		241	384	-143
9		238	388	-150
10		236	381	-145
11		241	371	-130
12		240	351	-111
13		235	311	-76
14		221	260	-39
15		217	208	+09
16		222	241	-19
17		236	301	-65
18		241	339	-98
19		241	351	-110
20		240	370	-130
21		239	340	-101

Contd on pg. 94

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev-Sta.	F. S. (-)	ELEV. Bottom		
No 22		240	311	-71	Cont'd from pg. 93.	
23		240	265	-25		
24		201	190	+11		
25		193	168	+25		
26		193	117	+76		
27		194	102	+92		
28		196	88	+108		
29		197	78	+119		

Element	Time	Direction	Velocity	Height.
WIND	1:30 P.M.	N 69° E.	8 miles per hr.	—
WAVES	"	N 21° W.	11 " " "	2.1'

~ LITTOCAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Down Coast	1:30 P.M.	100' in 4½ mins.	Up Coast.	22'	Low.
					2.1 Low

F.B. 129/PG. 94 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Redondo Date Date No.
Survey by Alexnect Notes GWK - J. Moore Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No.	Notes Red.	Plotted	Job No. 5429	Division No.	F. B. 1291 PG. 95
	Date	Date	Survey of Pier Soundings - Redondo		
X-Sec. No.	Notes Chkd.	Checked	Survey by Kleineck	Notes G.H.-G.K.	Date 8-4-'47
	Date	Date	Map No.	Indexed Johnson	Date

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

— PIER SOUNDINGS —

— MONSTAD — HORSESHOE PIER —

Aug. 4, 1947

Elevations based on MLLW.

Average Wave [illegible]

Line Parted - New Line Used

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom
Sta # 1		220	43.8	-218
2		216	35.3	-137
3		218	28.2	-64
4		204	21.7	-13
5		240	27.0	-30
6		241	31.8	-77
7		241	38.3	-147
8		241	38.8	-147
9		238	38.6	-148
10		236	38.0	-144
11		241	37.2	-131
12		240	34.9	-109
13		235	31.8	-83
14		221	25.8	-37
15		217	21.8	-01
16		222	24.9	-27
17		236	30.2	-66
18		241	33.9	-98
19		241	35.2	-111
20		240	37.2	-132
21		239	34.2	-103

Notes cont'd on pg. 96.

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. #22		240	31.3	-7.3	Cont'd from pg. 95	
23		240	26.8	-2.8		
24		201	19.0	+1.1		
25		193	16.3	+3.0		
26		193	11.1	+[illegible]		
27		194	9.1	+10.3		
28		196	7.7	+11.9		
29		197	7.8	+11.9		

Element	Time	Direction	Velocity	Height
WIND	2:15 P.M.	S 62° W.	9 miles per hr.	—
WAVES	"	N 28° W.	13 " " "	2.0'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Down Coast	2:30 P.M.	24' in 6 min's	Down Coast	4'	Mean ebb. 2.5 Falling

Note:- New groyne in along southside of pier

F. B. 1291 PG. 96 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pierdoundings - Redondo Date Date No.
Survey by Hleineck Notes G.H. - Gwk Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No 1		220	429	-209		
2		216	346	-130		
3		218	282	-64		
4		204	208	-04		
5		240	281	-41		
6		241	317	-76		
7		241	350	-109		
8		241	387	-146		
9		238	380	-142		
10		236	373	-137		
11		241	370	-129		
12		240	349	-109		
13		235	310	-75		
14		221	248	-27		
15		217	213	+04		
16		222	259	-37		
17		236	303	-67		
18		241	328	-87		
19		241	354	-113		
20		240	370	-130		
21		239	340	-101		

— PIER SOUNDINGS —
"MONSTAD - HORSESHOE PIER"
Sept. 8, 1947.
Elevations based on M.L.L.W.

Cont'd on pg. 98

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B 1291 Pg. 97
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Redondo
Notes Chkd. ____ Checked ____ Survey by Heinrich Notes G.W.K. Date 9-8-47
Date ____ Date ____ Map No. ____ Indexed Johnson Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (±)	Bott. ELEV.		
Sta. No 22		240	303	-63	Cont'd from pg. 97.	
23		240	275	-35		
24		201	189	+12		
25		193	158	+35		
26		193	109	+84		
27		194	100	+94		
28		196	89	+107		
29		197	80	+117		

Element	Time	Direction	Velocity	Height
WIND	2:15 P.M.	S 22° E	8 miles per hr.	—
WAVES	"	Choppy	7	2.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide.
350' Down Coast	2 P.M.	50 in 6½ mins	Up Coast	7.7'	High Flood. 5.2 HIGH

Note: New groynes in. One along south side of pier and two farther down Coast. Dumping of material from cut bank nearing Completion

F. B. 1291 PG. 98 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Redondo Date Date No.
Survey by Wieneck Notes GWK Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. _____ Notes Red _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 99

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Redondo

Notes Chkd. _____ Checked _____ Survey by Kleinack Notes G.W.K. Date 9-29-'47

Date _____ Date _____ Map No. _____ Indexed Johnson Date _____

~PIER SOUNDINGS~

"MONSTAD - HORSESHOE PIER"

Sept. 29, 1947.

Elevations based on M.L.L.W.

Notes Contd on pg. 100

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

STATION	B.S.	Elev. Sta.	F.S. (-)	ELEV. Bottom
Sta. No. 1		220	427	-207
2		216	345	-129
3		218	282	-64
4		204	211	-07
5		240	273	-33
6		241	321	-80
7		241	348	-107
8		241	347	-106
9		238	376	-138
10		236	373	-137
11		241	370	-129
12		240	347	-107
13		235	310	-75
14		221	(25.3) 353 (?)	(-3.2) -132 (?)
15		217	212	+05
16		222	249	-27
17		236	300	-64
18		241	332	-91
19		241	351	-110
20		240	368	-128
21		239	340	-101

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 22		240	308	-68	Notes Contd from pg. 99.	
23		240	268	-28		
24		20.1	187	+14		
25		193	150	+43		
26		193	101	+92		
27		194	99	+95		
28		196	88	+108		
29		197	80	+117		

Element	Time	Direction	Velocity	Height
WIND	2:30 P.M.	S 72° W.	7 miles per hr.	—
WAVES	"	Choppy - S 60° E.	14 miles per hr.	2.6'

— LITTOCAL DRIFT —

Observation	At	Time	Drift	Direction	Feet per min.	Tide.
350' Down	Coast.	2 P.M.	100' in 10½ mins	Up Coast.	9.5'	Low. 1.1 Falling

F.B. 129/PG. 100

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Redondo Date Date X-Sec.

Survey by Meineck Notes Chkd. Checked No.

Indexed A. C. Jones Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. = Sta	F. S. (-)	ELEV. Bottom		
Sta. No 1		220	42.4	-204		
2		216	34.4	-128		
3		218	26.8	-50	Avg. Wave Ht. = 1.6'	
4		204	20.9	-05		
5		240	26.9	-29		
6		241	31.6	-75		
7		241	34.4	-103		
8		241	38.7	-46		
9		238	38.4	-146		
10		236	37.3	-137		
11		241	37.0	-129		
12		240	32.8	-88		
13		235	31.2	-77		
14		221	25.0	-29		
15		217	21.5	+02		
16		222	24.1	-19		
17		236	30.1	-65		
18		241	33.6	-95		
19		241	33.8	-97		
20		240	36.9	-129		
21		239	34.0	-101		

~ PIER SOUNDINGS ~
"MONSTAD - HORSESHOE PIER"
Elevations based on M.L.L.W.
Nov. 3, 1947

Notes Contd on Pg. 102

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. Date ____ Notes Chkd ____ Checked ____ Survey of Pier Soundings - Redondo
No. ____ Date ____ Date ____ Survey by Klemeck Notes A.S.-G.W. Date 11-3-'47
Map No. ____ Index C. Johnson Date 11-10-47

F.B. 129 Pg. 101

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		240	29.2	-52	Notes Cont'd from pg. 101	
23		240	26.1	-21		
24		201	19.7	+04		
25		193	16.1	+32		
26		193	12.0	+73		
27		194	10.0	+94		
28		196	8.4	+112		
29		197	8.0	+17		

Element	Time	Direction	Velocity	Height
WIND	1:45 P.M.	5 81 [illegible]	6 miles per hr.	—
WAVES	"	5 [illegible] E	12 " " "	1.6'

~ LITTOCAL DRIFT ~

Observation	At	Time	Drift	Direction	Feet per min.	Tide
350' Down Coast		2 P.M.	53' in 7½ mins	Up Coast	1'	High ebb 4.2 Falling

F.B. 129/PG. 102

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Redondo Date Date X-Sec.

Survey by Heineck Notes Chkd Checked No.

Indexed A. C. Johnson Date Date

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8 tri Division No. _____ F.B. 129 PG. 103

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Redondo

Notes Chkd. _____ Checked _____ Survey by Memeo Notes T.W.S.M. Date 12-2-47

Date _____ Date _____ Map No. _____ Indexed _____ Date _____

~ PIER SOUNDINGS ~

"MONSTAD - HORSESHOE PIER"

Dec. 2, 1947

Elevations based on M.L.L.W.

Notes Cont'd on pg 104

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

STATION	B.S.	~~H.I.~~ Elev. Sta	F.S. (L)	ELEV. Bottom	
[illegible]		220	428	-208	Wave Height 4.3'
2		216	342	-126	
3		218	278	-60	
[illegible]		204	208	-04	
[illegible]		240	270	-30	
[illegible]		241	311	-70	
[illegible]		241	348	-107	
[illegible]		241	384	-143	
[illegible]		238	378	-140	
[illegible]		236	370	-134	
[illegible]		241	368	-127	
[illegible]		240	345	-105	
[illegible]		235	310	-75	
[illegible]		221	251	-30	
[illegible]		217	160	+57	
[illegible]		222	246	-24	
[illegible]		236	295	-59	
[illegible]		241	322	-81	
[illegible]		241	335	-94	
[illegible]		240	369	-129	
[illegible]		239	339	-100	

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta	F. S. Ci	ELEV. Bottom		
[illegible]		240	306	-[illegible]	Notes Cont'd from pg. 103	
23		240	270	-[illegible]		
[illegible]		201	190	+11		
[illegible]		193	150	+43		
[illegible]		193	120	+73		
[illegible]		194	91	+[illegible]		
[illegible]		196	88	+[illegible]		
[illegible]		197	80	+[illegible]		

Element	Time	Direction	Velocity	Height
WIND	1145 P.M.	S 54° W	11 miles per hr	
WAVES	"	S 19° E	14 " " "	4.3'

LITTORAL DRIFT

Observation At	Time	Drift	Direction	Feet per min.	Tide.
350' Down Coast	1:30 P.M.	100' in 4¼ mins.	Down Coast	24'	High ebb. 4.7 Falling.

F.B. 129 PG. 104

Job No. 5125 Division No. Lawndrift Redondo Notes Red. Plotted Date No. Profile

Survey of Pier Foundation Notes S.W.S.M. 10-2-47 Date Checked Date No. X-Sec.

Survey by Fleenor Notes Chkd. Date

Indexed A. C. Johnson Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	~~F. S.~~ (−)	~~ELEV.~~ Bottom		
Sta. No. 1		220	42.0	-200	Average [illegible]	
2		216	34.4	-128		
3		218	32.0	-102 ?		
4		204	2[illegible]	-09		
5		240	27.9	-39		
6		241	31.3	-72		
7		241	34.3	-102		
8		241	38.5	-144		
9		238	38.2	-144		
10		236	37.2	-136		
11		241	37.0	-129		
12		240	33.7	-97		
13		235	31.0	-75		
14		221	25.4	-33		
15		217	20.6	+11		
16		222	25.4	-32		
17		236	30.0	-64		
18		241	32.9	-88		
19		241	33.0	-89		
20		240	37.0	-130		
21		239	34.0	-101		

~PIER SOUNDINGS~

"MONSTAD - HORSESHOE PIER"

Jan. 5, 1948.

Elevations based on MLLW.

Notes Cont'd on pg. 106

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 Pg. 103

X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Redondo

Notes Chkd. ____ Checked ____ Survey by Hewson Notes A.S.G.M. Date 1-5-'48

No. ____ Date ____ Date ____ Map No. ____ Indexed ____ Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	~~F. S.~~ (=)	~~ELEV.~~ Bottom		
Sta. No 22		240	[illegible]	-32	Notes Contd from pg. 105	
23		240	22.1	+19		
24		201	17.8	+23		
25		193	15.2	+41		
26		193	[illegible]	+32		
27		194	[illegible]	+49		
28		196	8.1	+115		
29		197	7.3	+124		

Element	Time	Direction	Velocity	Height
WIND	2:15 P.M.	N. 22° W.	7 miles per hr.	
WAVES	"	S. 16° E.	11 " " "	1.3'

~ LITTORAL DRIFT ~

Observation At	Timer	Drift	Direction	Tide
350' Down Coast	1:45 P.M.	Slow - No time	Down Coast	Low. 0.8 Rising.

F.B. 79 / PG. 108 / 104

Job No. 8429 Division No. Redondo Notes Red. Plotted No. Profile

Survey of Pier Soundings Notes Date Date X-Sec.

Survey by Meinert Notes Chkd. Checked

Indexed S. C. Jones Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev - Sta.	F. S. (-)	ELEV. Bottom		
[illegible]		220	42.1	-201	AVERAGE WAVE HT = 0.3 FT.	
2		216	34.6	-130		
3		218	27.4	-56		
4		204	20.5	-01		
5		240	27.2	-32		
6		241	31.2	-71		
7		241	34.5	-104		
8		241	37.2	-131		
9		238	38.2	-144		
10		236	37.2	-136		
11		241	36.5	-124		
12		240	34.1	-101		
13		235	30.9	-74		
14		221	25.0	-29		
15		217	20.8	+09		
16		222	25.1	-29		
17		236	29.9	-63		
18		241	33.2	-91		
19		241	34.8	-107		
20		240	36.9	-129		
21		239	34.0	-101	Notes Cont'd on pg 108.	

~ PIER SOUNDINGS ~
"MONSTAD - HORSESHOE PIER"
Feb. 3, 1948.
Elevations based on M.L.L.W.

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8469 Division No. ____
X-Sec. No. ____ Date ____ Notes Chkd ____ Checked ____ Survey of Pier Soundings - Redondo
Date ____ Survey by Hlaneck Notes [illegible] Date 2-3-'48
Map No. ____ Indexed A. S. Johnson

F.B. 1249 PG. 107

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		240	30.0	−60	Notes Cont'd from pg. 107	
23		240	27.2	−32		
24		201	17.8	+[illegible]		
25		193	13.1	+[illegible]		
26		193	11.0	+[illegible]		
27		194	09.1	+[illegible]		
28		196	08.4	+[illegible]		
29		197	08.6	+[illegible]		

Element	Time	Direction	Velocity	Height.
WIND	1:15 P.M.	5.55° W.	11 miles per hr.	—
WAVES	"	Ripply - Choppy	—	0.3'

— LITTORAL DRIFT —

Observation At.	Time	Drift	Direction	Feet per min	Tide.
350' Down Coast	1. P.M.	70' in 16½ mins.	Up Coast	4.2'	Low.
				0.5	Rising.

F.B. 1714 PG. 108

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Redondo Date Date No. X-Sec.

Survey by G. Weinack Notes Gulk - A.C.S. Notes Chkd. Checked

Indexed C. Johnson Date Date Date No.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No 1		220	42.7	-207	AVERAGE WAVE H.	02.0
2		216	39.8	~~-18~~ -13.2		
3		218	26.0	-42		
4		204	21.3	-09		
5		240	25.9	-19		
6		241	30.2	-61		
7		241	34.5	-104		
8		241	38.6	-145		
9		238	38.2	-144		
10		236	37.1	-135		
11		241	37.2	-131		
12		240	34.8	-108		
13		235	30.8	-73		
14		221	24.3	-22		
15		217	22.3	-06		
16		222	23.6	-14		
17		236	29.6	-60		
18		241	33.1	-90		
19		241	34.5	-104		
20		240	37.5	-135		
21		239	34.4	-105		

— PIER SOUNDINGS —
"MONSTAD - HORSESHOE PIER"
Redondo, Calif.
March 1, 1948.
Elevations based on M.L.L.W.

Notes Cont'd on pg. 110.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 / Pg. 109
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Redondo
Notes Chkd. ____ Checked ____ Survey by Hlaneck Notes L.S. Gulf Date 3-1-48
Date ____ Date ____ Map No. ____ Indexed C. Johnson Date 4-22-48

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 22		240	29 3	-53	Notes Contd from pg. 109.	
23		240	25 6	-16		
24		201	19 9	+02		
25		193	15.3	+40		
26		193	10 6	+87		
27		194	10 4	+90		
28		196	7 7	+119		
29		197	7 7	+120		

Element	Time	Direction	Velocity	Height
WIND	1:30 PM	5.51° E.	7 miles per hr.	—
WAVES	" "	5.28° E.	11 " " "	20'

—LITTORAL DRIFT—

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Down Coast	1:15 PM.	100' in 5¼ mins	Up Coast	19'	High flood. 2.4 Rising.

F B 1291 Pg. 110 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Redondo Date Date No.
Survey by Kleinick Notes 8-1-48 Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

Profile Notes Red_____ Plotted_____ Job No._____ Division No._____ F.B. 1231 PG. 111

No._____ Date_____ Date_____ Survey of_____ Notes R.S. Eq. Date 4-13-48

X-Sec. Notes Chkd._____ Checked_____ Survey by_____

No._____ Date_____ Date_____ Map No._____ Indexed_____ Date_____

STATION	B. S.	H.I.	F. S.	ELEV.		
[illegible]		220	[illegible]	-209	[illegible]	
		216	[illegible]	-133		
		218	86.9	-51		
		204	81.2	-08		
		240	86.2	-22		
		241	81.2	-71		
		241	[illegible]	-110		
		241	89.0	-119		
		238	89.8	-160		
		236	[illegible]	-138		
		241	87.5	-134		
		240	84.8	-109		
		235	81.2	-77		
		221	84.2	-28		
		217	[illegible]	+07		
		222	[illegible]	-18		
		236	[illegible]	-69		
		241	[illegible]	-74		
		241	84.8	-107		
		240	87.5	-135		
		239	84.8	-109		

~ PIER SOUNDINGS ~
"MONTREAL - MORESTHOS PIER"
APRIL 13, 1948.
ELEVATIONS BASED ON MLLW.

[illegible] = 01.3'

Notes cont'd on pg. 112

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I.	F. S.	ELEV.		
[illegible]		240	30.8	-68	Notes Cont'd from pg. 111.	
23		240	25.7	-17		
24		201	19.4	+07		
[illegible]		193	15.2	+41		
[illegible]		193	11.9	+74		
[illegible]		194	9.7	+97		
[illegible]		196	8.7	+109		
[illegible]		197	8.2	+115		

Element	✓ Time	✓ Direction	✓ Velocity	✓ Height
WIND	1:15 P.M.	S 56° W.	9 miles per hr.	
WAVES	"	Choppy	?	01.3'

~LITTORAL DRIFT~

Observation	At.	✓ Time	✓ Drift	✓ Direction	Feet per min.	✓ Tide
350' Down	Coast.	1:30 P.M.	20' in 11 mins.	Up Coast.	1.8'	High.
						2.7 Falling.

F.B. 129 PG. 112

Job No. 8428 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Redondo Date Date X-Sec.

Survey by G. Wheeler Notes A.S. - 4-13-48 Notes Chkd. Checked No.

Indexed C. Johnson Date Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. 1-1		220	42.8	-208	Average Wave Ht. = 02.2'	
2		216	34.8	-132		
3		218	27.5	-57		
4		204	21.5	-11		
5		240	27.0	-30		
6		241	30.8	-67		
7		241	34.8	-107		
8		241	38.7	-146		
9		238	38.4	-146		
10		236	37.1	-135		
11		241	37.6	-135		
12		240	34.8	-108		
13		235	31.3	-78		
14		221	25.4	-33		
15		217	20.8	+09		
16		222	24.0	-18		
17		236	29.1	-55		
18		241	33.0	-89		
19		241	34.2	-101		
20		240	37.3	-133		
21		239	34.5	-106	Notes Cont'd on pg. 114	

~PIER SOUNDINGS~

"MONSTAD-HORSESHOE PIER"

May 4, 1948

Elevations based on M.L.W.

Profile Notes Red ____ Plotted ____ Job No. 8429 Division No. 1 F.B. 129 PG. 113

No. ____ Date ____ Date ____ Survey of Pier Soundings - Redondo

X-Sec. Notes Chkd. ____ Checked ____ Survey by Kleinock Notes 45-66 Date 5-4-'48

No. ____ Date ____ Date ____ Map No. ____ Adapted Johnson Date 5-17-48

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta	F. S. (-)	ELEV. Bottom		
Sta. No. 22		240	30.5	-65	Cont'd from pg. 113.	
23		240	25.9	-19		
24		201	18.5	+16		
25		193	15.2	+41		
26		193	11.3	+[illegible]		
27		194	10.2	+[illegible]2		
28		196	08.2	+114		
29		197	08.0	+117		

Element	Time	Direction	Velocity	Height
WIND	1:30 PM	S 52 [illegible]	10 miles per hr.	—
WAVES	"	S. 13 E	13 " " "	2.2'

~LITTORAL DRIFT~

Observation	At	Time	Drift	Direction	Tide
350' Down	Coast	1 PM	No drift.	Reversals	Low. 0.4 Low

F.B. 24 Pg. 114
Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Redondo Date Date No.
Survey by G. Kleinack Notes Pd-Ht. 5-4-43 Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. - Sta.	~~F.S.~~ (-)	ELEV. Bottom		
Sta. No. 1		220	42.9	-209	Average Wave Ht. = 01.1'	
2		216	39.1	~~-175~~ (?) -12.5 Hts		
3		218	26.6	-48		
4		204	20.4	00		
5		240	26.4	-24		
6		241	30.3	-62		
7		241	34.5	-104		
8		241	38.9	-148		
9		238	38.8	-150		
10		236	37.6	-140		
11		241	37.0	-129		
12		240	34.0	-100		
13		235	31.0	-75		
14		221	24.9	-28		
15		217	21.1	+06		
16		222	24.5	-23		
17		236	30.0	-64		
18		241	33.8	-97		
19		241	34.9	-108		
20		240	37.5	-135		
21		239	34.5	-106		

— PIER SOUNDINGS —
"MONSTAD-HORSESHOE PIER"
Redondo, Calif.
June 3, 1948
Elevations based on M.L.L.W.

Notes Contd on pg. 116

Profile
No. ____ Date ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Redondo
No. ____ Date ____ Notes Chkd. ____ Checked ____ Survey by Kleinecke Note AS-GK Date 6-3-48
Date ____ Date ____ Map No. ____ Indexed C. Jahns Date 6-7-48

F.B. 129 Pg. 115

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	~~F. S.~~	ELEV. Bottom		
Sta. No. 22		240	29.4	-54	Notes Cont'd from pg. 115.	
23		240	24.9	-09		
24		201	19.5	+06		
25		193	15.2	+41		
26		193	10.2	+91		
27		194	10.5	+89		
28		196	08.9	+107		
29		197	08.0	+117		

Element	Time	Direction	Velocity	Height
WIND	1:30 P.M.	S 47° W.	10 miles per hr.	—
WAVES	" "	S 13° E.	10-11 " " "	1.1'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Tide
350' Down Coast	1:15 P.M.	No drift	—	Low. 1.7 Rising.

F.B. 129 PG. 116

Job No. 8424 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Redondo Date Date No. X-Sec.

Survey by G. Kleinecke Notes A.S. - G.K. 6/3/48 Notes Chkd. Checked

Indexed Date Date No.

Notes Ck'd by	Survey of Pier Soundings
Map No.	W. O. 8429 Tape No. St'd. °F
Office Work	Surveyed by G. Heinecke
Checked	Notes Date
Date	Indexed A. C. Johnson 5-21-47

F.B. 1291 PG. 119

— HERMOSA PIER —

SURVEY & SOUNDING DATA

April 28, 1947 to June 3, 1948

— INDEX —

For:		Page.
Sketch & Survey	See F.B. 1216	12
Profile Notes	" "	136
Soundings & Etc. - April 28, 1947	This Book.	119.

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247 RM 11-41

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 118

Profile	Notes Red.	Plotted	Job No. 8429	Division No.	F.B. 129 Pg. 119
No.	Date	Date	Survey of Pier Soundings – Hermosa		
X-Sec.	Notes Chkd.	Checked	Survey by Kleinack	Notes J.W.S.M.	Date 4-28-47
No.	Date	Date	Map No.	Indexed A. C. Johnson	Date

~ PIER SOUNDINGS ~

"HERMOSA"

April 28, 1947

Elevations based on M.L.L.W.

STATION	B. S.	~~H.I.~~ Elev. – Sta.	F. S. (–)	ELEV. Bottom	
Sta. No 1		217	75	+142	Wave Hght. 2.3
2		226	96	+130	
3		232	114	+118	
4		241	138	+103	
5		247	164	+83	
6		257	198	+59	
7		264	220	+44	
8		268	235	+33	
9		268	251	+17	
10		268	259	+09	
11		268	275	–07	
12		268	285	–17	
13		266	283	–17	
14		267	292	–25	
15		267	312	–45	
16		268	329	–61	
17		268	350	–82	
18		267	346	–79	
19		266	343	–77	
20		268	349	–81	
21		268	334	–66	

Cont'd on pg. 120

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 307 2M 11-41

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		268	331	-63	Cont'd from pg. 119	
23		267	340	-73		
24		268	350	-82		
25		266	358	-92		
26		266	368	-102		
27					End of pier washed away	
28					in Feb. 1947.	
29						
30						
31						
32						
33						
34						

Element	Time	Direction	Velocity	Height
WIND	2:45 P.M.	S. 67° W.	6 miles per hr.	—
WAVES	" "	N. 10° W	8 " " "	2.3'

~ LITTORAL DRIFT ~

Observation At	Time	DRIFT	Direction	Feet per min.	Tide.
500' Up Coast	3:15 P.M.	100' in 1½ min's.	Up Coast.	67'	High.
500' Down "	3:00 "	100' in 5½ "	" "	18'	"

2.6 Rising.

F.B. 129 PG. 120 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Hermosa Date Date No.
Survey by Meinert Notes V.M. - G.W.K. Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev. Sta.	F. S.	ELEV. Bottom		
No 1		217	72	+145		
2		226	95	+131		
3		232	112	+120		
4		241	132	+109		
5		247	148	+99		
6		257	192	+65		
7		264	212	+52		
8		268	231	+37		
9		268	246	+22		
10		268	252	+16		
11		268	264	+04		
12		268	280	-12		
13		266	278	-12		
14		267	285	-18		
15		267	290	-23		
16		268	298	-30		
17		268	300	-32		
18		267	301	-34		
19		266	320	-54		
20		268	342	-74		
21		268	347	-79	Cont'd on pg. 122	

— PIER SOUNDINGS —
"HERMOSA"
July 16, 1947
Elevations based on M.L.L.W.

Profile No. ____ Date ____ Notes Red. ____ Plotted ____ Job No. 8424 Division No. ____
X-Sec. No. ____ Date ____ Notes Chkd. ____ Checked ____ Date ____ Survey of Pier Soundings - Hermosa
Survey by Meinecke Notes Guilt-Sill Date 7-16-47
Map No. ____ Indexed A. C. Johnson

F B 129 Pg. 121

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
No 22		268	353	-85	Cont'd from pg. 121.	
23		267	368	-101		
24		268	372	-104		
25		266	380	-114		
26		266	390	-124		
27			—		End of Pier washed away	
28					in Feb. 1947.	
29						
30						
31						
32						
33						
34						

Element	Time	Direction	Velocity	Height
WIND	2:30 P.M.	S. 80° E.	7 miles per hr.	—
WAVES	"	N 10° W.	8 " " "	2.6'

~ LITTORAL DRIFT ~

Observation Pt.	Time	Drift	Direction	Feet per min.	Tide.
500' Up Coast	3 P.M.	{Reversals 50' in 6 mins.	Up Coast	8'	Low flood.
500' Down	"	2:30 P.M. 100' in 3 mins.	Up Coast	33'	" "

2.9 Rising.

F. B. 129 Pg. 122 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Hermosa Date Date No.
Survey by Kleinock Notes Jwk - J. Moore Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta # 1		217	6.8	+149	Average [illegible] = 1.8'	
2		226	9.0	+136		
3		232	10.9	+123		
4		241	13.0	+111		
5		247	15.2	+95		
6		257	19.5	+62		
7		264	[illegible]	+47		
8		268	23.6	+32		
9		268	24.4	+24		
10		268	24.4	+24		
11		268	26.2	+06		
12		268	27.7	−09		
13		266	27.3	−07		
14		267	28.0	−13		
15		267	28.8	−21		
16		268	29.4	−26		
17		268	30.5	−37		
18		267	31.2	−45		
19		266	32.6	−60		
20		268	34.3	−75		
21		268	35.0	−82		

~ PIER SOUNDINGS ~
"HERMOSA"
Aug 4, 1947.
Elevations based on M.L.L.W.

Notes Cont'd on pg. 124

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8424 Division No. ____ F. B. 1291 Pg. 123
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Hermosa
Notes Chkd. ____ Checked ____ Survey by Pleneck Notes G.H.-G.K. Date 8-4-47
Date ____ Date ____ Map No. ____ Date ____

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta # 22		268	35.9	-91	Contd from pg. 123	
23		267	36.7	-100		
24		268	37.5	-107		
25		266	38.1	-115		
26		266	38.7	-121		
27						

Element	Time	Direction	Velocity	Height
WIND	3:15 P.M.	S 78° W	10 miles per hr.	—
WAVES	"	N 05° W	13 " " "	1.8'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Const.	3:45 P.M.	100' in 2¾ mins.	Down Const	36'	Low ebb.
500' Down	" 3:30	" 100' in 8½	" " "	12'	" "
				2.2 Low	

F. B. 1291 PG. 124 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Hermosa Date Date No.
Survey by Kleinack Notes G.H. - Gulf Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 129 PG 125

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Hermosa

Survey by Klemeck Notes GWK Date 9-8-'47

Map No. ____ Indexed C. Johnson Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

— PIER SOUNDINGS —

"HERMOSA"

Sept. 8, 1947.

Elevations based on M.L.L.W.

STATION	B. S.	Elev. I. Sta.	F. S.	ELEV. Bottom
Sta. No 1		217	72	+145
2		226	93	+133
3		232	111	+121
4		241	130	+111
5		247	142	+105
6		257	179	+78
7		264	210	+54
8		268	222	+46
9		268	235	+33
10		268	249	+19
11		268	259	+09
12		268	267	+01
13		266	272	-06
14		267	280	-13
15		267	286	-19
16		268	289	-21
17		268	300	-32
18		267	310	-43
19		266	322	-56
20		268	343	-75
21		268	349	-81

Cont'd on pg. 126.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	Elev. - Sta.	F. S.	ELEV.		
Sta. No 22		268	358	-90	Cont'd from pg. 125	
23		267	367	-100		
24		268	370	-102		
25		266	380	-114		
26		266	390	-124		

Element	Time	Direction	Velocity	Height
WIND	2:45 P.M.	S 77° W	6 miles per hr.	—
WAVES	"	N 8° W	11 " " "	3.0'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' up Coast.	3:20 P.M.	Not definite	Long reversals	0	High ebb.
500' Down "	3:00 P.M.	100' in 5½ min's.	Down Coast.	18'	" "
					5.1 Falling.

F. B. 129 / Pg. 126 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Hermosa Date Date No.
Survey by Kleineck Notes Gwk Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. No 1		217	72	+145		
2		226	92	+134		
3		232	110	+122		
4		241	130	+111		
5		247	141	+106		
6		257	178	+79		
7		264	208	+56		
8		268	225	+43		
9		268	239	+29		
10		268	249	+19		
11		268	261	+07		
12		268	277	−09		
13		266	271	−05		
14		267	275	−08		
15		267	280	−13		
16		268	285	−17		
17		268	300	−32		
18		267	301	−34		
19		266	311	−45		
20		268	328	−60		
21		268	340	−72		

~ PIER SOUNDINGS ~
"HERMOSA"
Sept. 29, 1947.
Elevations based on M.L.L.W.

Notes Cont'd on pg. 128

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. Notes Chkd. ____ Checked ____ Survey of Pier Soundings - Hermosa
No. ____ Date ____ Date ____ Survey by Weinert Notes Gulk Date 9-29-47
Map No. ____ Indexed Job Date ____

F.B. 129 Pg. 127

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. = Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		268	355	−87	Notes Cont'd from pg. 127	
23		267	370	−103		
24		268	372	−104		
25		266	380	−114		
26		266	389	−123		

Element	Time	Direction	Velocity	Height
WIND	2:45 P.M.	S 78° W.	8 miles per hr.	—
WAVES	"	N 12° W.	13 " " "	3.7'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	3:30 P.M.	100' in 6 mins	Down Coast	17'	Low
500' Down "	3. "	100' in 12 "	" "	8'	"
					1.2 Rising

F.B. 1291 PG. 128

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Sounding - Hermosa Date Date No. X-Sec.

Survey by Kleinert Notes G.W.K. Notes Chkd. Checked

Indexed C. Jones Date Date Date No.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 PG. 129

Date ____ Date ____ Survey of Pier Soundings — Hermosa

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinock Notes RM-GWK Date 11-3-47

Date ____ Date ____ Map No. ____ Indexed G. Johnson Date 11-10-47

~ PIER SOUNDINGS ~

"HERMOSA"

NOV. 3, 1947

Elevations based on MLLW.

Notes Cont'd on pg. 130

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

STATION	B. S.	Elev. ~~H.I.~~ Sta.	F. S.	ELEV. Bottom
Sta. No. 1		217	[illegible]	+146
2		226	[illegible]	+136
3		232	[illegible]	+122
4		241	[illegible]	+113
5		247	[illegible]	+91
6		257	[illegible]	+57
7		264	[illegible]	+43
8		268	[illegible]	+39
9		268	[illegible]	+26
10		268	[illegible]	+12
11		268	27.0	-02
12		268	[illegible]	-18
13		266	[illegible]	-17
14		267	[illegible]	-36
15		267	30.0	-33
16		268	[illegible]	-43
17		268	[illegible]	-54
18		267	[illegible]	-49
19		266	[illegible]	-44
20		268	[illegible]	-52
21		268	[illegible]	-52

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		268	33.7	-6.9	Notes cont'd from pg. 129	
23		267	[illegible]	-10.1		
24		268	[illegible]	-11.6		
25		266	37.7	-13.1		
26		266	[illegible]	-13.4		
27	↑ Get from F.B. 12.16	26.8	[illegible]	-13.8		
28		26.6	[illegible]	-14.9		
29		26.7	[illegible]	-16.3		
30		26.8	[illegible]	-16.5		
31		26.7	[illegible]	-17.0		

Element	Time	Direction	Velocity	Height
WIND	3 P.M.	S 81° W	8 miles per hr.	—
WAVES	"	S 13° E.	12 " " "	2.2'

LITTORAL DRIFT

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' up Coast	3:30 P.M.	55' in 10½ mins.	Down Coast	5.2'	Mean ebb
500' Down "	3 P.M.	100' in 1¾ "	" "	57'	" "

2.7 Falling.

F.B. 129/Pg. 130

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Hermosa Date Date No. X-Sec.

Survey by Meinecke Notes Chkd. Checked

Indexed C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 1		217	70	+147	Wave Height 4.5'	
2		226	91	+135		
3		232	110	+122		
4		241	121	+120		
5		247	158	+89		
6		257	199	+58		
7		264	218	+46		
8		268	227	+41		
9		268	240	+28		
10		268	250	+18		
11		268	268	00		
12		268	282	-14		
13		266	298	-32		
14		267	299	-32		
15		267	292	-25		
16		268	300	-32		
17		268	321	-53		
18		267	318	-51		
19		266	307	-41		
20		268	322	-54		
21		268	312	-44	Notes Contd on pg. 132	

— PIER SOUNDINGS —
"HERMOSA"
DEC. 2, 1947
Elevations based on M.L.L.W.

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8426 Division No. ____ F.B. 129 Pg. 131
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Hermosa
Notes Chkd ____ Checked ____ Survey by Bleiner Notes S.W.M. Date 12-2-41
No. ____ Date ____ Date ____ Map No. ____ Indexed ____ Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No. 22		268	316	-48	Notes Contd from pg. 131	
23		267	327	-60		
24		268	344	-76		
25		266	359	-93		
26		266	382	-116		
27						
28						
29						
30						
31						
32						
33						
34						

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S 56 W	10 miles per hr	—
WAVES	"	S 22 E	14 " " "	4.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min	Tide
500' Up Coast	2:45 P.M.	100' in 2 mins	Up coast	50'	Mean ebb.
500' Down "	2:20 "	Reversals - Eddies	No definite drift		" "

3.6 Falling

F.B. 124 Pg. 132

Job No. 5424 Division No. ____ Notes Red. ____ Plotted ____ Profile ____

Survey of Pier Soundings - Hermosa Date ____ Date ____ No. ____

Survey by Meinecke Notes J.M. - OK 12/2/47 Notes Chkd. ____ Checked ____ X-Sec. ____

Indexed A. C. Johnson Date ____ Date ____ No. ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

Profile Notes Red____ Plotted____ Job No. 5442 Division No.____ F.B. 229 Pg. 133
No.____ Date____ Date____ Survey of Hermosa-Redondo Notes Checked 8-11-46 Date 8-5-46
X-Sec. Notes Chkd____ Checked____ Survey by Hermosa Notes Checked Date
No.____ Date____ Date____ Map No.____ Indexed Date

STATION	B. S.	H.I. Elev. + S/A	F.S.	ELEV. Bottom		
Sta. No. 1		217	7.0	+147		
2		226	9.0	+136		
3		232	7.0	+125		
4		211	14.0	+101		
5		247	6.8	+79		
6		257	2.1	+56		
7		266	3.9	+47		
8		268	24.0	+28		
9		268	3.1	+11		
10		268	1.5	+07		
11		268	7.1	-11		
12		268	11.3	-27		
13		266	13.0	-34		
14		267	12.9	-53		
15		267	11.9	-48		
16		268	10.9	-44		
17		268	10.5	-47		
18		267	10.1	-41		
19		266	10.0	-34		
20		268	11.2	-42		
21		268	11.4	-46		

~ Redondo Beach ~
"Hermosa"
Jan. 5, 1946.
Elevation based on M.L.L.W.

- tension wire to S.E. side of Pier.

Notes Contd on Pg. 134

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. = Sta.	~~F.S.~~ (-)	ELEV. Bottom		
Sta. No. 22		26.8	[illegible]	-61	Notes Cont'd from pg. 133	
23		26.7	[illegible]	-90		
24		26.8	[illegible]	-78		
25		26.6	[illegible]	-114		
26		26.6	[illegible]	-149		
27	Set from F.B. 11.16	26.8	[illegible]	-13.3		
28		26.6	[illegible]	-14.7		
29		26.7	[illegible]	-161		
30		26.8	[illegible]	-163		
31		26.7	[illegible]	-163		

Element	Time	Direction	Velocity	Height
WIND	2:45 P.M.	5.85° W.	9 miles per hr.	—
WAVES	" "	5.17° E.	12 " " "	2.2'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	3:30 P.M.	100' in 8¼ mins	Down Coast	12'	Mean Flood
500' Down "	3:18 "	100 in 15 "	" "	6.6'	" "
					1.7 Rising

F.B. 129/Pg. 134 Job No. 8429 Division No. Hermosa Notes Red. Plotted Date No. Profile
Survey of Pier Soundings - Hermosa Date No. X-Sec.
Survey by Meineck Notes H.H. - G.H. 1-5-48 Checked Date No.
Indexed Johnson Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta	F. S. (-)	ELEV. Bottom		
Sta. 1		217	7.1	+146	AVERAGE WAVE HT. = 2.0 FT.	
2		226	9.1	+135		
3		232	10.6	+126		
4		241	12.8	+113		
5		247	15.1	+96		
6		257	17.8	+59		
7		264	21.1	+53		
8		268	23.5	+33		
9		268	25.1	+17		
10		268	26.0	+08		
11		268	26.3	+05		
12		268	27.0	-02		
13		266	27.0	-04		
14		267	28.9	-22		
15		267	28.4	-17		
16		268	28.8	-20		
17		268	30.0	-32		
18		267	30.3	-36		
19		266	31.5	-49		
20		268	32.5	-57		
21		268	33.5	-67	Contd on pg. 136	

~PIER SOUNDINGS~
"HERMOSA"
Feb. 3, 1948
Elevations based on M.L.L.W.

Profile
No. ____ Date ____ Notes Red. ____ Plotted ____ Job No. 8424 Division No. ____
X-Sec. ____ Date ____ Date ____ Survey of Pier Soundings - Hermosa
No. ____ Date ____ Notes Chkd. ____ Checked ____ Survey by Kleinert Notes Chk. - H.K. Date 2-3-'48
Date ____ Date ____ Map No. ____ Indexed S. C. Job Files

F.B. 1449 PG. 135

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		268	34.5	−77	Cont'd from Bk. 135	
23		267	36.2	−95		
24		268	37.4	−106		
25		266	38.3	−117		
26		266	39.9	−133		
27	Get from F.B. #1216	26.8	40.3	−13.5		
28		26.6	41.2	−146		
29		26.7	42.8	−161		
30		268	42.8	−160		
31		267	43.0	−163		

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S. 64° W.	11 miles per hr.	—
WAVES	"	S 18° E	11 " " "	2.0'

LITTORAL DRIFT

Observation At.	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	2:30 P.M.	100' in 6 3/4 mins.	Up Coast	15'	Mean flood.
500' Down	"	2:15 "	300' in 12 "	" "	25' " "

1.0 Rising

F.B. 1219 Pg. 136

Job No. 8424 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Hermosa Date Date No. X-Sec.

Survey by G. Kleinauer Notes G.W.K. - H.H. Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Profile No.____ Notes Red.____ Plotted____ Job No. 6199 Division No.____
X-Sec. No.____ Date____ Notes Chkd.____ Date____ Checked____ Date____ Survey of Pier 60 and 62 - Terminal Survey by Mau & Clark Notes by [illegible] Date 2-7-48 Map No.____ Notes by M. E. Johnson Date 4-22-48

F.B. 129 Pg. 137

STATION	B. S.	H. I. Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		217	07.1	+14.6	Average Wave Ht. = 02.4'	
2		226	09.2	+13.4		
3		232	12.0	+11.2		
4		241	14.8	+9.3		
5		247	17.1	+7.6		
6		257	20.5	+5.2		
7		264	22.5	+3.9		
8		268	24.0	+2.8		
9		268	25.1	+1.7		
10		268	25.8	+1.0		
11		268	26.5	+0.3		
12		268	27.7	-0.9		
13		266	27.9	-1.3		
14		267	27.0	-0.3		
15		267	29.3	-2.6		
16		268	32.2	-5.4		
17		268	34.5	-7.7		
18		267	35.0	-8.3		
19		266	34.8	-8.2		
20		268	34.2	-7.4		
21		268	34.8	-8.0		

- Dec Soundings -
"Western"
March 1, 1948
Elevations based on M.L.L.W.

Notes cont'd on pg. 138.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I.	~~F. S.~~	ELEV.		
Sta. 22		26.8	33.8	-7.0	Notes Contd From pg. 137.	
23		26.7	34.1	-7.4		
24		26.8	34.8	-8.0		
25		26.6	35.7	-9.1		
26		26.6	36.8	-10.2		
27		26.8	38.0	-11.2		
28		26.6	40.1	-13.5		
29		26.7	42.5	-15.8		
30		26.8	43.5	-16.7		
31		26.7	44.0	-17.3		
32					Rest of pier gone.	
33						
34						

Set from F.B. #1216

Element	Time	Direction	Velocity	Height
WIND	2:15 P.M.	S. 57° W.	6 miles per hr.	—
WAVES	"	S. 08° E.	10 " " "	2.4'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min	Tide
500' Up Coast	3 P.M.	200' in 8½ min's	Down Coast	24'	High
500' Down	" 2:30 "	100' " 11 "	" "	9'	"

2.7 High.

F B 1241 Pg. 138 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Hermosa Date Date No.
Survey by Hlemeck Notes Las-Gr. 3-1-48 Notes Chkd. Checked X-Sec.
Indexed C. Johns Date Date No.

Profile No. _____ Notes Red _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 Pg. 139

Date _____ Date _____ Survey of Pier Soundings - Hermosa.

X-Sec. No. _____ Notes Chkd. _____ Checked _____ Survey by Hemock Notes HR-GK Date 4-13-'48

Date _____ Date _____ Map No. _____ Indexed A. C. Johnson Date _____

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

— PIER SOUNDINGS —

"HERMOSA"

April 13, 1948.

Elevations based on M.L.L.W.

STATION	B. S.	H. I. Elevation	F. S.	ELEV. Below
Sta. No. 1		217	7.5	+42
2		226	9.5	+31
3		232	[illegible]	+11
4		241	[illegible]	+103
5		247	14.4	+103
6		[illegible]	17.9	+78
7		[illegible]	19.9	+65
8		[illegible]	21.4	+54
9		268	23.6	+32
10		[illegible]	[illegible]	+21
11		[illegible]	[illegible]	+02
12		268	31.1	-43
13		[illegible]	[illegible]	-42
14		268	[illegible]	-44
15		267	[illegible]	-42
16		268	[illegible]	-51
17		268	[illegible]	-65
18		267	[illegible]	-53
19		266	[illegible]	-48
20		268	[illegible]	-66
21		268	[illegible]	-57

Cont'd on Pg. 140

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~	F. S.	ELEV.		
Sta. [illegible]		26.8	[illegible]	-[illegible]	Cont'd from pg. 139	
23		26.7	[illegible]	-[illegible]		
24		26.8	[illegible]	-[illegible]		
25		26[illegible]	[illegible]	-[illegible]		
26		26.6	[illegible]	-[illegible]		
27	Get from F.B. #1216	26.8	[illegible]	-12.1		
28		26.6		-13.5		
29		26.7	[illegible]	-15.9		
30		26.8	[illegible]	-16.2		
31		26.7		-16.5		

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S 70° W	6 miles per hr	—
WAVES	"	S 26° E	8 " " "	1.5'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' up Coast	2:30 P.M.	150' in 12 mins.	Up. Coast	13'	High ebb
500' Down "	2:15 "	90' in 10 "	" "	9'	" "

2.6 Falling.

F.B. 129 PG. 140

Job No. 8424 Division No. Notes Red. Plotted No. Profile

Survey of [illegible] Hermosa Date Date X-Sec.

Survey by G. Kleineck Notes HR-GK 4-13-43 Notes Chkd. Checked No.

Indexed [illegible] Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. 1		217	7.2	+145	AVERAGE WAVE HT. = 2.30 FT.	
2		226	9.2	+134		
3		232	12.0	+112		
4		241	13.3	+108		
5		247	15.2	+95		
6		257	17.5	+82		
7		264	19.3	+71		
8		268	21.4	+54		
9		268	23.3	+35		
10		268	24.0	+28		
11		268	25.1	+17		
12		267	27.2	-04		
13		266	29.0	-24		
14		267	31.6	-49		
15		267	31.0	-43		
16		268	30.4	-36		
17		268	31.0	-42		
18		267	30.3	-36		
19		266	30.6	-40		
20		268	32.0	-52		
21		268	32.0	-52	Notes Cont'd on pg. 142	

~ PIER SOUNDINGS ~
"HERMOSA"
May 4, 1948
Elevations based on M.L.W.

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8424 Division No. ____
X-Sec. No. ____ Date ____ Notes Chkd. ____ Checked ____ Survey of Pier Soundings - Hermosa
Date ____ Map No. ____ Survey by Kleinecke Notes [illegible] Date 5-4-48
Date ____ Index [illegible] Date 5-17-48

F.B. [illegible] Pg. 141

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. N-22		268	32.5	-57	Notes Cont'd from pg. 141.	
23		267	34.2	-75		
24		267	35.0	-82		
25		266	36.0	-94		
26		266	37.2	-106		
27	Set from F.B. 41216	268	38.9	-121		
28		266	40.3	-137		
29		267	42.4	-157		
30		268	42.9	-161		
31		267	43.2	-165		
~~32~~						
~~33~~						
~~34~~						

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	5.65° W.	4 miles per hr.	—
WAVES	" "	North & South	9-10 miles " "	2.3'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	2:30 P.M.	100' in 9½ mins	Down Coast	11'	Low flood
500' Down	" 2:15 "	250' " 3¼ "	" "	77'	" "

1.3 RISING.

F.B. 124 PG. 142
Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Hermosa Date Date No. X-Sec.
Survey by G. Klemeck Notes Chkd. Checked
Indexed Date Date No.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 PG. 143

X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Hermosa

Notes Chkd. ____ Checked ____ Survey by Kleineck Notes H.R.-G.K. Date 6-3-'48

Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date 6-7-48

~PIER SOUNDINGS~

"HERMOSA"

June 3, 1948

Elevations based on M.L.L.W.

Notes Contd on Pg. 144

STATION	B. S.	~~H.I.~~ Elev.-Sta.	~~F.S.~~ (-)	ELEV. Bottom
Sta. No. 1		217	7.1	+146
2		226	9.0	+136
3		232	11.9	+113
4		241	13.0	+111
5		247	14.9	+98
6		257	16.0	+97
7		264	18.3	+81
8		268	20.4	+64
9		268	23.0	+38
10		268	24.1	+27
11		268	25.3	+15
12		268	25.9	+09
13		266	26.0	+06
14		267	27.5	-08
15		267	31.7	-50
16		268	33.2	-64
17		268	34.0	-72
18		267	33.8	-71
19		266	33.0	-64
20		268	33.9	-71
21		268	33.5	-67

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	~~F. S.~~ (-)	~~ELEV.~~ Bottom		
Sta. No. 22		268	33.0	-62	Notes Cont'd from pg. 143	
23		267	33.1	-64	AVERAGE WAVE	HGT. = 1.6
24		268	33.3	-65		
25		266	33.8	-72		
26		266	34.5	-79		
27		268	36.0	-92		
28		266	38.2	-116		
29		267	40.8	-141		
30		268	42.0	-152		
31		267	NOT FOUND			

Element	Time	Direction	Velocity	Height
WIND	1:45 P.M.	5.41° W.	9 miles per hr.	—
WAVES	"	5.09° E.	10 " " "	1.6'

— LITTOCAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	2:20 P.M.	None	—		Low flood
500' Down "	2 "	200' in 4½ mins.	Up Coast	44'	" " 2.1 RISING.

F.B. 129 PG. 144

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Hermosa Date Date No. X-Sec.

Survey by G. Klaineck (H.R. - GK. 6/3/48) Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

Notes Ck'd by	Survey of Pier Soundings
Map No	W. O. 8429 Tape No. St'd °F
Office Work	Surveyed by G. Klemeck
Checked	Notes Date
Date	Indexed A. C. Johnson 5-8-47

F.B. 1791 PG. 145

~ MANHATTAN BEACH PIER ~

SURVEY & SOUNDING DATA.

April 29, 1947 to June 2, 1948

~ INDEX ~

For:-	Page.
Sketch & Survey See F.B. 1216	14
Profile Levels " "	162.
Soundings & Etc. - Apr. 29, 1947 This book	147.

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247 SM 11-41

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 146

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ Survey of Pier Soundings - Manhattan

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey by Kleinack Notes J.W.S.M. Date 4-29-47

Map No. ____ Indexed A. C. Johnson Date ____

FB. 1291 PG. 147

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 307 2M 11-41

— PIER SOUNDINGS —

"MANHATTAN BEACH"

April 29, 1947

Elevations based on M.L.L.W.

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom	
Sta. No 1		259	125	+134	Wave Hght. 3.5'
2		270	135	+135	
3		268	148	+120	
4		267	172	+95	
5		267	198	+69	
6		267	220	+47	
7		268	238	+30	
8		268	250	+18	
9		267	260	+07	
10		268	269	-01	
11		268	300	-32	
12		268	325	-57	
13		268	330	-62	
14		268	339	-71	
15		268	339	-71	
16		268	340	-72	
17		265	325	-60	
18		267	350	-83	
19		270	379	-109	
20		286	418	-132	
21		305	457	-152	

Cont'd on pg. 148

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (–)	ELEV. Bottom		
Sta. No. 22		308	465	-157	Cont'd from pg. 147	
23		308	470	-162		
24		306	456	-150		
25		306	454	-1[illegible]		

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	5.70' [illegible]	6 miles per hr.	—
WAVES	"	5.29' [illegible]	11 " " "	3.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up. Coast.	2:45 P.M.	Short [illegible]	No definite drift	0	Mean flood
500' Down "	2:30 "	100' in 3½ mins	Up coast	29'	" "

1.6 RISING.

F B 129 PG. 148 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Fier Soundings - Manhattan Date No.
Survey by Kleneck Notes [illegible] Date Checked X-Sec.
Indexed A. C. Johnson Date Notes Chkd. Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 129 / Pg. 149

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Manhattan

Survey by Kleineck Notes J. Moore Date 7-17-47

Map No. ____ Indexed A. C. Johnson Date ____

~ PIER SOUNDINGS ~

"MANHATTAN BEACH"

July 17, 1947.

Elevations based on M.L.L.W.

Wave 2 8

STATION	B. S.	Elev. Sta.	F. S. (-)	ELEV. Bottom
No 1		259	125	+134
2		270	135	+135
3		268	146	+122
4		267	165	+102
5		267	185	+82
6		267	200	+67
7		268	218	+50
8		268	235	+33
9		267	244	+23
10		268	250	+18
11		268	277	-09
12		268	290	-22
13		268	295	-27
14		268	300	-32
15		268	309	-41
16		268	313	-45
17		265	351	-86
18		267	370	-103
19		270	395	-125
20		286	425	-139
21		305	455	-150

Cont'd on pg. 150

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Form 307 5M 5-39

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev-Sta	F. S. (-)	ELEV. Bottom		
No 22		30.8	46.0	-152	Cont'd from pg. 149.	
23		30.8	45.5	-147		
24		30.6	46.0	-154		
25		30.6	46.4	-158		

Element	Time	Direction	Velocity	Height
WIND	2:30 P.M.	N. 78° E.	10 miles per hr.	—
WAVES	" "	S. 35° E.	10 " " "	2.8'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide.
500' Up Coast	3 P.M.	None	—	0	Low flood
500' Down "	2:45 "	100' in 7 min's.	Up Coast	14'	" " 2.4 Rising.

F. B. 129 Pg. 150 Job No. [illegible] Division No. [illegible] Notes Red. Plotted Profile
Survey of [illegible] Sounding Manhattan Date No. X-Sec.
Survey by [illegible] Notes J.M. - G.W.K. Notes Chkd. Checked
Indexed [illegible] C. Johns Date Date No.

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta. No 1		259	12.5	+134	Average Wave Ht: 1.6'	
2		270	13.5	+135		
3		268	14.8	+120		
4		267	15.9	+108		
5		267	18.3	+84		
6		267	20.8	+59		
7		268	22.1	+47		
8		268	22.0	+48		
9		267	23.9	+28		
10		268	24.6	+22		
11		268	26.2	+06		
12		268	29.2	-24		
13		268	30.0	-32		
14		268	30.0	-32		
15		267	29.8	-30		
16		268	32.0	-52		
17		265	35.0	-85		
18		267	37.5	-108		
19		270	39.5	-125		
20		286	42.5	-139		
21		305	45.5	-150		

~ PIER SOUNDINGS ~
"MANHATTAN BEACH"
Aug. 5, 1947.
Elevations based on M.L.L.W.

Contd on pg. 152

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____
Date ____ Date ____ Survey of Pier Soundings - Manhattan
X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes G.H.-G.K. Date 8-5-47
Date ____ Date ____ Map No. ____ Indexed Johnson Date ____

F. B. 1291 PG. 151

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta	F. S. (−)	ELEV. Bottom		
Sta. No 22		30.8	45.8	-15.0	Cont'd from pg. 151.	
23		30.8	46.0	-15.2		
24		30.6	46.1	-15.5		
25		30.6	46.0	-15.4		

Element	Time	Direction	Velocity	Height
WIND	9:15 A.M.	S 31° W.	4 miles per hr.	—
WAVES	"	S 19° E.	13 " " "	1.6'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	9:45 A.M.	Reversal 100' in 7½ mins.	Down Coast	14'	Mean Flood
500' Down "	9:30 "	100' in 3½ "	" "	29'	" "
					3.2 Rising

F. B. 1291 PG. 152 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Manhattan Date Date No.
Survey by Kleinack Notes G.H. - Gulk Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B. 129/PG. 153

X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Manhattan

Notes Chkd. ____ Checked ____ Survey by Kleineck Notes G.W.K. Date 9-10-'47

Date ____ Date ____ Map No. ____ Indexed Johnson Date ____

~ PIER SOUNDINGS ~

"MANHATTAN BEACH"

Sept. 10 - '47

Elevations based on M.L.L.W.

STATION	B. S.	Elev. Sta.	F. S.	ELEV. Bottom	
Sta. No. 1		259	*125	+134	* See August reading.
2		270	13.3	+137	
3		268	4.5	+123	
4		267	5.0	+117	
5		267	16.1	+106	
6		267	19.8	+69	
7		268	22.0	+48	
8		268	23.5	+33	
9		267	24.0	+27	
10		268	24.9	+19	
11		268	27.0	-02	
12		268	27.9	-11	
13		268	28.5	-17	
14		268	29.1	-23	
15		268	31.5	-47	
16		268	33.8	-70	
17		265	35.3	-88	
18		267	37.9	-112	
19		270	39.6	-126	
20		286	42.7	-141	
21		305	45.4	-149	

Cont'd on pg. 154

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Form 307 5M 5-39

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~Elev. Sta.~~	F. S.	ELEV. Bottom		
Sta. No 22		30 8	46.2	-154	Cont'd from pg 153	
23		30 8	46.1	-153		
24		30 6	46.0	-154		
25		30 6	46.0	-154		

Element	Time	Direction	Velocity	Height
WIND	9:30 A.M.	S 82° E.	1 mile per hr.	—
WAVES	"	N 3[illegible]	13 " 's " "	2.3'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast.	10:15 A.M.	90' in 11 mins.	Down Coast	8'	Low ebb.
500' Down "	9:45 "	100' in 11 "	" "	9'	" "
				3.0	Falling

F. B. 1291 Pg. 154 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Manhattan Date Date No.
Survey by Kleinecke Notes Gwk. 9-10-42 Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B/29/PG. 155

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Manhattan.

Notes Chkd. _____ Checked _____ Survey by Meineck Notes A.S.-G.W.K. Date 9-30-'47

Date _____ Date _____ Map No. _____ Indexed Johnson Date _____

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

—PIER SOUNDINGS—

"MANHATTAN BEACH"

Sept. 30, 1947

Elevations based on M.L.L.W.

Average Elevation = 1.5'

STATION	B. S.	Elev. - Sta.	F. S. (-)	ELEV. Bottom
Sta. - 1		259	12.5	+13.4
2		270	13.4	+13.6
3		268	14.4	+12.4
4		267	14.8	+11.9
5		267	16.3	+10.4
6		267	19.3	+6.9
7		268	21.8	+5.0
8		268	23.0	+3.8
9		267	23.9	+2.8
10		268	25.0	+1.8
11		268	26.0	+0.8
12		268	27.3	-0.5
13		268	28.3	-1.5
14		268	28.9	-2.1
15		268	30.0	-3.2
16		268	32.6	-5.8
17		265	36.0	-9.5
18		267	38.1	-11.4
19		270	39.8	-12.8
20		286	42.8	-14.2
21		305	45.7	-15.2

Notes Contd on pg 156

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	(F. S.)	ELEV. Bottom		
Sta. 22		308	46.3	-155	Notes Cont'd from pg. 155	
23		308	46.1	-153		
24		306	46.0	-154		
25		306	46.2	-156		

Element	Time	Direction	Velocity	Height.
WIND	9:15 A.M.	Calm.	—	—
WAVES	"	N. 14° W.	10 miles per hr.	1.8'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide.
500' Up Coast	9:45 AM.	150' in 5 mins.	Down Coast	30'	High.
500' Down "	9:30 "	100' in 5 "	" "	20'	"
				5.2	Falling.

F.B. 129/PG. 156

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Manhattan Date Date No. X-Sec.

Survey by Meinack Notes G.W.K. Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta No 1		259	125	+134		
2		270	134	+136		
3		268	145	+123		
4		267	[illegible]	+121		
5		267	185	+82		
6		267	[illegible]	+57		
7		268	224	+44		
8		268	[illegible]	+37		
9		267	241	+26		
10		268	253	+15	Average [illegible]	
11		268	[illegible]	-02	-1.5 ft.	
12		[illegible]	[illegible]	-23		
13		268	308	-40		
14		268	[illegible]	-41		
15		268	[illegible]	-32		
16		268	[illegible]	-47		
17		265	33[illegible]	-74		
18		267	35[illegible]	-122		
19		270	410	-140		
20		286	440	-154		
21		305	471	-166		

~ PIER SOUNDINGS ~
"MANHATTAN BEACH"
Nov. 4, 1947
Elevations based on M.L.W.

Notes Cont'd on pg. 158

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8424 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Manhattan
No. ____ Date ____ Notes Chkd. ____ Checked ____ Survey by Hoinck Notes RM-GWK Date 11-4-47
Date ____ Date ____ Map No. ____ Indexed C. Johnson Date 11-10-47

F.B. 129 Pg. 157

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		308	[illegible]	-171	Notes Contd from pg. 157	
23		308	[illegible]	-170		
24		306	[illegible]	-146		
25		306	[illegible]	-145		

Element	Time	Direction	Velocity	Height
WIND	3 P.M.	5 84° W.	2 miles per hr.	—
WAVES	"	5 18° E	11 " " "	1.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide.
500' up Coast.	3:15 P.M.	100' in 3½ mins	Down Coast.	31'	High ebb.
500' Down "	3 "	100' in 3½ "	" "	29'	" "

4.1 Falling

F.B. 129 PG. 159

Job No. 8429 Division No. Notes Red Plotted Profile

Survey of Bar Soundings - Manhattan Date Date No. X-Sec.

Survey by Heineck Notes RM - Fwk 11-4-47 Notes Chkd. Checked

Indexed A. O. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta	F. S. (-)	~~ELEV.~~ Bottom		
Start 1		259	130	+129		WAVE [illegible] 2.5'
2		270	130	+140		
3		268	135	+133		
4		267	168	+99		
5		267	191	+76		
6		267	212	+55		
7		268	223	+40		
8		268	234	+34		
9		267	245	+22		
10		268	257	+11		
11		268	280	-12		
12		268	300	-32		
13		268	310	-42		
14		268	301	-33		
15		268	301	-33		
16		268	311	-43		
17		265	325	-62		
18		267	350	-83		
19		270	398	-128		
20		286	440	-154		
21		305	472	-167	Notes Cont'd on pg. 160	

— PIER SOUNDINGS —
"MANHATTAN BEACH"
Dec. 2, 1947
Elevations based on MLLW

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8424 Division No. ____
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Manhattan
Notes Chkd ____ Checked ____ Survey by Alexander Notes [illegible] Date 12-2-47
Date ____ Date ____ Map No. ____ Indexed [illegible] Date ____

F.B. 129 Pg. 159

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 22		308	46 5	-155	Notes Cont'd from 159.	
23		308	45 6	-148		
24		306	47 9	-173		
25		306	45	-175		

Element	Time	Direction	Velocity	Height
WIND	3 P.M.	S 33° W.	5 miles per hr.	—
WAVES	"	S 24° E	12 " " "	2.5'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide.
500' Up Coast	3:30 P.M.	100' in	2½ mins. Down	Coast	40' Mean ebb
500' Down " "	3:15 "	100' in	7¾ " "	"	14' " "
					2.6 Falling

F.B. 121 Pg. 160 Job No. 5429 Division No. Notes Red. Plotted Profile
Survey of Big Lowdings - Manhattan Date Date No. X-Sec.
Survey by Blomeck Notes Chkd. Checked
Indexed A. C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta	~~F. S.~~ (-)	ELEV. Bottom		
Sta. No. 1		259	13.5	+134	Average	ave Ht. = [illegible]
2		270	13.4	+136		
3		268	14.6	+122		
4		267	16.9	+98		
5		267	18.1	+86		
6		267	21.1	+56		
7		268	23.0	+38		
8		268	24.[illegible]	+28		
9		267	25.4	+13		
10		268	26.1	-01		
11		268	28.1	-13		
12		268	29.1	-23		
13		268	30.[illegible]	-33		
14		268	30.5	-37		
15		268	[illegible]	-40		
16		268	[illegible]	-27		
17		265	[illegible]	-57		
18		267	[illegible]	-103		
19		270	40.0	-130		
20		286	44.1	-155		
21		305	47.1	-166		

~PIER SOUNDINGS~
"MANHATTAN BEACH"
Jan. 6 - 1948
Elevations based on M.L.L.W.

Notes Contd on pg. 162

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8629 Division No. ____
X-Sec. ____ Date ____ Date ____ Survey of Pier Soundings - Manhattan
No. ____ Notes Chkd. ____ Checked ____ Survey by Elwood Notes [illegible] Date 1-6-48
Date ____ Date ____ Map No. ____ Indexed ____ Date ____

F.B. 129 Pg. 159 161

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No 22		308	[illegible]	-161	Notes Contd from pg. 161	
23		308	[illegible]	-157		
24		306	[illegible]	-162		
25		306	[illegible]	-166		

Element	Time	Direction	Velocity	Height
WIND	9:30 A.M.	N 9° E	3 miles per hr.	—
WAVES	"	S 8° E	12 " " "	3.5'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	10:15 A.M.	170' in 3 3/4 mins	Down Coast	45'	Mean ebb
500' Down "	10 "	150' in 3 1/2 "	" "	46'	" "
					1.8 Falling

F.B. 129 PG. 162

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Manhattan Date Date No. X-Sec.

Survey by Flemeal Notes H.H. - G.K. 1-6-48 Notes Chkd. Checked

Indexed C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 1		259	125	+134	Average Wave Ht. = 2.0'	
2		270	135	+135		
3		268	14.5	+1[illegible]		
4		267	15.7	+110		
5		267	18.0	+87		
6		267	20.1	+66		
7		268	21.7	+51		
8		267	23.0	+38		
9		267	24.4	+23		
10		268	25.0	+18		
11		268	25.5	+13		
12		268	28.0	-12		
13		268	29.3	-25		
14		268	27.9	-11		
15		268	29.0	-22		
16		268	31.2	-44		
17		265	33.5	-70		
18		267	36.1	-94		
19		270	40.0	-130		
20		286	43.5	-149		
21		305	47.0	-165	Notes Contd on pg 164	

~ PIER SOUNDINGS ~
"MANHATTAN BEACH"
Feb. 2, 1948.
Elevations Based on M.L.L.W.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 Pg. 163
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Manhattan
Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes Chk-A.C. Date 2-2-48
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

F.B. 129/PG. 164 | Job No. 8429 | Division No. ____ | Notes Red. ____ | Plotted ____ | Profile No. ____
Survey of Pier Soundings - Manhattan | Date ____ | Date ____ | X-Sec. No. ____
Survey by Kleinbeck | Notes GWK - RGS | Notes Chkd. ____ | Checked ____
Indexed A. C. Johnson | Date ____ | Date ____ | Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta	F. S. (-)	ELEV. Bottom	
Sta. № 22		308	48.0	-17.2	Notes Cont'd from pg. 163
23		308	47.0	-16.2	
24		306	46.3	-15.7	
25		306	46.9	-16.3	

Element	Time	Direction	Velocity	Height
WIND	2:30 P.M.	S 59° W	9 miles per hr.	—
WAVES	"	S 16° E	" " " "	2.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	3 P.M.	Not definite	Reversals	0	High flood.
500' Down "	2:45 P.M.	150' in 6¼ min.	Up Coast	24'	2.3" Rising

F.B. 129 PG. 165

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
Date ____ Date ____ Survey of Pier Soundings — Manhattan
X-Sec. No. ____ Notes Chkd ____ Checked ____ Survey by Meineck Notes H.R.-G.K. Date 3-2-'48
Date ____ Date ____ Map No. ____ Indexed C. Johns Date 4-28-48

— PIER SOUNDINGS —

"MANHATTAN BEACH"

March 2, 1948.

Elevations based on M.L.L.W.

STATION	B. S.	H.I.	F.S.	ELEV.
Sta. #1		259	125	+134
2		270	135	+135
3		268	16.3	+105
4		267	17.4	+93
5		267	19.2	+75
6		267	21.0	+57
7		268	22.3	+45
8		268	23.3	+35
9		267	24.6	+21
10		268	26.2	+06
11		268	25.8	+10
12		268	27.3	-05
13		268	28.4	-16
14		268	30.4	-36
15		268	31.1	-43
16		268	31.1	-43
17		265	31.8	-53
18		267	34.0	-73
19		270	37.9	-109
20		286	43.1	-145
21		305	47.4	-169

Notes Contd on pg. 166.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

F.B. 1299 PG. 166 | Job No. 8449 | Division No. | Notes Red. | Plotted | Profile No.
Survey of Pier Soundings - Manhattan | Date | Date
Survey by Kleineck | Notes H.B. - G.K. - 3-2-48 | Notes Chkd. | Checked | X-Sec.
Indexed A. C. Johnson | Date | Date | Date | No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	~~F. S.~~	~~ELEV.~~ Bottom		
Sta. No 22		308	48.2	-11.2	Average Wave Hgt. = 02.2	
23		208	49.4	-11.6	Notes Cont'd from pg. 165	
24		206	46.1	-11.5		
25		206	45.9	-11.4		

Element	Time	Direction	Velocity	Height
WIND	9:30 A.M.	S. [illegible]		
WAVES	"	S. 16° E.	10 miles per hr.	2.2'

— LITTORAL DRIFT —

Observation Pt.	Time	Drift	Direction	Feet per min.	Tide
500' up Coast	10:15 AM.	200' in 4 3/4 mins.	Down Coast	42'	Low.
500' Down "	10:20 "	100' in 3 1/2 "	" "	29'	"

0.6 Low.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No. 1		259	12.5	+134	Average [illegible]	01.1 FT.
2		270	13.5	+135		
3		268	16.1	+107		
4		267	16.3	+104		
5		267	17.9	+88		
6		267	19.9	+68		
7		268	21.5	+53		
8		268	22.9	+39		
9		267	23.7	+30		
10		268	24.5	+23		
11		268	26.5	+03		
12		268	29.5	-27		
13		268	29.8	-30		
14		268	31.1	-43		
15		268	32.0	-52		
16		268	32.0	-52		
17		265	31.0	-45		
18		267	31.8	-51		
19		270	36.0	-90		
20		286	41.2	-126		
21		305	46.6	-161		

~ PIER SOUNDINGS ~
"MANHATTAN BEACH"
April 1, 1948.
Elevations based on M.L.W.

contd on Pg. 168

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 Pg. 167
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Manhattan
Notes Chkd ____ Checked ____ Survey by Klemeck Notes H.R. G.K. Date 4-1-48
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S.	~~ELEV.~~ Bottom		
Sta. No. 22		30 8	48.1	-17 3	Cont'd from pg. 167	
23		30 8	49.0	-18 2		
24		30 6	46.3	-16 3		
25		30 6	45.9	-15 3		

Element	✓ Time	✓ Direction	✓ Velocity	✓ Height
WIND	2:45 P.M.	S. 81° W.	3 miles per hr.	—
WAVES	" "	S. 21° E.	9 " " "	1.1'

~ LITTORAL DRIFT ~

Observation At	✓ Time	✓ Drift	✓ Direction	✓ Tide
500' Up Coast	3:30 P.M.	Not definite	Reversals - Eddies	Main flood.
500' Down "	3:15 "	Neg. pole {5' in 10 mins	Down Coast	" "
				2.4 Rising.

F.B. 1M PG. 168

Job No. 8429 Division No. ____ Notes Red. ____ Plotted ____ Profile

Survey of Pier Soundings - Manhattan Date ____ Date ____ No. ____

Survey by G. Mennen Notes H.R. - Gift 4-1-48 Notes Chkd. ____ Checked ____ X-Sec.

Indexed A. C. Johnson Date ____ Date ____ Date ____ No. ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. 1		259	130	+129	Average [illegible]	[illegible]
2		270	130	+140		
3		268	15.8	+110		
4		267	16.8	+99		
5		267	17.5	+92		
6		267	19.9	+68		
7		268	22.1	+47		
8		268	23.4	+34		
9		267	24.4	+23		
10		268	25.3	+15		
11		268	25.6	+12		
12		268	28.7	−19		
13		268	31.0	−42		
14		268	30.0	−32		
15		268	30.1	−33		
16		268	31.5	−47		
17		265	32.8	−63		
18		267	35.1	−84		
19		270	39.0	−120		
20		286	43.5	−149		
21		300	47.0	−170	Notes Cont'd on pg. 170	

~PIER SOUNDINGS~
"MANHATTAN BEACH"
May 3, 1948.
Elevations based on M.L.L.W.

Profile Notes Red ____ Plotted ____ Job No. 8424 Division No. ____ F.B. 129 Pg. 169
No. ____ Date ____ Date ____ Survey of Pier Soundings - Manhattan
X-Sec. Notes Chkd. ____ Checked ____ Survey by Kleinert Notes TL-GH Date 5/3/48
No. ____ Date ____ Date ____ Map No. ____ Andrew Job ____ Date 5-17-48

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (—)	ELEV. Bottom		
Sta. No. 22		30 8	47.1	-[illegible]	Cont'd from pg. 169.	
23		30 8	48.4	-[illegible]		
24		30 6	46.9	-[illegible]		
25		30 6	45.5	-[illegible]		

Element	Time	Direction	Velocity	Height
WIND	2:45 P.M.	5 74 W.	6 miles per hr.	—
WAVES	" "	5 18 E.	9-10 " " "	2.3'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
500' Up Coast	3:30 P.M.	150' in	3½ mins. Down Coast	43'	Mean Flood
500' Down "	3 "	150' in	6½ " " "	23'	" "
				2.3	Rising

F.B. 129 PG. 170

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Manhattan Date Date No. X-Sec.

Survey by G. Kleinach Notes T.L. - G.K. 5/3/43 Notes Chkd. Checked

Indexed Date Date No.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 171

Date _____ Date _____ Survey of Pier Soundings — Manhattan

X-Sec. No. _____ Notes Chkd. _____ Checked _____ Survey by Meineck Notes H.C.-G.K. Date 6-2-'48

Date _____ Date _____ Map No. _____ Indexed O. Johnson Date 6-7-48

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

—PIER SOUNDINGS—

"MANHATTAN BEACH"

June 2, 1948.

Elevations based on M.L.L.W.

AVERAGE WAVE HT. = 02.0 FT.

STATION	B.S.	Elev. H.I. Ft.	(~~F.S.~~)	ELEV. Bottom
[illegible]		25.4	12.5	+134
[illegible]		27.0	13.5	+135
[illegible]		26.8	15.2	+116
[illegible]		26.7	16.1	+106
[illegible]		26.7	16.8	+99
[illegible]		26.7	17.9	+88
[illegible]		26.8	20.5	+63
[illegible]		26.8	22.6	+42
[illegible]		26.7	24.1	+26
[illegible]		26.8	24.9	+19
[illegible]		26.8	27.1	-03
[illegible]		26.8	28.2	-14
[illegible]		26.8	29.8	-30
[illegible]		26.8	32.1	-53
[illegible]		26.8	33.3	-65
[illegible]		26.8	33.9	-71
[illegible]		26.5	33.0	-65
[illegible]		26.7	34.0	-73
[illegible]		27.0	36.7	-97
[illegible]		28.6	42.8	-142
[illegible]		30.5	47.2	-167

Notes Contd on pg. 172

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	Elev. Sta.	(~~F.S.~~)	ELEV. Bottom		
Sta. No. [illegible]		308	48.1	-173	Notes Cont'd from pg. 171.	
[illegible]		308	49.1	-183		
[illegible]		306	46.2	-156		
[illegible]		306	46.0	-154		

Element	Time	Direction	Velocity	Height.
WIND	3:30 P.M.	5.67° W.	7 miles per hr.	—
WAVES	" "	5.28° E.	11 " " "	2.0'

LITTORAL DRIFT

Observation At	Time	Drift	Direction	Tide
500' Up Coast	3:40 P.M.	Eddies-Not definite	Reversals	Mean flood.
500' Down "	4:00 "	" - " "	"	" " 4.7 Rising

F.B. 129 PG. 172

Job No. 8429 Division No. [illegible] Notes Red. Plotted Profile

Survey of Pier Soundings - Manhattan Date Date No.

Survey by G. Kleinecke Notes H.R. - G.K. 6/2/48 Notes Chkd. Checked X-Sec.

Indexed [illegible] Date Date Date No.

Notes Ck'd by	Survey of Pier Soundings
Map No.	W. O. 9429 Tape No. St'd °F
Office Work	Surveyed by G. Klemeck
Checked	Notes Date
Date	Indexed A. C. Johnson 5-8-47

F.B. 1291 PG. 173

— OCEAN PARK — "LICK" PIER —

SURVEY & SOUNDING DATA.

April 29, 1947 to June 2, 1948.

— INDEX —

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Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247 BM 11-41

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 172

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (−)	ELEV. Bottom		
Sta. No 1		230	290	−60	Wave Hght. 2.3'	
2		229	284	−55		
3		230	289	−59		
4		231	289	−58		
5		233	295	−62		
6		234	291	−57		
7		237	295	−58		
8		240	300	−60		
9		240	310	−70		
10		239	309	−70		
11		240	310	−70		
12		242	320	−78		
13		243	330	−87		
14		245	347	−102		
15		246	359	−113		
16		248	359	−111		
17		248	344	−96		
18		251	359	−108		
19		251	361	−110		
20		253	368	−115		
21		253	371	−118		

~ FIRE SOUNDINGS ~
"OCEAN PARK - LICK PIER"
April 29, 1949.
Elevation based on M.L.L.W.

Cont'd on pg. 176

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8472 Division No. ____ F. B. 1291 PG. 175
Date ____ Date ____ Survey of Pier Soundings - Ocean Park
X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Hlaineck Notes J.W.S.M. Date 4-29-47
Date ____ Date ____ Map No. ____ Andrew Johnson Date ____

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE, OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		252	379	[illegible]	Cont'd from pg. 175	
23		253	390	[illegible]		
24		254	400	[illegible]		
25		255	408	[illegible]		
26		255	419	[illegible]		
27		255	424	[illegible]		
28		256	439	[illegible]		
29		256	450	[illegible]		

Element	Time	Direction	Velocity	Height
WIND	12:30 Noon	S. 79° W.	6 miles per hr.	—
WAVES	"	N. 85° W.	13.5 " " "	2.8'

— LITTORAL DRIFT —

Observation Pt.	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	12:30 Noon	100' in 2 mins	Down Coast	50'	Low Flood.
600' Down "	1 P.M.	100' in 3 "	" "	20'	
					−0.3 Rising

F. B. 129 Pg. 176 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Ocean Park Date Date No.
Survey by Heinack Notes [illegible] Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	Elev. Sta.	F. S. (−)	ELEV. Bottom		
No 1		230	245	−15	Wave 2 9"	
2		229	255	−26		
3		230	265	−35		
4		231	269	−38		
5		233	276	−43		
6		234	280	−46		
7		237	289	−52		
8		240	299	−59		
9		240	305	−65		
10		239	305	−66		
11		240	308	−68		
12		242	313	−71		
13		243	315	−72		
14		245	323	−78		
15		246	339	−93		
16		248	323	−75		
17		248	320	−72		
18		251	330	−79		
19		251	339	−88		
20		253	349	−96		
21		253	355	−102	Cont'd on pg. 178.	

~ PIER SOUNDINGS ~
"OCEAN PARK - LIGHT PIER"
July 17, 1947.
Elevations based on M.L.L.W.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B 129 Pg. 177
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Ocean Park
Notes Chkd. ____ Checked ____ Survey by Maineck Notes J. Moore Date 7-17-47
Date ____ Date ____ Map No. ____ Indexed by C. Jordan

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

F.B. 129 Pg. 178 | Job No. 8429 Division No. | Notes Red. | Plotted | Profile
Survey of Pier Sounding-Ocean Park | Date | Date | No.
Survey by Kleiner & Notes Clkd. | Checked | X-Sec.
Indexed C. Johnson Date | Date | Date | No.

STATION	B. S.	H.I. Elev. Sta.	F. S. (-)	ELEV. Bottom		
No 22		252	360	-108	Contd from pg. 177	
23		253	374	-121		
24		254	380	-126		
25		254	395	-141		
26		255	408	-153		
27		255	415	-160		
28		256	431	-175		
29		258	449	-191		

Element	✓ Time	✓ Direction	✓ Velocity	✓ Height
WIND	P.M.	N 75° E.	9 miles per hr.	
WAVES	"	N. 23° W.	10 " " "	2.9'

— LITTORAL DRIFT —

Observation At	✓ Time	✓ Drift	✓ Direction	Feet per min.	✓ Tide.
350' up Coast	1:15 P.M.	None			Low.
600' Down "	1:30 "	100 in 7 min's.	Down Coast	14'	" .
					2.1 Low

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		230	24.1	-1.1	Average Wave Ht = 2.1'	
2		229	25.0	-2.1		
3		230	25.9	-2.9		
4		231	26.9	-3.8		
5		233	27.2	-3.9		
6		234	27.9	-4.5		
7		237	28.5	-4.8		
8		240	29.0	-5.0		
9		240	30.0	-6.0		
10		239	30.2	-6.3		
11		240	30.4	-6.4		
12		242	31.0	-6.8		
13		243	31.5	-7.2		
14		245	31.9	-7.4		
15		246	33.0	-8.4		
16		248	32.0	-7.2		
17		248	31.8	-7.0		
18		251	33.0	-7.9		
19		251	34.1	-9.0		
20		253	35.1	-9.8		
21		253	36.0	-10.7		

~ PIER SOUNDINGS ~
"OCEAN PARK - LICK PIER"
Aug. 5, 1947.
Elevations based on MLLW.

Cont'd on pg. 180

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B. 129 Pg. 119
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Ocean Park
Notes Chkd. ____ Checked ____ Survey by Kleneck Notes GH-64 Date 8-5-47
Date ____ Date ____ Map No. ____ Indexed ____ Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ ~~Elev.~~ Sta.	F. S.	ELEV. (−) Bottom	
Sta. No. 22		252	36.1	-109	Cont'd from pg. 179.
23		253	37.3	-122	
24		254	38.2	-128	
25		254	39.9	-145	
26		255	40.8	-153	
27		255	43.5	-180	
28		256	43.2	-176	
29		258	44.8	-190	

Element	Time	Direction	Velocity	Height
WIND	11 A.M.	584° N.	7 miles per hr.	—
WAVES	"	N 14° W.	2 " " "	2.1'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	11:15 A.M.	100' in 6½ min's.	Up Coast	15'	High.
600' Down "	11:45 "	100' in 6¼ "	Down "	16'	"
				4.2	HIGH.

F B 129/PG. 180 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Ocean Park Date Date No.
Survey by Meineck Notes G.H. - GWK Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 1291 PG 181

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Ocean Park

Survey by Kleineck Notes GWK Date 9-10-'47

Map No. ____ Indexed A. C. Johnson Date ____

~ PIER SOUNDINGS ~

"OCEAN PARK - LICK PIER"

Sept. 10-'47

Elevations based on M.L.L.W.

Abaut 15' North of old sta.

STATION	B. S.	~~H. I.~~ Elev. - sta	F. S.	ELEV. Bottom
Sta. No 1		230	24.6	-16
2		229	26.9	-40
3		230	26.6	-36
4		231	27.8	-47
5		233	28.0	-47
6		234	28.1	-47
7		237	28.2	-45
8		240	29.0	-50
9		240	30.0	-60
10		239	29.3	-54
11		240	30.0	-60
12		242	30.9	-67
13		243	32.0	-77
14		245	32.1	-76
15		246	33.0	-84
16		248	32.0	-72
17		248	31.8	-70
18		251	33.0	-79
19		251	34.8	-97
20		253	35.9	-106
21		253	36.2	-109

Contd on pg. 182

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Form 307 5M 5-39

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S.	ELEV. Bottom		
Sta. No. 22		25 2	37.7	-12 5	Cont'd from pg. 181.	
23		25 3	38.4	-13 1		
24		25 4	38.7	-13 3		
25		25 4	39.7	-14 3		
26		25 5	41.0	-15 5		
27		25 5	41.8	-16 3		
28		25 6	43.1	-17 5		
29		25 8	44.4	-18 6		

Element	Time	Direction	Velocity	Height
WIND	11:30 AM	588° W.	3 miles per hr.	—
WAVES	"	515° E.	15 " " "	1.6'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast.	12 Noon	50' in 8 mins.	Down Coast.	6'	Low
600' Down "	11 A.M.	100' in 8 "	" "	13'	"

2.8 Low

F. B. 124 Pg. 182 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Ocean Park Date Date No.
Survey by Hemeck Notes GWK 9-10-47 Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev-Sta	F. S. (—)	ELEV. Bottom		
Sta-1		230	24.9	-19	Average Wave Ht = 1.2'	
2		229	25.8	-29		
3		230	26.3	-33		
4		231	26.9	-38		
5		233	27.3	-40		
6		234	27.7	-43		
7		237	27.2	-45		
8		240	27.3	-53		
9		240	30.4	-64		
10		239	29.9	-60		
11		240	29.9	-59		
12		242	30.4	-62		
13		243	31.1	-68		
14		245	31.1	-66		
15		246	32.6	-80		
16		248	31.9	-71		
17		248	32.0	-72		
18		251	33.1	-80		
19		251	34.3	-92		
20		253	35.5	-102		
21		253	36.2	-109		

—PIER SOUNDINGS—
"OCEAN PARK - LICK PIER"
Sept. 30, 1947
Elevations based on M.L.L.W.

Notes Contd on pg. 184.

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8449 Division No. ____ F.B. 129 Pg. 183
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings-Ocean Park
Notes Chkd ____ Checked ____ Survey by Meinert Notes H.H.H.-G.K. Date 9-30-47
Date ____ Date ____ Map No. ____ Indexed Johnson Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	~~ELEV.~~ Bottom		
Sta-22		252	36.8	-11.6	Notes Contd from pg. 183.	
23		253	37.8	-12.5		
24		254	39.[illegible]	-13.5		
25		254	39.[illegible]	-14.2		
26		255	40.7	-15.2		
27		255	42.0	-16.5		
28		256	43.3	-17.7		
29		258	44.8	-19.0		

Element	Time	Direction	Velocity	Height
WIND	11:30 A.M.	S 72° W.	4 miles per hr.	—
WAVES	"	N 21° W.	14 " " "	1.2'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min	Tide.
350' up Coast	11:15 A.M.	No drift	—		High ebb
600' Down "	10:30 A.M.	100' in 8½ mins.	Down Coast	12'	" "
					4.2 Falling

F.B. 129 PG. 184

Job No. 8429 Division No. Ocean Park Notes Red. Plotted No. Profile

Survey of Pier Soundings - Ocean Park Date Date X-Sec.

Survey by Kleinsmith Notes H.W. - G.W.K. Notes Chkd. Checked No.

Indexed L. C. Johnson Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No. 1		230	263	-33		
2		229	269	-40		
3		230	275	-45		
4		231	274	-43		
5		233	280	-47		
6		234	281	-47		
7		237	287	-50		
8		240	295	-55		
9		240	307	-67		
10		239	308	-69		
11		240	309	-69	Average height of waves	
12		242	315	-73	= 1.2 ft.	
13		243	324	-81		
14		245	333	-88		
15		246	342	-96		
16		247	346	-98		
17		248	33.8	-90		
18		251	347	-96		
19		251	365	-114		
20		253	366	-113		
21		253	372	-119		

~PIER SOUNDINGS~
"OCEAN PARK-LICK PIER"
Elevations based on MLLW.
Nov. 4, 1947

Notes Contd on pg. 186.

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 Pg. 185
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Ocean Park
Notes Chkd. ____ Checked ____ Survey by Wineck Notes Ch. Gulk Date 11-4-'47
Date ____ Date ____ Map No. ____ Indexed ____ Date 11-10-47

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom		
Sta. No 22		252	378	-126	Notes Contd from pg. 185	
23		253	390	-137		
24		254	398	-144		
25		254	402	-148		
26		255	411	-156		
27		255	420	-165		
28		256	432	-176		
29		258	457	-199		

Element	Time	Direction	Velocity	Height
WIND	1145 P.M.	West	5 miles per hr.	—
WAVES	"	515° E	13 " " "	1.2'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Tide
350' Up Coast	1115 P.M.	No definite drift.	Reversals	High
600' Down	"	2 "	Down Coast	High ebb
		Moderate - Could not measure - Bottom covered with mussels which fouled the line attached to cube.		5.0 Falling.

F.B. 129/PG. 186

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Ocean Park Date Date X-Sec.

Survey by Kleinecke Notes C.N.-Fwk 11-4-54 Notes Chkd. Checked No.

Indexed by C. Johnson Date Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
[illegible]		230	273	-43	Wave Height 4.5'	
2		229	275	-46		
3		230	282	-52		
4		231	276	-45		
5		233	288	-55		
6		234	287	-53		
7		237	285	-48		
8		240	291	-51		
9		240	301	-61		
10		239	300	-61		
[illegible]		240	298	-58		
[illegible]		242	300	-58		
[illegible]		243	308	-65		
[illegible]		245	318	-73		
[illegible]		246	325	-79		
[illegible]		248	328	-80		
[illegible]		248	325	-77		
[illegible]		251	330	-79		
[illegible]		251	340	-89		
20		253	345	-92		
21		253	350	-97	Notes Cont'd on pg. 188	

~PIER SOUNDINGS~
"OCEAN PARK - LICK PIER"
Dec. 1, 1947
Elevations based on M.L.L.W.

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8424 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Ocean Park
No. ____ Notes Chkd ____ Checked ____ Survey by Kleinrock Notes LM-GH Date 12-1-47
Date ____ Date ____ Map No. ____ Indexed [illegible] Date ____

F.B. 129 Pg. 187

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No. 22		252	350	-[illegible]	Notes Cont'd from pg. 187	
23		253	360	-107		
24		254	367	-113		
25		254	372	-[illegible]		
26		255	381	-126		
27		255	390	-1[illegible]		
28		256	405	-147		
29		258	434	-176		

Element	Time	Direction	Velocity	Height
WIND	3 P.M.	N. 43° W.	7 miles per hr.	—
WAVES	"	N. 12° W.	12 " " "	4.5'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	3:15 P.M.	100' in 5¼ mins.	Down Coast	19'	Low ebb
600' Down "	3:30 "	100' in 6¾ "	" "	15'	"

1.2 Falling

F.B. 129 PG. 188

Job No. 5424 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Ocean Park Date Date No. X-Sec.

Survey by Bleiner Notes A.W.S. 12-1-47 Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 189

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Ocean Park

Notes Chkd. _____ Checked _____ Survey by Kleineck Notes AS-GK Date 1-6-'48

Date _____ Date _____ Map No. _____ Indexed _____ Date _____

~ PIER SOUNDINGS ~

"OCEAN PARK - LICK PIER"

Jan. 6, 1948

Elevations based on M.L.L.W.

Average [illegible]

Notes Cont'd on pg 190

STATION	B. S.	H.I. Elev. - Sta.	F.S.	ELEV. Bottom
Sta. No. 1		230	[illegible]	-32
2		229	26.4	-40
3		230	26.4	-44
4		231	27.0	-39
5		233	27.4	-41
6		234	27.8	-44
7		237	27.4	-42
8		240	28.0	-46
9		240	[illegible]	-59
10		239	27.4	-53
11		240	27.4	-54
12		242	30.0	-58
13		243	[illegible]	-68
14		245	32.2	-77
15		246	33.1	-85
16		248	32.5	-77
17		248	32.5	-72
18		251	32.5	-72
19		251	33.2	-81
20		253	34.0	-87
21		253	34.5	-92

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~U.I.~~ Elev. Sta	~~F.S.~~ (-)	ELEV. Bottom		
Sta. No. 22		252	34.[illegible]	-[illegible]7	Notes Cont'd from pg. 189	
23		253	3[illegible]	-[illegible]7		
24		254	[illegible]	-[illegible]4		
25		254	[illegible]	-[illegible]		
26		255	38.[illegible]	-[illegible]7		
27		255	37.0	-[illegible]		
28		256	46.0	-[illegible]		
29		258	43.0	-[illegible]		

Element	Time	Direction	Velocity	Height
WIND	10:30 A.M.	5.75° W.	2 miles per hr.	
WAVES	" "	5.6° E	12 " " "	3.1'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	10:45 A.	100' in 5 mins	Up Coast	20'	Mean ebb
600' Down "	10:15 A.M.	100' in 6 "	Down "	17'	" "
				1.3	Falling

F.B. 129 PG. 189

Job No. 8429 Division No. Ocean Park Notes Red. Plotted Date Checked Date

Survey of Pier Soundings Notes Date Notes Chkd. Date

Survey by Hlemeck Notes Date Date

Indexed Date

Profile No. X-Sec. No.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B/29/PG. 191

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Ocean Park

Notes Chkd. _____ Checked _____ Survey by Kleineck Notes G.K.-H.K. Date 2-2-'48

Date _____ Date _____ Map No. _____ Indexed A. C. Johnson Date _____

~PIER SOUNDINGS~

"OCEAN PARK - LICK PIER"

Feb. 2, 1948.

Elevations based on M.L.L.W.

AVERAGE WAVE HT. = 2.5

Notes Cont'd on pg 192

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

STATION	B. S.	Elev. + Sta	F. S.	ELEV. Bottom
Sta. No. 1		230	25.0	-20
2		229	26.1	-32
3		230	26.8	-38
4		231	27.5	-44
5		233	28.2	-49
6		234	28.0	-46
7		237	28.0	-43
8		240	28.4	-44
9		240	29.8	-51
10		239	28.5	-46
11		240	28.9	-49
12		242	29.2	-50
13		243	30.0	-57
14		245	30.2	-57
15		246	31.5	-69
16		248	30.5	-57
17		248	30.0	-52
18		251	31.0	-59
19		251	31.5	-64
20		253	32.1	-68
21		253	32.6	-73

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta	F. S. (-)	ELEV. Bottom		
Sta. No 22		252	33.0	-7[illegible]	Notes Cont'd from pg. 191.	
23		253	34.5	-9[illegible]		
24		254	36.0	-1[illegible]		
25		254	36.6	-11[illegible]		
26		255	38.0	-12.5		
27		255	38.6	-13[illegible]		
28		256	40.0	-14[illegible]		
29		258	42.9	-17.1		

Element	Time	Direction	Velocity	Height
WIND	1:15 P.M.	S 67° W	18 miles per hr.	—
WAVES	"	N 15° W	12 " " "	2.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	1 P.M.	100' in 3½ min's.	Down Coast	27'	Mean flood
600' Down "	1:45 "	135' in 3⅔ "	" "	37'	" "
				1.6	Rising

F.B. 129 PG. 192

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Ocean Park Date Date No. X-Sec.

Survey by Hancock Notes Gwk. - H.K. Notes Chkd. Checked

Indexed C. Johnson Date Date Date No.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____

F.B. 129 Pg. 193

X-Sec. No. _____ Date _____ Date _____ Survey of Pier Soundings - Ocean Park

Notes Chkd. _____ Checked _____ Survey by Kleneck Notes E.S.-GK Date 3-2-48

Date _____ Date _____ Map No. _____ Indexed A. C. Johnson Date 4-28-48

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

STATION	B. S.	Elev. H.I.	F. S.	ELEV. Bottom	
Sta. No. 1		230	27.1	-41	AVERAGE WAVE HT 2.0 FT
2		229	27.6	-47	
3		230	27.9	-49	
4		231	28.0	-49	
5		233	28.6	-53	
6		234	29.0	-56	
7		237	29.2	-55	
8		240	29.8	-58	
9		240	30.5	-65	
10		239	30.1	-62	
11		240	30.5	-65	
12		242	31.3	-71	
13		243	32.6	-83	
14		245	33.5	-90	
15		246	34.4	-98	
16		248	35.1	-103	
17		248	35.0	-102	
18		251	35.8	-107	
19		251	37.1	-120	
20		253	37.9	-126	
21		253	38.2	-129	

Notes Cont'd on pg. 194

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. Sta.	F. S.	ELEV. Sta.		
Sta. 22		252	38 7	[illegible]	Notes Cont'd from pg. 193.	
23		253	39 5	[illegible]		
24		254	40 0	-1[illegible]		
25		254	40 9	-1[illegible]		
26		255	41 0	[illegible]		
27		255	41 6	[illegible]		
28		256	42 4	-1[illegible]		
29		258	44 3	-1[illegible]		

Element	Time	Direction	Velocity	Height
WIND	11:45 A.M.	S. 43° W.	5 miles per hr.	—
WAVES	"	S. 12° [illegible]	12 " " "	2.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	11:30 A.M.	200' in	5 mins. Down Coast	40'	Low flood
600' Down "	11 "	200' in	3 " " "	67'	" "

0.7 Rising

F.B. 124 Pg. 194

Job No. 8129 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Ocean Park Date Date X-Sec.

Survey by Kleinack Notes C.S. Sh. 3-2-48 Notes Chkd. Checked No.

Indexed C. Johnson Date Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta	F. S. (−)	ELEV. Bottom		
Sta. No. 1		230	27.9	−49	AVERAGE WAVE HT. = 02.0 FT.	
2		229	28.0	−51		
3		230	28.[illegible]	−55		
4		231	28.4	−53		
5		233	28.7	−54		
6		234	28.7	−53		
7		237	28.7	−50		
8		240	29.5	−55		
9		240	30.2	−62		
10		239	29.9	−60		
11		240	30.3	−63		
12		242	31.3	−71		
13		243	32.1	−78		
14		245	33.8	−93		
15		246	34.2	−96		
16		248	35.0	−102		
17		248	34.6	−98		
18		251	35.4	−103		
19		251	36.5	−114		
20		253	37.3	−120		
21		253	37.9	−126		

~ PIER SOUNDINGS ~
"OCEAN PARK - LIGHT PIER"
April 1, 1948
Elevations based on M.L.L.W.

Notes Contd on Pg. 196

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. Date ____ Notes Chkd ____ Checked ____ Survey of Pier Soundings - Ocean Park
No. ____ Date ____ Map No. ____ Indexed ____ Survey by Kleinecht Notes H.R. Gu. Date 4-1-48
C. Job Date

F.B. 124 Pg. 195

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta	F. S.	ELEV. Bottom		
Sta. No 22		252	38.1	-129	Cont'd from pg. 195	
23		253	39.3	-140		
24		254	40.0	-146		
25		254	41.0	-15[illegible]		
26		255	41.6	-161		
27		255	41.9	-164		
28		256	43.0	-174		
29		258	44.6	-188		

Element	Time	Direction	Velocity	Height
WIND	1:30 P.M.	5.74° W	9 miles per hr.	—
WAVES	" "	5.14° E.	11 " " "	2.0'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' up Coast	1:30 P.M.	20' in 10 min's.	Down Coast	2'	Mean flood.
600' Down	" 2 "	100' " 8¾ "	" "	11'	" "
				1.2	Rising

F.B. 129 Pg. 196

Job No. 84-29 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Ocean Park Date Date No. X-Sec.

Survey by G. Kleinert Notes H.R. - Gwk - 4/1/48 Notes Chkd. Checked

Indexed A. C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 1		230	27.6	-46	Average Wave Ht. = 2.0 ft.	
2		229	27.6	-47		
3		230	27.8	-48		
4		231	27.7	-46		
5		233	28.0	-47		
6		234	28.1	-47		
7		237	28.3	-46		
8		240	29.1	-51		
9		240	30.1	-61		
10		239	30.0	-61		
11		240	30.8	-68		
12		242	31.7	-75		
13		243	32.5	-82		
14		245	33.5	-90		
15		246	34.0	-94		
16		248	34.0	-92		
17		248	33.5	-87		
18		251	34.5	-94		
19		251	35.9	-108		
20		253	37.0	-117		
21		253	37.0	-117	Cont'd on pg. 198.	

~ PIER SOUNDINGS ~
"OCEAN PARK - LICK PIER"
May 3, 1948.
Elevations based on M.L.L.W.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129/PG. 197
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Ocean Park
Notes Chkd. ____ Checked ____ Survey by Kleinecke Notes Th.-Gr. Date 5/3/48
No. ____ Date ____ Date ____ Map No. ____ Indexed ____ Date 5-17-48

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	ELEV. Bottom		
Sta. 22		252	37.7	-1[illegible]5	Cont'd from pg. 197	
23		253	38.6	-[illegible]		
24		254	39.2	-[illegible]		
25		254	40.1	-1[illegible]7		
26		255	41.1	-[illegible]		
27		255	41.8	-[illegible]3		
28		256	42.9	-1[illegible]3		
29		258	44.7	-1[illegible]		

Element	Time	Direction	Velocity	Height
WIND	1:30 P.M.	5.79° W.	9 miles per hr.	—
WAVES	" "	5.11° E.	12 " " "	2.0'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	1:15 P.M.	120' in 7 mins.	Down Coast.	11'	Low flood.
600' Down "	2 "	150' in 7 "	" "	21'	" "
					1.0 Rising.

F.B. 1291 PG. 198

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Ocean Park Date Date No. X-Sec.

Survey by G. Kleinecke Notes T.L. - G.M. 5/3/48 Notes Chkd. Checked

Indexed Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta.	~~[illegible]~~	~~ELEV.~~ Bottom		
1		230	28.8	-58	AVERAGE WAVE	HGT. = 1.2
2		239	27.8	-39		
3		230	28.2	-52		
4		231	28.0	-49		
5		233	28.9	-56		
6		234	28.5	-51		
7		237	28.9	-52		
8		240	29.6	-56		
9		240	30.1	-61		
10		239	30.2	-63		
11		240	30.3	-63		
12		242	31.8	-76		
13		243	32.1	-78		
14		245	33.4	-89		
15		246	34.4	-98		
16		248	34.2	-94		
17		248	34.0	-92		
18		251	35.5	-104		
19		251	35.8	-107		
20		253	36.8	-115		
21		253	37.4	-121		

~PIER SOUNDINGS~
"OCEAN PARK - LICK PIER"
June 2, 1948
Elevations based on M.L.L.W.

Notes Cont'd on pg. 200

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
Date ____ Date ____ Survey of Pier Soundings - Ocean Park
X-Sec. Notes Chkd ____ Checked ____ Survey by Weinert Notes Jd.-GK Date 6-2-48
No. ____ Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date 6-7-48

F.B. 129 Pg. 199

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	Elev. = Sta.		ELEV. Bottom		
Sta. No. 22		252	37.8	-126	Notes Cont'd from pg. 199	
23		253	39.0	-137		
24		254	40.0	-146		
25		254	40.8	-154		
26		255	41.8	-163		
27		255	42.1	-166		
28		256	43.8	-182		
29		258	45.4	-196		

Element	Time	Direction	Velocity	Height
WIND	2:30 P.M.	5.8° W.	3 miles per hr.	—
WAVES	" "	5.2° E.	13-14 " " "	1.2'

— LITTORAL DRIFT —

Observation Pt.	Time	Drift	Direction	Feet per min.	Tide
350' Up Coast	2:15 P.M.	90' in 11½ mins.	Down Coast	7.8'	Low flood
600' Down "	3 "	150' in 9 "	Up "	17'	" "
				3.1	Rising

F.B. 129 PG. 200

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings-Ocean Park Date Date X-Sec.

Survey by G. Hlemed Notes T.L.-Sh 62/48 Notes Chkd. Checked No.

Indexed C. Johnson Date Date

Notes Ck'd by		Survey of Pier Soundings	F.B. 1291 Pg. 201
Map No.		W. O. 8129 Tape No.	St'd. °F
Office Work		Surveyed by G. Kleineck	
Checked		Notes	Date
Date		Indexed A. C. Johansen 5-8-47	

Note: Any Additions or Changes on This Sheet Must be Made or Circled In Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247-BM 11-41

~ SANTA MONICA MUNICIPAL PIER ~

SURVEY & SOUNDING DATA.

April 29, 1947 to June 2, 1948.

~ INDEX ~

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Soundings & Etc - Apr. 29, 1947	203

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 PG. 202

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. 21		24.2	15.5	+ 94	Average Wave Ht. = 2.7'	
2		24.5	13.9	+ 106		
3		24.7	13.6	+ 111		
4		24.6	13.8	+ 108		
5		24.5	19.0	+ 105		
6		24.6	17.0	+ 76		
7		24.4	16.0	+ 84		
8		24.4	15.3	+ 91		
9		24.4	14.9	+ 95		
10		24.2	19.0	+ 52		
11		24.2	21.8	+ 24		
12		24.4	23.0	+ 14		
13		24.6	23.8	+ 08		
14		24.2	24.3	+ 01		
15		24.5	25.0	- 05		
16		24.7	26.5	- 17		
17		25.2	28.0	- 28		
18		25.6	30.0	- 44		
19		26.8	31.4	- 46		
20		25.5	31.4	- 59		
21		25.3	31.7	- 64		

Cont'd on Pg. 204

~ Pier South Main ~
Santa Monica Municipal
Pier
Santa Monica Bay, Calif.

Profile
No. _____ Notes Red _____ Plotted _____ Job No. 5426 Division No. _____
X-Sec. _____ Date _____ Date _____ Survey of Pier & Surf Observations - Storm of Date 12-29-41
No. _____ Notes Chkd. _____ Checked _____ Survey by Atkinson & Nettis, C.E. Indexed by J. Gallagher Date _____
Date _____ Date _____ Map No. _____

F.B. 1291 Pg. 203

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev-Sta	F. S. (-)	ELEV. Bottom	
Sta. No 22		253	31.8	-[illegible]8	Cont'd from pg. 203
23		280	34.7	-[illegible]7	
24		253	32.7	-[illegible]4	
25		253	34.0	-[illegible]7	
26		251	35.0	-[illegible]	

Element	Time	Direction	Velocity	Height
WIND	10:30 AM	S 75° W	8 miles per hr.	—
WAVES	" "	S. 42° E.	8 " " "	2.7'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' up Coast	10:45 A.M.	[illegible]	No definite drift	0	Low
1500' "	10:30 "	50' in 6½ mins.	Down Coast	7.6'	"
700' down	11:15 "	100' 8	" " "	13'	"
				-0.4	Falling.

Note: Above wave information applies to down coast area. Up coast waves were running about S. 11° E.

F. B. 1296 Pg. 204 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Sounding - Santa Monica Date Date No.
Survey by Kleinack Notes Pat. Mark Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev. - Sta.	F. S. (-)	ELEV. Bottom		
No 1		249	153	+96	Wave 2'	
2		245	139	+106		
3		247	136	+111		
4		246	135	+111		
5		245	140	+105		
6		246	163	+83		
7		244	154	+90		
8		244	148	+96		
9		244	139	+105		
10		242	175	+67		
11		242	210	+32		
12		244	226	+18		
13		246	230	+16		
14		244	235	+09		
15		245	239	+06		
16		248	255	-07		
17		252	270	-18		
18		256	289	-33		
19		268	330	-62		
20		255	331	-76		
21		253	321	-68		

~ PIER SOUNDINGS ~
"SANTA MONICA MUNICIPAL PIER"
July 17, 1947
Elevations based on M.L.W.

Cont'd on page 206

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B 1291 PG. 205
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Santa Monica
Notes Chkd. ____ Checked ____ Survey by Kleine Crt. Notes J. Moore Date 7-17-47
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	H. I. Elev. Sta.	F. S. (−)	ELEV. Bottom		
No 22		253	32.1	−1.8	Cont'd from pg. 205.	
23		280	35.3	−7.3		
24		253	32.8	−7.5		
25		253	34.4	−7.1		
26		251	35.4	−10.3		

Element	Time	Direction	Velocity	Height
WIND	11:15 A.M.	N. 54° E.	5 miles per hr.	
WAVES	"	S. 49° E.	11 " " "	2.1'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	11:30 A.M.	20' in 7 min's.	Up. Coast	3'	Mean ebb.
1500' " "	"	100' in 7½ "	Down "	13'	" "
700' Down "	12 Noon	100' in 3½ "	Up "	29'	" "

1.2 Falling.

Note: Above wave information applies to down coast area. Up coast waves were running about S. 22° E.

F. B. 129 / Pg. 206 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings Santa Monica Date Date No.
Survey by Meinack Notes S.M. - G.W.C. Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ Survey of Pier Soundings - Santa Monica

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey by Meineck Notes G.H.-G.K. Date 8-5-'47

Map No. ____ Indexed Johnson Date ____

FB 179 PG. 207

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 307 2M 11-41

~PIER SOUNDINGS~

"SANTA MONICA MUNICIPAL PIER"

Aug. 5, 1947.

Elevations based on M.L.L.W.

Average Wave Ht = 1.5'

STATION	B.S.	Elev. ~~H.I.~~ Sta	F.S.	ELEV. Bottom
Sta No 1		249	15.4	95
2		245	13.9	10.6
3		247	13.7	110
4		246	13.4	112
5		245	12.9	116
6		246	16.0	86
7		244	15.4	90
8		244	14.6	98
9		244	13.9	105
10		242	17.2	70
11		242	20.7	35
12		244	22.5	19
13		246	23.0	16
14		244	23.6	08
15		245	24.0	05
16		248	25.7	-09
17		252	26.8	-16
18		256	29.2	-36
19		268	33.3	-65
20		255	33.0	-75
21		253	32.2	-[illegible]9

Contd on pg. 208

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	ELEV. Bottom		
Sta. No. 22		253	32.3	-70	Cont'd from pg. 207.	
23		280	35.6	-76		
24		253	32.8	-75		
25		253	34.0	-87		
26		251	35.0	-99		

Element	Time	Direction	Velocity	Height
WIND	1:30 P.M.	S. 84° W.	14 miles per hr.	—
WAVES	"	S. 40° E.	10 " " "	1.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	1:45 P.M.	170' in 2¼ mins.	Down Coast	76'	High ebb
1500' "	1:30 "	100' in 2¼ "	" "	44'	" "
700' Down "	1 P.M.	Long reversals	Not definite	0	" "
				3.7	Falling.

Note:- Above wave information applies to down coast area. Up coast waves were 1.5 ± high and running S. 5° E.

F.B. 1291 Pg. 208 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Flat Soundings - Santa Monica Date Date No.
Survey by Meineck Notes G.H. - G.W.K. Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile	Notes Red.	Plotted	Job No. 8429	Division No.	F B 129/Pg. 209
No.	Date	Date	Survey of Pier Soundings - Santa Monica		
X-Sec.	Notes Chkd.	Checked	Survey by Kleineck	Notes AWK	Date 9-10-'47
No.	Date	Date	Map No.	Indexed A. G. Johnson	Date

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

~ PIER SOUNDINGS ~

"SANTA MONICA MUNICIPAL".

Sept. 10-'47

Elevations based on M.L.L.W.

STATION	B. S.	Elev. ~~H.I.~~ Sta	F. S. (-)	Elev. (Bo)
Sta. No. 1		249	15.1	+98
2		245	13.9	+106
3		247	13.6	+111
4		246	13.4	+112
5		245	13.7	+108
6		246	15.9	+87
7		244	15.2	+92
8		244	14.5	+99
9		244	13.6	+108
10		242	16.7	+75
11		242	20.2	+40
12		244	21.9	+25
13		246	22.3	+23
14		244	22.3	+21
15		245	22.9	+16
16		248	24.5	+03
17		252	26.2	-10
18		256	29.0	-34
19		268	33.5	-67
20		255	32.9	-74
21		253	32.1	-68

Cont'd on pg. 210

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	Elev. ± Sta.	F. S. (−)	ELEV. Bottom		
Sta. No 22		253	32.3	−10	Cont'd from pg. 209.	
23		280	34.9	−69		
24		253	32.7	−74		
25		253	35.4	−101		
26		251	34.5	−94		

Element	Time	Direction	Velocity	Height
WIND	1:30 P.M.	S 43° W	6 miles per hr.	—
WAVES	"	N 58° W	9 " " "	1.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	2 P.M.	No drift	- calm water	0	Mean flood.
1500' " "	1:45 "	"	"	0	" "
700' Down "	1 P.M.	100' in 8 mins.	Down Coast	13'	" "
					3.1 Rising

F.B. 1291 Pg. 210 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Santa Monica Date Date No.
Survey by Meineck Notes Gwk. 9-10-47 Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

(26)

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev.-Sta	F. S. (-)	~~ELEV.~~ Bottom		
Sta- 1		249	15.1	+98	Average Wave Ht. = 0.6'	
2		245	13.8	+107		
3		247	13.2	+115		
4		246	13.2	+114		
5		245	13.7	+108		
6		246	14.2	+104		
7		244	15.1	+93		
8		244	14.2	+102		
9		244	13.5	+109		
10		242	16.0	+82		
11		242	20.1	+41		
12		244	21.9	+25		
13		246	22.2	+24		
14		244	22.8	+16		
15		245	23.3	+12		
16		248	24.9	-01		
17		252	26.2	-10		
18		256	28.5	-29		
19		268	32.8	-60		
20		255	32.4	-69		
21		253	32.1	-68		

— PIER SOUNDINGS —
"SANTA MONICA MUNICIPAL"
Sept 30, 1947
Elevations based on M.L.L.W.

Notes Cont'd on pg. 212

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 291 Pg. 211
Date ____ Date ____ Survey of Pier Soundings - Santa Monica
X-Sec. No. ____ Notes Chkd ____ Checked ____ Survey by Kleinsack Notes Arch-G.K. Date 9-30-'47
Date ____ Date ____ Map No. ____ Indexed J. Johnson Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	Elev. - Sta	F. S. (-)	ELEV. Bottom	Notes Contd from pg. 211
Sta - 22		253	—	[illegible]	Unable to locate
23		280	34.8	-68	
24		253	32.3	-70	
25		253	35.9	-106	
26		251	35.5	-104	

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S 68° W.	7 miles per hr.	—
WAVES	"	N 62° W	9 " " "	0.6'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	1:30 P.M.	No drift	—	0	Low ebb
1500' " "	1:45 "	100' in 12 mins.	Down Coast	8' (1.3 Falling)	"
700' Down "	11:45 A.M.	25' in 12 "	" "	2'	Mean ebb (3.3 Falling)

F.B. 129 PG. 212

Job No. 8429 Division No. Notes Red. Plotted Date No. Profile

Survey of Pier Soundings - Santa Monica Date Date No. X-Sec.

Survey by Kleinack Notes A.S. - G.W.K. Notes Chkd Checked Date No.

Indexed C. Johnson Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

Profile No. ____ X-Sec. No. ____

Notes Red ____ Date ____ Notes Chkd ____ Date ____

Plotted ____ Date ____ Checked ____ Date ____

Job No. 5444 Division No. ____ F.B. 211 PG. 213

Survey of Beverly Blvd. from Santa Monica to Melrose

Survey by Hewitt Notes by EM-Fuller Date 11-4-47

Checked J.D.M. Date 11-10-47

STATION	B. S.	Elev. Inst. Stn.	F. S.	ELEV. Bottom		
BM. 12						- RIVER SOUNDINGS -
1		249	15 1	+98		"SOUTH MONICA MUNICIPAL"
2		245	13 8	+107		
3		247	13 2	+115		Nov. 4, 1947
4		246	13 1	+115		Elevations Based on Pier
5		245	13 7	+108		
6		246	15 6	+90		
7		244	15 8 1	+93		
8		244	14 2	+102		
9		244	13 4	+110		Also the Northside of Pier = 10' ± N.
10		242	15 3	+89		
11		242	19 6	+46		
12		244	22 2	+22		
13		246	22 1	+25		
14		244	22 8	+16		
15		245	23 3	+12		
16		248	27 7	+01		
17		252	26 5	-13		
18		256	28 4	-28		
19		268	31 8	-50		
20		255	31 7	-62		
21		253	31 7	-64		

Notes cont'd on Pg. 214.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta No. 22		253	319	-66	Notes Contd from pg. 213 -	
23		250	346	-66		
24		253	319	-66		
25		253	343	-90		
26		251	348	-97		

Element	Time	Direction	Velocity	Height
WIND	10:45 AM.	S 69° W	4 miles per hr.	—
WAVES	"	S 62° E	9 " " "	1.0'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' up Coast	10:45 AM.	None	—	0	High flood
1500' " "	10:30 "	10' in 11 mins.	Down Coast	1'	" "
700' Down "	11:15 "	150' in 5 1/4 "	" "	29'	" "
					4.9 Rising

F.B. 129 PG. 214

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Santa Monica Date Date No. X-Sec.

Survey by Hlemeck Notes EM-Bull Hill-4 Notes Chkd. Checked

Indexed C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev-Sta	F. S. (-)	ELEV. Bottom		
[illegible]		249	151	+98	Wave Height 1.8'	
[illegible]		245	136	+109		
[illegible]		247	131	+116		
[illegible]		246	131	+115		
[illegible]		245	142	+103		
[illegible]		246	152	+94		
[illegible]		244	148	+96		
[illegible]		244	140	+104		
[illegible]		244	130	+114		
[illegible]		242	150	+92		
[illegible]		242	192	+50		
[illegible]		244	217	+27		
[illegible]		246	223	+23		
[illegible]		244	225	+19		
[illegible]		245	236	+09		
[illegible]		248	258	-10		
[illegible]		252	273	-21		
[illegible]		256	289	-33		
[illegible]		268	320	-52		
[illegible]		255	315	-60		
[illegible]		253	325	-72	Notes Cont'd on pg. 216	

~PIER SOUNDINGS~
"SANTA MONICA MUNICIPAL"
Dec. 1, 1947
Elevations based on MLLW.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 PG. 215
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Santa Monica
Notes Chkd. ____ Checked ____ Survey by Klemeck Notes S.W.S.M. Date 12-1-47
No. ____ Date ____ Date ____ Map No. ____ Indexed [illegible] Date ____

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No. 22		253	31 2	-59	Notes Cont'd from pg. 215	
23		280	35 2	-72		
24		253	32 0	-67		
25		253	35 6	-103		
26		251	34 0	-89		

Element	Time	Direction	Velocity	Height
WIND	11:30 A.M.	N. 8° W.	6 miles per hr.	—
WAVES	"	S. 20° E.	10 " " "	1.8'

— LITTORAL DRIFT —

Observation	At	Time	Drift	Direction	Feet per min.	Tide
700' Up	Coast	11:15 A.M.	140' in	1½ mins. Down Coast	93'	High ebb
1500' "	"	11:30 "	100' in	10¼ " " "	10'	(6.0 falling) "
700' Down	"	1:15 P.M.	200' in	7½ " " "	27'	4.1 falling

F.B. 129 PG. 216

Job No. 8424 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Santa Monica Date Date No. X-Sec.

Survey by Kleinman Notes J.M. Gulk 12/1/42 Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

Profile No. _____ Notes Red _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 317

Date _____ Date _____ Survey of Pier Soundings - Santa Monica

X-Sec. No. _____ Notes Chkd. _____ Checked _____ Survey by Kleineck Notes A.S.-G.H. Date 1-6-'48

Date _____ Date _____ Map No. _____ Indexed E. Johnson Date _____

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

~ PIER SOUNDINGS ~

"SANTA MONICA MUNICIPAL"

Jan. 6, 1948

Elevations based on M.L.L.W.

STATION	B.S.	Elev. Sta.	F.S.	ELEV. Bottom
Sta. No. 1		249	[illegible]	+100
2		245	[illegible]	+110
3		247	13.1	+116
4		246	13.1	+115
5		245	[illegible]	+105
6		246	[illegible]	+95
7		244	15.0	+94
8		244	[illegible]	+104
9		244	[illegible]	+114
10		242	[illegible]	+101
11		242	[illegible]	+52
12		244	21.8	+26
13		246	22.7	+19
14		244	23.1	+13
15		245	23.3	+06
16		248	24.5	+03
17		252	27.2	-20
18		256	29.0	-34
19		268	30.8	-40
20		255	31.1	-56
21		253	30.8	-55

Notes Cont'd on pg. 218

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	~~F. S.~~ (-)	ELEV. Bottom		
Sta. No. 22		250	[illegible]	-56	Notes Cont'd from pg. 217	
23		250	339	-59		
24		253	[illegible]	-60		
25		253	[illegible]	-90		
26		251	[illegible]	-90		

Element	Time	Direction	Velocity	Height
WIND	12 Noon	5.77° W	6 miles per hr.	—
WAVES	"	567° E *	8 " " "	1.2'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' up Coast	1 P.M.	None	—	0	-0.1 Low
1500' " "	1:30 "	100' in 1 1/4 mins	Down Coast	24'	-0.1 Low
700' Down "	11:45 A.M.	100' in 1 1/4 mins	Down Coast	24'	0.3 falling

* Note: Wave data above applies to area S. of pier. N. of pier wave direction was about N 18° W.

F.B. 129 PG. 318 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Santa Monica Date Date No. X-Sec.
Survey by Meinert Notes P.S. - G.W. 1-6-48 Notes Chkd. Checked
Indexed C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S.	ELEV. Bottom		
Sta. No 1		249	15 0	+99	AVERAGE WAVE HT. 1.9	
2		245	13 4	+111		
3		247	13 1	+116		
4		246	13 3	+113		
5		245	14 0	+105		
6		246	15 2	+94		
7		244	14 8	+96		
8		244	14 1	+103		
9		244	13 0	+114		
10		242	14 1	+101		
11		242	19 9	+43		
12		244	21 9	+25		
13		246	22 9	+17		
14		244	23 4	+10		
15		245	23 9	+06		
16		248	25 8	-10		
17		252	27 9	-27		
18		256	29 9	-43		
19		268	32 2	-54		
20		255	31 4	-59		
21		253	30 8	-55	Notes Cont'd on pg. 220.	

~ PIER SOUNDINGS ~
"SANTA MONICA MUNICIPAL"
Feb 2, 1948.
Elevations based on M.L.L.W.

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 Pg. 219
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Santa Monica
Notes Chkd. ____ Checked ____ Survey by Klemeck Notes 6K-65 Date 2-2-48
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. = Sta. (=)	F. S.	ELEV. Bottom		
Sta. No. 22		253	309	-56	Notes Cont'd from pg. 219.	
23		280	340	-60		
24		253	312	-59		
25		253	333	-80		
26		251	338	-87		

Element	Time	Direction	Velocity	Height
WIND	11:30 A.M.	S.68° W.	20 miles per hr.	—
WAVES	"	S.22° E.	12 " " "	1.9'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per Min.	Tide
700' Up Coast	11:30 A.M.	180' in 3½ mins	Down Coast	51'	Low flood
1500' " "	11:20 "	100' in 5¼ "	" "	19'	0.8 Low
700' Down "	12:45 P.M.	100' in 3¼ "	" "	31'	1.2 Rising

Note: Wave velocity 1500' up Coast = 12 miles per hr.
" " 700' Down " = 9 " " "

F.B. 129/PG. 220
Job No. 8429 Division No. Notes Red Plotted Profile
Survey of Pier Soundings Santa Monica Date Date No. X-Sec.
Survey by Alexander Notes GWK - CES Notes Chkd Checked
Indexed A. C. Johnson Date Date Date No.

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B. 129 PG. 221

Date ____ Date ____ Survey of Pier Soundings - Santa Monica

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Meineck Notes [illegible] Date 3-2-48

Date ____ Date ____ Map No. ____ Indexed C. Johns Date 4-28-48

~ PIER SOUNDINGS ~

"SANTA MONICA MUNICIPAL"

March 2, 1948.

Elevations based on M.L.L.W.

Average Wave Ht. = 01.7'

Notes Cont'd on Pg. 222

STATION	B.S.	H.I. Elev. - Sta.	F.S. (-)	ELEV. Bottom
Sta. No. 1		249	14.8	+10.1
2		245	13.2	+11.3
3		247	13.3	+11.5
4		246	13.4	+11.2
5		245	[illegible]	+10.5
6		246	[illegible]	+9.6
7		244	14.5	+9.9
8		244	14.2	+10.2
9		244	14.8	+9.6
10		242	16.5	+7.7
11		242	20.0	+4.2
12		244	21.9	+2.5
13		246	23.0	+1.6
14		244	23.8	+0.6
15		245	24.0	+0.5
16		248	26.0	-1.2
17		252	27.7	-2.5
18		256	27.8	-2.2
19		268	30.2	-3.4
20		255	29.8	-5.3
21		253	30.8	-5.5

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	~~ELEV.~~ Elev.		
Sta. No 22		253	[illegible]	-58	Notes Cont'd from pg. 221.	
23		280	342	-62		
24		253	31.9	-[illegible]		
25		253	33.2	-[illegible]		
26		251	34.2	-[illegible]		

Element	Time	Direction	Velocity	Height
WIND	1:00 P.M.	5.50 [illegible]	5 miles per hr.	—
WAVES		5.30 [illegible]	9 " " "	1.7'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	1 P.M.	100' in 5 mins.	Down Coast	20'	Low flood
1500' " "	1:15 P.M.	200' in 5 "	Down "	25'	(1.3 Rising)
700' Down " "	12 Noon.	30' in 8½ "	Up Coast	3.5'	(0.9 Rising)

F.B./29/PG. 222

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Santa Monica Date Date No. X-Sec.

Survey by Meineck Notes R.S.-6K-3-2-48 Notes Chkd. Checked

Indexed C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		249	15.0	+99	Average Wave Ht. = 01.0	
2		245	13.7	+108		
3		247	13.3	+114		
4		246	13.9	+107		
5		245	14.0	+105		
6		246	15.0	+96		
7		244	17.1	+73		
8		244	17.2	+72		
9		244	14.9	+95		
10		242	18.0	+62		
11		242	21.1	+31		
12		244	22.5	+19		
13		246	23.4	+12		
14		244	24.0	+04		
15		245	24.4	+01		
16		248	26.2	-14		
17		252	27.8	-26		
18		256	29.0	-34		
19		268	30.8	-40		
20		255	30.2	-47		
21		253	30.9	-56		

— PIER SOUNDINGS —
SANTA MONICA MUNICIPAL
April 1, 1948.
Elevations Based on M.L.L.W.

Cont'd on Pg. 224

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
Date ____ Date ____ Survey of Pier Soundings - Santa Monica
X-Sec. Notes Chkd ____ Checked ____ Survey by Fleisch Notes Chk. Date 4-1-48
No. ____ Date ____ Date ____ Map No. ____ Indexed C. O. Job Date

F.B. 129 / Pg. 223

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	~~ELEV.~~ Bottom		
Sta. No. 22		253	31.0	−57	Cont'd from pg. 223.	
23		280	34.6	−66		
24		253	32.1	−6[illegible]		
25		253	34.1	−[illegible]		
26		251	34.1	−90		

Element	Time	Direction	Velocity	Height
WIND	11:30 A.M.	5.64 W	6 miles per hr.	—
WAVES	"	5.26 E	7 " " "	1.0'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	11:30 A.M.	25' in	10 min's. Down Coast	25'	Low flood
1500' "	" 11:15 "	100' "	3¾ " " "	27'	(0.3 Low) " "
700' Down	" 1:00 P.M.	100' in	9 " " "	11'	(0.8 Rising) " "

F.B. 129/PG. 224

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Dier Soundings - Santa Monica Date Date X-Sec.

Survey by G. Kleinert Notes Ass-GWK 4 1-48 Notes Chkd. Checked No.

Indexed A. C. Johnson Date Date Date

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 1		249	15.0	+99		
2		245	13.4	+111	AVERAGE WAVE	HGT. = 1.2 ft.
3		247	13.2	+115		
4		246	13.5	+111		
5		245	14.0	+105		
6		246	15.3	+93		
7		244	15.4	+90		
8		244	15.8	+86		
9		244	16.6	+78		
10		242	18.3	+59		
11		242	21.0	+32		
12		244	22.2	+22		
13		246	23.0	+16		
14		244	23.3	+11		
15		245	24.0	+05		
16		248	25.9	-11		
17		252	27.1	-19		
18		256	29.0	-34		
19		268	30.0	-32		
20		255	30.9	-54		
21		253	30.9	-56	Notes Cont'd on pg. 226.	

~PIER SOUNDINGS~
"SANTA MONICA MUNICIPAL"
MAY 3, 1948.
Elevations based on MLLW

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8424 Division No. ____ F.B. 129 Pg. 225
X-Sec. No. ____ Date ____ Date ____ Survey of Pier Soundings - Santa Monica
Notes Chkd. ____ Checked ____ Survey by Kleinrock Notes HR-GK Date 5/3/48
Date ____ Date ____ Map No. ____ Alex C. Johnson Date 5-17-48

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S. (–)	~~ELEV.~~ Bottom		
Sta. N-22		253	31.3	-60	Contd from pg. 225	
23		250	34.5	-65		
24		253	31.9	-66		
25		253	34.0	-[illegible]		
26		251	34.1	-90		

Element	Time	Direction	Velocity	Height
WIND	12 Noon	S. 71° W.	6 miles per hr.	—
WAVES	"	S. 19° E.	9-10 " " "	1.2'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	12 Noon	No drift	—	0	Low
1500' " "	11:30 AM	33' in 10 mins	Up Coast	3.3'	(0.3 Low) "
700' Down "	12:45 PM	200' in 9 "	*Down Coast	22'	(0.4 Rising) "

* Wind & wave data above apply to up coast observations.
For 700' Dn. Coast:- wind = S 79° W - 9 miles per hr.
waves = S. 11° E. - 12 " " "

F.B. 29/PG 226 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Santa Monica Date Date No. X-Sec.
Survey by G. Kleinert Notes H.C. - G.K. 5/3/48 Notes Chkd. Checked
Indexed Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

Profile No. _____ Notes Red _____ Plotted _____ Job No. 5424 Division No. _____
X-Sec. No. _____ Date _____ Date _____ Survey of Pier & Breakwater Santa Monica
Notes Chkd _____ Checked _____ Survey by Atwell Notes by HC Date 6-2-48
Date _____ Date _____ Map No. _____ Indexed _____ Date 6-7-48

F.B. 24 Pg. 227

STATION	B. S.	Elev. H.I.	(—)	ELEV. Bottom
Face 1		24.9	15.0	+9.9
2		24.5	13.5	+11.0
3		24.7	13.5	+11.2
4		24.6	13.6	+11.0
5		24.5	13.9	+10.6
6		24.6	15.1	+9.5
7		24.4	15.1	+9.3
8		24.4	15.7	+8.7
9		24.4	14.0	+10.4
10		24.2	18.9	+5.3
11		24.2	21.8	+2.4
12		24.4	13.4	+11.0
13		24.6	13.8	+10.8
14		24.4	13.8	+10.6
15		24.5	13.9	+10.6
16		24.8	26.0	-1.2
17		25.2	27.0	-1.8
18		25.6	29.0	-3.4
19		26.8	31.8	-5.0
20		25.5	30.8	-5.3
21		25.3	31.1	-5.8

AVERAGE WAVE HT. = 02.3 FT.

— PIER SOUNDINGS —

SANTA MONICA MUNICIPAL PIER

JUNE 3, 1948.

ELEVATIONS BASED ON M.L.L.W.

Notes Contd on Pg. 228

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	(~~F. S.~~)	ELEV. Bottom		
B.N. 22		253	31.1	-58	Notes Cont'd from pg. 227	
23		280	35.1	-71		
24		253	31.8	-65		
25		253	34.2	-89		
26		251	33.5	-84		

Element	Time	Direction	Velocity	Height
WIND	11:45 AM	S. 14° W.	3-4 miles per hr.	—
WAVES	"	S. 65° E.	10 " " "	2.3'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
700' Up Coast	12 Noon	65' in 9½ min's	Up Coast	6.8'	Low
1500' " "	11:45 AM	150' in 4½ "	Down "	33'	(1.1 Low)
700' Down "	1:30 PM	200' in 4 "	Up "	50'	(1.9 Rising)

Note: Waves running S. 21° E.

F.B. 29 PG. 228

Job No. 8429 Division No. Notes Red. Plotted Date No. Profile

Survey of Pier & Wave Surveys - Santa Monica Date Date No. X-Sec.

Survey by G. Kleiner Notes H.R.-G.K. 6/2/48 Notes Chkd. Checked Date No.

Indexed Date

Notes Ck'd by		Survey of Pier Soundings	F.B. 1291 PG. 229
Map No.		W. O. 5429 Tape No.	St'd °F
Office Work		Surveyed by G. Hancock	
Checked		Notes	Date
Date		Indexed A. O. Johnson 5-8-47	

~MALIBU SPORT FISHING PIER~

SURVEY & SOUNDING DATA.

April 29, 1947 to June 2, 1948.

~INDEX~

For:-	Page
Sketch & Survey See F.B. 1216	20
Profile Levels " "	239.
Soundings & Etc - Apr. 29, 1947 This Book	231.

Note: Any Additions or Changes on This Sheet Must Be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

FORM 247 5M 11-41

RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

Do not extend notes this side of this line.

F.B. 1291 Pg. 230

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Profile No.	Notes Red.	Plotted	Job No. 8428	Division No.	F. B. 1291 Pg. 231
	Date	Date	Survey of Pier Soundings – Malibu		
X-Sec. No.	Notes Chkd.	Checked	Survey by Kleineck	Notes J.W.S.M.	Date 4-29-47
	Date	Date	Map No.	Indexed G. Johnson	Date

~ PIER SOUNDINGS ~

"MALIBU SPORT FISHING PIER"

April 29, 1947

Elevations based on M.L.L.W.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (–)	ELEV. Bottom	
[illegible]					Wave Hght. 2.5
1		214	129	+85	
2		214	142	+72	
3		214	160	+54	
4		215	174	+41	
5		215	191	+24	
6		216	209	+07	
7		216	218	–02	
8		216	222	–06	
9		216	226	–10	
10		215	230	–15	
11		216	240	–24	
12		216	259	–43	
13		215	266	–51	
14		216	275	–59	
15		216	288	–72	
16		216	307	–91	
17		215	309	–94	
18		217	314	–97	
19		222	330	–108	
20		227	344	–117	
21		231	355	–124	

Contd on pg. 232

Form 307 5M 11-35

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. sta	F. S. (—)	ELEV. Bottom		
Sta. No 22		233	361	-128	Cont'd from pg. 231	
23		234	377	-139		
24		238	377	-139		
25		239	370	-131		

Element	Time	Direction	Velocity	Height
WIND	9:15 A.M.	5.10° W.	1 mile per hr.	—
WAVES	" "	5.87° W.	12 miles " "	2.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	10 AM	100' in 3 mins	Down Coast	33'	Low ebb.
400' Down "	9:45 "	Negligible	—	0	" "

(-0.5 falling)

F. B. 129 Pg. 232 Job No. 8429 Division No. Notes Red. Plotted Profile No.
Survey of Pier Soundings - Malibu Date Date X-Sec.
Survey by Meineck Notes Checked
Indexed C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F B 1291 PG. 233

Date ____ Date ____ Survey of Pier Soundings — Malibu

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleineck Notes J. Moore Date 7-17-47

Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date ____

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

~ PIER SOUNDINGS ~

"MALIBU SPORT FISHING PIER"

July 17, 1947.

Elevations based on M.L.L.W.

STATION	B. S.	Elev. ± Sta.	F. S. (−)	ELEV. Bottom	
No 1		214	132	+82	Wave 1+
2		214	145	+69	
3		214	161	+53	
4		215	173	+42	
5		215	190	+25	
6		216	199	+17	
7		216	209	+07	
8		216	219	−03	
9		216	227	−11	
10		215	238	−23	
11		216	242	−26	
12		216	257	−41	
13		215	273	−58	
14		216	279	−63	
15		216	289	−73	
16		216	307	−91	
17		215	305	−90	
18		217	311	−94	
19		222	325	−103	
20		227	343	−116	
21		231	355	−124	

Notes Cont'd on pg 234

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev-Sta	F. S. (-)	ELEV. Bottom		
No 22		233	36.0	-127	Contd from pg. 233.	
23		238	37.3	-135		
24		238	37.5	-137		
25		239	36.7	-128		

Element	Time	Direction	Velocity	Height
WIND	10:30 A.M.	N. 11° E.	9 miles per hr.	—
WAVES	"	N. 79° W.	12 " " "	1.1'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide.
400' Up. Coast	10:30 A.M.	100' in 3½ mins.	Down Coast	29'	High ebb
400' Down	" 10:15 "	100' in 10½ mins.	" "	9.5'	" " (3.8 falling)

F.B. 129 Pg. 234 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Malibu Date Date No.
Survey by Meinecke Notes J.M. - G.W.K. Notes Chkd. Checked X-Sec.
Indexed A. C. Johnson Date Date No.

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

Profile Notes Red. Plotted Job No. 6429 Division No.
No. Date Date Survey of Dey Sound mgr. Malibu
X-Sec. Notes Chkd. Checked Survey by Kleinpeter Notes 24-19th Date 8-5-47
No. Date Date Map No. Traced Date

FB 124 PG 234

STATION	B. S.	H.I. Elev. Sta	F. S. (-) 12.8	ELEV. Bottom		
Sta. No 1		214	~~17.8~~	~~8.636~~	?	Average Wave Ht. = 1.0'
2		214	~~13.4~~	~~8.030~~	?	
3		214	15.9	55		
4		215	17.4	41		
5		215	18.7	2.8		
6		216	20.5	1.1		
7		216	21.3	03		
8		216	22.3	-0.7		
9		216	22.7	-1.1		
10		215	23.4	-1.9		
11		216	24.3	-2.7		
12		216	26.2	-4.6		
13		215	27.8	-6.3		
14		216	27.9	-6.3		
15		216	28.9	-7.3		
16		216	30.0	-8.4		
17		215	30.2	-8.7		
18		217	31.1	-10.6		
19		222	32.7	-10.5		
20		227	34.0	-11.3		
21		231	35.5	-12.4		

~ Pier Soundings ~
"Malibu Sport Fishing Pier"
Aug. 5, 1947
Elevations based on M.L.L.W.

Cont'd on pg. 236

FORM 307 2M 11-41

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev.-Sta	F. S. (—)	ELEV. Bottom		
Sta. No 22		233	36.0	-12.7	Cont'd from pg. 235	
23		238	37.2	-13 4		
24		238	37.5	-13 7		
25		239	36.9	-13 0		

Element	Time	Direction	Velocity	Height
WIND	3 P.M.	S 32° W.	6 miles per hr.	—
WAVES	"	N. 58° W.	Choppy-Not determined.	1.0'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min	Tide
400' UP Coast	3:20 P.M.	100' in 4 3/4 mins	Down Coast	2'	Low ebb
400' Down "	3 P.M.	110' in 4 1/4 "	"	" 26'	" " (2.6' falling)

F B 129 Pg. 236 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Malibu Date Date No.
Survey by Kleinack Notes H.H. - G.W.K. Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. ____ Notes Red. ____ Date ____ Plotted ____ Date ____ Job No. 8429 Division No. ____ F B 129 PG. 237

X-Sec. No. ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ Survey of Pier Soundings - Malibu. Survey by Kleineck Notes Gulk Date 9-10-'47 Map No. ____ Indexed C. Johnson Date ____

~PIER SOUNDINGS~

"MALIBU SPORT FISHING PIER"

Sept. 10-'47.

Elevations based on M.L.L.W.

STATION	B. S.	Elev. ± Sta	F. S.	ELEV. Bottom
Sta. No. 1		214	12.1	+93
2		214	13.3	+81
3		214	15.4	+60
4		215	16.7	+48
5		215	18.1	+34
6		216	19.7	+19
7		216	22.0	-04
8		216	22.1	-05
9		216	22.8	-12
10		215	23.1	-16
11		216	24.1	-25
12		216	26.0	-44
13		215	27.2	-57
14		216	28.1	-65
15		216	29.0	-74
16		216	30.0	-84
17		215	30.3	-88
18		217	31.1	-94
19		222	32.3	-101
20		227	34.0	-113
21		231	35.1	-120

Contd on pg. 238

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Form 307 5M 5-39

Form 307 5M 5-39

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE

Do not extend notes this side of this line

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No. 22		233	35.9	-12.6	Cont'd from pg. 237	
23		238	37.1	-13.3		
24		238	37.8	-14.0		
25		239	36.8	-12.9		

Element	Time	Direction	Velocity	Height
WIND	3 P.M.	S 44° W	7 miles per hr	—
WAVES	"	Choppy	?	0.9'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	3 P.M.	100' in 9 mins.	Down Coast	11'	Mean flood
400' Down "	2:45 "	100' in 7½ "	" "	13'	" " (4.7 Rising)

F B 179/PG. 238 Job No. 8429 Division No. Notes Red. Plotted Profile
Survey of Pier Soundings - Malibu Date Date No.
Survey by Fleinecke Notes GWK 9-10-39 Notes Chkd. Checked X-Sec.
Indexed C. Johnson Date Date No.

Profile No. _____ Notes Red. _____ Plotted _____ Job No. 8429 Division No. _____ F.B. 129 PG. 239

Date _____ Date _____ Survey of Pier Soundings - Malibu.

X-Sec. No. _____ Notes Chkd. _____ Checked _____ Survey by M Tainack Notes HW-GK Date 9-30-'47

Date _____ Date _____ Map No. _____ Indexed A. C. Johnson Date _____

~ PIER SOUNDINGS ~

"MALIBU SPORT FISHING PIER"

Sept. 30, '47.

Elevations based on M.L.L.W.

Notes Contd on pg. 240

STATION	B.S.	Elev. Sta	F.S.	ELEV. Bottom	
		214	12.5	+89	Average Wave Height - [illegible]
		214	14.0	+74	
		214	15.7	+57	
		215	16.9	+46	
		215	18.5	+30	
		216	20.0	+16	
		216	20.9	+07	
		216	22.2	-06	
		216	23.0	-14	
		215	23.9	-23	
		216	25.0	-34	
		216	27.0	-54	
		215	27.3	-58	
		216	27.9	-63	
		216	29.0	-74	
		216	29.8	-82	
		215	30.0	-85	
		217	31.0	-93	
		222	32.5	-103	
		227	34.0	-113	
		231	35.2	-121	

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. = Sta.	F. S. (−)	ELEV. Bottom		
2[illegible]		233	35.8	−12.5	Notes Contd from pg. 239	
[illegible]		238	37.0	−132		
[illegible]		238	37.7	−139		
25		239	36.5	−126		

Element	Time	Direction	Velocity	Height
WIND	2:30 P.M.	N-52° E.	6 miles per hr.	—
WAVES	"	N 18° E.	8 " " "	0.40'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	3 P.M.	No drift	—		Low.
400' Down Coast	2:45 "	65' in 13½ mins	Down Coast	4.8'	" (0.7 Low)

F.B. 129 Pg. 240

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Malibu Date Date No. X-Sec.

Survey by Meineck Notes H.W. - G.W.K. Notes Chkd Checked

Indexed A. C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev.-Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		214	138	+76		
2		214	148	+66		
3		214	163	+51		
4		215	175	+40		
5		215	179	+36		
6		216	215	+01		
7		216	228	-12		
8		216	230	-14		
9		216	235	-19		
10		215	240	-25		
11		216	252	-36		
12		216	265	-49	Average height of waves = 0.5 ft.	
13		215	274	-59		
14		216	280	-64		
15		216	293	-77		
16		216	301	-85		
17		215	301	-86		
18		217	310	-93		
19		222	325	-103		
20		227	339	-112		
21		231	352	-121		

~ PIER SOUNDINGS ~
"MALIBU SPORT FISHING PIER"
Nov. 4, 1947.
Elevations based on MLLW.

contd on pg. 242.

Profile
No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
Date ____ Date ____ Survey of Pier Soundings - Malibu
X-Sec. Notes Chkd ____ Checked ____ Survey by Elmer Notes C.N.-Gulk Date 11-[illegible]-47
No. ____ Date ____ Date ____ Map No. ____ Indexed C. Johnson Date 11-18-47

F.B. 129 Pg. 241

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No. 22		233	360	-127	Notes Cont'd from pg. 241.	
23		238	370	-132		
24		238	374	-136		
25		239	365	-126		

Element	Time	Direction	Velocity	Height.
WIND	9 A.M.	—	Calm.	—
WAVES	"	Ripples	—	0.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	9:15 A.M.	17' in 8 mins	Down Coast	2'	Mean flood.
400' Down " "	9:00 "	25' in 10 "	" "	2.5'	" " (4.2 Rising)

F.B./29/PG. 242

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Malibu Date Date No. X-Sec.

Survey by Meineck Notes C.N. - Bwk 11-4-47 Notes Chkd. Checked

Indexed S. C. Johnson Date Date Date No.

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____

F.B. 129 PG. 243

Date ____ Date ____ Survey of Pier Soundings - Malibu

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Klemeck Notes G.T.W.J.M. Date 12-1-47

Date ____ Date ____ Map No. ____ Indexed ____ Date ____

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

STATION	B. S.	H.I. Elev. Sta	F.S. (-)	ELEV. Bottom	
Sta. No. 1		214	138	+76	Wave height 1.0'
2		214	150	+64	
3		214	163	+51	
4		215	178	+37	
5		215	190	+25	
6		216	201	+15	
7		216	210	+06	
8		216	218	-02	
9		216	222	-06	
10		215	232	-17	
11		216	245	-29	
12		216	265	-49	
13		215	274	-59	
14		216	277	-61	
15		216	281	-65	
16		216	298	-82	
17		215	299	-84	
18		217	307	-90	
19		222	324	-102	
20		227	338	-111	
21		231	350	-119	

Notes Cont'd on pg. 244

— PIER SOUNDINGS —

"MALIBU SPORT FISHING PIER"

Dec. 1, 1947

Elevations based on M.L.L.W.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. Sta	F. S.	ELEV. Bottom		
Sta. No. 22		233	35.7	-124	Notes Cont'd from pg. 243	
23		238	37.0	-132		
24		238	37.0	-132		
25		239	36.1	-122		

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S 70° W.	5 miles per hr.	—
WAVES	"	S 72° E.	13 " " "	1.6'

— LITTOCAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	2:30 P.M.	100' in 2 3/4 mins.	Down Coast	36'	Mean ebb
400' Down "	2:15 "	100' in 2 1/3 "	" "	43'	" " (2.3' falling)

F.B. 129/PG. 244

Job No. 8429 Division No. Plotted Notes Red. Date Plotted No. Profile

Survey of Pier Soundings - Mobile Date Date X-Sec.

Survey by Merrick Notes V.M.-S.K. 12/1/47 Notes Chkd. Checked No.

Indexed A. C. Johnson Date Date Date

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ F.B/291/PG. ~~242~~ 245

Date ____ Date ____ Survey of Pier Soundings - Malibu

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleineck Notes A.S.-G.K. Date 1-6-'48

Date ____ Date ____ Map No. ____ Indexed Johnson Date ____

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

FORM 307 10M 10-46

~ PIER SOUNDINGS ~

"MALIBU SPORT FISHING PIER"

Jan. 6, 1948.

Elevations based on M.L.L.W.

STATION	B. S.	Elev. Sta.	~~T.S.~~ (-)	ELEV. Bottom
S.G. No 1		21.4	14.0	+7.4
2		21.4	15.3	+6.1
3		21.4	16.5	+4.9
4		21.5	17.6	+3.9
5		21.5	[illegible]	+2.5
6		21.6	[illegible]	+1.1
7		21.6	[illegible]	+0.4
8		21.6	22.0	-0.4
9		21.6	22.3	-0.7
10		21.5	23.2	-1.7
11		21.6	25.7	-4.1
12		21.6	26.0	-4.4
13		21.5	27.0	-5.5
14		21.6	27.5	-5.9
15		21.6	28.1	-6.5
16		21.6	29.1	-7.5
17		21.5	29.9	-8.4
18		21.7	30.8	-9.1
19		22.2	32.5	-10.3
20		22.7	33.9	-11.2
21		23.1	35.0	-11.9

Notes Cont'd on pg. 246

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	Elev. ~~H.I.~~ Sta.	~~F.S.~~ (-)	ELEV. Bottom		
Sta. No. 22		233	[illegible]	-125	Notes Cont'd from pg. 245	
23		238	[illegible]	-131		
24		238	[illegible]	-129		
25		239	[illegible]	-123		

Element	Time	Direction	Velocity	Height
WIND	2:45 P.M.	S 23° W.	5 miles per hr.	—
WAVES	" "	Smooth	Not measurable	0.4'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	2:30 P.M.	None	—	0	low flood
400' Down "	2 P.M.	80' in 12 mins	Up Coast	6.6	" " (0.2 Rising)

F.B. 129 / PG. 346

Job No. 8429 Division No. Notes Red. Plotted Profile

Survey of Per Soundings - Malibu Date Date No. X-Sec.

Survey by Heinecke Notes R.S. - Exh. 1-6/48 Notes Chkd. Checked

Indexed A. C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

Profile
Notes Red _____ Plotted _____ Job No. 4124 Division No. _____
No. _____ Date _____ Date _____ Survey of Flat Slope Line Date 2-2-48
X-Sec. _____ Notes Chkd _____ Checked _____ Survey by Clemens, Gulk Notes C. Jobber
No. _____ Date _____ Date _____ Map No. _____ Indexed _____

F.B. 171/Pg. 247

STATION	B. S.	Inst. Ht.	H.I.	ELEV. Bottom		
Sta. No. 1		21.4	13.9	+7.5	Average Wave Ht = 0.6'	~PLEASE SEE NOTES~
2		21.4	15.2	+6.2		"IMPLIED SPOT ELEVATIONS ARE"
3		21.4	16.4	+5.0		FEB 2, 1948.
4		21.5	17.4	+4.1		ELEVATIONS BASED ON MEAN
5		21.5	18.7	+2.8		
6		21.6	20.0	+1.6		
7		21.6	20.5	+1.1		
8		21.6	20.9	+0.7		
9		21.6	21.3	+0.3		
10		21.5	22.3	-0.8		
11		21.6	23.8	-2.2		
12		21.6	25.8	-4.2		
13		21.5	27.0	-5.5		
14		21.6	27.5	-5.9		
15		21.6	28.2	-6.6		
16		21.6	29.0	-7.4		
17		21.5	29.6	-8.1		
18		21.7	30.8	-9.1		
19		22.2	32.5	-10.3		
20		22.7	33.7	-11.0		
21		23.1	35.0	-11.9	Notes cont'd on Pg. 248	

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta	F. S. (—)	ELEV. Bottom		
Sta. No 22		233	35.7	-124	Notes Contd from pg. 247.	
23		238	36.8	-130		
24		238	36.6	-128		
25		239	36.3	-124		

Element	Time	Direction	Velocity	Height
WIND	10 AM.	S 59° W.	15 miles per hr.	—
WAVES	"	About S.30° E	Chippy - Not mea'd.	0.6'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	10145 AM.	100' in 11 min's.	Down Coast	9'	Low
400' Down "	10115 "	100' in 5 "	" "	20'	"

(0.8 Low)

F.B. 129/PG. 248

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings - Malibu Date Date No. X-Sec.

Survey by Kleinack Notes Chkd. Checked

Indexed C. Jonnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta.	F. S. (-)	ELEV. Bottom		
Sta. No 1		214	13 7	+77	AVERAGE WAVE	± 0.7 FT
2		214	14 4	+70		
3		214	15 9	+55		
4		215	16 9	+46		
5		215	18 7	+28		
6		216	20 0	+16		
7		216	20 7	+09		
8		216	21 1	+05		
9		216	21 4	+02		
10		215	22 3	-08		
11		216	23 5	-19		
12		216	24 9	-33		
13		215	26 5	-50		
14		216	27 3	-57		
15		216	28 0	-64		
16		216	28 8	-72		
17		215	29 3	-78		
18		217	30 6	-89		
19		222	32 1	-99		
20		227	33 6	-109		
21		231	34 9	-118		

~ PIER SOUNDINGS ~
"MALIBU SPORT FISHING PIER"
March 2, 1948
Elevations based on M.L.L.W.

Notes Cont'd on pg. 250

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8129 Division No. ____
X-Sec. Notes Chkd. ____ Checked ____ Survey of Pier Soundings - Malibu
No. ____ Date ____ Date ____ Survey by Memeck Notes G.S.-GK Date 3-2-48
Map No. ____ Indexed C. Johns Date 4-22-48

F.B. 129 PG. 249

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H.I.~~ Elev. Sta.	F. S.	ELEV. Bottom		
Sta. No 22		233	36 3	-120	Notes Cont'd from pg. 249.	
23		238	36 5	-127		
24		238	36 4	-126		
25		239	36 3	-124		

Element	Time	Direction	Velocity	Height
WIND	2 P.M.	S. [illegible]	2 miles per hr	—
WAVES	"	Calm	—	0.7'

~LITTORAL DRIFT~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	3 P.M.	None	—	0	Mean flood
400' Down	"	2:30 P.M.	10' in 9 mins Down coast	1'	" " (2.1' Rising)

F.B. 129/PG. 250

Job No. 8429 Division No. Notes Red. Plotted No. Profile

Survey of Pier Soundings Malibu Date Date X-Sec.

Survey by Kleeneck Notes Chkd. Checked No.

Indexed A. C. Johnson Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. - Sta	F. S. (-)	~~ELEV.~~ Bottom		
Sta. No 1		214	13.7	+77	AVERAGE WAVE HT. 0.7	
2		214	14.5	+69		
3		214	16.0	+54		
4		215	17.1	+44		
5		215	18.9	+26		
6		216	20.2	+14		
7		216	20.9	+07		
8		216	21.2	+04		
9		216	21.7	-01		
10		215	22.2	-07		
11		216	23.6	-20		
12		216	24.8	-32		
13		215	26.0	-45		
14		216	27.2	-56		
15		216	28.1	-65		
16		216	29.0	-74		
17		215	29.4	-79		
18		217	30.8	-91		
19		222	32.4	-102		
20		227	34.0	-113		
21		231	35.2	-121		

~ PIER SOUNDINGS ~
"MALIBU SPORT FISHING PIER"
April 1, 1948
Elevations based on M.L.L.W.

Contd on pg. 252

Profile
No. ____ Date ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____
X-Sec. Date ____ Date ____ Survey of Pier Soundings - Malibu
No. ____ Notes Chkd. ____ Checked ____ Survey by Klewicz Notes TC-GK Date 4-1-'48
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson

F.B. 129 Pg. 251

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	F. S. (−)	~~ELEV.~~ Bottom		
Sta. No. 22		23 3	35.8	-125	Contd from pg. 251	
23		23 8	36.8	-130		
24		23 8	36.7	-129		
25		23 9	36.9	-130		

Element	Time	Direction	Velocity	Height
WIND	10 A.M.	S 47° E	1-2 miles per hr.	—
WAVES	"	S 85° E	9 " " "	0.7'

— LITTORAL DRIFT —

Observation At	Time	DRIFT	Direction	Feet per min.	Tide
400' Up. Coast.	10:30 A.M.	100' in 10½ mins.	Down Coast.	10'	Low ebb
400' Down "	10:15 "	45' " 16 "	" "	2.8'	" "
				(0.3 Low)	

F.B. 1291 PG. 252 Job No. 8429 Division No. Notes Red. Plotted No. Profile
Survey of Pier Soundings — Malibu Date Date X-Sec.
Survey by G. Kleinert Notes T.L. Bunk 4-1-48 Notes Chkd. Checked No.
Indexed A. C. Johnson Date Date Date

Profile No. ____ Notes Red. ____ Plotted ____ Job No. 8429 Division No. ____ F.B/29/PG. 253

Date ____ Date ____ Survey of Pier Soundings - Malibu

X-Sec. No. ____ Notes Chkd. ____ Checked ____ Survey by Kleinock Notes AS-GK Date 5-3-'48

Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date 5-17-48

~PIER SOUNDINGS~

"MALIBU SPORT FISHING PIER"

May 3-'48

Elevations based on M.L.L.W.

Average Wave Ht = 01.0'

STATION	B. S.	~~H.I.~~ Elev.-Sta.	F.S. (-)	ELEV. Bottom
Sta. No. 1		214	13.0	+84
2		214	14.7	+67
3		214	16.1	+53
4		215	17.6	+39
5		215	19.1	+24
6		216	20.8	+08
7		216	21.3	+03
8		216	22.0	-04
9		216	22.1	-05
10		215	22.5	-10
11		216	23.8	-22
12		216	24.9	-33
13		215	25.9	-44
14		216	26.5	-49
15		216	27.6	-60
16		216	29.0	-74
17		215	30.1	-86
18		217	31.0	-93
19		222	32.5	-103
20		227	33.8	-111
21		231	35.2	-121

contd on pg 254

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

Do not extend notes this side of this line.

FORM 307 10M 10-46

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	H. I. Elev. Sta.	F. S. (-)	ELEV. Bottom		
Sta. 22		233	35.4	-[illegible]	Cont'd from pg. 253	
23		238	37.1	-[illegible]		
24		238	37.1	-[illegible]		
25		239	36.2	-[illegible]		

Element	Time	Direction	Velocity	Height
WIND	10:15 A.M.	S 03° W.	4 miles per hr.	—
WAVES	"	S 87° E.	9 " " (estimated)	1.0'

~ LITTORAL DRIFT ~

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	10:45 A.M.	15' in 12 mins	Down Coast	1.3'	Low ebb
400' Down "	10:30 A.M.	15' in 15 "	" "	1'	" " (0.7 falling)

F.B. 129 Pg. 254

Job No. 8424 Division No. Notes Red. Plotted Profile

Survey of Pier Soundings - Malibu Date Date No.

Survey by G. Kleinert Notes A.S.-G.K. 5/3/48 Notes Chkd. Checked X-Sec.

Indexed C. Johnson Date Date Date No.

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEYOR
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

STATION	B. S.	~~H. I.~~ Elev. Sta.	~~F. S.~~ (-)	ELEV. Bottom		
Sta. No. 1		214	13.3	+81	Average Wave Ht. = 01.5'	
2		214	14.9	+65		
3		214	16.5	+49		
4		215	18.0	+35		
5		215	19.5	+20		
6		216	20.8	+08		
7		216	21.0	+06		
8		216	21.7	-01		
9		216	21.8	-02		
10		215	22.4	-09		
11		216	24.5	-29		
12		216	26.0	-44		
13		215	26.9	-54		
14		216	27.3	-57		
15		216	28.0	-64		
16		216	29.9	-83		
17		215	30.0	-85		
18		217	30.5	-88		
19		222	32.0	-98		
20		227	33.5	-108		
21		231	35.0	-119		

~PIER SOUNDINGS~
"MALIBU SPORT FISHING PIER"
June 2-1948.
Elevations based on M.L.W.

Contd on Pg. 256

Profile No. ____ Notes Red ____ Plotted ____ Job No. 8429 Division No. ____ Date ____ Date ____ Survey of Pier Soundings - Malibu
X-Sec. No. ____ Notes Chkd ____ Checked ____ Survey by Kleinert Notes A.S.-G.K. Date 6-2-48
Date ____ Date ____ Map No. ____ Indexed A. C. Johnson Date 6-7-48

FORM 307 10M 10-46

PLEASE RETURN TO
LOS ANGELES COUNTY SURVEY
700 HALL OF RECORDS

NOTE: ANY ADDITIONS OR CHANGES TO THIS SHEET MUST BE MADE OR CALCULED IN RED INK, WITH DATE AND PLACE OF PERSON MAKING CHANGE.

Do not extend notes this side of this line.

1291

STATION	B. S.	H. I. Elev. - Sh.	F. S. (-)	ELEV. Bottom	
[illegible]		233	35.9	-126	Notes Cont'd from pg. 255.
[illegible]		238	36.8	-130	
[illegible]		238	37.2	-134	
[illegible]		239	36.0	-121	

Element	Time	Direction	Velocity	Height
WIND	10:30 A.M.	S. 23 E.	2-3 miles per hr.	
WAVES	"	S. 57 W.	12 " " "	1.5'

— LITTORAL DRIFT —

Observation At	Time	Drift	Direction	Feet per min.	Tide
400' Up Coast	11 A.M.	50' in	8 mins. Down Coast	6.3'	Low ebb
400' Down "	10:40 A.M.	100' in	9 " " Up "	11'	" "
					(1.1 Low)

Plotted ____ Date ____ Notes Red. ____ Date ____ Notes Chkd. ____ Date ____ Checked ____ Date ____ No. ____ Division No. ____ Notes ____ Date ____ No. ____

[illegible] Johnson — Notes [illegible] — 6/2/48