Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O.H. Dittmer
Superintendent

State: California

DESCRIPTIVE REPORT
Topo. Sheet No. 3086

Locality: Santa Monica Bay, Cal.

1910

Chief of Party: H.W. Rhoads
SIO Sketchbook of Party No. 5144

ABSTRACT OF CONTENTS:

Notes and sketches in connection with revision of chart No. 5144

G. & G. Survey, Library and Archives
SEP 9 - 1910
Vol. 1

Chief of Party:
H. W. Rhodes

Vol. 1
Treasury Department,
U. S. COAST AND GEODETIC SURVEY,
O.T. Titcomb, Superintend.  
State: California  
SKETCHBOOK.

ABSTRACT OF CONTENTS:

1901  
CHIEF OF PARTY:
H. W. Rhodes -

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## Stations for Sextant Angles

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<td>Venice, Pier</td>
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June 6-7, 1910

La MESA (primary)

No trace of this station can be found.  The ground on the north side of 25 St. is now a barley field. On the south side of the street several small houses have been built.

A careful search was made through the records and maps in the City Engineer's Office at Santa Monica, and in the County Surveyor's Office in Los Angeles for references or connections to this station.

Information from the City Engineer's Office at Santa Monica indicates that the signal formerly standing over the station, was not there there since 1889.

No trace of the red sand-stone base which could be found, nor any information concerning it from the oldest inhabitants.
Saratoga Springs from top of roof of City Hall -
Tanbeckard Hse. to Samuel Re. - Lane = 99 89
Crosson Catholic school to
Flag of Cheyenne school = 104 28
Flag of Laramie City School = 118 59
Flag of Laramie High School to
L. F. Sanfield School = 64 11
Patches on Cheyenne Blvd. = 88 14
L. F. Bury Hospital = 89 27
Flag of Washington Street = 90 55
Real Home (Curtis residence) = 92 18
Centr. R. R. Gas Tanks = 96 45
Water Tanks on hill in front of Rly. = 99 26
3 D. C. cor. improvements = 99 31
Main street of Cheyenne, Street = 104 17
Town of Laramie and Town = 105 42
D. C. cor. Bristol Cafe = 117 04
Tan to Tan's 2nd Direct Ht. = 120 40
Station to Angler in 20° toward center of City Hall from its south corner -
1600 ft long x 35 ft wide cement pilings

San Diego Marine Pool Pier - Piersite only

Colorado Ave.
Sextant Angles at outer Center end of Pier. (Santa Monica Municipal Pier)

S.E car. Long 31° 12′

S.E car. conspicuous gray Bldg. (2 story Mission style residence on bluff) = 31° 32′ 30″

Same to Center gable of S.M Auditorium (a conspicuous red building on beach) = 92° 04′ 30″

Same to Tower of Municipal Bldg. in S.M. = 81° 48′ 30″

Municipal tower to Red Dome = 96° 47′ 00″

Municipal Tower to

S.E car Washington School (a conspicuous red brick Bldg. on high ground near Ocean Park) = 91° 28′ 00″

M. Tower to center gas tank at Ocean Park = 102° 39′ 00″

M. Tower to

Inshore end of Bristol Pier. = 96° 32′ 00″

M. Tower to

S.E car. Cars on outer end Bristol Pier = 109° 45′ 00″

M. Tower to

Center line of Denny Pavilion at Ocean P. = 107° 48′ 00″

M. Tower to

Outer end of Ocean Park Pleasure Pier = 114° 29′ 00″

M. Tower to

High round tower on Venice Pier = 118° 36′ 00″

M. Tower to

Outer end Venice Pier = 120° 52′ 30″

M. Tower to conspicuous hill beyond W. End of Pier = 119° 43′ 00″

M. Tower to conspicuous hill beyond Bldgs. = 120° 05′ 00″

M. Tower to outer end of Pier beyond Venice = 123° 29′ 00″

M. Tower to center line of Pier (N.S) = 26° 29′ 30″

M. Tower to Pt. Dome to S.E car. Long 31° = 29° 55′ 00″

M. Tower to outer end S.E car. Long 31° beyond Venice = 128° 05′ 00″
The "Chinl" at Treml, Unlike, along
the arable land from Cape 200 ft. and to 165 ft.

down to the 2nd m. 3 sig tons on foot

2 stories high with a current 200 ft.
July 11, 1910

Settlement August at 3 as shown on Lot 6

Levee Station at Venice Pier.

* End of long wharf to end of M Sluice at 12:00 - 50 p.m. = 12’ 01’ 00
  * Distance to 5 a.m. P.M. at Port of Venice = 17’ 49’ 00
  * Distance to 0.5 at long residence on 3rd floor = 16’ 21’ 00
  * Distance to 100 of Town of Venice Pier. = 30’ 43’
  * Distance to Residence of female residence = 34’ 01’ 30
  * Distance to 2 & 0.5 or male residence (conceivable and last Plym) = 47’ 09’ 00
  * Distance of 0.5 of P.H. & male = 55’ 29’ 00
  * Distance of 100 of Venice Pier = 139’ 37’ 30
  * Distance of 2 & male = 21’ 27’ 00
  * Distance of 0.5 male = 35’ 03’ 30

East End of 100 of Venice Pier.

Length of 100 of Venice Pier = 41’ 32’

Distance to 100 of Venice Pier = 81’ 48’

Distance to 100 of Venice Pier = 82’ 20’

Distance to 100 of Venice Pier = 83’ 57’

Distance to 100 of Venice Pier = 84’ 57’

Distance to 100 of Venice Pier = 88’ 37’

Distance to Residence of female residence = 93’ 30’

Since 1905, the H.W.M. was at the point where the present promenade (seaside walk) crosses the levee wall. Since building the levee, it has gradually lowered until under the levee H.W.M. at low water the shore line remains to the inner side of the promenade. The H.W.M. then rises to the level of the levee and at Florence St. 3 squares outward it reaches the line of the levee wall and further E. and the sea is restreched inward to the property of the H.W.M. and the buildings are placed. The levee line is determined as shown above.
Proposed Pier at Re. to be 24' wide x 900 long.

Marine St. Ocean Bar. including present Marine St. Pier.

Interacting present Marine St. Pier, which is 75' long x 25' wide.

16 at M.H.W. at end of this.

to 225' long from side walk. These pier 50' from Marine St.

a " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " 


Sextant Angles at stake - feet from sidewalk on Marine St. Pier.

End of long wharf to:
- Old Santa Monica Municipal Pier: 10 - 14
- S.E. cor. Bristol & Oak Sts: 15 - 37
- Red annex or residence (800 sq ft): 49 - 25
- Flag on Santa Monica Pier, 1st pier: 51 - 50
- Water tank at nursery, on Venice Bl: 108 - 49 00
- Center Line Paddle: 114 - 3 14

Spike of water tanks at nursery - measured 5
- Mainman of ship hotel: 89 - 41
- Tower of auditorium - Venice Pier: 93 - 45
- Flag of Life Saving Sta. on Venice Pier: 98 - 26
- End of Venice Pier: 99 - 35
Svntant Angles from sta. at S.E. cor. of Bristol Pier Bldg.

S.E. cor. Washington Schol to
Center Ocean Pk. East Front = 26.11
Center Ocean Pk. Street # Sentinel Tower = 34.46
End of Ocean Pk. Pier = 50.48
Main mast ship Hotel 8th Ave. Pier = 50.31
Tower of Auditorium in Water Pier = 52.52
End of 4th Ave. Pier = 56.28
End Long Wharf to S.E. cor. Washington Schol = 149.32
End of S.W. pier Pier = 140.47
Distant Angles at Outer End of Drk Rey Pk - (S.W. Cor)

- Long Pk to
  - Outer End Municipal Pk (S.W.) = 9° 03' 00"
  - S.E. cor. Bristol Cape Light = 11° 49'
  - Outer End Venus Pk = 11° 26'
  - Flag of life-saving station Venus Pk = 11° 54'
  - Tower of Audition - Venus Unit = 13° 31'
  - Rear of ship at base Venus Pk = 15° 04'
  - Center of Ocean Park Gas Pk = 20° 11'
  - High Water Mark Ocean Pk = 33° 10'
  - Tree on distant hill = 108° 05'
  - Towers of Drk Rey Hotel = 107° 16'

- Tree on distant hill to
  - Towers of Drk Rey Audition = 21° 07'
  - S.W. cor. of cons. furnace on bluff = 39° 57'
    (about 1/3 mile and 3/4 mile distant)
  - Conspicuous water Pk = 56° 10'
  - End of 1st reef east (about 2 miles) = 92° 47'
  - 5/8 of 2 high lights at Redondo? = 93° 41'
  - End of 2nd reef & Eastern (Lakerna) = 93° 21'
  - Towers of Redondo Hotel = 93° 50'
  - Tree & Lange End. Of Line (aka Wharf) = 111° 18'
Distinct Angles at Outer End of

S. E. Cor. Beulah Cafe. = 2° 01'

End of Santa Monica Municipal Pier to

Towers of Venice Auditorium. = 53

Outer End of 3d Ray Pier = 7° 8'

Towers of 3d Ray Auditorium. = 11° 33'

S. E. Cor. of Glass residence on bluff = 15° 17'

Center High water limits = 17° 32'

Cole on Bluff = 96° 43'

From Pole on Bluff to

End of 1st Pier East, 500 ft. from = 91° 09'

of Fredricks Hotel (Beck's Pier)

End of 3d Pier East (Ameron) = 93° 03'

Silts of two high chimneys = 91° 17'

Pals to Sands end. (Beck's Pier) = 113° 37'

2d Pier East in Manhattan Beach Pier.
Sentient Angles at Outer End of Reeks Wharf.

Town of Reeks Auditorium to

End of Playa Del Rey Pier  =  2° 33'
End Telephone Pier  =  3° 28'
Town of Del Rey Auditorium  =  5° 11'
Congress House Bluff  =  7° 19'
Water Tank on Bluff  =  8° 22'
Police on Hill  =  71° 04'

From Police on Hill to

A.C. Cor. Reeks Pavilion
(an open pavilion 45 x 100' at 1/4 N.E.)  =  93° 46'
Billy of 2 light houses  =  111° 33'
Outer End Manhattan Pier  =  112° 03'
Outer End Homemade Pier  =  114° 11'
Tower of Atlantic Hotel  =  112° 24'
Vernon Land's End (St Nicholas)  =  139° 05'

Most N'ly edge of Manhattan Beach are first minor, of Reeks Pavilion —
Billy, increase in number to the S'w'ward.
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<td>27.43</td>
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<tr>
<td>High town of Hemmings Block to</td>
<td>76.27</td>
</tr>
<tr>
<td>Side of 2 high streets of Hemmings</td>
<td>86.52</td>
</tr>
<tr>
<td>Center of Redondo Hotel</td>
<td>88.18</td>
</tr>
<tr>
<td>End of Hemmings Road</td>
<td>91.22</td>
</tr>
<tr>
<td>in town end of Hemmings</td>
<td>118.28</td>
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Note: Days spent when done in Redondo: 81.40

Carpentered high and large: in Redondo: 82.38

* Manhattan store town is a conspicuous,
  a story brick Reddy 2 blocks motion
  a conspicuous gray brick on top of the ridge,
  by storm on 3-14 20

* A conspicuous high gray Reddy with gray town
  on top of the ridge till Hemmings.
A West Bosh  

July 21, 1910

A large 3 story residence, with outbuildings
known as the Bruneau Ranch Residences
was built on the summit of this hill
about 1875.

A cement reservoir about 10' deep and
about 40' x 100' and occupying what
appears to have been the summit of
the hill, was also constructed at
the same time. And the station
was probably destroyed at that time.

The family at present living in the
house have no knowledge of any station
mark and as the ground immediately
surrounding the reservoir has been
ploughed (and cultivated by them
without finding any stone or other
station marks) it confirms the
theory that the station was destroyed
when the reservoir was built.
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<th>Sextant Angles at center of outer end of Hermosa Pier</th>
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<td>Outer End Hermosa Pier to Outer End Manhattan Pier = 00° 41' 00&quot;</td>
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<td>Outer End Manhattan Pier = 2 07</td>
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<tr>
<td>Square tons of Manhattan B. Church = 12 15</td>
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<td>Center of hyphenation: tree/ near 12 West Beach = 47 02</td>
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<td>Tower of Hermosa Beach School = 55 05</td>
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<td>End of white water stacks = 63 21</td>
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<td>Center of large wooded area on hill = 84 46</td>
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<td>High red cap in Redondo = 80 09 30</td>
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<td>City of 2. Cape rocks Ext. = 83 34</td>
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<tr>
<td>Tower of Redondo B. = 91 38</td>
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<td>End of cliff (pete) Home = 100 38</td>
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<td>End of long Pier (P. Coast co., Redondo = 103 15</td>
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<td>Pan Lander End (Rocky Pt., Ext of staff opposite 11th M. = 131 21</td>
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* Squared stones long video, 100 feet long sand about 1½ miles width

† Large circular white tank with red roof & caps, 100 feet of gray sand, 300 feet of red sand & 100 feet of red sand & 1½ miles of red sand

‡ Tel [19] on large reddish hill.
Pacific L.& P. Co's Pier at Redondo.

Extension of pier at
703'-11" long July 21, 1910
to be extended to 803'-11" from
E. side of boardwalk (pier line) at once - to be completed by Oct. 1st, 1910.

Pier is 32' wide for last (new) 100' and inner part is
21' $ft. $.

E. of center of pier is
16'-5" above M.W. carries 3 pipes for
contention of future tank.
2 10" pipes (1 coal + 1 water) are 96' diam.
X 29' high.

Scale 1" = 25'
Feb 1

We reached the ridge but could not
see the 24th Inf. Dig. 5th Inf. and 25th Inf.

The division formed on the ridge and we
were to attack as soon as possible. The
24th Inf. Dig. 5th Inf. and 25th Inf.

The attack was ordered and we took our
place. The attack was very successful and
we captured the ridge.

About 11 a.m. we were ordered to
continue the advance and we captured
the next ridge.

The attack was ordered again and we
continued the advance.

The attack was successful and
we captured the next ridge.

About 1 p.m. we were ordered to
continue the advance and we captured
the next ridge.

The attack was successful and
we captured the next ridge.

About 3 p.m. we were ordered to
continue the advance and we captured
the next ridge.

The attack was successful and
we captured the next ridge.

About 5 p.m. we were ordered to
continue the advance and we captured
the next ridge.

The attack was successful and
we captured the next ridge.

About 7 p.m. we were ordered to
continue the advance and we captured
the next ridge.

The attack was successful and
we captured the next ridge.
OWENS residence
Scale 1" = 25 ft.
(3 stories high)

Barn

on top of sand hill East of Playas del Rey - and about 100 meters W of site of A Sand Hill
Highland Cottage of old chaut is on lot to S of Temple at 200 ft. East of cor of Temple & S of line of 5th St. - see below

- S line of Lot to N line Hollister = 3605 ft.
- N line Hollister to N line Marine = 3005 ft.
- N line Marine to N line Montclaire = 4305 ft.
- N line Montclaire to S line that is = 11200 ft.

All above distances scaled from original map in City Eng. Office b.m.

* Highland Cottage (2) is on line with the center line of Temple, 6th line of Marine and its west line is 400 ft. East of the East line of 6th St. this is the exact line on the hill and is on the highest point. The highest point at Highland Cottage is (Centre of town) July 30.

- Water tank on hill at 6thRay to W cor. Bristol Road = 68-48
- Plans of town from hill at 6thRay to W cor. Bristol Road = 68-24
- Center of Park Bath House (south of mount) to W cor. Bristol Road = 64-28
- Approx. center of town to same = 59-52
- Stiff in center of circular road and feed water tank on rising TO P. Issac = 67-44
PACIFIC OCEAN

Sketch from Howland Ave (Ocean Park) to Playa Del Rey Pavilion (Playa Del Rey) showing location of all buildings. Positions are proportional to size of blocks as shown.
Pier 40, 1 is 750 ft. long from outer end of Pavilion. X 75, wide on outer end.

Ocean Park

Sketch showing location of 3 high tanks at west 5th. Rialto Ave between Lake and Electric.

Scale 1:100

Rialto Ave

Lake Ave

These tanks are

Don'ts:

Rialto
These lines are parallel with the horizontal line between the Fourth Light & Point Loma. The projection of the point is incorrect.
A Rocky Point

The lake on which this station was located in on the Lake Winni-...comb and the environment in which it is virtually impossible to locate the precise location of this lake. The lake is surrounded by mountains, and the water is clear and still. The lake is named for the large, flat rocks that are scattered throughout its surface.

By digging into the mud, one can often find interesting artifacts, such as pottery and metal tools. The mud is rich in nutrients, making it a valuable resource for plant growth. The lake is also home to a variety of wildlife, including fish, birds, and mammals. The lake is an important resource for the local community, providing water for drinking, irrigation, and recreation.
Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Dittmann
Superintendent.

State: California

DESCRIPTIVE REPORT:
Top... Sheet No. 3086

LOCALITY:
Santa Monica Bay, Cal.

1910

CHIEF OF PARTY:
H. W. Rhoads
General description of methods employed in Chart #5144.

None of the old triangulation stations adjacent to the shore between Point Dume and Rocky Point could be found, and none of the old buildings from which it was possible to obtain a view and make observations could be recovered.

The "Long Wharf" (Port Los Angeles) was found unchanged in length, and by accurately locating the new municipal pier at Santa Monica in the extension of Colorado Street, two points were obtained from which to carry a system of sextant angles between the pier heads along the water front, and obtain a check on the location of the improvements, which were then plotted by obtaining and compiling property maps along the entire stretch of shore line between Santa Monica and Redondo Beach, and reducing to the scale of the chart. This was slow and laborious work but the only feasible means of locating the improvements without the use of the plane table, the use of which was not permitted under the instructions for the work.

Right of way maps of the Pacific Electric Railway covering the whole stretch of territory between Santa Monica and Redondo Beach were secured and used to check the distances on street and property maps wherever possible. The mean distance between Colorado Street in Santa Monica and 9th Street in Redondo Beach as given by the Railroad and property maps, was harmonized with the scaled distance between the same points on chart # 5144.

The locations of all improvements have been made as carefully as possible and it is believed there is no appreciable error in any of the positions as given on the chart. The sextant angles to the ends of the piers check up satisfactorily and afford a
moderate check on the distances between the piers.

The charted entrance to the lagoon at Del Rey was the only point of control between the points named above, and afforded a satisfactory check at that point. Sextant angles to prominent objects agreed in a satisfactory manner with their locations on street maps and with the topography as shown on the chart.

Owing to the great differences in the scale of chart #5144 and those of the street plans and Railway right of way maps, it was impossible to use proportional dividers and all distances had to be scaled and then multiplied by their reducers to bring them to the scale of the chart. The plotting directly on the chart has not been satisfactory owing to its small scale and the fact that in many places it was already covered by topographical symbols.

There are transmitted herewith a report on the triangulation stations included within the limits of the revision work, and a general report on the street car lines within the same area. This latter report has been found necessary as it was impracticable to plot the car lines in many places to the scale of the map chart.

The detailed descriptive report also submitted is intended to furnish any required additional information in regard to prominent featured which the scale of the chart does not permit to be shown in detail. It has also been found impracticable to indicate the built up districts by shading the blocks in the customary manner, and the description is full enough to permit that to be done on the finished chart if it is desired.

Four sheets of plotting notes are also transmitted showing what corrections have been applied to adjust the discrepancies between the chart distances and those secured from other maps.
34 numbered maps and plans are also submitted together with one volume of field notes and sketches; these are referred to in the detailed report by numbers and pages respectively.
LA MESA. (Primary)

This station was located near the intersection of 22nd. street and Michigan Avenue in Santa Monica, but no trace of it can be found. The ground on the north side of 22nd. street is now a barley field. On the south side of the street several small houses have been built. A careful search was made through the records and maps in the City Engineer's Office in Santa Monica, and in the County Surveyor's Office in Los Angeles for references or connections to this station, but nothing could be found.

Information from the City Engineer's Office in Santa Monica indicates that the signal formerly standing over the station has not been there since 1939. No trace of the red sand-stone surface mark could be found or any information concerning it from the oldest inhabitants. The description of the station is too general to give a location accurate enough to warrant the expense of digging for the sub-surface mark.

RIDGE.

The location of this station was on the ridge lying immediately north of the intersection of Third Street and Rose Avenue in Ocean Park. The land is unimproved but no trace of the station could be found. Neither the Ocean Park City Engineer's Office nor the County Surveyor's Office have any record of the station. The land is lying idle now but for some years past it has been ploughed and sown to barley. The oldest inhabitant can give no information concerning the station and its description is too vague and indefinite to warrant the expense of digging for the sub-surface mark.
High Table.

This station was too far from the field of operations to be of value in the revision work in view of the fact that none of the adjoining stations could be found, and no search was made for it. The country between it and the beach contains a number of groves of high eucalyptus trees which practically obscure the view in that direction.

Sand Hill 3.

The sand hill in the vicinity of this station is much furrowed and gullied on top by the action of the wind and no trace of the old station or its marks can be found. An old Spaniard was interviewed who has known the country intimately for years and who pointed out the approximate site of the station and stated that the old signal had been gone for many years. Owen's house, the "Conspicuous house" observed on from most of the piers, stands about 100 meters west of the site of the station.

West Beach.

A large three-story residence with outbuildings, known as the "Duncan Ranch House" was built on the summit of the hill where this station was located about the year 1896. A cement reservoir about ten feet deep and about 40' x 100' and covering the northern portion of the summit of the hill was built at the same time and it appears that the southern end of this reservoir now occupies the former site of this station. The family at present living in the house have no knowledge of any station mark, and as the ground immediately surrounding the reservoir has been ploughed and cultivated by them without finding any stone or other
station mark, there is little doubt that all of the station markings were destroyed when the reservoir was built.

Salt Pond.

Assistant Ferdinand Westdahli searched for this station in 1883 without success, and no extended search was made for it at this time. The area surrounding the site of this station is now covered by numerous groves of tall and heavy eucalyptus trees and even if found it would be impossible to occupy or observe on the station from other stations.

Cove.

The ground where this station was located is now a grain field and no trace of a signal or station marks can be found. The station was evidently on a shoulder or bench below the main summit of the ridge, shown on the chart as having an elevation of 232 feet. The description of this station states that it was located about 500 meters from the shore line but its position on the ground shows it to have been about 800 meters from the shore and its description should be corrected accordingly.

Rocky Point.

The hill on which this station was located is in a large unimproved ranch which is used only as a stock range. No trace of a signal or station marks can be found and the ground is now too hard and the exact location too uncertain to warrant the expense of digging for the sub-surface mark. Should it ever become especially desirable or necessary to recover this station, it seems probable that by digging on the summit or on a prominent bench a little below the main summit, that the sub-surface mark might be
found. The ground has evidently never been disturbed and the hill-top is covered (August 1910) with dry grass and sage brush. The soil is a red gravelly loam with some float rock scattered on the surface.
Report on Electric and Steam Roads shown on chart #5144.

The Los Angeles Pacific Electric Railway system embraces all the lines shown on this chart excepting the Redondo Railway Co., (narrow gauge electric) and the Southern California Railroad (now Atchison Topeka & Santa Fe,steam) which are shown at the Redondo & Beach end.

The Southern Pacific Railroad and the Southern California Railroad, shown on the chart as entering Santa Monica are now electrized and a part of the Pacific Electric System. This Company has four double track lines between Los Angeles and the Coast as follows:-

The Westgate and Brentwood Park line entering Santa Monica on San Vicente Road and Ocean Avenue as shown on maps Nos. 1 and 2.

The Hollywood, Beverly, and Sawtelle Line, entering Santa Monica by Oregon Avenue and Ocean Avenue.

The Venice Short Line entering Santa Monica by way of Venice as shown on maps nos. 1 & 2 and blue prints of the P.E.right of way.

The Del Rey & Redondo Line, connecting at Del Rey with the &
double track line from that point to Santa Monica, as shown on
the accompanying blue prints. The cars from Los Angeles on this
line run through to Redondo on a double track line as shown on
the right of way blue prints.

The line formerly shown on Nevada Avenue in Santa Monica has
been taken up. The old Southern Pacific Line is still a single
track road. The old Sou. Cal. R.R. is still a single track line
and its present location is shown on maps 1, 3, 10, & 11. Its
alignment has been changed through Venice as is shown on map No.3.

The location of the Sou. Cal. R.R. entering Redondo has been
changed in the vicinity of Manhattan Beach as shown on map No.34.
Detailed Descriptive Report to accompany revision work on Chart No. 5144, Point Dume to Rocky Point.

The shore line from Point Dume to Port Los Angeles (Long Wharf) is apparently unchanged and there are no improvements which show from the water; the ground is rough and broken and at present used only for grazing purposes. The Long Wharf is unchanged except that the coal bunkers on the west side have been removed and a two story office building and long shed erected at the outer end and closer to the east side as shown in sketch page 29 of sketch book. At present (July 1810) there is but little traffic over the wharf, in fact none except the cargo of an occasional lumber schooner. All of the former passenger and freight business is now handled at Redondo Beach or San Pedro. No steam cars are operated to the wharf, the old Southern Pacific Line having been converted into an electric line and transferred to the Los Angeles Pacific Co. (a subsidiary S.P. corporation) which operates local cars from Santa Monica.

Santa Monica.

The town of Santa Monica has grown to a population of about 11,000 and from Montana Street and Ocean Avenue southeastward along Ocean Avenue it has been well built up with residences. The edge of the bluff from Colorado Street northward outside of Ocean Ave. is a public park and the shade trees growing there obscure most of the residences inshore. The town is continuous, though somewhat sparsely built up, eastward as far as Sawtelle and the Soldiers' Home. From Hollister Avenue southward to Marine Street, the southerly city limit, there is a solidly built residence district extending from the beach to two blocks inshore; to the eastward, on the higher ground, there is a well built up district for one-
half mile inshore
half mile inshore, but not so solidly built as along the shore line.

The new municipal pier, a reinforced concrete structure 1800 feet long from H.W.M., in the line of Colorado Street, is a conspicuous mark and is brilliantly illuminated at night; (see p. 4 of sketch book) the city's outfall sewer is carried underneath it and its superstructure is used solely as a recreation pier; there are accommodation ladders for the use of parties landing from small boats but no provision for handling freight or passenger boats.

The Arcadia Hotel with its associated buildings, on the beach, for many years a conspicuous landmark has recently been torn down and should be removed from the chart. There are no buildings on the bluff along the waterfront between Colorado Street and Fremont Ave. except the Kensington Apartment buildings as shown on map No. 2. the north side of Ocean Ave. however, is closely built up as indicated on the same map.

Bristol Pier in the extension of Hollister Avenue is "L" shaped and the outer end, which is parallel to the beach, is entirely covered by a restaurant building, 2 stories in height, which is a conspicuous mark. During the summer months it is brilliantly lighted at night. see p. 11 of sketch book.

Marine Street or "Horse Shoe" Pier in the line of extension of Marine Street was formerly shaped like a horseshoe as shown on map No. 2 but the Pier Ave. part has been destroyed and its present size is given by description and sketch on pages 8 and 9 of sketch book. Preparations are all complete for extending this pier making it 274 feet wide and 900 feet long including the present Marine Street Pier. It is proposed to begin this work on Oct. 1st and to have it completed within 8 months from that date.
Conspicuous Land Marks.

Map No. 2 shows the location of nearly all the public buildings in Santa Monica, but while the street plan of that map is correct, the size of the buildings and piers shown on it have been exaggerated for display purposes, it being intended for a real-estate map. But few of the buildings shown however are conspicuous enough for identification from the water, as they are either on level ground or obscured by shade trees.

"Gray House" (Tower on chart) is a conspicuous gray plastered residence on the corner of Ocean Ave. and Georgina Street. It is located and described on p. 2 of sketch book; sextant outs were taken to it from Santa Monica Municipal Pier, Life saving station on Venice Pier, and from Hyperion Pier. see pp. 5, 7, and 16 of sketches.

"Dome" is the red tiled roof or dome, of a residence at the east corner of Bicknell Avenue and Third St. The house which is of moorish design and stands conspicuously on the west slope of the ridge, is known locally as the moorish or "Turkish" house; it is three stories high, finished in plaster, and the red tiled dome is a conspicuous mark from the water. Sextant outs to it are given on pages 3, 5, 7, & 9 of sketch book.

"Hospital". Santa Monica Bay Hospital on the west corner of Fourth and Pacific Streets is a conspicuous red brick building on the crown of the first ridge. Sextant outs to it are given on pages 3 and 9 in sketch book.

"Washington School", a conspicuous red brick building on the west corner of Fourth Street and Ashland Avenue, is on the top of the first slope and easily identified. Sextant outs to it are given on pages 3, 5, 7, all of sketch book.
"Auditorium". The Marine Street auditorium and Pavilion, a very large high brown building extending along H.W.M. from Marine Street Pier to Pier Avenue, and partly on shore and partly on the pier, is a conspicuous landmark.

OCEAN PARK.

Ocean Park from its northerly limits at Marine St. southward to Howland Ave., and from the beach to a distance of one block east of the railroad double tracks, is built up solidly. Inshore of this section, to the eastward, the residences are more scattered but extend in that direction for about a mile or to the city's easterly limits. From Howland Ave. southward to the city limits the location of all buildings are shown on pages 30, 31, 32, & 33 of sketch book.

Ocean Park includes "Venice of America" a popular amusement resort, and its permanent population is about 4000 with probably three times as many in the summer time.

Conspicuous Land Marks.

"Bath House". The Ocean Park bath house is a high building with minarets surmounted by spires and is a conspicuous mark on the beach between Navy Street and Ozone Ave., as shown on map No. 2.

"Gas Tank". The Ocean Park gas tank is one of the most conspicuous marks along this stretch of the shore line; it lies about 90 meters south of Rose Street in the block between Serenade Street and Lake Avenue; its position is shown on map No. 3, and sextant cuts are given to it on pages 3, 5, 7, 9, 11, and 13 of sketch book.

"Venice Pier". The pleasure pier at Venice with its associated buildings and amusement structures, constitute the most conspicuous along this part of the shore line. Details of the wharf and buildings on and adjacent to it are shown on maps 2, 3, 8, and
9 and the details of the extension of 100 feet beyond the Breakwater are given on page 6 of sketch book, where there are differences in the details of this pier among the maps showing it, map No. 9 should control except in the case of the Scenic railroad which is not shown on it.

"Auditorium". The tower of the auditorium is a very high circular structure not unlike a light house in appearance, and an excellent landmark. The ship hotel has three masts and is also conspicuous. The dancing pavilion and the Plunge north of it are both large and conspicuous buildings. The Scenic Railroad lies to the north of the pier buildings, its outer end being just abreast the outer end of the Dancing Pavilion; it is a high structure surmounted on the east and south sides respectively by an artificial mountain peak, each of which is about 60 feet high and conspicuous.

Since the construction of the breakwater in 1905 for the protection of the pier and buildings on it, the water has shoaled back of it, and the H.W.M. is now about 300 feet further out than formerly. (see p. 7 of sketch book for fuller description) South of the Venice Pier the sea has encroached on the shore line and from Virginia Ave. to Clark Ave., a distance of six squares, the land has been protected by a bulkhead and the City is now (July 1910) preparing to extend this bulkhead still further to the southward.

"High Water Tanks". These are located at the west corner of Midland Street and the Inglewood Div. right of way of the Pacific Electric Ry. as shown on map No. 3 and on page 26 of sketch book. The northerly one of these tanks is the larger and higher, having an elevation of 90 feet above the ground while the two smaller ones have an elevation of 70 feet each.
There are three concrete bridges across the lagoon near the southerly limits of Ocean Park but at the present time there are no buildings on the Northeast side of the lagoon.

**PLAYA DEL REY.**

This is the most southerly of the beach resorts connected with Santa Monica. It consists chiefly of the Auditorium and hotel as shown on pp 12 and 24 of sketch book, and a few buildings north of the lagoon at the junction of the Lagoon and Del Rey Divisions of the P.E.Ry. This was the site of a proposed inner harbor a number of years ago but the idea of maintaining an artificial entrance was finally abandoned as impracticable. There are now two rock jetties at the entrance to the lagoon but the channel between them has apparently but little greater depth than the water outside. Heavy sluice gates in the bridge which crosses the lagoon's entrance at H.W.M., control the flow of water into and out of the lagoon to a considerable extent. A small suction dredge is kept at work almost continuously just inside the entrance to the lagoon to maintain a sufficient depth of water to permit boating and bathing at that point. The southeast end of the lagoon has been filled in and the track of the P.E.Ry. now runs around the end of it as indicated on the chart. A very high arch bridge of reinforced concrete crosses the lagoon at Moore Street as shown on the chart but as yet there are no buildings east of the lagoon at this point.

The Lagoon Division of the Pacific Electric Ry. connects with the Del Rey Division of the same line at the head of the lagoon and the latter division continues as the Redondo Division to the terminus of the line at Redondo Beach.

About one mile inside of Del Rey on the Del Rey Division of
the Pacific Electric Railway a large motordrome has been constructed, the parts of it forming the grand stand rising to a height of about 40 feet above the ground but it is not conspicuous from the water as the buildings and sand ridges nearer the water partly obscure it.

There is a conspicuous house (a large residence) and a high tank on the high ground just south of Del Rey as shown on the chart. Sextant angles for the location of these objects are given on pages 7, 13, 16, 17, and 19 of the sketch book. These two objects are the most conspicuous marks along the coast as they stand on the summit of the ridge at an elevation of about 150 feet and are not confused by any other buildings; there are several residences on the slope of the bluff just north of the conspicuous house, but they do not show clearly and not at all at a distance.

Hyperion Pier, built to carry the Los Angeles outfall sewer, is 962 feet long from the P. E. Ry tracks and the deck which carries the pipe is about 12 feet above high water mark. The plan of the pier and sextant angles from its outer end are given on pages 14 & 15 of the sketch book. There are no buildings or structures of any kind, excepting Hyperion Pier, between Del Rey and North Manhattan Beach (Peck's Pier) and no apparent changes in the shore line.

Manhattan, Shakespeare and Hermosa Beaches.

From Peck's Pier southeastward to Redondo Beach the land along the coast has been subdivided and improved and there are a considerable number of residences from one to three squares back from the beach along the whole stretch.
From Peck's Pier to Manhattan Pier the buildings are more scattering averaging two or three to the square and all within two squared of the water. From Manhattan Pier to Redondo the 84 buildings are more numerous and extend back three squares from the water with more solidly built portions in the vicinity of Manhattan and Hermosa Piers.

The H.W.M. as shown on the chart between Hermosa Pier and the Pacific Light & Power Co's Pier in Redondo is incorrect and should be corrected as shown in red ink; see p. 37 of sketch book.

CONSPICUOUS OBJECTS.

Peck's Pier, Manhattan Pier, and Hermosa Pier are all pleasure piers constructed with raw piles which are at present badly eaten by the teredo and in need of repairs. As portions of the outer ends of all of these piers have been carried away by winter storms during the past few years it is quite probable that their lengths will be further reduced in the near future.

"Peck's Pavilion" located at H.W.M. about six squares south of Peck's Pier is a rather conspicuous mark from the water; its description is given on p. 17 of sketch book and on map No. 24, and angles to it on pp. 17 & 19 of sketch book.

"Church" located three squares inshore and three squares south from Manhattan Pier is a conspicuous gray building on top of the ridge with a square tower on its southeast corner; sextant angles to it are given on pp. 19 & 23 of sketch book.

"School" three squares inshore and six squares north of Hermosa Pier is a very conspicuous high gray building with an open tower or belfry on its outboard side. It is on the highest point of the ridge of sand dunes, and as the contours of the chart would indicate its position as inshore of the summit, it is evident (as it
appears) that the dunes are building inshore.

The Pacific Power & Light Co's Pier has been lengthened 100 feet (July and August 1910).

"Chimneys". The P. L. & P. Co's power house has been enlarged and is now surmounted by three large and very conspicuous concrete chimneys as shown by sketch on p. 24 of sketch book. These chimneys are 14' x 25' and are very conspicuous marks.

"Tanks". The two large black tanks adjoining the P. L. & P. Co's plant on the south are 30 feet in height and rather conspicuous; their locations are given on p. 25 of sketch book.

REDONDO BEACH.

From 8th St. to pier No. 1 the area between the waterfront and the railroad tracks is built up solidly with summer residences. Piers No.1 and No.2 are unchanged in shape. Pier No.3 has been lengthened about 150 feet.

The old pier shown on the chart about 150 meters south of pier No. 3 has been destroyed.

A number of residences have been built on the bluff between the R.R. track and the beach but none are particularly conspicuous or remarkable in comparison with the large number of conspicuous objects shown in Redondo.

From Redondo to Rocky Point there are no apparent changes in the shore line and no improvements on shore that are visible from the water. The land between Redondo and the canon in Malaga Cove is grain land and southward of the canon the land is used for grazing purposes only. The location of the road from the canon to triangulation station "Rocky Point" has been changed as indicated on the chart. The road is somewhat indefinite being on private
fenced property and little used, but its location has been sketched as carefully as possible.
Plotting Notes

On Chart #5144

Department of Commerce and Labor

From Sta. 240+04.20 on S. line of Hart St. in Del Rey to Sta. 327+915 (E. C. on Tong. along beach) using Equation:

End of Lagoon Division 256+99.63 = Beg of Fedondo Division 309+49.81 the distance on Ry. Track is 3537.1 ft., and the distance along the beach between perpendiculars to the beach at most points (from property surveys) is 3305.3 ft., giving a difference of 231.8 ft. due to curves and deflections in the R.R. alignment at this point, and by which amount the Ry. distance, including this stretch, must be reduced to obtain correct measurements along the beach.

From Sta. 625+38.14 on N. line of 1st St. bet. Shakespeare and Manhattan Beach to Sta. 727+36.68 on N. line of 9th St. in Ocean Beach (Fedondo) is 10198.5 ft. on Ry. track and the distance along the beach, bet. perpendiculars to it from the above points, by property measurements is 10108.0 ft.

From Center line of Colorado St. at Ocean Ave. to Sta. 1375+9.6 to Sta. 240+04.20 on S. line of Hart St. in Del Rey is 22644.6 ft. which is practically the same as the beach measurement.

Reduced distance along beach from center line of Colorado St. to N. line of 9th St. in Ocean Beach is 22644.6 ft.

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\[ 658.4 \times 34 \]
Department of Commerce and Labor

Dist. by straight and property measurements along 92nd, between Centric line of Pacific St. in South Monica and N-line of 92nd St in Ocean Beach (Redondo) is 65804.8 ft. = 2067.16 meters.

By chart 5140 the distance between the same points is 20800.0 meters which gives a correction of 57 meters to be distributed throughout the measured distance. (reduce all measured distances by 1m in every 3200 meters.)

N. line of Arroyo: N. at 4125.07 North.
N. line of South Beach (1257.3 meters).
Direction of Pier is 378.53 true (local true).

N. line of Manhattan Pier is 12883.7 ft North of N. line of 92nd St. 055.23" = 3916.9 meters.
Direction of Pier is 368.9 true (from inland).

N. line of Reef Pier to N. line of 17th St. Beach = 5619.41 meters. -
Less 16.03 revised correction = 5603.4 meters.
Direction of Pier is 379.9 true (local true).

N. line of Interior Pier to line of 19th St.: Ocean Distance = 8585.9 meters.
Less 50 meters correction = 8536.0 meters.
Direction of Pier is 567.9 true (on).

N. line of Coliseum St. to N-line Hollister Ave., is 1097.3 meters along promenade by present measurements.
Direction of Pier is 851.9 true (129.9 true).

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N. line 9th. st. to N. line Marine St. is 916.2 meters as promenade by property measurements.

Direction at Marine St. and Pier is S. 55° W. by local map.

N. line Marine St. to N. line Windward Ave. is 1807.4 meters along promenade by property measurements.

Direction at Windward Ave. & Pier by local map is S. 55° 3' W. (true) Less correction for 3.324 m. from S. line of St. gives 3318.4 m. from the point.

N. line Windward Ave. to Del Rey Pier is 3642 meters by property measurements along the beach. Combining this with distances of other piers east of S. line of Colorado St. 916.5 Del Rey Pier is 6923.4 meters from S. line of Col. St.

Correcting 411 m. gives 6922.4 m. from S. line of Col. St.

Direction of Pier is S. 65° W. true, by local map.

Col. St. to 9th. st. 0.8 measures 1994.0 on chart this day giving a minus correction of 117 to be applied to measured distance but these points or 1 m. in every 17 m. gives

Ocean Park Col. Park is in lower end of F. in California.
Department of Commerce and Labor

using 800 meter distances

C31. st. to 9th Ave. is 1944m by Chart 5144
meas. distance is 20057m.

20057 measured m. to be reduced by 117 meters
or by 1 for 171 meters. 0.5

No. 204
Ed. 3-14-09-500,000