11190 11191

11190 • 11191

Diag. Cht. No. 1.
See Topographic Master Diag. West Coast.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline (photogrammetric)
Manuscript Nos.
Field No. PH 10000-809 Office No. T-11190, T-11191

LOCALITY

State Oregon

General locality

Locality Crater Lake

1957

CHIEF OF PARTY
V. Ralph Sobieralski
Div. of Photogrammetry, Wash. D. C.

LIBRARY & ARCHIVES

DATE

COMM-DC 61300

/

DATA RECORD

T-11190, 11191

Project No. (II): 10000-809 Quadrangle Name (IV):

Field Office (II): Chief of Party: V.Ralph Sobieralski

Photogrammetric Office (III): Washington, D. C. Officer-in-Charge: L. W. Swanson

Instructions dated (II) (III): Sept. 18, 1957 Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Stereotriangulation and compilation by stereoplanig...

Manuscript Scale (III): 1:10000 Stereoscopic Plotting Instrument Scale (III): 1:20000

Scale Factor (III): 1.0

Date received in Washington Office (IV): 31 MAR 1958 Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date: Date registered (IV): 27 Jan 1960

Publication Scale (IV): Publication date (IV):

Geographic Datum (III): NAD 1927 Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): Hillman 1953

Lat.: 42-57-07.024 Long.: 122-10-05.301 Adjusted / Unadjusted Field computation

Plane Coordinates (IV): State: Oregon Zone: South

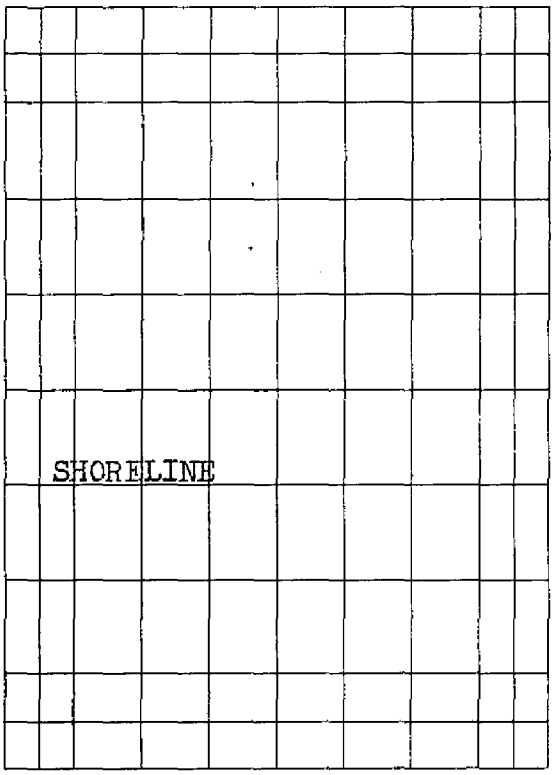
Y= 1553448.79 X= 472853.41

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

M-2618-12(4)

2



Areas contoured by various personnel
(Show name within area)
(II) (III)

DATA RECORD

Field inspection by (II): V. Ralph Sobieralski Date: Sept-Oct 1957

Planetable contouring by (II): Date:

Completion Surveys by (II): Date:

Mean High Water Location (III) (State date and method of location):
Office and field inspection on Geological Survey Photography taken on July 17th and 18th, 1953

Projection and Grids ruled by (IV): J. R. Haskins Date: 1-23-58

Projection and Grids checked by (IV): J. R. Haskins Date: "

Control plotted by (III): Robert Fuechsel Date: Feb. 1958

Control checked by (III): K. Maki Date: Feb. 1958

~~Radial Plot~~ or Stereoscopic
Control extension by (III): John Perrow Date: Feb. 1958

Stereoscopic Instrument compilation (III):
Planimetry George Ball Date: Feb. 1958
Contours Date:

Manuscript delineated by (III): Date:

Photogrammetric Office Review by (III): K. Maki Date: Feb. 1958

Elevations on Manuscript
checked by (II) (III): Date:

M-2618-12(4)

Camera (kind or source) (III):

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
Geological Survey Photography				
1-74 thru 1-77	7-17-1953	unknown	1:37400	None
1-210 thru 1-214	7-18-1953	"	"	
1-169 thru 1-172	7-18-1953	"	"	

Tide (III)

	Ratio of Ranges	Mean Range	Spring Range
Reference Station:			
Subordinate Station:			
Subordinate Station:			

Washington Office Review by (IV): S. Thiffle Date: Aug. 1959

Final ~~Drafting~~ Scribing by (IV): R.A. Carter Date: 1-20-1960

Drafting verified for reproduction by (IV): W.O. Hallum Date: 1-21-1960

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 36

Shoreline (More than 200 meters to opposite shore) (III):

Shoreline (Less than 200 meters to opposite shore) (III):

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): Recovered: 3 Identified: 3

Number of BMs searched for (II): Recovered: Identified:

Number of Recoverable Photo Stations established (III): 1

Number of Temporary Photo Hydro Stations established (III):

Remarks:

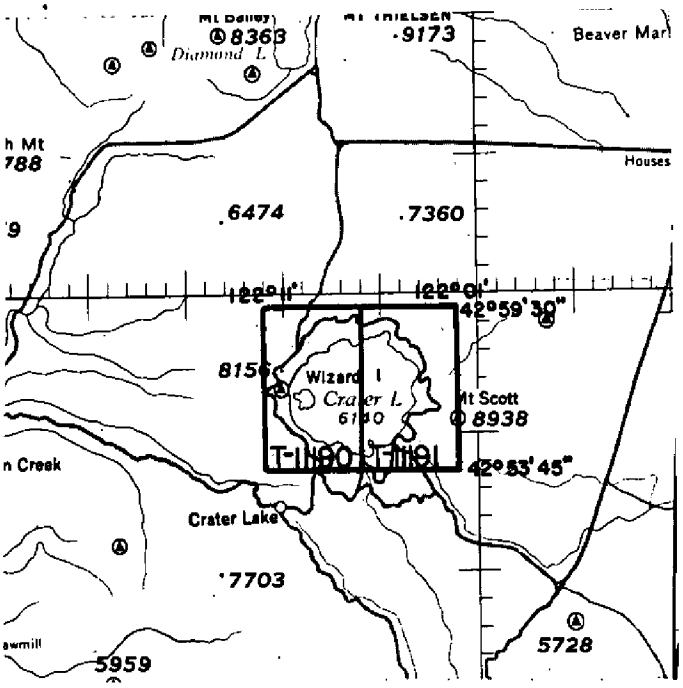
Two triangulation stations established and identified.

M-2618-12(4)

Project 10,000-809

Shoreline Mapping

Crater Lake Oregon



Official Milage for Cost Accounts

sheet number	area sq.mi.	lin. mi. shoreline
T-11190	17	13
T-11191	19	9
totals	36	22

Summary
to accompany shoreline manuscripts T-11190 and T-11191

Subject surveys represent project 10000-809.

The two manuscripts cover Crater Lake, which is located in Crater Lake National Park, Klamath County, Oregon.

The purpose of this shoreline project was the need of a base map to aid in the construction of a hydrographic survey of said Crater Lake; a request made by the National Park Commission.

Original instructions of 18 Sept. 1957 for Photogrammetric Field Surveys were sent to the Portland Photogrammetric Office. U. S. Geological Survey single-lens photography of 1953 was furnished to accomplish this. New photography (nine-lens) was scheduled for the transfer of field-identified control and for plotting and compilation of the shoreline manuscripts. Weather conditions prevented new photography by our air photo mission and the Washington Office was obliged to utilize the rather poor U. S. Geological photography in the construction of the shoreline surveys by stereoplanigraph. However, the two manuscripts, T-11190 and T-11191, as compiled, are believed to be of sufficient quality to support the hydrographic survey, which is planned for the near future (tentative plan - fiscal year 1960).

These two maps will be scribed and duly processed for the reproduction of a cronar film positive at the compilation scale of 1:10000. This along with a combined Descriptive Report will be registered and filed in the Bureau Archives.

August 1959

Portland Photogrammetric Office
405 Custom House
Portland 9, Oregon

28 October 1957

To: The Director
Coast and Geodetic Survey
Department of Commerce
Washington 25, D. C.

Attention: The Chief, Photogrammetry Division

Subject: Report - Photogrammetric Field Surveys
Project 10000-809, Crater Lake, Oregon

1. Authority:

Photogrammetric field surveys at Crater Lake, Oregon, were performed in accordence with Instructions dated 18 September 1957.

2. General.

Plans for accomplishing the assignment were roughed out after telephone conversations with Mr. Cravat on 16 and 20 September and with Mr. R. K. Rundell, Assistant Park Superintendent, on 23 September. With all data and equipment on hand, travel from Portland to Crater Lake was done on 25 September.

The field work was done from 25 September to 2 October with observing being possible only on 29 and 30 September. Inclement weather forced extensive modifications of the original plan.

3. Weather.

Contrary to forecasts, weather conditions were decidedly unfavorable. Park personnel familiar with the area compare the weather with that of Alaska, insofar as it is unpredictable and may change rapidly. Throughout the period of this survey the general weather pattern for the area surrounding Crater Lake was partly cloudy with showers. The weather in the immediate vicinity of the lake was as follows:

25 Sept. - Increasing cloudiness
26 Sept. - Continuous rain
27 Sept. - Rain to clearing with low clouds
28 Sept. - Low broken clouds, showers
29 Sept. - Blue skies to rain
30 Sept. - Cloudy to low overcast
1 Oct. - Low clouds and showers to low broken overcast
2 Oct. - Low broken overcast to heavy snow

It was not unusual to be unable to see across the lake while visibility in the opposite direction was practically unlimited. Mount Scott, Hillman Peak and The Watchman were obscured by low clouds most of the time.

4. Field Surveys.

.01 It was planned to select three locations for new horizontal control stations, occupy two existing stations and one new one, and intersect the other two new stations. HILIMAN 1953, Watchman Lookout House 1953 and Mt. Scott Lookout House 1953 were recovered and identified on the photographs. SINNOTT, BM 7-8 (BPR) and PALI were established. The Bureau of Public Roads has monumented traverse stations along Rim Drive, but they are not connected to triangulation and none were found in locations suitable for this survey.

Because of unfavorable weather, Mt. Scott Lookout House was not occupied. Observations were made from HILIMAN 1953, SINNOTT and BM 7-8 (BPR). PALI was intersected from HILIMAN and SINNOTT. A final attempt to occupy PALI was abandoned because of low clouds covering the other stations, and it is classified as a topographic station.

.02 A limited field inspection was made by classifying roads, buildings and vegitation in the area between Rim Drive and the lake visible from the roads. More time than expected was available for this work on account of the poor observing conditions.

.03 Inspection of the photographs indicated that pre-marking of pass points around the lake shore was unnecessary. The character of the shore is such that there should be no difficulty in selecting sufficient pass points by stereoscopic observation. Also considered was the probability that snow would obscure the markings by the time new photographs could be made.

.04 Information for the hydrographic survey is contained in a separate report.

5. Results.

It is believed that the information obtained is sufficient for the purpose. The lateness of the season and the limited time available were not conducive to a well executed survey. Snow cover on the photographs made it difficult to identify selected points, especially in areas of little detail.

V. Ralph Sobieralski
LCDR, C&GS
Officer-in-Charge

PHOTOGRAMMETRIC PLOT REPORT

21. AREA COVERED

T-11190, 11191

22. METHOD

The C-8 stereoplanigraph was used for bridging two strips of Geological Survey photography. Strip No. 1 consisted of photos 1-74 through 1-77, and strip No. 2 consisted of photos 1-169 through 1-172. A third strip falls in between strips No. 1 and No. 2. Models in this third strip will be set up for detailing ~~and~~ on bridge points established while stereotriangulating strips No. 1 and No. 2.

23. ADEQUACY OF CONTROL

Strip No. 1 had 4 control stations, two of which had sub stations. Due to the short length of the bridge (3 models) a straight line mathematical adjustment was performed. An additional supplemental shift was necessary. Station Watchman L O H 1953 did not hold by approximately 38 feet. The station was difficult to identify in the stereoplanigraph. All other control together with the bridge points are believed to be within the necessary accuracy requirements.

Strip No. 2 had a minimum amount of control. There were two stations, with one of the stations having two sub stations. A straight line mathematical adjustment was performed due to the minimum control availability and the short length of the bridge (3 models). * Mt. Scott L O H, 1953 was very difficult to see in the stereo model. The station was not occupied by the field party - see field report. The most likely stereo instrument location of the station was used in adjusting strip No. 2. As a check, model 1-214 and 213 was set up on bridge points dropped in strips No. 1 and No. 2 (near Mt. Scott L O H). All the bridge points held thus indicating that the stereoplanigraph location of Mt. Scott L O H was correct.

24. SUPPLEMENTAL DATA

The quadrangle used for leveling the first model in bridges was Crater Lake Nat'l Park and vicinity 1946 - scale 1:62500- contour interval 50 feet

* Field identification of Mt. Scott LOH, 1953 was done on 25 Aug. 1959 and verifies the image point used in the stereo triangulation bridge.
KHM 9/10/59

25. PHOTOGRAPHY

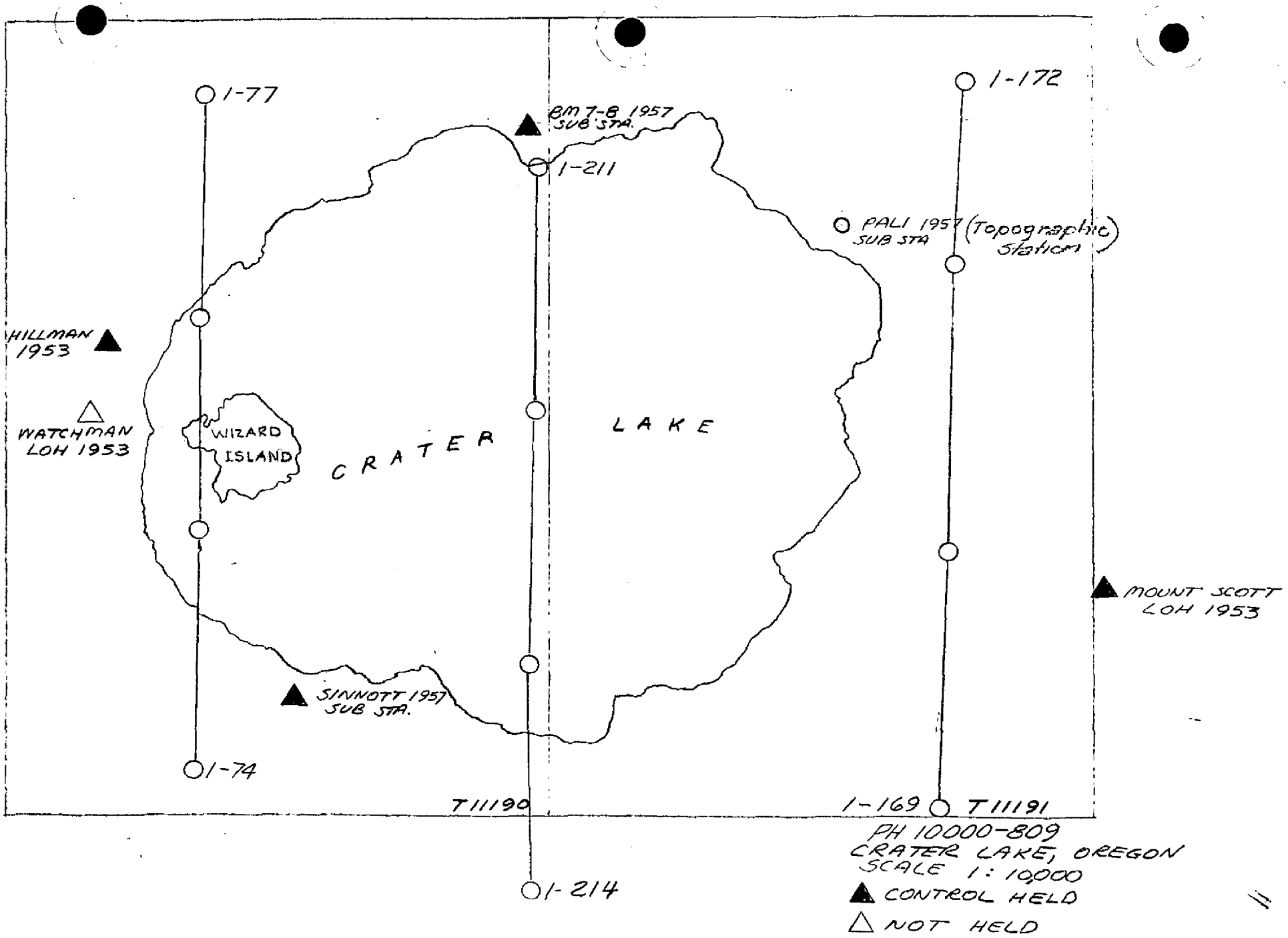
Photography taken in 1953 by U. S. Geological Survey was used. The photography coverage and definition was adequate.

Respectively submitted

John D Perrow

John D. Perrow

M.K.



PH 10000-809
CRATER LAKE, OREGON
SCALE 1:10,000
▲ CONTROL HELD
△ NOT HELD

Photogrammetry

MAP T-11191 PROJECT NO. 10000-809 SCALE OF MAP Oregon 1:10000 South Zone SCALE FACTOR 1.0

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
Mt Scott			461 540.28							
L O H 1953		1927	1594 210.47							
			477 992.37	This is a Topographic Station. See p.2, item 4.01 of						
Pali 1957		"	1581 797.00	field inspection report.						
Pali			478 007							
Sub Sta. No.1		"	1581 820							
Pali			478 000							
Sub Sta. No.2		"	1581 841							

1 FT. = .3048006 METER

M-2388-12

COMPILED BY: G. Ball DATE Feb. 1958 CHECKED BY: R.E. Fuechsel DATE Feb. 1958

Photogrammetry

MAP T- 11190 PROJECT NO. 10000-809 SCALE OF MAP 1:10000 Oregon South Zone SCALE FACTOR 1.0

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
Watchman			469 642.64				
L O H 1953		1927	1552 554.57				
			472 853.41				
Hillman 1953		"	1553 448.79				
			458 030.57				
Sinnott 1957		"	1560 225.72				
Sinnott			457 848.	Note: computed from			
Sub Sta.		"	1560 187.	Sinnott Ecc.			
			482 802.08				
BM 7-8 1957		"	1568 271.51				
BM 7-8			482 767				
Sub Sta. No. 1		"	1568 250				
BM 7-8			482 742				
Sub Sta. No. 2			1568 206				

1 FT. = .3048006 METER

M-2388-12

COMPUTED BY: G. Ball DATE Feb 1958 CHECKED BY: R.E. Fuechsel DATE Feb 1958

COMPILATION REPORT T-11190, T-11191

31. DELINEATION

Delineation was performed on the C-5 stereoplanigraph. Field inspection covered the planimetry with the exception of shoreline. The shoreline was therefore office interpreted.

32. CONTROL

All control, established during the bridging operation, was held while detailing the area.

33. SUPPLEMENTAL DATA

The quadrangle used for leveling the models was USGS quadrangle Crater Lake Nat'l Park and Vicinity 1946 - Scale 1:62500 - contour interval 50 feet.

34. CONTOURS and DRAINAGE

Not applicable

35. SHORELINE and ALONGSHORE DETAILS

Office interpretation of lake shoreline was complicated in some areas due to the overhang of cliffs. Otherwise no difficulty was encountered. Cultural features such as wharves and buildings are at a minimum in this area.

36. OFFSHORE DETAILS

No comment

37. LANDMARKS and AIDS

Not applicable

38. CONTROL FOR FUTURE SURVEYS

Approximately 60 detail points (about one detail point dropped every 2 inches on the shoreline on manuscript) were identified on office ratio prints to aid in the location of hydro signals.

One recoverable topographic station was established - PAL1, 1957

39. JUNCTIONS

~~None~~

A junction was made between T-11190 and T-11191.

40. HORIZONTAL AND VERTICAL ACCURACY

All areas of the manuscripts are believed to be within the standards of accuracy requirements of the Bureau.

41. RATIO PRINTS

A set of office ratio prints on positype paper was ordered at the scale of the manuscript.

46. COMPARISON WITH EXISTING MAPS

The only comparison was made with the USGS quadrangle mentioned in item 33.

47. COMPARISON WITH NAUTICAL CHARTS

None

48. GEOGRAPHIC NAMES LIST

None

Respectfully Submitted

George Ball
Cartographer

Approved

Morton Keller
Morton Keller
Supervisory Cartographer

16

AIR MAIL

AIR MAIL

13 September 1957

To: LCDR V. Ralph Sobieralski
Coast and Geodetic Survey
Portland Photogrammetric Office
405 Customhouse
Portland 9, Oregon

Subject: Instructions , Photogrammetric Field Surveys
Project 10,000-809 Crater Lake, Oregon

1. Assignment:

The National Park Commission has requested the Coast and Geodetic Survey to make hydrographic surveys of Crater Lake, Oregon. Arrangements have been completed for undertaking the photogrammetric phase. The photogrammetric field work is assigned to you and one assistant Mr. Elgan T. Jenkins.

2. General Information:

A 1:10,000 scale shoreline survey and photogrammetric control will be required for hydrography. Hydrography is proposed to start as soon as the roads have been opened next summer. New photography will be taken this fall when Air Photo Mission 701 returns from Alaska, but the roads into the park will be closed before the photographs will be available for field use.

Geological Survey Photographs taken in 1953 will be used for control identification. Their Sacramento Office will air mail 1:18,700 scale, (2X) enlargements to you. These should arrive in Portland before 23 September. The control identification will be transferred to the new photographs. Plotting and compilation will be done in Washington.

3. Planning:

The photogrammetric field surveys including travel time shall be limited to 7 days. To achieve this, careful planning and preparations will be required before going to the field. A telephone call to either Mr. Thomas J. Williams, Superintendent of the area, or his assistant, Mr. Raymond Mundell, may be of assistance to you.

It is expected that you will be able to call the Park direct. The number is Crater Lake 1 via Chilequin. If this number cannot be reached, call Medford 2-6183. Radio contact will then be made between Medford and the Park for you.

4. Field Surveys:

The project diagram and horizontal control data were forwarded to you yesterday. Field surveys shall be undertaken and completed in the order of importance as follows:

01. Recover and identify existing triangulation stations MOUNT SCOTT L.O.H. 1953, WATCHMAN L. O. H. 1931 and HILMAN 1931.

02. Establish and identify 3rd order positions of photo points on the rim in the vicinity of Pumice Pt., Crater Lake Lodge, Roundtop, and others if practicable. If positions are not practicable, observing directions to each photo point from triangulation will suffice.

.03 While executing items .01 and .02 above, a limited field inspection shall be made. It will include classification of roads, buildings, and vegetation from the lake inland to the first road.

5. Reports

Upon completion of the work two reports are required. A report on the photogrammetric field surveys shall be submitted for the attention of the Chief, Photogrammetry Division. The other report shall be prepared for the attention of the Chief, Coastal Surveys Division to be used for planning hydrography. The latter report should include items as follows:

01. There are two 30-foot launches on the lake, one of which the Park Service will make available to us for hydrographic work. The launches should be inspected, if possible, to ascertain which is best suited for hydrography. An E.O fathometer weighing approximately 250 pounds must be installed in the launch. A small generator will also be installed, and an outboard fish attached to one side of the launch. Space for the usual hydrographic party will be required. An estimate as to the cruising speed of the boat is desired, and a general statement as to suitability for launch hydrographic work.

.02 Discuss with the Park Superintendent the matter of water temperature and density. If sufficient information is not available for the reduction of soundings, it will be necessary to install a hand-wire sounding machine on the launch to obtain aerial temperatures.

.03 Any other information which will be of assistance in writing instructions or in the execution of a hydrographic survey, will be appreciated.

6. Pre-marking Stations:

You will endeavor to whitewash a minimum of 6 to 10 stations along the shoreline of the lake. These should be distributed more or less evenly around the entire circumference of the lake. These marks should be about 6 feet in diameter or 6 feet rectangles. They need not be located or observed on. They will serve as photo pass points in making the radial plot. We anticipate difficulty in finding identifiable objects for pass points along the lake shore and need to be sure of having a minimum. More marks are desirable if you have them. This marking is secondary to Items 4.01 and 4.02 but more important than Item 4.03.

7. Standby Orders:

In the event of an enemy attack you will immediately contact your nearest District Officer and inform him of your mailing and telegraphic address and a telephone number at which you can be reached and stand by for further instructions.

If the personnel on your party are needed to assist in Civil Defense activities during the survival phase of the emergency, you shall inform the District Officer and request his permission to assist the Civil Defense authorities. In the event the District Officer cannot be reached, you shall comply with the requests of Civil Defense authorities.

8. Cost:

All cost shall be charged to project 10,100-809.

9. Receipt:

Receipt of these orders shall be acknowledged.

(Signed) Charles Pierce

Assistant Director

cc: Portland District Office
San Francisco District Office
7
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48. Geographic Names List: (The following names are approved by the Geographic Names Section: Those underlined in red are BGN decisions.)

Chaski Bay ✓

Cleetwood Cove ✓

Cloudcap Bay ✓

Crater Lake ✓

Danger Bay ✓

Discovery Point ✓

Dutton Cliff ✓

Eagle Cove ✓

Eagle Point ✓

Eagle Crags ✓

Governors Bay ✓

Grotto Cove ✓

Llao Bay ✓

~~Llao Rock~~ +

Palisade Point ✓

Palisades ✓

Phantom Ship ✓

Pumice Point ✓

Redcloud Cliff ✓

Sentinel Rock ✓

Sinnott Memorial ✓

Skell Channel ✓

Skell Head ✓

Steel Bay ✓

Wizard Island ✓

Rugged Crest ✓

Crater Lake Lodge ✓

Crater Lake National Park + Title

Klamath County + Title

Mount Mazama + Title

Rim Village (campgrounds) ✓

Rim Drive ✓

Geographic Names Section
George M. Bale
10 August 1959

49. Notes for the hydrographer.-

Shoreline detail points, at or near water level, were office identified and their positions were located on the manuscripts by a 2½ mm circle during the stereo instrument bridging and compilation. The points are described on the backs of the field ratio prints and are circled on the office ratio prints with 4 mm red circles. It is probable that a certain number of these points can be recovered as signal sites during hydrographic operations if the lake level is approximately the same as it was at the date of photography.

Review Report of

Shoreline Manuscripts T-11190 and T-11191

August 1959

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

There are no previously registered topographic surveys of this area.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

CRATER LAKE NATIONAL PARK and vicinity, OREG.,
scale 1:62500 Ed of 1946 (from surveys to 1933)
U S Geological Survey

There is good agreement between these surveys.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

None!

65. COMPARISON WITH NAUTICAL CHARTS:

None!

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

Field inspection was rather limited, however, adequacy and accuracy are of sufficient quality to serve its' purpose, i.e. as a base for hydrographic surveys.

Reviewed by:

Josef J. Streifler

Approved by:

L C Lande
Chief, Review & Drafting Section
Photogrammetry Division

Max Ricketts
Chief, Nautical Chart Branch
Charts Division

Chief, Photogrammetry Division
31 May 60

J. Bowie
Chief, Coastal Surveys Division

NAUTICAL CHARTS BRANCH

SURVEY NO. T-11190 & T-11191

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.