115.

U. S. Coast and Geodetic Survey
MAR 7 1888
ARCHIVES

U. S. COAST AND GEODETIC SURVEY.

F. M. Thorn, Superintendent.

State: Washington Territory.

DESCRIPTIVE REPORT.

Topographic Sheets Nos. 1781, 1782, 1783, 1786, 1787, 1788, 1789, 1790.

LOCALITY:

Gray's Harbor to Cape Flattery.

1887.

CHIEF OF PARTY:

J. F. Pratt.

Assist. in Charge for Archives

Descriptive Report

146.

ack'd 28/6.

16 U. S. Coast & Geodetic Survey.

U. S. COAST & GEODETIC SURVEY SUPERINTENDENT'S OFFICE

26 F. M. Thorn

25 Superintendent

25 Reconnaissance.

17 Grays Harbor to Cape Flattery

22 Washington Territory

26 Description

31 of

16 Eight Topographical Sheets

on a

24 Scale of 1/20000

30 1887.

30 By 24 J. J. Pratt

25 chief of party.

Note referred to 28-29-36-37-38-39 — 40

This work was commenced at the South end on May 2d and closed on June 13th at Neeah Bay.

From Damon's Point (Sheet No 1 Post No 21) to Point Grenville (Sheet No 3 Post No 24) the distances was measured with a 100 metre steel wire. the terminals of these wire bases being occupied with a theodolite: the Planetable was run over this portion very hurridly.

At Point Grenville the value in distance of the Ocular Micrometer to the Plane table Alidade was carefully determined. and from here on all the distances depend on this micrometer. a mean of several readings on the targets being used for the forward lines. much of the detail being sketched: this method was not, and cannot, be used where it was impossible to keep along the beach and detours

through the timber had to be made, at which places positions had to be established by compass and resections on off shore rocks, when the beach had been regained.

At feasible points angles were measured with the theodolite on conspicuous objects. these objects in turn being occupied as closely as practicable, their distances depending on the plane-table determinations.

The projections on the sheets were constructed after the field work was executed and the position of the entire work depends upon the adopted positions of points at both ends as follows at the North end on the latitude of "Neeah Bay" and the longitude of "Tatoosh Island", at the south end upon the assumed position of "Lone Tree" as measured from "Point Hudson" (Grays Harbor) Astronomical Station on a tracing of the topography of the Entrance to

Grays Harbor by Assistant Gilbert in 1886.

The Longitude of the entire coast line is controlled by a series of azimuth lines that are continuous from Post No 2 Sheet No 1 to Tatoosh Light House Sheet No 8.

The numbers in red on Sheets Nos 1. 2 and 3 indicate the terminals of the wire Bases.

The names of the Azimuth stations from Point Grenville to Tatoosh Island are in red.

The country between the entrance to Grays Harbor and Point Grenville is the hunting ground for Sea Otter The method adopted by the hunters is to build "derricks" (scaffolds) about thirty feet high in favorable places overlooking the water where they lay in wait watching for the animals which are very wary and when they are within three or four hundred

yards of shore they are shot at with very heavy target rifles: It is said that the Otter seldom come nearer shore than the outer line of breakers. These animals are not abundant and the hunters realize from $75.00 to $100.00 per skin according to size and quality. If a hunter secures five or eight skins per year he is very fortunate; there are seldom more than six or eight of these hermit hunters on the entire beach at a time.

Sheet No 1.

The stations "Lone Fir" "Damon's Tree" and "Sand" are determined by triangulation using bases "2" to "3" and "3" to "4."

The portion indicated in red is from the work of Assistant Gilbert in 1886.

The beach is of clean hard sand

with a large amount of drift piled up just above ordinary high water mark.

The conventional topographical signs explain the character of the country better than words.

Connor Creek is choked with drift as soon as the forest is reached. it can be forded at its mouth, in any kind of weather, at low tide except during freshets.

The transportation of camp provisions etc was by a wagon hauled, along the beach, by three animals

The first camp was in Mr Damons farm at Damons Point the next was at a point marked "C" on the N.W. bank of Connor Creek.

Sheet Nº 2.

The distance from "post Nº 11" to "12" across the Chepalis River is determined by triangulation from the base "12" to "13"

The stations "Chepalis" and "Chepalis Rock" are determined by triangulation useing the bases "11" to "12" and "14" to "15" respectively. "Jo Creek Base" is determined topographically.

The "Chepalis River" is navigable for small boats and canoes some distance above J. C. Benner's (Indian Trader) place and can be forded in the vicinity of "a" to "b" in smooth weather at extreme low tide, except when there is a freshet. Within the memory of man the mouth of this river was just south of and adjoining the mass of rocks under Chepalis Head.

Boone Creek is small and can be forded at ordinary half tide except when swollen with rains and melting snow.

"Jo Creek" is of about the same character as Boone Creek.

The Ne-mó-to-lipse River forms the southern boundary of the Quinaielt Indian Reservation: it can be forded

at low tide by crossing from "a" to the opposite shore and then keeping along under the bluff to "b" where dry land can be again regained. The beach here is bold and even in moderate weather the breakers are large and quite heavy in the entrance to this stream.

"Wreck? Creek" is of about the same size and character as Boone and Jr Creeks.

"Chepalis Head" is the first headland North from Grays Harbor Entrance + shows quite prominently from ^ along the beach both from the South and the North: it cannot be safely rounded with animals and wagon at extreme high tide in smooth weather and in rough weather it should only be ventured at low water. Off this headland are the first rocks that appear going North from Grays Harbor.

The Bluffs on this sheet are generally composed of a yellowish clay with the exception that at Chepalis

Head they are of a darker color.

Chepalis Rock is conical in appearance and very conspicuous. it projects about 35 feet above the water and has bolted to its apex a tiny hut belonging to a sea-otter hunter; this rock is in the breakers and can only be reached with a canoe in the very smoothest weather, this hunter often remains there for weeks without communication other than by sign language with his companion on shore.

Between Posts "16" and "18" is the scene of two or three gold mining excitements: here in places the beach has a large proportion of ferruginous sand in which is found small quantities of very light flake gold.

Transportation of camp provisions etc was by wagon hauled along the beach by three animals.

Camp was made at "C" on the south bank of the "Chepalis River and at "2"

abreast of Post "17."

Sheet № 3.

Post "24" is the end of the beach measure.

"Grenville Tree" is determined by triangulation from the two bases Posts "21" to "22" and "22" to "23."

The Azimuth Stations for continuing the work are "Grenville Tree" "Cape Elizabeth." "June Tree" "Promontory Tree" and "Stump on Beach."

"Quinaielt Astronomical Station" was not the success that was desired on account of cloudy weather.

The "Quinaielt (Qué-naielt) River" could be navigated with river steamers for fifteen or twenty miles: it is a powerful stream and cannot be forded at any time: on the South side of its mouth is located the Quinaielt Indian Agency and Village.

Raft River is navigable for canoes

and small boats for quite a distance especially at high water. it can be forded only at low tide.

Grenville Bay should not be used as a harbor of refuge. apparently it has a rocky bottom. but can be used as an anchorage in Northerly smooth weather for craft below medium size. the best anchorage would be about where the letters "r" and "e" are in the name "Grenville Bay" on this sheet or a little further inshore and more to the westward if the craft is quite small. as the extreme southerly Point and the two large rock break the sea considerably.

The Lendlands "Point Grenville" and "Cape Elizabeth" are both prominent and very important land marks for the navigator. From the southward they appear as one. Cape Elizabeth extending to the Westward of Pt Grenville Judging from the low gap that the Quinaiult River makes, with the

abrupt hills on the North side of its valley. it is probable that from seaward Cape Elizabeth appears quite as much more prominent and is often mistaken for Pt Grenville by mariners: this view is coroborated by old experienced shipmasters.

The Beach that has extended from Grays Harbor stops under the south side of Pt. Grenville and owing to rocks the last mile can only be traversed at low tide with a team. It is impossible to climb around Point Grenville at any stage of the tide: the Agent at the Quinaielt Reservation has had a road built over it. The beach between Pt Grenville and the Quinaielt River is composed of very course shifting sand. is very bold. and impassable at high tide or at half-tide in very rough weather. There is very little beaches between the Quinaielt and Cape Elizabeth. which point cannot be passed except

at very low tide and only then, in smooth weather; with much clambering up and down over rocks and at the extreme point by going through a cave with the water at low tide nearly waist deep in it. From Cape Elizabeth the beach extends to the foot of the bluff just beyond the point marked "d". From here to the point marked "e" the shore line is again impassible at any stage of the tide and a detour through the timber has to be made. The timber all along this outside coast is so choked with underbrush, principally the salal bush that it is almost impassable but invariably denser close to the shore or bluff line than it is a mile or two further back. From the point marked "e" to the end of the sheet there is a broken beach which offers only a few minor obstacles.

The Bluffs at Pt Grenville

and as far as the Quinaielt are of a dark appearance and composed principally of hard sandstone and conglomerate. The bluffs at and in the vicinity of Cape Elizabeth are lighter in color than at Pt. Grenville the upper portion being of yellowish clay and the lower portion of a sort of sandstone conglomerate: from Cape Elizabeth to the end of the sheet they have a yellowish appearance and are principally composed of clay with a rock foundation.

The first important rocks North from Grays Harbor appear on this sheet. Grenville Rock. Five eights of a mile SW from Pt Grenville. Eighty two feet high. is a very prominent rock it is white in summer. from bird lime: (which is usually washed off in winter from rains and heavy seas) it has a small arch extending through it in an easterly and westerly direction.

From Grenville northward the

are myriads of rocks and submerged reefs. many of which on account of smooth weather and carrying the work on rapidly as possible along from the low beach were undoubtedly not seen. There are some heavy breaks. indicated on this sheet. off shore. about midway between Pt Grenville and Cape Elizabeth. these are in the line of and are the heaviest part of what Capt. Willoughby the Agent at Grenville informed me was in heavy weather a line of dangerous breakers continuing from abreast of Grenville Arch to abreast of Cape Elizabeth in the shape of an arc of a circle with a few passages through.

Split Rock is black and conspicuous. about one and one fourth miles off shore and 85 feet high: was so named from the fact that it is cleft in two. in an easterly and westerly direction: from the fact that there is a small

rock about midway between it and Cape Elizabeth another one half of a mile south of it and a third about three fourths of a mile S.S.W of it. I would infer that there are others, perhaps submerged, in its vicinity.

Willoughby Rock is large and rounded and 123 feet high: it is made of split rock and is named after Captain Willoughby at Quinaielt

Sea Lion Rock appears from shore, small and black it is 7 7/8 miles N.W.X.N. from Cape Elizabeth and is 3 miles off shore, being 1 7/8 further off shore than split rock. it was moderate weather when we were abreast of this rock and no breaks could be seen from the beach in its vicinity.

Transportation by wagon ceased at Quinaielt it being impossible to go further with any kind of four legged beasts of burden

and from here to the Quoetz River the only possible means that could be utilized to carry the outfit was by a packtrain composed of eight "Klootchmen" (indian squaws); each carrying about 75 lbs apiece on their backs supported from a strap across the forehead. (It is beneath the dignity of the "bucks" (males) to do manual labor of this character) When this unique train was rounding the southerly one of the two points of cape Elizabeth one of the klootchmen fell off the ledge, around which we had to crawl, into the surf with about 80 lbs on her back, it being low tide we managed to climb down into the breakers and pull her and the pack out. if the tide had been two feet higher the sea would have beaten her to death against the rocks in a few minutes and it would have been impossible to reach her.

These creatures are practically beasts of burden, have no sense of honor, never expect to stick to their agreement and are very difficult to manage: as a rule every morning they concoct a strike for either more money or additional necessits and sometimes for both: after they have several days wages due them they can be better controlled with the threat that they will not be paid unless they keep to their original agreement.

Camp was made at the following places, at "c" on Pt Granville, at Cunniell Village, on the sand beach at "d" and at "e"

Sheet Nº 4

The Azimuth stations for continuing the work are "Quests Tree" "Flag" and "Outer of Four Trees Flag."

The lower portion of the Quests River could be navigated with

river steamers; it has a strong current and is a powerful stream. By refering to the sheet it will be seen that its mouth has, at some time, been about one and one third of a mile further North than it is at present, it is now rapidly cutting into the cement bluff at Queets Bee. The breakers off its mouth are very heavy. The Queets Indian Village is on the west bank of this stream about one half of a mile from its mouth.

The Beach south of the Queetz River is smooth and composed of gravel and sand: between the Queetz and "Outer of Four trees flag" it is very bold and precipatous and composed of very loose shifting shingle worn smooth and rounded: from here on, the intervening beaches are composed of coarse sand with scattering boulders. It is impossible to pass from "a" to "b" except at extreme

low tide and in smooth weather.

The Bluffs along the entire sheet are of the same clayey character and are of a yellowish color with the exception that from "a" to "b" the base is of conglomerate and darker in color.

There are very few Rocks on this sheet and none of them of importance. the furthest being only about one third of a mile off shore.

The Klootchman pack train belonging to the Quinaielt Tribe would not go beyond the south side of the Quelts entrance and from here on to the Hoh River two Quelts Indians one squaw and two "Kintan s." (ponies) were employed for transporting the outfit.

Camps were made on the beach under Quelts bee and at the point marked "a"

Sheet № 5.

The Azimuth stations for continuing the work are "Cultus Tree" "Tree East End Destruction Island" "Hoh River Topographical" and "Toleak Point".

The Hoh River could be navigated with river steamers at its lower end. it is a powerful stream and cannot be forded at any time: on the south side of its mouth is located the Hoh Indian Village composed of about six buildings. There is also a sunken rock directly off its mouth.

Chah-latt creek is small and can be forded.

The mouth of the Kah-chen-whitt River is inaccessible from the beaches on either side, a short distance above its mouth it divides into two streams neither of which are navigable. on the westerly branch there is a beautiful waterfall.

In smooth weather the indians go in and out of the Hoh River with

canoes: as the outer breakers are quite heavy there, they generally keep inside of them by wading their canoes in the surf until they are sheltered by the rocks that are about one mile N.W. of the entrance where they then put out to sea.

Close to the end of Toleak Point and on its south side the indians land with their canoes in moderate weather, this place is full of sunken and awash rocks and is dangerous in rough weather

Hok Head is bold and conspicuous. the cliffs on its seaward face being vertical and impassable.

Toleak Point with its outlaying rocks is quite prominent but not ~~at~~ much so as the headlands N W of it which come on the next sheet: at this place there is an Indian settlement composed of two buildings.

Beginning with the South end the beach can be traversed all the way to the Hoh River at low tide, there being but two places impassable at half tide viz at "Cultus Bee" and from "x" to "z" From the Hoh River the coast line can be walked and <u>climbed</u> along until the point "a" is reached where a detour through the timber and over the high-land has to be made the beach being regained at "b" from "b" to "c" and from "d" to "e" it is impassable except at low water: from "f" to "g" is also another impassable place: from "h" to "i" a long circuitous detour through timber has to be made wading both branches of the Kah chemahkt River and from "j" to "k" another circuit inland had to be made.

The Bluffs generally speaking are clay of a yellowish appearance with the exception that at Hoh Head

in the vicinity of the Kah chemwhitt River and from "J" to "K" they are of a dark appearance and composed of conglomerate, mainly.

The most important object off shore on this sheet is Destruction Island, which is about three and one half miles from the mainland, from which it appears perfectly flat and as if composed of a single terrace. the only land marks on it are three trees, or small clumps of bushes, its shore line is reduced from the survey of Assistant Lawson in 1866.

There are numerous rocks, islets and submerged and awash reefs on this sheet, the outer ones of which average about one and one half of a mile off the shore: the more conspicuous being North Rock a column 100 feet high, Perkins' Reef large and jagged. Alexander Island smooth

and rounded one hundred and twenty feet high. Rounded Island dome shaped one hundred and thirty feet high and the Giants Graveyard composed of about a half dozen huge monoliths from eighty eight to two hundred and twelve feet high.

The pack train composed of indians and ponies could not go beyond the Hok River and from here a sealing canoe with a crew of three indians was engaged to take the outfit to Tolcak Point the nearest landing place. After reaching Tolcak Pt the weather became too rough to use the canoe and from here on to Quillahute an indian pack train had to be resorted to again.

Camps were made at the Hok Indian Village and at Tolcak Point

Sheet No 6

As some of the outlying rocks would not come on the sheet with hw to be stopped on it as shown.

The Azimuth stations for continuing the work are "James Island" and "Coke Rock"

The lower portion of the Quillihute River could be navigated with river steamers. it is a very powerful stream and cannot be forded under any conditions: within the memory of man its mouth has been between James' Island and Quillihute village: the Dickodochtedar River branches off to the Northward about one third of a mile from its mouth.

A Seattle firm has a trading post at Quitlihute Village. their goods being brought by schooners which anchors in smooth weather in the cove inside (East) of James' Island. of much of a sea rises

before she completes discharging
She has to put out to sea and wait
until smooth weather.

Teahwhit Head and the first point
South of Quillihute are the only
prominent Headlands.

The Beach ceases at "a" Teahwhit
Head cannot be climbed around at any
stage of the tide, and a detour has
to be made through the woods to "b"
then there is about one and one fourth
of a mile of beach and then another
impassable head is met and has
to be crossed over from "c" to "d". from
d to a point about two miles north
of the mouth of the Quillihute River
there is a sand and gravel beach.
the remaining distance consists of
alternate strips of sand and "Lubbly" (stony)
beach.

The Bluffs at Teahwhit Head. the
first point south of Quillihute and
the four islands off Quillihute are

precipitous
precipatous and are composed of
a dark conglomerate. The bluffs in
the vicinity of Cape Johnson are com-
posed of clay and conglomerate.

There are numerous rocks,
islets and submerged and awash reefs on
this sheet: the more conspicuous ones
being Quillihute Needle which is pointed like
a spire, eighty five feet high. James'
Island is high, bold and wooded, this island
is connected with the mainland at
low tide. Coke Rock which is one
and three fourth of a mile off shore, it appears
of the same shape from all directions
and has a slight rise, or mound, in its
centre like a loaf of coke. Hence its
name. it is 116 feet high and from
its peculiar shape ( ) and location
is one of the conspicuous land marks
on this part of the coast and is fa-
miliar to all of the experienced
coasters.

The indian pack train was

discontinued at Quillihute, the weather being smooth - a canoe with two indians was employed to transport the outfit.

Camps were made at Quillihute village and at "e".

Sheet No 7.

The Azimuth stations for continuing the work are "Jagged Islet" "Carroll Islet" "Hump Rock" and "Wah-yah" "Comp Head". "Flag" and "Wah-yah" were occupied with the theodolite.

The Ozett River is not navigable and can be forded at low tide it is the outlet of what is locally called Ozett Lake. known on the chart as Lake of the Sun: there are a few settlers living on its shores, two of which I saw. they describe it as being irregular in shape with small bays, points, etc. It has never been called Lake of the Sun except by strangers

who obtained the name from the maps. The name Ozette Lake is well fixed in the minds of all who practically know anything about it, they seldom if ever see maps, and the chances are that locally it will always be called by that name.

The only important headland, on the sheet, is the one back of Ozette Indian Village, which with the large, high, outlaying timbered island is very conspicuous and often mistaken for Cape Flattery.

The Beach with few minor interruptions can be traversed on foot; by refering to the sheet it will be seen that it is very much broken, being composed at intervals of sand and at other intervals of irregular stones ("hubbly") which are very tedious to walk and climb over.

None of the Bluffs are con-

spicuous. they being composed of clay or conglomerate, respectively at irregular intervals.

There are innumerable Rocks, Islets, and submerged and awash Reefs on this sheet. the more conspicuous and important ones are as follows. Jagged Islet. two and one third miles off shore is a large irregular and jagged reef its highest point being about 70 feet: about one mile N x E from it is Carroll Islet which is high and wooded with a columnar rock, 125 feet high, one eighth of a mile to seaward from it.
Hand Rock from some directions resembles an index hand. it is small and 27 feet high. Umatilla Reef is low and practically awash. it is about two and one half miles off shore and the same distance further west than Latouche Island and is in the most dangerous position of any rocks in this vicinity. The Steamship

umatilla struck one of these rocks hence its name.

Ozett and Bodelteh Islets are high and timbered: from the fact that they are further to the westward than Cape Flattery they are very conspicuous landmarks to the mariner coming from the southward.

Transportation was by canoe with two indians.

Camps were made at "a" and at Ozett Indian Village.

Sheet No 8 with supplement.

The only station on this sheet for controlling the azimuth is Tatoosh Astronomical Station.

The lower portion of the Soo-ε-ez' River is navigable for small boats and canoes. it has quite a volume of water and can be forded about one mile above its mouth at exceedingly low tide:

about one and a half miles above its mouth and between it and the beach is an indian settlement composed of two or three buildings only one of which is used.

Watch Slough runs through the low valley to within a stones throw of the beach at Neeah Bay. it is simply a tidal slough and can be forded almost any where at low water.

The Headland south of the Point of the Arches and Portage Head are high and bold but from the southward they show against Cape Flattery which is the important Leadland and has a background of a mass of high wooded hills.

The water in Loveej Bay is not very deep and vessels can anchor there in Northerly and Easterly weather with safety provided that there is not too much sea.

Watch Indian Village is a

winter habitation while Arch-a-wak is exclusively a summer abode.

Commencing with the south end there is a poor beach to "a". from "a" to "b" it is impossible to climb along the shore so a long detour has to be made to "b" at low tide and to "b" at high tide: there is a good sand beach from "b" to "c": from "c" to "d" it is impassable along the shore and a very long detour has to be made. this stretch was the most difficult of any to get across and around with the work: from "d" to Watch Slough there is a good sand beach with one break in it: from Watch to the N.W. corner of Cape Flattery there is no beach worth mentioning and from a half of a mile beyond Archawak Indian Village to the end it is impossible to climb or walk along and the work had to be carried on by landing on the outlying

rocks with a canoe.

The Bluffs at Point of the Arches, Portage Head and from Watch to the end of the work are of a dark course conglomerate.

The more important "Rocks" are off the cliffs at Point of the Arches and off Cape Flattery: on account of vessels having to keep to the westward in order to safely round Tatoosh Reef none of these are in their track.

In thick weather navigators can always determine when too close in-shore in this locality by means of the lead.

Transportation on the outside was by means of a canoe and two indians: an ox team was employed to haul the outfit from Watch to Neah Bay.

Camps were made at "5". "2". Walch Village and at Neah Bay.

In conclusion I wish to state that this work was (as indicated in the title to each sheet) a reconnaissance and a very rapid one at that

The work was, almost entirely carried on, from the waters edge: some of the time the weather was very smooth, in consequence of which there would naturally be very few if any "breaks": undoubtedly some of the awash rocks could not be seen from the low beach and it should be distinctly understood that no pretention is made that all of the off shore rocks and breaks were determined but simply those that were visable at the time the work was executed regardless of the stage of the tide and roughness of the weather.

Between Grays Harbor and Cape Flattery there are three different and distinct tribes of

Indians viz. the Quinaielts. the Hoh's and the Micaws, the latter compose the Quillihutes. Ozettes. Cape Flattery and Neah Bays; the languages of these three tribes are so dissimilar that it is impossible for one to understand the other. their only means of inter-tribal communication being the chinook jargon.

Only a casual study of the Progress Sketch (on a scale of 1/60000 which accompanied my report dated August 17. 1887 on which the entire work reduced. can be seen at once) will convince any. fair minded. person that, with its myriads of outlying reefs and rocks, this stretch of coast line is an exceedingly dangerous one. Strenuous efforts should be made to impress upon mariners that have occasion to coast along the necessity

of giving it a wide berth and also that in foggy weather, which extensively prevails during the summer months, that proximity to the shore can be determined with the lead and that it should be used frequently!

There is neither a Light, Beacon or Buoy along this stretch to assist the mariner in finding his way, in thick weather to Cape Flattery. I understand that there has been an appropriation made to place a Light on Destruction Island, this will benefit the shipping, which is only a trifle, between the Strait of Juca and Columbia River, but of scarcely any practical value to the principal and important part which is between the tributaries to Juca Strait and California, Sandwich Islands, Mexico and South-America: the portion of these

vessels that are steamships take their departure from Cape Blanco for just outside Flattery Rocks: in thick weather they are liable to get too far inshore but not, as a rule, far enough to hear a fog-whistle on Destruction Island: they are much more liable to fetch up abreast of the Quillihute River or Flattery Rocks than further to the Southward and Eastward.

Sailing vessels, as a rule, stand further out to sea than steamers but it is their aim to make Tatoosh Light.

Masters of both sailing and steam vessels stand in great awe of the South West coast of Vancouver Island consequently they all try to make Cape Flattery as closely as possible in consequence of which they are liable in thick weather to get too close inshore before reaching there.

James Island abreast of Quillihute is accessible, being connected with the mainland at low tide, it is high and bold, a Light and Fog Signal placed there would serve as a "guide-board" to all bound for the Strait of Juan: it is <u>seven and one half miles further west than Destruction</u> Island and vessels nearing Flattery Rocks would be liable to see either it or Tatoosh Light. There is a moderate weather anchorage in the cove on the East side of this island for vessels bringing supplies and is now used by the N. W. Fur and Trading Co for that purpose.

Umatilla Reef is low, practically awash. it is <u>two and one half miles further west than Tatoosh Island</u> and a <u>very dangerous</u> rock.

I would recommend that the most powerful kind of a whistling buoy be placed off it, which

would, probably, be in from twenty to twenty five fathoms of water.

From what I can ascertain a majority of the vessels lost while bound for Juan Strait have been wrecked or disabled north of Tolek Point, between which and Tatoosh Island there are <u>two</u> <u>practical</u> places for life saving stations: the southerly one is at Quillihute Indian Village; in southerly weather life saving appliances can be launched from the north side of the sand spit connecting James Island with the main land and in northerly weather from its south side. The other is at Ozette Indian Village, the space between Ozette Island and the shore is filled with a field of kelp and rocks which break the sea; in northerly weather lifeboats can be launched from the south side of the kelp patch

and in southerly weather they can be launched from the beach immediately north of the village.

Very respectfully

J. F. Pratt
Asst chief of party.

To.

Mr. F. M. Thorn.
Superintendent,
U.S. Coast + Geodetic Survey
Washington, D.C.

Seattle W.T.
February 17th 1888