U. S. COAST AND GEODENTIC SURVEY.

S. M. Thorn, Superintendent.

State: Oregon.

DESCRIPTIVE REPORT.

Topographic Sheets Nos. 1777 & 1778.

LOCALITY:

Coast of Oregon. From Cascade Head to Tillamook Bay.

1887.

CHIEF OF PARTY:

Cleveland Rockwell.
Descriptive Report

to accompany original sheet of plantable re-
connaissances No. 2, extending from Cascade Head
to Tillamook Bay - Coast of Oregon.

July and August, 1887.

Cleveland Redwine, Observer.

The general direction of the Coast shown upon
this sheet is south and about 1131.00 magnetic.
The topographical features are very broken
and complex. The highest summits of the
Coast range of mountains are not shown upon
the sheet as they are from 12 to 20 miles back
from the ocean shore. The most prominent
topographical and geological features, are,
the great transverse spur ending in Cascade
Head - the high basaltic mass terminating in
the long trap dike of Cape Lookout and the iso-
lated mass of hills ending in Cape Meares.
The great ridge of Cascade Head appears to
maintain its continuity and transverse char-
acter well towards the Coast Mountains.
The isolated range terminating in Cape Lookout
culminates in a peak about 3 miles from
the shore, which is shown upon the sheet, the Country to the Eastward falls to a low elevation. The isolated mass of Cape Meares culminates in height about two miles back from the shore and from this point a low ridge or divide between the waters of Tillamook river and Netaats Bay runs around to the culminating peak of Look-out mountain mentioned above. A low beach extends generally from the north face of Cascade head to the three arch rocks, broken in continuity by the entrance to Nootzoo Bay and Cape Sanghai, Lake Cape Lookout and Netaats Bay. The isolated rock named Haystack rock and the interesting group called the three arch rocks constitute a prominent feature and landmark. Cascade Head has a sea face of 4 miles reckoned around from Salmon river. It is very high and bold and cut by deep gorge through which run three considerable streams discharging their waters directly into the surf from Cascade 100 to 30 ft. high... There is a group of three or four large rocks close under the most prominent peak of the Cape, the middle one of which is pierced by two arches.
This arched rock is probably 10 or 20 feet high and the arched would probably be a prominent distinguishing mark from a southerly direction when the fog hangs low on the Cape. The base of this Cape is basaltic conglomerate but little subject to wear from the waves, and resembles the base of Cape Foulweather and Yaquina Head. Superimposed on this base is a reddish drift, often exposed in fresh slides near the top of the cliff. The whole Cape from the summit of the price ridge north of Salmon River is densely wooded, with the exception of the steep slopes next to the ocean which are bare in places. The forests are grown old timber of spruce and hemlock trees and in places considerable groves of alder, and the undergrowth is very dense. From the north face of the Cape to the entrance of Nootka bay a wide sea beach extends - a distance of 4½ miles. This beach is of coarse gravel and moderately level. Slab Creek, a considerable stream enters the ocean about ½ mile north of the Cape. There are considerable quantities of good land up the valley of this stream, and several settlements have been
made there. A great rock stands opposite the mouth of this creek, and within the low water line, it is about 120 feet high and covered with grass and a few low trees, but it would not show as a prominent landmark. The hills back of Slab Creek are very much broken and covered with forests. The beach between the Nestucca entrance and Cascade Head is quite wide and there are a few low sandhills and a narrow strip of fresh marsh and ponds of fresh water intervening between high water mark and the foot of the hills. The hills around the Nestucca Bay are very generally covered with trees, covered with grass and here and there a good soil. They often reach an elevation of 500 feet. Hard basalt underlies most of these hills and creeps out near the shore at Nestucca Shoal, Ridge and a few other places. There are numerous settlements around the bay and good crops of hay and potatoes are raised. The entrance to the bay I consider very poor, and probably not more than 5 feet of water could be developed on the bar at low water. Sometimes used by the owners of a small clean schooner running them that the wind always goes in or out.
The outer bay is formed by the elongation of the beach on the north side into a narrow peninsula which has forced the entrance down against the bluff of rocks at Neetsue A. The strong N.W. winds of the summer blow the drifting sand into the Big Neetsue and into the bay, with a constant tendency to fill the whole place up. The Big Neetsue emerged from the hills nearly opposite Haystack Rock and probably at one time entered the ocean near that point. Little Neetsue Bay is separated from Neetsue Bay by a hilly peninsula; the northern part of which is covered with an original forest of very large and old spruce trees. This part of the bay is mostly sand and mud flats and large areas of salt marshes occupy the southern and eastern sides. Through which flows the Little Neetsue river. Large areas of these salt marshes are suscep-
tible of reclamation by ditching. The hills back of Neetsue Bay rise quite abruptly and are gen-
erally timbered with spruce interspersed with groups of Alder with here and there large
spaces of from crooked pines. A good wagon
road comes down the south side of the little
Hastueea, from the Grande Ronde valley and is a means of communication with an the settlement around the bay. There having been no saw-mills in the neighborhood the houses and barns of the settlers are built of drift-woods from the beach and from shakers or shingle-wine from the spruce trees. The fences are generally wooden rails or of pickets riven from the cedar or redwood logs. Back up on the beach, the latter material being quite common, though the nearest redwood forests are in the vicinity of Point St. George in California. The principal occupation of the inhabitants is raising of cattle and sheep and dairying. About one mile back from the shore on the north side of the Big Hastueea is the village of Coode, containing about 200 persons. A good wagon road leads from this settlement upward the Big Hastueea, joining the road to the Little Hastueea from the Grande Ronde Valley. Salmon in large numbers enter the Hastueea in the fall and ascend both these rivers to the spawning grounds. A large cannery, with a capacity of boxing twenty thousand cases in a season was completed this
summer and is now in operation. It is located on the outer bay about half a mile above the
travers near a sheningen. A little further up the shore a small sawmill was in process of
construction and a small sawmill was also being erected at the village of Wotla. The spit or
peninsula between Nestucca Bay and river and the
beach is a waste of drifting sand dunes, 50 or 60
feet high, generally travelling to the South East.
Little or no vegetation is found among these sandhills.
The sand beach extends from the mouth of Nestucca
Bay to Sand Cape or Cape Revaunda. This beach is up
relief, generally narrow and much washed up in
ridges and consequently rocky. Sand Cape is of
sandstone, rocky formation, much eroded by the
waves covered on top with loose drifting sand.
The hills to the East and North East appear to have
a base of rock but are to all appearance sandhills.
They have been covered with spruce and bull pine
but have been swept by fire and are now cov-
ered with dead and whitened clumps standing
and protrude the vegetation of ferns and daisies and
a little grass being sparse and low. There sand

hills reach an elevation along the banks of the Big Nestucca river of 300 feet, just near the Village of Wood, and along the shore of that river is set on the limbs of large spruce trees buried in loose drifting sand, 130 feet above the original surface of the ground out of which they grew. These buried trees would generally die, their limbs drop off, decay and blow away, leaving the sand in undisturbed possession of its line of march. A broad sand beach extends north from Sand Cape a distance of 3/4 miles to Sand Lake and for a mile and a half sandy and rocky bluffs occur. Large streams or springs of water issue from under these hills or bluffs of sand, carrying great quantities of sand and by their action have worked great excavations of sand around their source. Sand Lake is a very inconsiderable body of salt water an high tide and at low tide is drained nearly bare and can be easily crossed, though there is much danger from quick sands except at the place marked as fords on the chart. The short peninsula on the south side is made up of a ridge of loose sand...
Hills generally set with low scrubby salt brush
and fern. The northern side of the entrance, on
the north end is a plain sandy waste. Narrow and
irregular tracts of salt marshes fringe nearly
all the shores of the bay and Sand Creek. A
stream of considerable size enters these
salt marshes from a tract of bog on fresh
marsh at the North East end. Step hills rise
immediately from the eastern side of the bay or lake
to a height of 200 or 200 feet, bare of timber, but
covered with brush. A wagon road from the
Village of Woods Cove over the hills and strikes
the beach at the south end of the large pond
shown upon the chart. The hills back of this region
from Hothorne to Cape Lookout rise higher and
higher to the eastward until the Culminus
ting summit of Mt. St. Eveo is reached and the
whole range has been repeatedly burned over ex
cept in the gulches and north ridge of ravines
and bristles with enormous branches of whitened
tree. An unbroken sand beach extends from
Sand Lake to the walls of Cape Lookout, growing
marshes toward the northern ends, and changing
also in materials from sand to gravel and cobble stones, the debris from Cape Lookout. A continuous wall of perpendicular sand stone cliffs stands along near high water marks with bed of sand on top. These cliffs are from 50 to 125 ft high, and along their whole course the water leaks and trickles from the junction of the bed of sand and the solid sandstones underlying. The soil top of these cliffs is firm and sandy, and the courses of drifting sand extend from the northern cape at Sand Lake in a direction nearly north in island about half a mile wide to the base of the mountain back of Cape Lookout, forming a prominent feature in the topography. Cape Lookout is a remarkable basaltic lave projecting into the ocean nearly two miles from the average line of beaches on either side on a course about W. S. W. (magnetic.) The width of the Cape is about one and a quarter miles between beaches at the foot of the cliffs and but a fourth of a mile at the point. The highest part of this ridge is along the southern face, which is a nearly perpendicular wall of rocks 430 ft high at the point and over 800 ft near the base.
The basalt of Cape Lookout, unlike those of the Cape to the southward, are solid and homogenous, and in some places prismatic and columnar, and hence it has been much here worn away by the action of the sea. Lying against the southern face near the base are deep deposits of drifts of a bright yellow soil and clay which have parted from the solid face of the mountain in great slides. One enormous slide of very recent date should be a very conspicuous land mark from sea. Along and around the south side runs the beach and extending to the summit of the ridge are areas of bare prairie, covered with ferns. Two or more springs of water are found on the Cape and the north side is cut by deep gorged ravines. Numerous large caves occur near the base on the north side. The whole Cape, with the exception of the prairies mentioned, is covered with a dense Spruce forest to the very edge of the Cliff and the underbrush is particularly dense and impenetrable shaded over by numerous wind falls of prostrate trees. Many of the Spruce trees are flash aground.
with enormous limbs of fantastic shape near the ground. The whole mountain mass forming Cape Lookout Culminates in a peak, probably 2500 feet high, lying nearly in the axis of the Cape about two miles from the ocean shore, and the Country back of this peak falls away rapidly to an elevation of probably not more than 500 feet. The whole mountain as far as Nataats-bay is densely timbered, and has never been touched by fire. The debris from these slips on the south side of the Cape forms a boulder-strewn beach extending out rather more than half a mile and beyond this point the water is apparently of great depth. An excellent lee and anchorage would be found under the south side of the Cape in heavy North-west weather which would be untenable in any wind to the south of west. Large numbers of Elk frequent the dense forests of Cape Lookout. The sand beach forming the south spit of Nataats Bay Commences at the foot of the cliff on the north side of the Cape; the beach is 52 miles long; the only means of Communication between
the north and south side is by a very bad trail which passes over the Cape at the lowest face near the base at an elevation of 82 yds. A wagon may be driven from Woods up the beach, fording Sand Lake one up the beach to the base of Cape Lookout. The trail which is very steep can only be travelled on foot and by a horse. Matahko Bay is quite a large body of very salt water at high tide and at low water nearly the whole area is bare sand and mud. The water falling into narrow and crooked channels. The bay is about 4 miles long by 1 1/2 miles wide. No creeks or streams of any considerable size enter the bay, as the water shed is very narrow and small. The country east of being drained by streams entering Tillamook River. A small area of tidal marsh occupied the south end of the bay and it could be very easily reclaimed at small Expense. The entrance to the Bay is at the extreme northern end, high sand hills and bluffs forming the north shore. These bluffs are covered with brush and Clothes with coarse grass and brush. The entrance is narrow but the course is straight and directly towards the sea.
The shores of the Bay are low bluffs of clay and sand, interrupted by many small arms of salt marsh and small streams. Continuous and horizontal belts of bog mud, in places turned into a semi-coal or lignite, in which are found great numbers of the roots and stumps of spruce trees, occur through these bluffs. This wood, though preserving its natural appearance, except being colored by the oxides of iron, will catch fire like wood but record like coal, leaving a dusty ash. The flats of the Bay are the natural home of the oyster and clam. Fourteen years since, many cargoes of oysters were taken from this bay to the San Francisco market, and I have been informed that a schooner of 100 tons burden entered here and departed. From all the information I obtained I think there may be as much as 9 fathoms of water on the bar at low tide. There is but one breakwater at low water and none at high water.

The country back of the bay is heavily wooded, except the slopes running down to the Bay between streams which are generally bare on uncovered thick groves of Alder. Out Thule north of the entrance to this Bay the sand beach ends abruptly against
the rocks of Cape Mearee. The bulbo grassy hills at
the end of the beach is called by the settlers Bald Hill,
but it may properly be considered as a part of
Cape Mearee. A narrow beach of cobble stones of
about half a mile long connects this bulbo rock
point with Cape Mearee. The beach from Hakeate
Bay to Cape Mearee is wide flat and beaten very
hard by the sea and the sand hills and hills covered
with sand which lie back of it are from fifteen to
fifty feet high with poor sandy soil and sparsely
wooded. These sand hills look everywhere on
their base and in many places large springs
and streams of water Issues from under the sand
and have excavated large Cavities around their
sources. An interesting group of rocks called the
three arch rocks lie directly almost the end of
this beach. The rocks at the end of this beach as
well as the shore of Cape Mearee are of Basalt
of the same character as the basalt of Cape Horseshoe
and it is probable that the group of arch rocks is
of the same materials. These outlying rocks and
also Haystack Rock have been colonized by hounds of
great numbers of sea birds that they are stances
with the coatings of chian mumum on guano and
in sunlight have a very leaveny yellow color.
The largest of these rocks lie near the shore and
is 304 feet high, the middle rock is 258 ft. high,
with two pinnacles and is pierced by a great
arch probably 150 or 160 ft. high. The inner rock is
pierced with a low arch perhaps 25 ft. high.
The outer rock is larger and 270 feet high, but no
arch through it could be observed from the shore.
120 meters to the north west of the outer rock is a
low ledge, perhaps 30 ft. high. A group of rocks
lies around the base of the inner rock towards the
shore, which were occupied by a tribe of sealions es-
timated at from 500 to 600, and their barking
could be heard for two or three miles. The beach
was strown with the dead Calved torn upon the
ledge and rocks and probably destroyed by the
old males. A Colony of seals containing perhaps
250 frequents the sand spit of the month of Mototo-
Bay. The ends of the sand spit or peninsular ex-
truding Hulahau Bay is narrow at the point and
for the distance of about a mile is perfectly flat
and but little varied above high water mark.
but here it expands to about half a mile wide and is covered with low sand hills of 30 or 25 feet elevation covered with coarse grass, low saltbush, scrub and small bush pines. Brunswick fresh water can be found here. The creek gradually contracts in width to the head of the bay, with a sandy ridge of 20 or 25 feet elevation. The country back of the arch rocks is high and hilly, mostly burned over and covered with grass, fern, and dense growth of Salal and berry among a wilderness of fallen dead trees impenetrable even for a bear. Cape Meares is 3/4 mile wide between the Cobble Beach and the Tillamook Beach, composed of hard basalt, cobbles, with reddish drift and clay constantly being eroded and slipping into the ocean. Islands rocks are off this Cape, one directly abreast and one about 1/2 a mile distant. The latter rock is about 100 feet high. The most prominent headland in a farm and brush covered narrow peninsula running down with a gentle slope to the creek about 80 feet high. The northern half of the Cape recedes from the ocean, and is much higher covered with a thick forest of small evergreen and
very precipitous. An immense fresh slide of
down. The north-west corner of the
cap would be a prominent object at sea. There
is no communication between Hataats Bay and
Dillmanook Bay except on foot by a very bad trail
which crosses the lowest part over the Cape at an
altitude of 515 feet. A wagon road with very steep
grades runs from Hataats Bay to the village
of Lincoln on the lake through breaking up from
Dillmanook Bay and a horse trail runs from
Hataats Bay over the dividing ridge to the Delta
-mountain. There are a number of old settlers
around the shores of Hataats Bay as also a
round Mun Lake. They are not progressive.
They have often left more civilized communities
from having killed a man or two and
denied the State in the Penitentiary. This class
of people do not count much—they do not want
neighbors, railroads, common highways or
schools, and if they can open a trail wide enough
for a horse to pass in two sacks of flour
or to drive out a few head of cattle, there is
so much the more likely hood that the land
Hunter will have by and lead them undistracted. An uninterrupted sand beach extends from Cape Meares to the entrance to Tillamook Bay. The north side of Cape Meares is a perpendicular wall of basalt about 100 feet high, or more, which is pierced near the sea level with a row of deep holes which look like the embrasures of a fortification. The waters of Tillamook Bay at high tide flow within a mile of Cape Meares and its peninsula, or sand beach, narrow at the north end, is quite wide at the northern end. Sand hills from 30 to 80 feet high lie close along high-water mark, covered with a thick mat of saltbush, short and stiff, and in many places with thick growth of large sea- grass. The northern end of the spit is flat, barren sand. A large part of Tillamook Bay at low tide is taken up with sand and mud flats and other large areas are covered with eel grass. The shore along the south side of the bay are high precipitous cliffs of sandstone cut up with deep gulches, heavily timbered and covered with vegetation where even its can cling. Five streams enter the bay.
the most southerly of which is the Tillamook river, next in order going north are the Trask, the Wilson, the Klickitat and the Miami. Large areas of salt marshes border the east side of the bay and back of the islands are still greater areas of low lands, thickly covered with spruce forests and subject to overflow both from extreme high tides and from freshets in the Wilson and Trask rivers. The hills surrounding the bay are very high, the peak of Saddle mountain being visible from the south west end. Great areas of the mountain tops are covered with a grizzly array of white tree trunks left standing by the forest fires.

The end.

Cleveland Rockwell
Observer.