

EXHIBIT G



June 18, 2021

Colette Mathewson
1727 South Crumal Street
Visalia, CA 93292

**RE: GEOTECHNICAL SITE EVALUATION
LOT 37 SHELTER COVE
FLORENCE, OREGON
BRANCH ENGINEERING INC. PROJECT NO. 21-335**

Pursuant to your request, Branch Engineering Inc. (BEI) conducted a Geotechnical Evaluation of the subject site at the above listed location. This study was requested for the planned construction of a timber-framed single-family residence on the property. The purpose of the study is to identify any geotechnical or geologic hazards that may affect the proposed site development and provide engineering design recommendations for design and construction.

1.0 SCOPE OF WORK

On June 1, 2021, BEI geotechnical engineering staff conducted a reconnaissance of the site, general vicinity, and subsurface investigation that included three hand-auger borings and one Dynamic Cone Penetrometer test at the locations shown on Figure-1. Field log summaries of the hand-auger borings, DCP test, soil survey mapping of the site, and the site, and nearby Oregon Water Resources Department well logs are attached. Other resources that were utilized for the writing of this report are listed below:

- Site Aerial Photo, Figure-1.
- Google Earth, earth.google.com
- Geologic Map of Oregon, 1991 Walker and MacLeod. Map from US Dept. of Interior, Geological Survey
- State of Oregon, Department of Geology and Mineral Industries (DOGAMI) Bulletin 85, Environmental Geology of Coastal Lane County Oregon.
- State of Oregon, Geologic Map of Oregon website, <http://www.oregongeology.org/geologicmap/>
- United States Dept. of Agriculture, Natural Resources Conservation Service, Pacific Northwest Soils website, http://www.or.nrcs.usda.gov/pnw_soil/or_data
- State of Oregon, Department of Geology and Mineral Industries (DOGAMI) website, Statewide Geohazards Viewer (HazVu), <http://www.oregongeology.org/hazvu/>
- Geotechnical Engineering Evaluation and Design Proposed Erosion Control Project North Cove Bank Preservation Coalition Report. Ash Creek Associates, Inc. Dated May 16, 2006.

- Bank Failure Assessment, 16 Sea Watch Court Florence, Oregon. GeoScience, Inc. Dated March 18, 2011.
- National Assessment of Shoreline Change: Historical Shoreline Change Along the Pacific Northwest Coast. U.S. Department of the Interior, U.S. Geological Survey. Open File Report 2012-1007.
- Aerial Drone Photos by BEI Small Unmanned Aircraft System (UAS) licensed staff

2.0 PROJECT LOCATION AND DESCRIPTION

The project site is located in the Shelter Cove Phase II development in Florence, Oregon, at latitude 44.004689° north and longitude 124.124617° west. The site is accessed via a small sand and aggregate driveway off the southwest side of an unnamed, private drive that connects to the west side of Shoreline Drive.

The project site is located approximately 1.3-miles upriver from the mouth of the Siuslaw River near a projection of land called Cannery Point. Lot 37 and the surrounding properties are located on geologically younger, marginally stabilized dune sands that formed along the banks of the Siuslaw River. Site elevations vary from approximately 97-feet above mean seal level (MSL), to the banks of the tidally influenced Siuslaw River, which can be approximated as +/- 5-feet MSL in this area. Topographically the site is a flat bench cut into the dune crest during the initial site development to provide a level building pad. Slopes vegetated with grass and short shrubs rise above this level area to the north at 25- to 30-degees, with an elevation difference of approximately 18-feet between the level bench on Lot 37 and the property to the north. The property to the south is approximately 10-feet lower in elevation and is separated by a concrete retaining wall. Slopes to the north average 30-degrees along the private accessway and are well vegetated with shrubs and scattered evergreen trees. The western slope is approximately 165-feet in length, with slopes measured at 20- to 37-degrees. This slope is covered with well established vegetation consisting of grass, shrubs, and evergreen trees. Dense brush on this slope prevented access to the toe of the slope and limited the investigation to the top third. Numerous small diameter PVC pipes were noted on the slope, no obvious purpose for these pipes was ascertained during the site investigation.

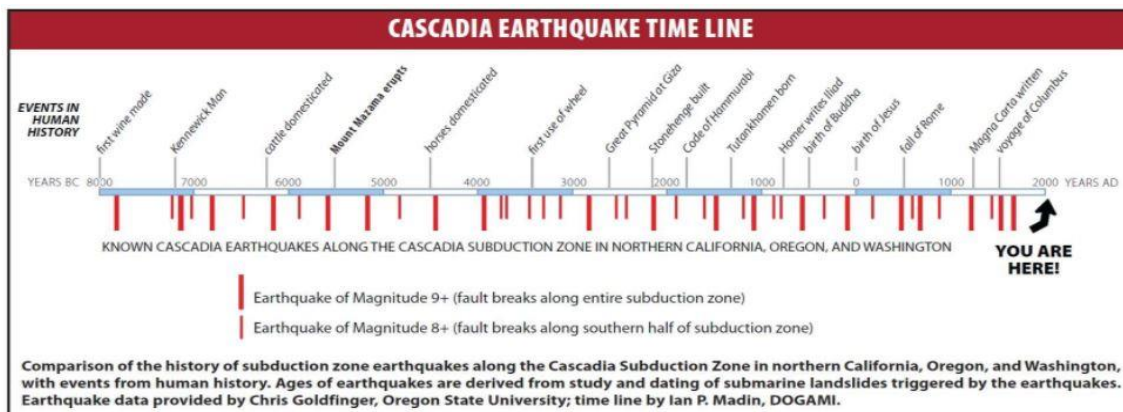
During the site investigation a remote-controlled drone was used to visually assess the site slopes. High winds prevented visual assessment of the toe of the slope on Lot 37. On the adjacent property to the north, Shelter Cove Lot 36, an active landslide was documented and photos of it were taken. Based on the drone photos the slide appears to be entirely within Shelter Cove Lot 36. Discussion of landslides and associated risks is addressed in Section 5 of this report.

Our understanding of the project is that a single-family residence will be built on the level section of the lot.

3.0 SITE GEOLOGY AND GEOLOGIC HAZARD MAPPING

The subject site is located near the northern extent of the longest coastal strip of sand dunes on the Oregon Coast. The sand dunes in the area were likely formed post ice-age during the Late Pleistocene to the Holocene epoch by eolian processes associated with the activity of wind and changes in sea levels. The typical pattern seen in the area is active transverse dunes (running parallel to the ocean) caused by the varying on, and off shore winds, with areas of deflation plains, lying inland and between active or stabilized dune areas where the water table is exposed or near the surface. The north shore of the Siuslaw in the project vicinity is mapped as geologically younger (Late Pleistocene to Holocene), marginally stabilized dune sand composed of fine-grained, poorly sorted sand with little topsoil formation. Based on work done by Ash Creek Associates and others in the project vicinity, including ours, the underlying geologic unit referred to as Marine Terrace Deposits (MTD) was found exposed along the shoreline. This unit formed during the Pleistocene when sea levels were lower than at present, and is composed of estuarine, flood-plain, marine, and fluvial sediments. Weathering of minerals in the MTD unit has led to the formation of clay which cements the soil particles in the unit and acts as an aquitard (impervious to water).

The site is located near the Cascadia Subduction Zone, which is a zone of converging tectonic plates that historically produces major earthquake events that is located to the west of the Oregon Coast. Figure 1 below shows a timeline of historical Subduction Zone earthquake events. The nearest mapped active fault is approximately 7.3-miles to the southwest of the site and is labeled as a part of the Cascadia fold and fault belt.



The HazVu website shows that the subject site is expected to experience severe shaking in the event of a Cascadia Subduction Zone earthquake and very strong shaking for lesser earthquakes. HazVu has also characterized the site as having a high-risk landslide and for earthquake induced liquefaction of the subsurface soils.

4.0 SITE SOIL AND GROUNDWATER

Three exploratory hand-auger borings were advanced to approximately 4.5-feet below ground surface (BGS) see Figure-2 for hand auger locations. Site soils generally consist of tan-brown, poorly graded, fine-grained sand. Moisture contents of the sand were generally observed to be damp after penetrating below the dry crust of the surficial sand. Even though no moist or wet

sand was observed at either boring location, the sands observed are expected to exhibit rapid dilatancy when saturated.

A portable Dynamic Cone Penetration (DCP) test was performed adjacent to Hand-Auger 2 to assess the density of the near surface sand within the flattened area. DCP testing consists of recording the blow counts required to drive a steel rod with 10 cm graduations into the soil using a 35-lb slide hammer free falling 18-inches. DCP testing indicated that the near surficial soil is loose in density to at least a depth of 4.5-feet BGS.

Site work performed by Ash Creek Associates in 2006 in the northern portion of the Shelter Cove development found dune sand from the surface to a depth of at least 60-feet BGS, overlying the MTD deposits of organic clays and silts. Inclometers placed during their investigation were used to assess groundwater depths, which were determined to be in the range of 21- to 24-feet above MSL. We expect the groundwater level to fluctuate seasonally with higher groundwater levels observed during the wet season; generally late October to late May. Groundwater is not expected to adversely impact the site development.

5.0 GEOLOGIC HAZARDS

Landslide/Slope Stability - There are no mapped landslides on, or near the site and the existing site slopes appear to be currently stable. However, site slopes are mapped as high risk for landslide, and as previously discussed an active landslide on Lot 36 to the north was photographed during the site visit. Bank failure and subsequent landslides are well documented on the north bank area from the Shelter Cove Development to the area upriver of the Sea Watch Development. Wave action, fluvial erosion, and mobilization of sand through liquefaction at the boundary of the dune sand and MTD erodes the toe of the slope, the loss of lateral support can lead to rapid erosion events such as landslides as the slope tries to re-establish the materials angle of repose. Slopes in the fine-grain sands of the Florence area are generally stable from 28- to 33-degrees, which is about the natural angle of repose for poorly grades, fine-grained sand. Although no indications of landslide such as head scarps or bare sand were noted during the investigation, it is our opinion that the risk of landslide along the river front slope is high. Northerly regression of the river frontage in the project vicinity will likely continue. Existing vegetation should be maintained on slopes or be reestablished in a timely manner to mitigate wind and water erosion and surface drainage is directed away from the top of slopes.

Tsunami: Based on the Tsunami Inundation Map Lane-04 Florence and the DOGAMI HazVu website, the subject site is mapped outside of the tsunami inundation limit for a XL and XXL, 9.1 to over 9.1 earthquake magnitude, respectively. These limits are speculated and should not be considered exact. A tsunami generated by a CSZ earthquake may result in damage to the subject site and will likely affect access to the site.

Earthquake Shaking - The site is mapped within the zone of very strong to violent shaking in the event of a CSZ earthquake, as is the majority of the Oregon coast.

Liquefaction Potential - Liquefaction at elevations below 20-feet MSL may occur, but surface settlement estimations are expected to be low enough so as to not adversely affect a timber-framed residential structure prepared using the recommendations for building pad preparation described below. We do not anticipate liquefaction in the near surface sand under the proposed

development as it is unlikely that strata would be saturated. There is potential for liquefaction of the of the saturated sands at the boundary of the MTD deposits that would likely impact the river facing slopes due to lateral spreading of the liquefied sands.

Shrink/Swell Potential - The building pad subgrade is expected to be poorly graded, clean sands with no shrink/swell potential.

6.0 RECOMMENDATIONS

All areas intended to directly or laterally support structures, or pavement areas shall be stripped of vegetation, organic soil, unsuitable fill, and/or other deleterious material. These strippings shall be removed from the site, or reserved for use in landscaping or non-structural areas. In areas of existing trees, vegetation, or if any undocumented fill is observed, the required depth of site stripping/grubbing may be increased. The stripping and grubbing depth for the site is expected to be less than 6-inches in depth unless root zones are encountered, which may be up to 24-inches deep.

Native subgrade surfaces consisting of clean sand shall be wetted and rolled with a vibratory smooth drum roller or compacted with a vibratory plate compactor mounted on a medium-sized (+/- 25,000 lbs.) excavator on finished grades with native soil and in areas before fills are placed. Foundations elements on the north and east faces of the property shall be placed so that there is at least 8 lateral feet from the face of slopes or outside a 1:1 plane projected from the toe of slope; whichever is greater. Using an estimated erosion rate of 1-foot per year, an angle of repose for poorly graded sand of 33 degrees, and a design life of 50-years, site structures are recommended to be set back at least 50-feet from where the southern slopes drop off from the edge of the flattened area. The edge of the slope was measured at 140-feet due west from the northwest property corner. All slopes shall be protected from erosion by the timely placement of vegetation, or other means, and runoff should not be allowed to flow down the face of slopes.

If footings are not constructed immediately on prepared subgrade, we recommend that the exposed subgrades be covered with a minimum of 4-inches of compacted aggregate to mitigate wind and water erosion and to prevent the drying out and loosening of the surficial sand. After construction of footings, the perimeter of the footings shall be protected from erosion to mitigate undermining of footings. Conventional spread footings are acceptable if they bear on competent material consisting of compacted sand. The allowable bearing capacity of compacted native sand is 1,500 psf with a predicted settlement of ½-inch, or less, over spans of 20-feet on similar loaded foundation elements.

Dune and Slope Stabilization - Regarding the site landscape plan and stabilization of exposed sand, the following items are recommended to be adhered to:

1. All phases of development shall be conducted so as to avoid interruption of existing drainage patterns.
2. No more area shall be permanently cleared of vegetation than absolutely necessary for development of dwellings, septic systems, and associated utilities.

3. When the dune surface will not be occupied by a structure and are unavoidably disturbed of vegetation—such as being tracked on by equipment—the removal of surface duff shall not be allowed. Such disturbed areas shall be temporarily stabilized during construction in regards to Lane County Manual 10.056(2)(a).
4. Permanent stabilization plantings shall consist of native species appropriate to the environment.
5. Unnecessary cutting into dune ridges or sides shall be avoided

Upon Completion of Construction - Areas cleared of vegetation during construction in excess of what is required for the development listed in condition (2) above shall be replanted with initial plantings in the first planting season within nine months of the termination of major construction activity and secondary plantings following the second growing season as per Lane County Manual 10.056(2)(b). Stormwater drainage from impervious areas shall be conveyed to low lying areas for infiltration.

7.0 REPORT LIMITATIONS

The conclusions and recommendations in this report are based on the conditions described in this report and are intended for the exclusive use of Colette Mathewson and her representatives for use in the site development design and construction. The analysis and general recommendations provided herein may not be suitable for structures or purposes other than those described herein. Services performed by the geotechnical engineer for this project have been conducted with the level of care and skill exercised by other current geotechnical professionals in this area under similar budget and time constraints. No warranty is herein expressed or implied.

The conclusions in this report are based on the site conditions as they currently exist and it is assumed that the limited site locations that were physically investigated generally represent the subsurface conditions at the site. Should site development or site conditions change, or if a substantial amount of time goes by between our site investigation and site development, we reserve the right to review this report for its applicability. If you have any questions regarding the contents of this report, or if we can be of further assistance, please contact our office. This report presents BEI's site observations, site research, site explorations, and recommendations for the proposed site development.

Sincerely,
Branch Engineering Inc,



EXPIRES: 12/31/2021

Ronald J. Derrick, P.E., G.E.
Principal Geotechnical Engineer

Attached:

Figure-1 Site Aerial Photo

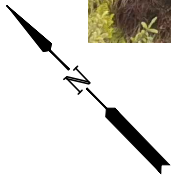
Figure-2 Site Map

Hand Auger Log (3)

Wildcat Dynamic Cone Log (1)

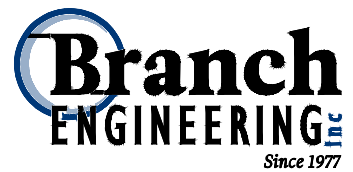
USDA NRCS Site Soil Mapping and Soil Description

Nearby Well Logs



LEGEND

● HA-1 INDICATES APPROXIMATE LOCATION OF EXPLORATORY BORING



SCALE: NOT TO SCALE, PHOTO BY BEI

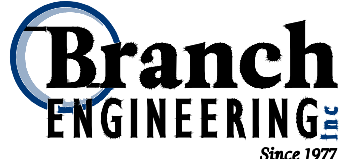
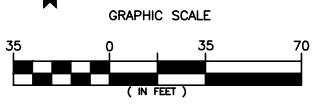
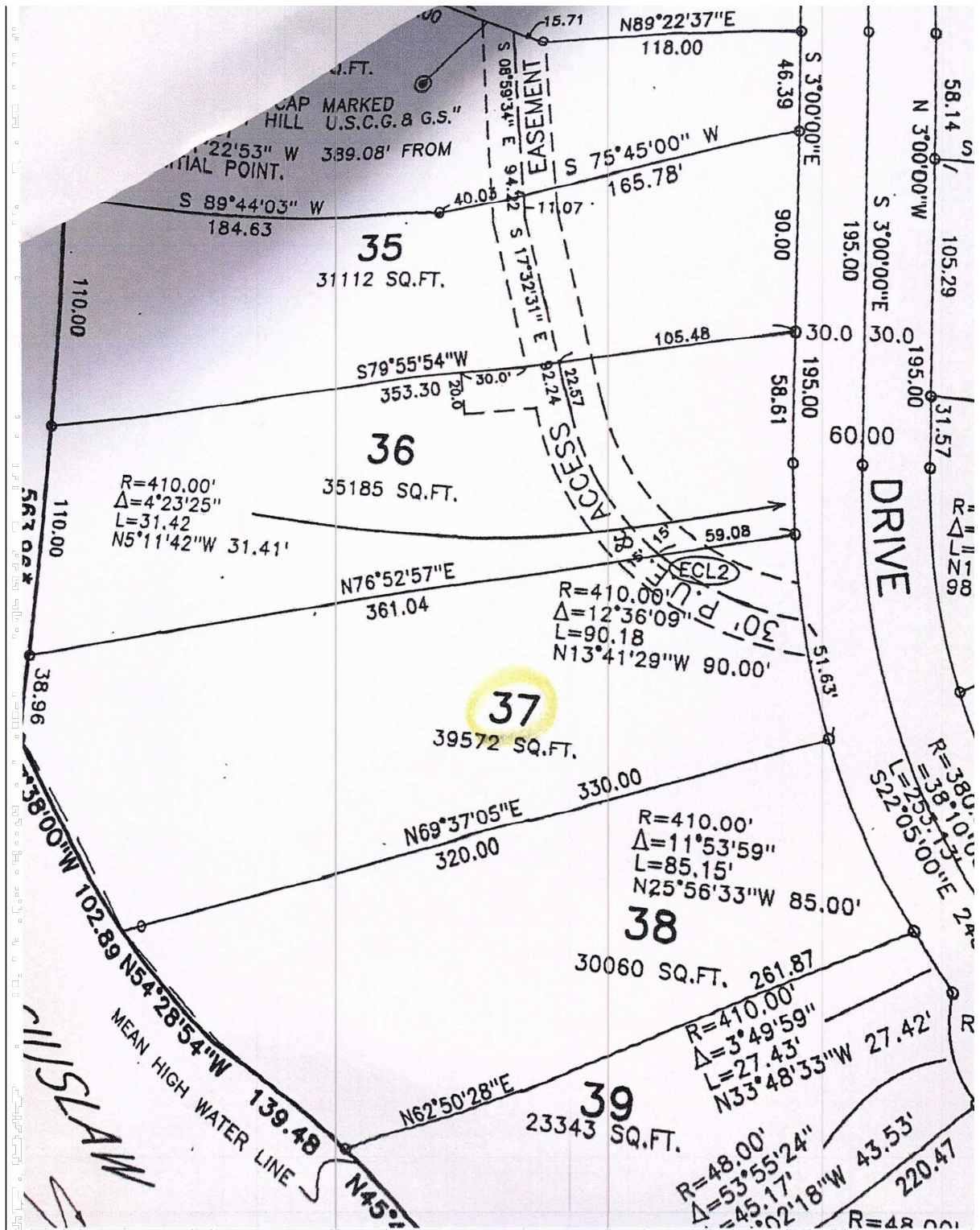
SITE AERIAL PHOTO - LOT 37 SHELTER COVE

FLORENCE, OREGON

FIGURE-1

06-11-2021

PROJECT NO.21-355



SCALE: 1: 70 (8.5"x11")
 TAX MAP - LOT 37 SHELTER COVE
 FLORENCE, OREGON

FIGURE-2
 06-11-2021
 PROJECT NO.21-355

RELATIVE DENSITY - COARSE GRAINED SOILS

RELATIVE DENSITY	SPT N-VALUE	D&M SAMPLER (140 lbs hammer)	D&M SAMPLER (300 lbs hammer)
VERY LOOSE	< 4	< 11	< 4
LOOSE	4 - 10	11 - 26	4 - 10
MEDIUM DENSE	10 - 30	26 - 74	10 - 30
DENSE	30 - 50	74 - 120	30 - 47
VERY DENSE	> 50	> 120	> 47

USCS GRAIN SIZE

FINES	< #200 (.075 mm)
SAND	Fine #200 - #40 (.425 mm)
	Medium #40 - #10 (2 mm)
	Coarse #10 - #4 (4.75 mm)
GRAVEL	Fine #4 - 0.75 inch
	Coarse 0.75 - 3 inch
COBBLES	3 - 12 inches

CONSISTENCY - FINE GRAINED SOILS

CONSISTENCY	SPT N-VALUE	D&M SAMPLER (140 lbs hammer)	D&M SAMPLER (300 lbs hammer)	POCKET PEN. / UNCONFINED (TSF)	MANUAL PENETRATION TEST
VERY SOFT	< 2	< 3	< 2	< 0.25	Easy several inches by fist
SOFT	2 - 4	3 - 6	2 - 5	0.25 - 0.50	Easy several inches by thumb
MEDIUM STIFF	4 - 8	6 - 12	5 - 9	0.50 - 1.00	Moderate several inches by thumb
					Readily indented by thumb
STIFF	8 - 15	12 - 25	9 - 19	1.00 - 2.00	Readily indented by thumb
VERY STIFF	15 - 30	25 - 65	19 - 31	2.00 - 4.00	Readily indented by thumbnail
HARD	> 30	> 65	> 31	> 4.00	Difficult by thumbnail

UNIFIED SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		GROUP SYMBOLS AND TYPICAL NAMES			
COARSE-GRAINED SOILS: More than 50% retained on No. 200 sieve	GRAVELS: 50% or more retained on the No. 4 sieve	CLEAN GRAVELS	GW Well-graded gravels and gravel-sand mixtures, little or no fines. GP Poorly-graded gravels and gravel-sand mixtures, little or no fines.		
		GRAVELS WITH FINES	GM Silty gravels, gravel-sand-silt mixtures. GC Clayey gravels, gravel-sand-clay mixtures.		
		CLEAN SANDS	SW Well-graded sands and gravelly sands, little or no fines. SP Poorly-graded sands and gravelly sands, little or no fines.		
			SANDS WITH FINES	SM Silty sands, sand-silt mixtures. SC Clayey sands, sand-clay mixtures.	
	FINE-GRAINED SOILS: Less than 50% retained on No. 200 sieve	SILT AND CLAY	LIQUID LIMIT LESS THAN 50	ML Inorganic silts, rock flour, clayey silts. CL Inorganic clays of low to medium plasticity, lean clays. OL Organic silt and organic silty clays of low plasticity.	
				LIQUID LIMIT 50 OR GREATER	MH Inorganic silts, clayey silts. CH Inorganic clays of high plasticity, fat clays. OH Organic clays of medium to high plasticity.
			HIGHLY ORGANIC SOILS		PT Peat, muck, and other highly organic soil.

MOISTURE CONTENT

DRY: Absence of moisture, dusty, dry to the touch
 DAMP: Some moisture but leaves no moisture on hand
 MOIST: Leaves moisture on hand
 WET: Visible free water, usually saturated

	PLASTICITY	DRY STRENGTH	DILATANCY	TOUGHNESS
ML	Non to Low	Non to Low	Slow to Rapid	Low, can't roll
CL	Low to Med.	Med. to High	None to Slow	Medium
MH	Med. to High	Low to Med.	None to Slow	Low to Med.
CH	Med. to High	High to V.High	None	High

STRUCTURE

STRATIFIED: Alternating layers of material or color > 6mm thick.
 LAMINATED: Alternating layers < 6mm thick.
 FISSURED: Breaks along definite fracture planes.
 SLICKENSIDED: Striated, polished, or glossy fracture planes.
 BLOCKY: Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
 LENSES: Has small pockets of different soils, note thickness.
 HOMOGENEOUS: Same color and appearance throughout.

LIST OF ABBREVIATION & EXPLANATIONS

SPT Standard Penetration Test split barrel sampler	G Grab sample
D&M Dames and Moore sampler	MC Moisture Content
LL Atterberg Liquid Limit	MD Moisture Density
PL Atterberg Plastic Limit	UC Unconfined Compressive Strength
PP Pocket Penetrometer	
VS Vane Shear	

TABLE A-1





Client: Colette Mathewson	Project Name: Lot 37 Shelter Cove
Project Number: 21-335	Project Location: Florence, Oregon
Date Started: Jun 01 2021 Completed: Jun 01 2021	Logged By: SPR Checked By: RJD
Drilling Contractor: Branch Engineering Inc.	Latitude: Longitude: Elevation:
Drilling Method: Hand Auger	Ground Water Levels
Equipment: Hand Auger/DCP	▼
Hammer Type: 35 lb Slide Hammer	▼
Notes:	▼

Depth	Graphic	Material Description	Sample	Recovery % RQD	Blow Counts (N Value)	Pocket Pen. (tsf)	SPT N-Value : ▲	
							MC : ⊗	PL LL: ●—■
1		Dry, Medium Dense, Aggregate and Poorly Graded Dune Sand.					10 20 30 40 50 60 70 80 90	10 20 30 40 50 60 70 80 90
2		Damp, Loose, Tan-Brown Poorly Graded Dune Sand, Rapid Dilatancy.						
3								
4								
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32								

Plot Legend: ▲ SPT N-Value ◇ Fines Content ⊗ Moisture Content ●—■ Plastic Limit and Liquid Limit



Client: Colette Mathewson	Project Name: Lot 37 Shelter Cove
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Notes:	▼

Depth	Graphic	Material Description	Sample	Recovery % RQD	Blow Counts (N Value)	Pocket Pen. (tsf)	SPT N-Value : ▲	
							MC : ⊗	PL LL: ●■
1		Dry to Damp, Loose, Tan-Brown Poorly Graded Dune Sand, Rapid Dilatancy.					10 20 30 40 50 60 70 80 90	10 20 30 40 50 60 70 80 90
2								
3								
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Depth	Graphic	Material Description	Sample	Recovery % RQD	Blow Counts (N Value)	Pocket Pen. (tsf)	SPT N-Value : ▲	
							MC : ⊗	PL LL: ●■
							10 20 30 40 50 60 70 80 90	10 20 30 40 50 60 70 80 90
1		Dry to Damp, Loose, Tan-Brown Poorly Graded Dune Sand, Rapid Dilatancy.						
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DYNAMIC CONE LOG

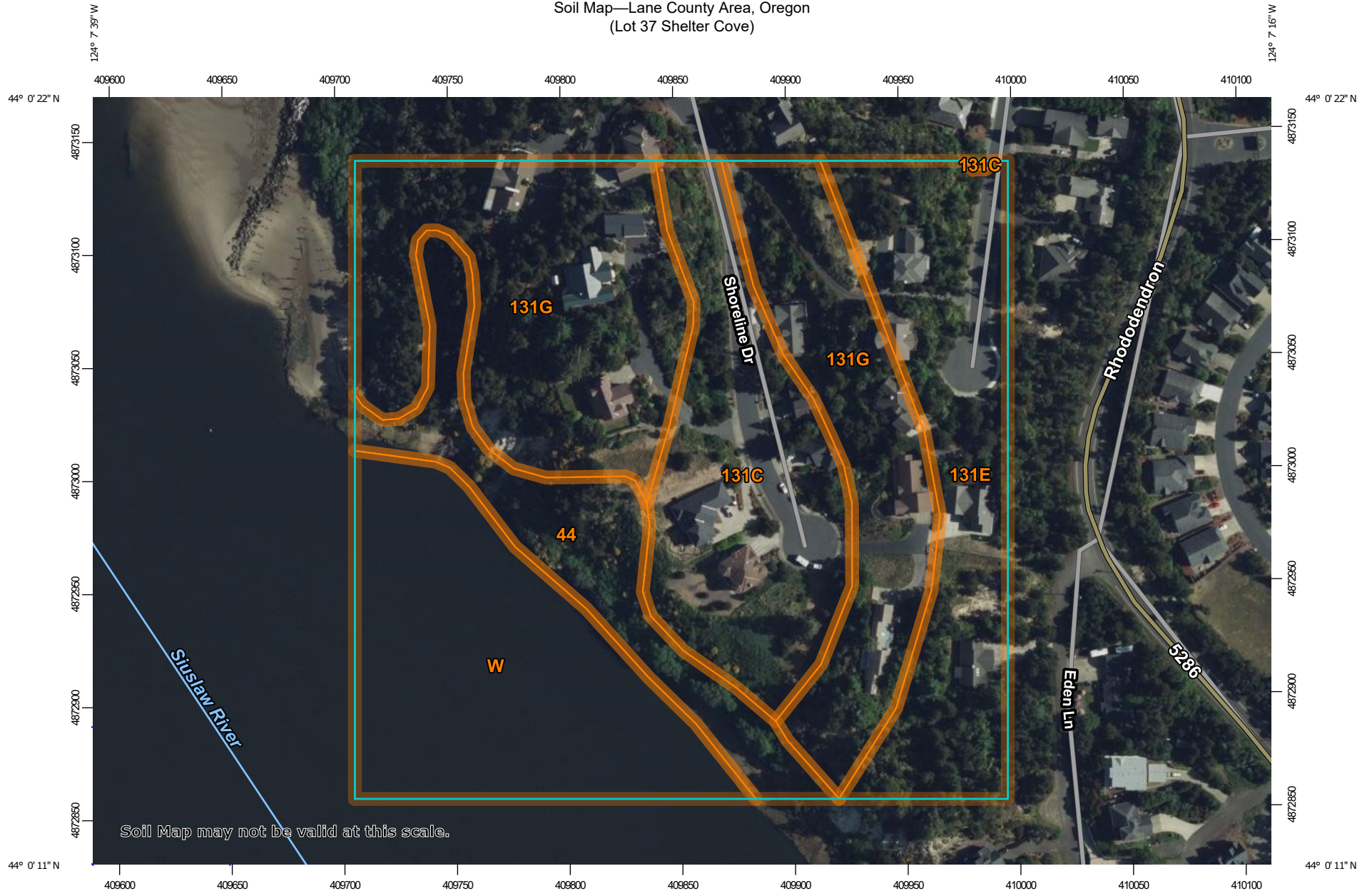
PROJECT NUMBER: 21-335
DATE STARTED: 06-01-2021
DATE COMPLETED: 06-01-2021

HOLE #: DCP-1
CREW: Sam Rabe EIT
PROJECT: Shelter Cove
ADDRESS: Lot 37 Shelter Cove
LOCATION: Florence, Oregon

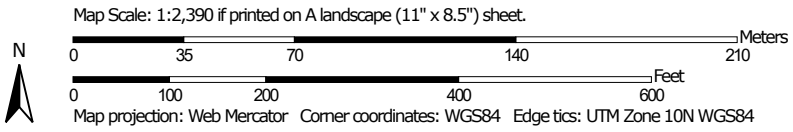
SURFACE ELEVATION: _____
WATER ON COMPLETION: No
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm ²	GRAPH OF CONE RESISTANCE				N'	TESTED CONSISTENCY	
			0	50	100	150		NON-COHESIVE	COHESIVE
-	4	17.8	•••••				5	LOOSE	MEDIUM STIFF
-	4	17.8	•••••				5	LOOSE	MEDIUM STIFF
- 1 ft	6	26.6	••••••				7	LOOSE	MEDIUM STIFF
-	6	26.6	••••••				7	LOOSE	MEDIUM STIFF
-	7	31.1	•••••••				8	LOOSE	MEDIUM STIFF
- 2 ft	6	26.6	••••••				7	LOOSE	MEDIUM STIFF
-	8	35.5	••••••••				10	LOOSE	STIFF
-	8	35.5	••••••••				10	LOOSE	STIFF
- 3 ft	7	31.1	•••••••				8	LOOSE	MEDIUM STIFF
- 1 m	8	35.5	••••••••				10	LOOSE	STIFF
-	8	30.9	•••••••				8	LOOSE	MEDIUM STIFF
- 4 ft	8	30.9	•••••••				8	LOOSE	MEDIUM STIFF
-	7	27.0	••••••				7	LOOSE	MEDIUM STIFF
- 5 ft									
- 6 ft									
- 2 m									
- 7 ft									
- 8 ft									
- 9 ft									
- 3 m									
- 10 ft									
- 11 ft									
- 12 ft									
- 4 m									
- 13 ft									

Soil Map—Lane County Area, Oregon
(Lot 37 Shelter Cove)




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lane County Area, Oregon
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 23, 2020—May 28, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
44	Dune land	2.2	10.9%
131C	Waldport fine sand, 0 to 12 percent slopes	3.5	17.1%
131E	Waldport fine sand, 12 to 30 percent slopes	3.5	17.3%
131G	Waldport fine sand, 30 to 70 percent slopes	7.0	34.5%
W	Water	4.1	20.2%
Totals for Area of Interest		20.3	100.0%

Lane County Area, Oregon

44—Dune land

Map Unit Setting

National map unit symbol: 236z

Elevation: 0 to 150 feet

Mean annual precipitation: 60 to 100 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 165 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Dune land: 95 percent

Minor components: 3 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dune Land

Setting

Parent material: Eolian sands

Typical profile

C - 0 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Minor Components

Yaquina

Percent of map unit: 2 percent

Landform: Marine terraces

Hydric soil rating: Yes

Heceta

Percent of map unit: 1 percent

Landform: Interdunes

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Lane County Area, Oregon

Survey Area Data: Version 17, Jun 11, 2020

Lane County Area, Oregon

131C—Waldport fine sand, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: 234r

Elevation: 0 to 150 feet

Mean annual precipitation: 60 to 100 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 165 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Waldport and similar soils: 85 percent

Minor components: 8 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Waldport

Setting

Landform: Dunes

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Eolian sand of mixed origin

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material

O_e - 1 to 3 inches: moderately decomposed plant material

H₁ - 3 to 8 inches: fine sand

H₂ - 8 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Capacity of the most limiting layer to transmit water (K_{sat}): High to very high (5.95 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Yaquina

Percent of map unit: 4 percent

Landform: Marine terraces
Hydric soil rating: Yes

Heceta

Percent of map unit: 4 percent
Landform: Interdunes
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Lane County Area, Oregon
Survey Area Data: Version 17, Jun 11, 2020

STATE ENGINEER
Salem, Oregon

Well Record **LANE** STATE WELL NO. 18/12W-15M(1)
019235 COUNTY Lane
APPLICATION NO.

OWNER: Cecil Ames

MAILING
ADDRESS:

LOCATION OF WELL: Owner's No.

CITY AND
STATE:

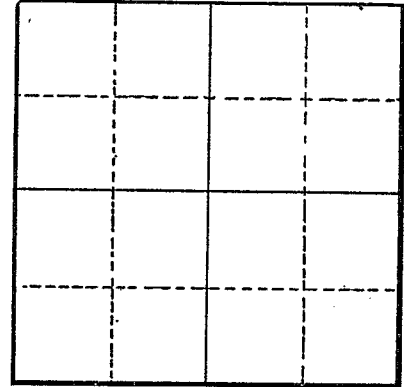
..... 1/4 1/4 Sec. T. N. E.
..... S, R. W., W.M.

Bearing and distance from section or subdivision
corner

Altitude at well 40

TYPE OF WELL: Drilled Date Constructed

Depth drilled 87 Depth cased 82



Section

CASING RECORD:

6 inch

FINISH:

Screened 82 to 87

AQUIFERS:

Dune sand

WATER LEVEL:

35 feet below land surface, August, 1959

PUMPING EQUIPMENT: Type

H.P.

Capacity G.P.M.

WELL TESTS:

Drawdown ft. after hours G.P.M.

Drawdown ft. after hours G.P.M.

USE OF WATER Domestic

Temp. °F., 19

SOURCE OF INFORMATION USGS

DRILLER or DIGGER

ADDITIONAL DATA:

Log ^X Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

STATE OF OREGON
MONITORING WELL REPORT

LANE 52483

Received Date
 Well Tag# L
 Start Card # 100172

(as required by ORS 537.765 & OAR 690-240-095)

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Name **TOM GAERTIG**
GAERTIG, ANNA
 Street **1424 MESA VERDE CIRCLE**
 City **PLACENTIA** State **CA** Zip **92670**

Well No. **6100**
 Co Job No. **386**

(6) LOCATION OF WELL By legal description

County **Lane**
 Township **18.00 S** Range **12.00 W** Section **15**

1. **NW** 1/4 of **SW** 1/4 of above section.

Legal Desc:

2. Either Street address of well location

21 SEA WATCH PLACE, FLORENCE

or Tax lot number of well location

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(2) TYPE OF WORK

- New Construction** **Alter (Recondition)** **Alter (Repair)**
 Conversion **Deepening** **Abandonmen**

(3) DRILLING METHOD

- Rotary Air** **Rotary Mud** **Cable**
 Hollow Stem Auger **Other**

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(4) BORE HOLE CONSTRUCTION

Special Standards Depth of completed well **55** ft.

Diameter From To

Vault	ft.	5.00	0	55				
TO	ft.							
Monument	ft.	1.00			PL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(8) WATER BEARING ZONES

Depth at which water was first found ft.

Seal	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0	34	BE	5		S
TO	34	40	OT	2		S
ft.	40	55	BE	3		S

(9) WELL LOG

Ground elevation 0 ft.

Material	From	To	SWL
SAND	0	55	

Screen

Filter Pack
 ft.
 TO
 ft.

Filter Pack
 Material
 Size in.

Date started **6/9/1997** Completed **6/9/1997**

(5) WELL TEST

Permeability Yield
 Conductivity PH
 Temperature of water **57** °F/C Depth artesian flow found ft.

Was water analysis done?

By Whom? **FOUNDATION**

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number **10025**

Signed By **DAVID ABERNATHY** Date

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number **10011**

Signed By Date

SITEMAP

○ Dunes

SINGLAW R.

CLIFF

B-1
SPT-D
DRIVE WAY

HOUSE

SEA WATER PILE

SEA WATCH
To (BEST) SPT-D

RHODDENDRON DR.

SEA

N →

LANE CO. 52483

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-0035)

3/29/2013

(1) OWNER/PROJECT Hole Number B1

PROJECT NAME/NBR: 6-104/SIUSLAW COAST GUARD

First Name Last Name
Company US COAST GUARD
Address 2000 EMBARCADERO, SUITE 200
City OAKLAND State CA Zip 94606

(2) TYPE OF WORK [X] New [] Deepening [X] Abandonment
[] Alteration (repair/recondition)

(3) CONSTRUCTION
[] Rotary Air [] Hand Auger [] Hollow stem auger
[X] Rotary Mud [] Cable [] Push Probe
[] Other

(4) TYPE OF HOLE:
[] Uncased Temporary [] Cased Permanent
[] Uncased Permanent [] Slope Stability
[] Other
Other:

(5) USE OF HOLE
GEOTECHNICAL

(6) BORE HOLE CONSTRUCTION Special Standard [] (Attach copy)
Depth of Completed Hole 75.00 ft.

Table with columns: Dia, From, To, Material, SEAL, Amt, lbs. Row 1: 3.87, 0, 75, Bentonite Grout, 0, 75, 3, S

Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size

(7) CASING/SCREEN
Table with columns: Casing, Screen, Dia, From, To, Gauge, Stl, Plstc, Wld, Thrd

(8) WELL TESTS
[] Pump [] Bailer [] Air [] Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration(hr)

Temperature °F Lab analysis [] Yes By
Supervising Geologist/Engineer
Water quality concerns? [] Yes (describe below) TDS amount

(9) LOCATION OF HOLE (legal description)
County LANE Twp 18.00 S N/S Range 12.00 W E/W WM
Sec 15 SW 1/4 of the SW 1/4 Tax Lot ROW
Tax Map Number Lot
Lat " or 44.00196111 DMS or DD
Long " or -124.12311111 DMS or DD
[] Street address of hole [X] Nearest address

IN SIUSLAW RIVER OFF OF US COAST GUARD DOCK, 4255 COAST GUARD RD FLORENCE, OR 97439

(10) STATIC WATER LEVEL
Table with columns: Date, SWL(psi), SWL(ft)
Existing Well / Predeepening
Completed Well

WATER BEARING ZONES
Flowing Artesian? []
Depth water was first found
Table with columns: SWL Date, From, To, Est Flow, SWL(psi), SWL(ft)

(11) SUBSURFACE LOG Ground Elevation
Table with columns: Material, From, To
Blue Sand 0 72
Mudstone 72 75

Date Started 3/27/2013 Completed 3/28/2013

(12) ABANDONMENT LOG:
Table with columns: Material, From, To, Amt, lbs
Bentonite Grout 0 75 3 S

Date Started 3/28/2013 Completed 3/28/2013

Professional Certification (to be signed by an Oregon licensed water or monitoring well constructor, Oregon registered geologist or professional engineer).

I accept responsibility for the construction, deepening, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License/Registration Number 1864 Date 3/29/2013

First Name RICHARD E O Last Name WIGGINS
Affiliation WESTERN STATES SOIL CONSERVATION, INC.

GEOTECHNICAL HOLE REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

LANE 72367

3/29/2013

Map of Hole

