

ACU-24-043

**Reconnaissance-Level
Geologic Hazard Assessment Report**



Proposed Development
Peppermill, LLC's Property
North of Sacchi Beach, Coos County, Oregon

Coos County Property ID:
T26S-R14W-S32-TL300

June 24, 2024

Prepared for:

Peppermill, LLC

C/O Sheri McGrath
Coos Curry Consulting
PO Box 1548
Bandon, Oregon 97411

Prepared by:



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Project No. 959-23013-01

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By:



A handwritten signature in black ink, appearing to read "LDG".

EXP. 2/1/2025

Lynn D. Green, C.E.G., Principal Engineering Geologist



EXPIRES: 6/30/2025

Cynthia L Hovind, PE GE, Senior Geotechnical Engineer

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1.0 INTRODUCTION

EVREN Northwest, Inc. is pleased to present our Reconnaissance-level Geologic Hazard Assessment Report for the referenced property located approximately 11 miles north of the City of Bandon, Oregon (see Figure 1). This report has been prepared consistent with Coos County Zoning and Land Development Ordinance (CCZLDO) - Natural Hazard Report 4.11.132 and standard engineering geology practices.¹ This report is valid for a period of five (5) years from the date of site reconnaissance.

The County parcel number for the 34.72-acre property is Tax Lot 300, T26S 14W 32 (see Figures 2 and 3). The assessment, along with the findings and recommendations, are limited to the subject property and the proposed development area. The Reconnaissance-level Geologic Hazard report was prepared and signed by a Certified Engineering Geologist and a Professional Geotechnical Engineer, both licensed in the State of Oregon.

1.1 Purpose

The purpose of the assessment was to identify the potential geologic hazards within the subject property and to evaluate the proposed development with respect to the Coos County Natural Hazard Report, as outlined in the CCZLDO Chapter 4.11.132.

1.2 Scope

ENW completed the following scope of work:

- Review of published geologic and geohazard online maps, along with historical aerial photographs of the vicinity of the property.
- Conduct a Reconnaissance-Level Geologic Hazard site investigation on October 31, 2023.
- Prepare this report.

1.3 Site Description

The referenced property is approximately 11 miles north of the City of Bandon, Coos County, Oregon (see Figures 1) and is mapped in the northwest quarter of Section 32, Township 26 south, Range 14 west of the Willamette Meridian in Coos County, Oregon (see Figure 3). The 34.72-acre property is roughly rectangular in shape with a mid-length of about 1,350 feet, running north to south, and mid-base width of 1,120 feet, running west to east (see Figures 2 and 3). The subject property is currently undeveloped, except for a gravel road that splits from Sacchi Lane within the

¹ Oregon State Board of Geologist Examiners. May 30, 2014. Guidelines for Preparing Engineering Geologic Reports, 2nd Addition.

Sansaria gated community and continues to the western ridge of the property (see Figure 2). The property was covered in dense forest vegetation except for a relatively small triangular-shaped area that was cleared in early 2023 (see Figures 4 and 5). This small triangular cleared area is proposed for development (see Figure 5).

1.4 Project Description

ENW understands the property owner cleared a portion of the site for future development (see Figure 5). The cleared area is in the west-central extent of the property and is along a prominent ridge line (see Figures 4 and 5). The existing access road enters the site at the southern end of the cleared area. The cleared area remains relatively flat along the east side of the ridge and slopes westward at about 24 percent (see Figures 4 and 5). There is a significant drainage to the east of the cleared area that flows to Mussel Creek at the north end of the property.

2.0 SITE SETTING

2.1 Topography/Geomorphology

The referenced site is situated on the western edge of the coastal marine terraces south of Cape Arago. The marine terraces represent ancient shorelines that were uplifted by large seismic events over the last several million years (see Figure 6).

The rectangular property has elevations that range from 420 feet NAVD 88 at the southeast corner of the property boundary to 100 feet NAVD88 at the northern property boundary along Mussel Creek (see Figure 4). Along the western portion of the site, the slopes are extremely steep and with over 160 feet of relief. To the north, three ephemeral drainage ravines trend down to Mussel Creek.

2.2 Hydrology

No seeps or other indicator of shallow ground water were observed near or around the proposed development area. North of the proposed area are three ephemeral drainages that flow (when discharging) into Mussel Creek (see Figures 4 and 5). At the time of our site investigation, we could not confirm water flowing in the streams due to the steep and densely vegetated terrain.

2.3 Geology

Regional Geology: The Wiley et al (2015)² mapped the area surrounding the referenced property as uplifted coastal marine terraces that cap the older marine sedimentary deposits (see Figure 6). The marine terraces include the Seven Devils Terrace Deposits, and the older marine sedimentary rocks include the Coaledo Formation (see Figure 6).

Site Geology: The Seven Devils marine terrace mantles the southern half of the property and encompasses the top of the cleared western ridge (see Figure 6). The remainder of the property and northern portion of the western cleared ridge is mapped as the Eocene Coaledo formation. Small, isolated Holocene landslide and debris fan units are mapped in the northeast and at the

² Wiley, T.J., J.D. McClaughry, L. Ma, K. A. Mickelson, C.A. Niewendorp, and H. H. Herinckx. 2015, Geologic Map of Cape Arago 7.5' Quadrangle, Coos County, Oregon: Oregon Department of Geology and Mineral Industries Open File Report O-15-04.

northern property boundary along Mussel Creek.

The Seven Devils terrace is relatively flat lying and is situated on the highest elevation of the property. The deposits typically consist of unconsolidated to slightly cemented sand and gravel that were deposited in a shoreline-beach environment. The underlying Coaleda formation is typically well-bedded micaceous siltstone, mudstone, and fine sandstone deposited in an ancient delta environment.

2.4 Hydrogeology/Ground Water

In September 2023, a domestic water well was drilled on Tax Lot 101, the adjacent property to the east (see Figure 3 and Appendix A). This water well log suggests that ground water ranges from 45 to 65 feet below ground surface (bgs). This shallow ground water is recharged by the infiltration and downward percolation of incident precipitation, and discharges naturally to seeps and springs or as underflow to drainages, streams and other surface water features. No such features were observed within the proposed development area.

2.5 Reconnaissance-Level Field Investigation

On October 31, 2023, ENW completed a reconnaissance-level field investigation of the site to evaluate the surface conditions of the proposed development area. In addition to making general observations related to the geology and geomorphic features of the subject site and surrounding area, four (4) shallow hand auger borings were advanced across the cleared ridgeline (designated HA-1 through HA-4, see Figures 4 and 5 and Appendix B). The depths of the hand-auger borings were up to 2.5 feet bgs. The shallow depths were due to auger refusal.

2.5.1 Surface Conditions

Much of the southeastern portion of the subject property is situated on relatively flat terrain with steep slopes and ravines in the north and west (see Figures 4 and 5). An existing access road on the property runs across the relatively flat terrain and then out to the cleared ridge line in central portion of the site (see Figure 4). The proposed development area is bound to the east and west with 35 percent slopes and to the north with 25 percent slopes.

The proposed development area was cleared of trees and brush (see Figures 4 and 5). After clearing, the top of the ridge was left ungraded and slopes with the natural gradient of the ridge to the north, west, and east. (see Figures 5). At the time of our site visit, there were several slash piles, organic debris, and other deleterious material across the site. To the north and east of the cleared area are several ephemeral drainages that flow north into Mussel Creek, when discharging. In the northern portion of the property, Mussel Creek flows west into the ocean and is deeply incised into the underlying Coaleda Formation.

2.5.2 Subsurface Conditions

ENW encountered the following subsurface conditions in the hand auger borings (Appendix B):

Topsoil. Up two (2) feet of Silty Topsoil was encountered in hand auger borings HA-2, HA-3, and HA-4 which were close to the top of the cleared western ridge. The Topsoil was brown, moist, loose, and had varying amounts of organics.

Topsoil is not appropriate for the foundation bearing subgrade, structural fill, or retaining wall backfill. These materials shall be overexcavated to the approved subgrade depth and either stockpiled onsite or removed from the property. Once the building is complete, the Topsoil can be reused as General Fill for areas of vegetation.

Seven Devils Terrace – Clayey Sand to Sandstone. Sediments of the Seven Devils Terrace were encountered below the Topsoil and to the extent of the borings. The sediments were light gray mottled moderate brown, with low to medium plastic clay and fine-grained sands.

The Terrace deposits are appropriate for foundation bearing subgrade.

2.5.3 Ground Water

No ground water was encountered in the shallow hand auger borings (see Appendix B). Based on logging of the domestic water well on Tax Lot 101 (see Figure 3 and Appendix A), depth to ground water is likely over 40 feet bgs in the proposed development area.

3.0 REVIEW OF POTENTIAL NATURAL HAZARDS

ENW reviewed Coos County's All Hazards Viewer online tool to determine if the site was located within a Natural Hazard Zone, which would require a Geologic Assessment Review in accordance with Section 4.11.150. Coos County has inventoried the following geologic hazards:

- Flood Hazard
 - Riverine Flooding
 - Coastal Flooding
- Landslides and Earthquakes
 - Landslide Susceptibility
 - Liquefaction Potential
- Tsunamis
- Erosion
 - Riverine Streambank Erosion
 - Coastal
 - Shoreline and Headland
 - Wind

Of the geologic hazards listed above, only the Landslide and Coastal Erosion Hazard apply to the site. The flood and tsunamis hazards were considered non-critical for the site.

3.1 Landslides Hazards

3.1.1 Landslide Susceptibility.

Mass wasting includes all forms of down slope movement of soil and rock material under the influence of gravity. It includes everything from barely perceptible soil creep to catastrophic mud flows and landslides. Steep slopes, weak soil and rock strength, and the various effects of water on soil and rock are the primary controlling factors for mass wasting. The potential for mass

wasting can be increased by adding weight to the top of a slope or excavating soil from the lower portion of a slope.

The DOGAMI landslide susceptibility map indicates that the landslide hazard is low to high with no very high areas mapped (see Figure 7). The geologic map of the property, however, shows that there are two small landslides in the northeast corner of the property and two small debris flow deposits along at the central part of the north property line along Mussell Creek (see Figure 6).

At the time of our field investigation, we did not observe signs of slope instability within the proposed development area. However, due to the steepness of the slopes to the west and east, careful consideration of the house and shop placement and stormwater management for the site should be included in the site development plans.

3.2 Earthquake Hazards

Beaulieu and Hughes (1975)³ state that geologic evidence for earthquake activity in western Coos and Douglas Counties is ambiguous and historical data are limited; however, the possibility of future faulting of undefined magnitude remains. In the past three decades, geologists have determined that the Northwest is subject to infrequent, but very powerful (magnitude 9+ on the Richter Scale) subduction zone earthquakes on the offshore Cascadia Subduction Zone (CSZ) fault system. The most recent subduction zone earthquake known to have occurred in the Northwest was in January of 1700.

Geologists have determined that very large subduction zone earthquakes occur on a 300- to 500-year recurring basis, and that smaller, but still significant, subduction related earthquakes occur on a much more frequent basis.

3.2.1 Seismic Induced Slope Failure

The effect on slope stability in the project area is difficult to predict. Two small landslide deposits and debris flows are mapped in the northern region of the site, as discussed above. The State has indicated that the landslide hazard is low to moderate on the flat lying, proposed develop area of the site and high on the steeply sloping areas of the site (see Figure 7). The occurrence of a major subduction zone earthquake may increase the likelihood of mass wasting on the steeply sloped areas of the site; however, it is difficult to predict what the overall impact will be.

3.2.2 Amplification of Ground Shaking

The subject site is within the area of the state where peak ground accelerations of 0.98 g can inflict considerable damage in specially designed structures and great damage in ordinary structures during an earthquake occurring once in every 1,000 years⁴. Earthquake shaking potential at the site and surrounding area is expected to be severe. Amplification of ground shaking should be accounted for in the design of the proposed buildings.

³ Beaulieu, J.D. and Hughes, P.W., 1975, Land use geology of western Curry County, Oregon: Oregon Dept. of Geol. And Mineral Industries Bulletin 90, 148pp

⁴ Madin, I. P. and Mabey, M. A., 1996, Earthquake Hazard Maps for Oregon: Geological Map Series GMS-100, issued by the State of Oregon Department of Geology and Mineral Industries.

3.3 Tsunamis

Tsunamis are seismically generated sea waves that typically cause catastrophic flooding when they strike coastal areas. Major earthquakes that occur anywhere in the Pacific Basin have the potential to generate a tsunami that could impact the project area. However, the greatest threat is from an earthquake occurring along the Cascadian Subduction Zone (CSZ), located just offshore of the Pacific Northwest coastline. The magnitude of the earthquake and its resultant tsunami are primarily driven by the amount and geometry of the slip that takes place when the North American Plate snaps westward over the Juan de Fuca Plate during a CSZ event.

Due to the overall elevation of the site, the risk of tsunami inundation is low.

3.4 Coastal Erosion

Coos County has mapped the site within the coastal erosion zone (see Figure 8). ENW did not observe erosion associated with coastal shoreland, headland, or wind during our reconnaissance-level site evaluation.

The subject property is of sufficient elevation and distance from the shoreline to be significantly affected from coastal erosion as described in CCZLDO Chapter 4.11.132. Therefore, it is our opinion that there is no risk from coastal erosion.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our assessment and the findings discussed above, it is our opinion that there is an elevated risk posed to the subject property by the potential for slope stability issues due to the steep slopes within the proposed development area. The coastal erosion hazard is low, and therefore does not need mitigation. To develop the site, with respect to steep slopes, ENW recommends the following:

4.1 Landslide- Steep Slope Hazards

During our reconnaissance-level site evaluation, we observed that the proposed development area had steep slopes to the west and to the northeast (see Figure 5). While no landslides were mapped or observed in the proposed development area, there is still a risk of isolated landslides and slumping along the steep slope to the west and northeast of the proposed development area. To reduce the potential for damage to the house or shop from landslide hazard, ENW recommends the following:

- The proposed building footprints be offset from the top of slope by 40 feet or more. If the proposed building pad is closer than 40 feet, then a Geotechnical Engineering Report should be completed for the site to provide recommendations for alternative foundations.
- Storm-water runoff from the house and shop shall be directed away from the steep slopes surrounding the developed area. Vegetation within the drainage shall be maintained. If needed, additional native plants shall be planted.
- Cuts and Fills should be minimized on the site. If extensive cuts and fill are proposed for the site, then a Geotechnical Engineering Evaluation and Report should be completed for the site to further evaluate the stability of hillside.

4.2 Amplification of Ground Shaking

As noted above, sever amplification of ground shaking is anticipated from the design earthquake. ENW recommends that a Structural Engineer be consulted for the design of the proposed foundations and structures, so that the ground shaking is taken into account.

4.3 Erosion Hazard

4.3.1 Coastal Erosion.

It is our opinion that the site is not affected by coastal erosion. This is due to the site's proximity to the coastline and the elevation of subject property. While costal erosion is not a hazard to the property, it is important to reduce the potential for surface erosion of the site during and after construction.

4.3.2 Surface Erosion Control Measures

ENW recommends the following surface erosion control measures shall be considered:

- Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one-time during construction.
- Development plans shall minimize cut or fill operations to prevent off-site impacts.
- Temporary vegetation and/or mulching shall be used to protect exposed critical areas during construction.
- Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical.
- Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be reduced where necessary.
- Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installing temporary or permanent drainage across or above such areas, or by using other suitable stabilization measures such as mulching, seeding, planting, or armoring with rolled erosion control products, stone, or other similar methods.
- All site drainage shall be designed to adequately carry existing and potential surface runoff from the twenty-year frequency storm to suitable drainageways such as storm drains, natural watercourses, or drainage swales. In no case shall runoff be directed in such a way that it significantly decreases the stability of known landslides or areas identified as unstable slopes prone to earth movement, either by erosion or increase of groundwater pressure.
- Where drainage swales are used to divert surface waters, they shall be vegetated or protected as necessary to prevent offsite erosion and sediment transport.

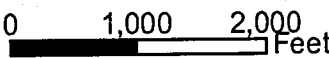
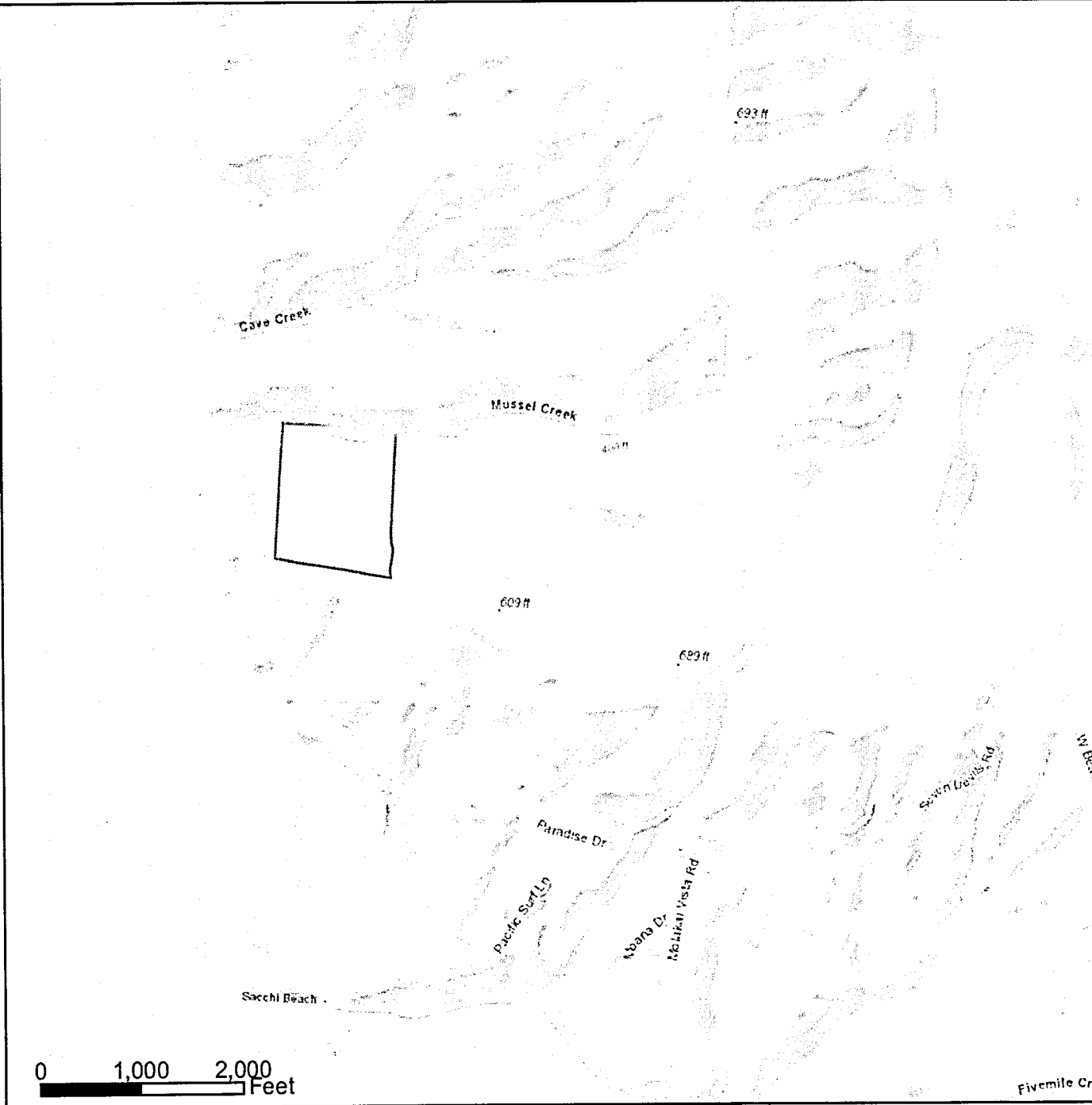
- Erosion and sediment control measures may be required, and therefore, they should include, but are not limited to, the following:
 - Energy absorbing devices to reduce runoff water velocity.
 - Sedimentation controls such as sediment or debris basins. Any trapped materials shall be removed to an approved disposal site on an approved schedule.
 - Dispersal of water runoff from developed areas over large undisturbed areas.
- Onsite stockpiles of excavated spoils or topsoil shall be covered with mulch or by other means to reduce the potential of the stockpiles from eroding and flowing into streams or drainageways. Another action that could be considered is the location of the stockpiles with respect to the streams or drainages.
- Non-erosion pollution associated with construction such as pesticides, fertilizers, petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, site monitoring and clean-up activities.

5.0 LIMITATIONS

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, the conclusions are based on information supplied by others as well as interpretations by qualified parties. Conclusions and recommendations presented in this assessment were prepared in accordance with generally accepted professional geologic engineering principles and practices. We make no warranty, either express or implied.

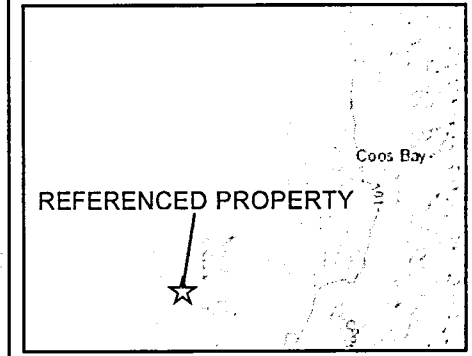
We have performed our services for this project in accordance with our agreement and understanding with the Client. This document and the information contained herein have been prepared solely for the use of the Client. We have performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation that we may have failed to identify the presence of geological hazards other than those specifically mentioned in this assessment. We assume no responsibility for conditions that we did not specifically evaluate, or conditions that were not generally recognized at the time this report was prepared. This report is subject to review and should not be relied upon after a period of 5 years.

DRAWN BY D. SCULLY, 1/29/2024	CHECKED BY C. HOVIND, 1/29/2024	APPROVED BY L. GREEN, 1/29/2024	DRAWING NUMBER 959-23013-01
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LEGEND:

 REFERENCED PROPERTY



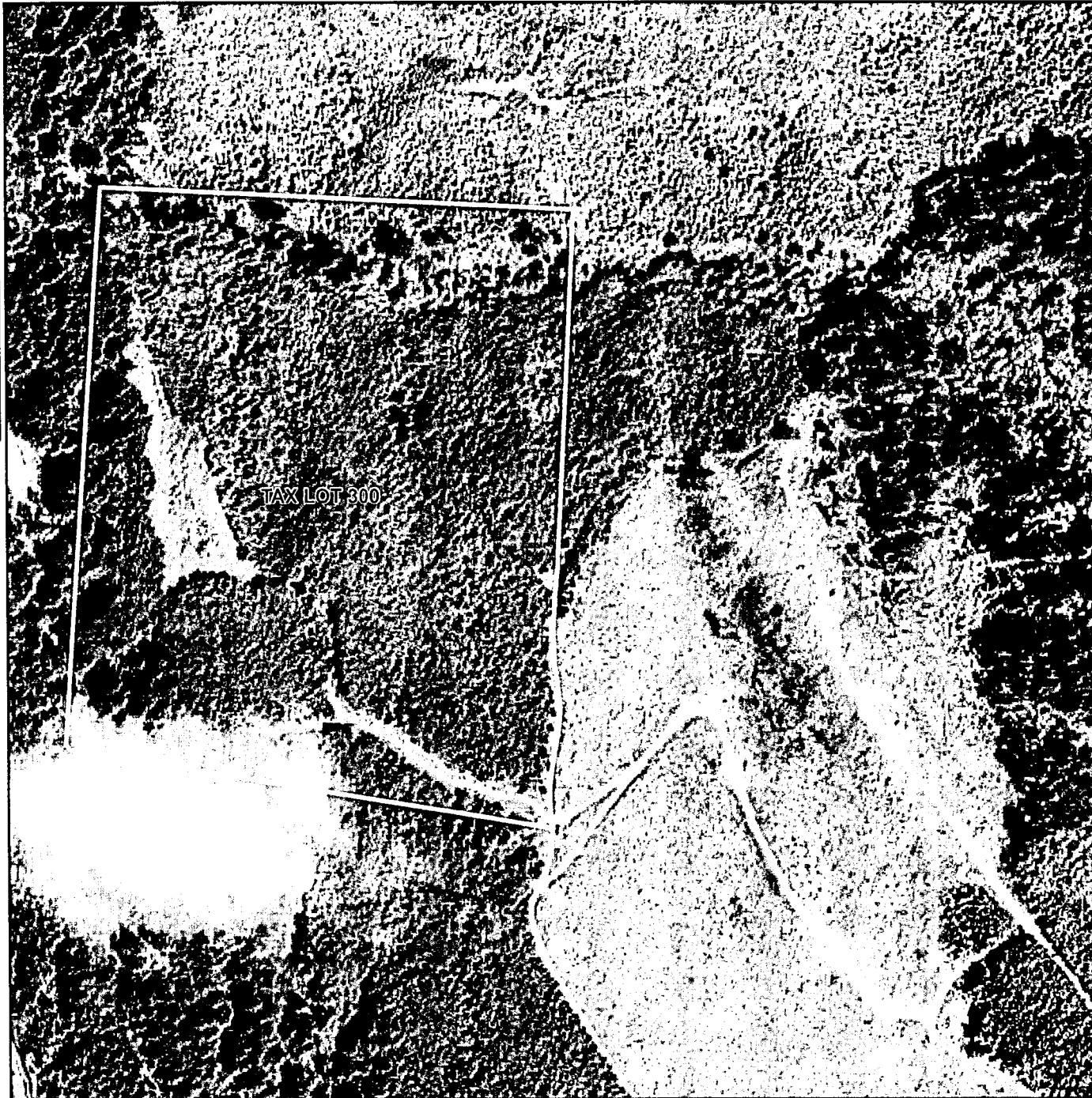
NOTES:

1. BASE MAP BY ESRI.
2. PROPERTY BOUNDARY PROVIDED BY COOS COUNTY.



FIGURE 1
SITE VICINITY MAP
PEPPERMILL, LLC'S PROPERTY
NORTH OF SACCHI BEACH
BANDON, OREGON

DRAWN BY D. SCULLY 2/6/2024
CHECKED BY C. HOWARD 2/6/2024
APPROVED BY T. GREEN 2/6/2024
DRAWING NUMBER 959-23013-01



LEGEND:
REFERENCED PROPERTY

NOTES:

1. AERIAL IMAGERY BY GOOGLE EARTH, 7/2023.

0 125 250 500 Feet



N

FIGURE 2
AERIAL PHOTO MAP

PEPPERMILL, LLC'S PROPERTY
NORTH OF SACCHI BEACH
BANDON, OREGON

DRAWN BY: D. SCULLY, 28/02/24
 CHECKED BY: C. HOWARD, 28/02/24
 APPROVED BY: L. GREEN, 28/02/24
 DRAWING NUMBER: 99-23/15-01



- LEGEND:**
- REFERENCED PROPERTY
 - ADJUSTED T L BOUNDARY
 - TL 101 WATER WELL, (9/14/2023)

- NOTES:**
1. PROPERTY LINE ADJUSTMENT SURVEY BY MULKINS & RAMBO, LLC 11/2022.
 2. TAX LOT MAP PROVIDED BY COOS COUNTY. BOUNDARIES ARE APPROXIMATE.
 3. AERIAL IMAGERY FROM OREGON STATEWIDE IMAGERY PROGRAM (OSIP), 2022.

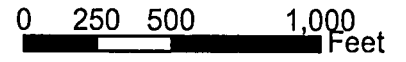
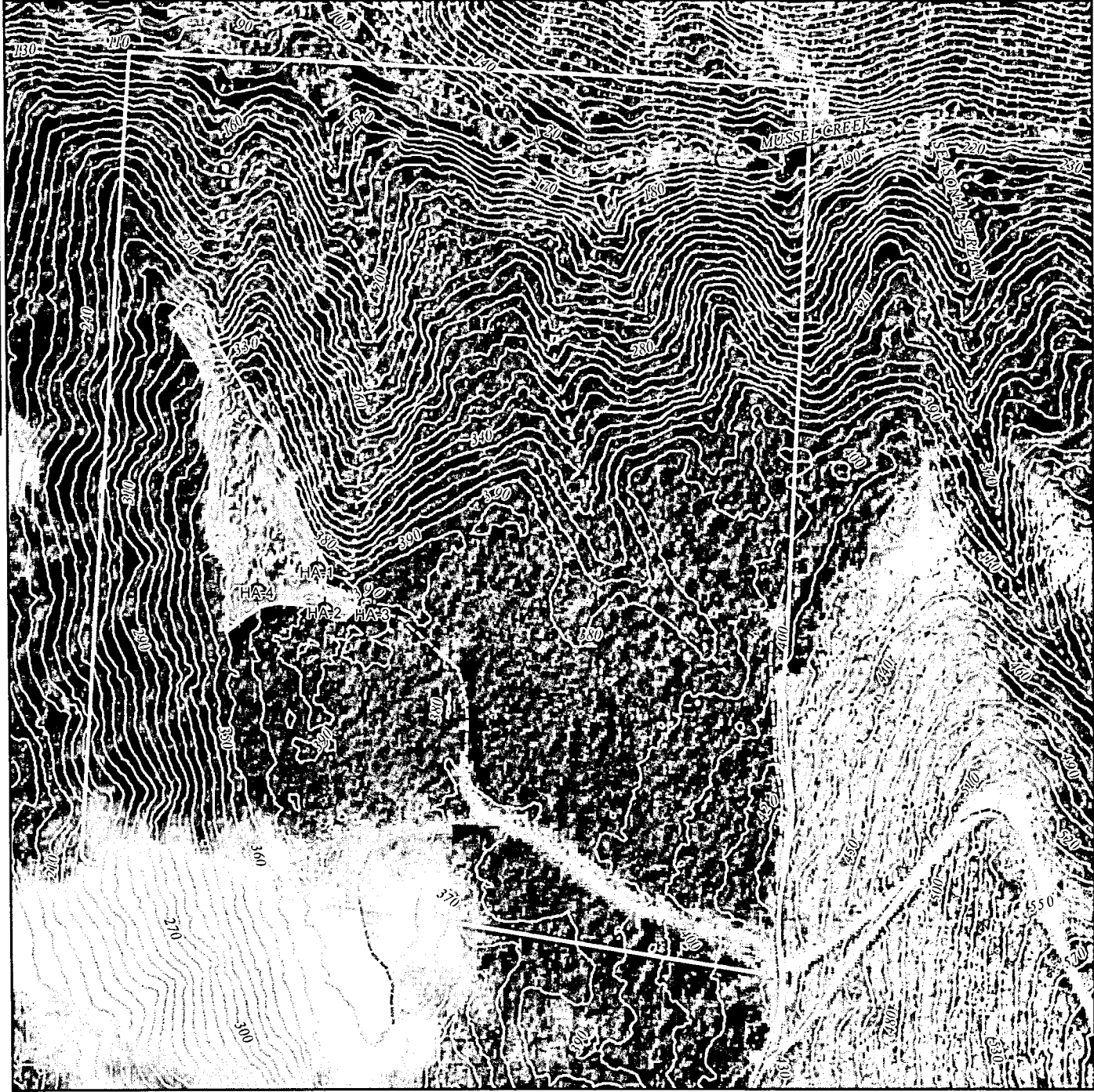


FIGURE 3
COOS COUNTY TAX LOT MAP
 PEPPERMILL, LLC'S PROPERTY
 NORTH OF SACCHI BEACH
 BANDON, OREGON

DRAWN BY D. SECULY 1/29/2024	CHECKED BY C. HOVIND 4/29/2024	APPROVED BY L. GREEN 12/20/24	DRAWING NUMBER 568-2501-3-01
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LEGEND:

- REFERENCED PROPERTY
- DEVELOPABLE AREA
- HAND AUGER LOCATION
- DIRT ROAD
- CONTOUR 10 FEET
- MUSSEL CREEK
- EPHEMERAL DRAINAGES

NOTES:

1. CONTOUR MAP GENERATED FROM DOGAMI LIDAR (2009).
2. SITE MAP DEVELOPED FROM GOOGLE EARTH (2023)
3. ALL BUILDINGS, STREETS, AND FEATURES LOCATIONS ARE APPROXIMATE.
4. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

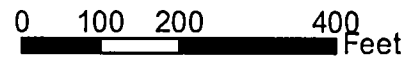
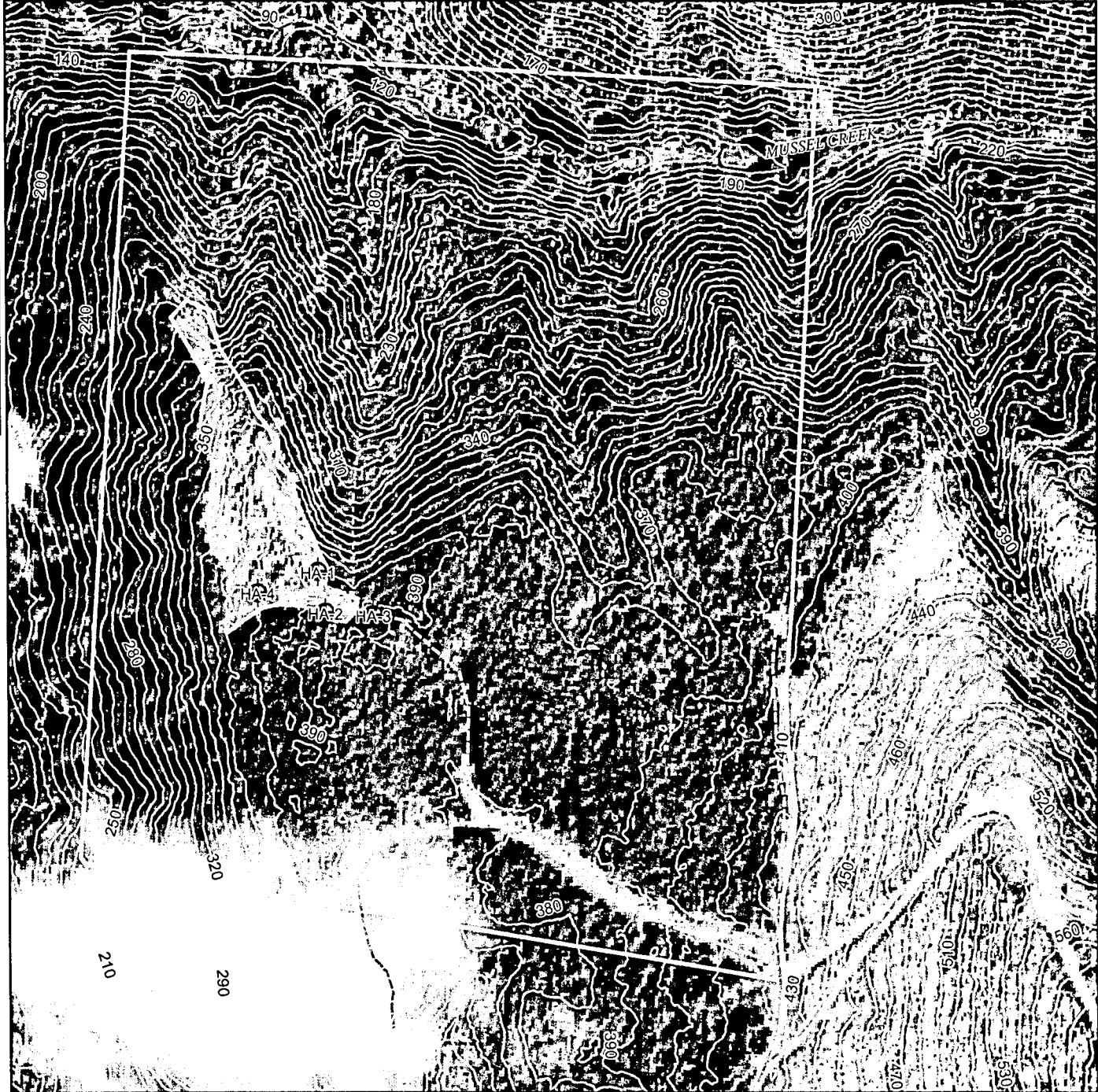


FIGURE 4
EXISTING SITE PLAN
 PEPPERMILL, LLC'S PROPERTY
 NORTH OF SACCHI BEACH
 BANDON, OREGON

DRAWN BY: D. SCULLY 6/14/2024
 CHECKED BY: C. HOWARD 6/14/2024
 APPROVED BY: L. GREEN 6/14/2024
 DRAWING NUMBER: 938-23013-01

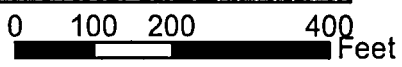


- LEGEND:**
- ☐ REFERENCED PROPERTY
 - ☐ CLEARED SITE FOR HOME AND SHOP
 - ⊕ HAND AUGER LOCATION
 - MUSSEL CREEK
 - - - EPHEMERAL DRAINAGE
 - - - DIRT ROAD
 - CONTOUR, 10 FEET

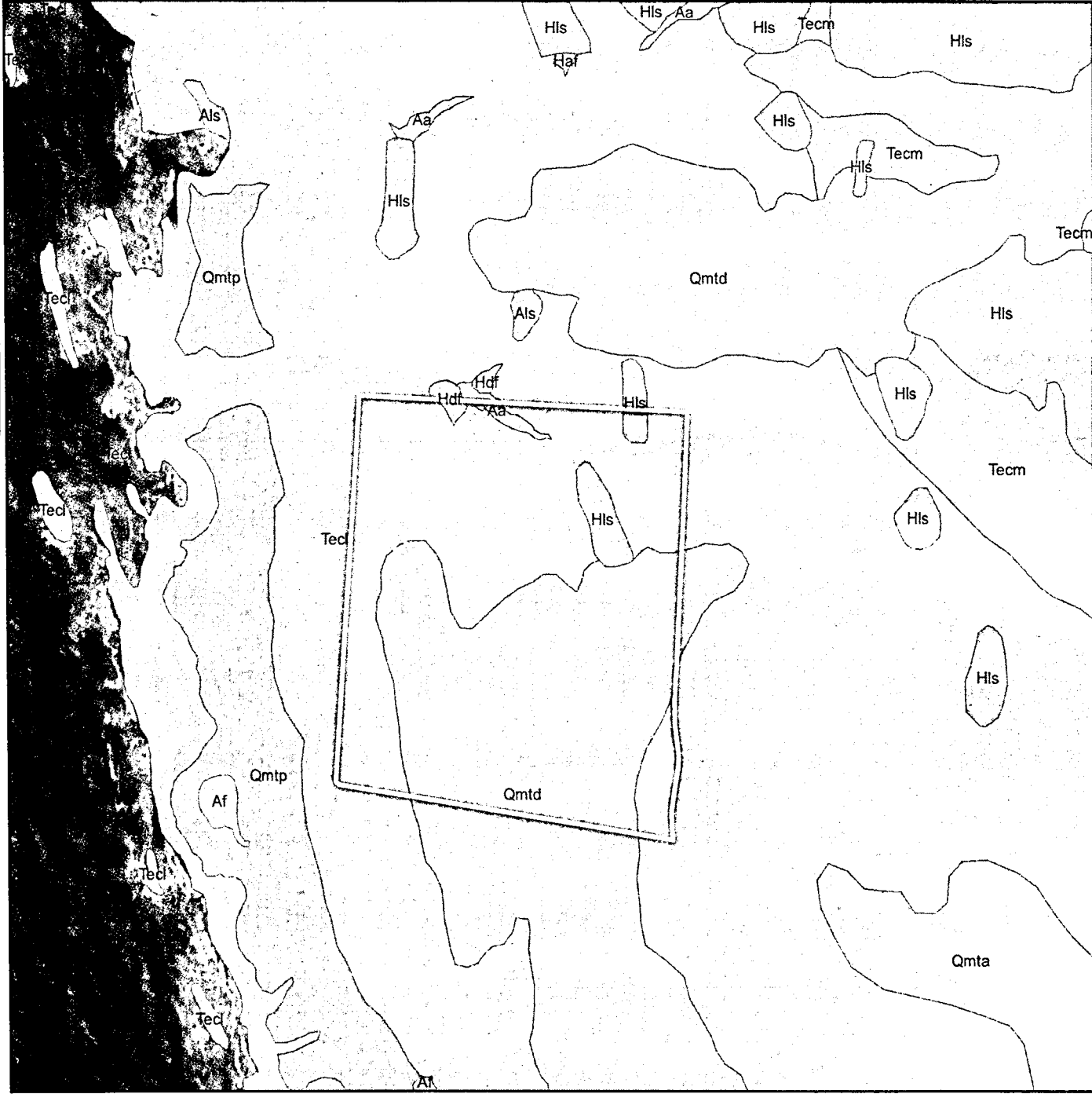
- NOTES:**
1. CONTOUR MAP GENERATED FROM DOGAMI LIDAR (2009).
 2. SITE MAP DEVELOPED FROM COOS CURRY CONSULTING 2024 AND GOOGLE EARTH 2023.
 3. ALL BUILDINGS, STREETS, AND FEATURES LOCATIONS ARE APPROXIMATE.
 4. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.



FIGURE 5
PROPOSED DEVELOPMENT PLAN
 PEPPERMILL, LLC'S PROPERTY
 NORTH OF SACCHI BEACH
 BANDON, OREGON



DRAWN BY: D. SCULLY 8/17/2024
 CHECKED BY: C. HOWARD 8/17/2024
 APPROVED BY: L. GREEN 8/17/2024
 DRAWING NUMBER: 959-23013-01



- Legend**
- REFERENCED PROPERTY
- CLEARED SITE FOR HOME AND SHOP
 - Af Modern Fill and Construction Material
 - Aa Alluvium
 - Haf Alluvial Fan Deposits
 - Hdf Debris Fan Deposits
 - Als Landslide Deposits
 - Hls Landslide Deposits
 - Qmtp Pioneer Terrace Sediments
 - Qmtd Seven Devils Terrace Sediments
 - Qmta Arago Peak Terrace Sediments
 - Tecm Coaledo Formation, Middle Member
 - Tec Coaledo Formation, Lower Member

- NOTES:**
1. GEOLOGIC MAP GENERATED FROM DOGAMI OPEN FILE REPORT 0-15-04
 2. TOPOGRAPHIC MAP PROVIDED BY USGS.

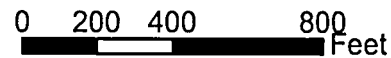


FIGURE 6
GEOLOGY MAP
 PEPPERMILL, LLC'S PROPERTY
 NORTH OF SACCHI BEACH
 BANDON, OREGON

DRAWN BY: D. SCULLY 6/14/2016
CHECKED BY: C. LEONARD 6/14/2016
APPROVED BY: E. GREEN 6/14/2016
DRAWING NUMBER: 659-23013-01



LEGEND:

- REFERENCED PROPERTY
- ▭ CLEARED SITE FOR HOME AND SHOP
- CONTOUR 10 FOOT
- LANDSLIDE HAZARD
 - ▭ HIGH
 - ▭ MODERATE

NOTES:

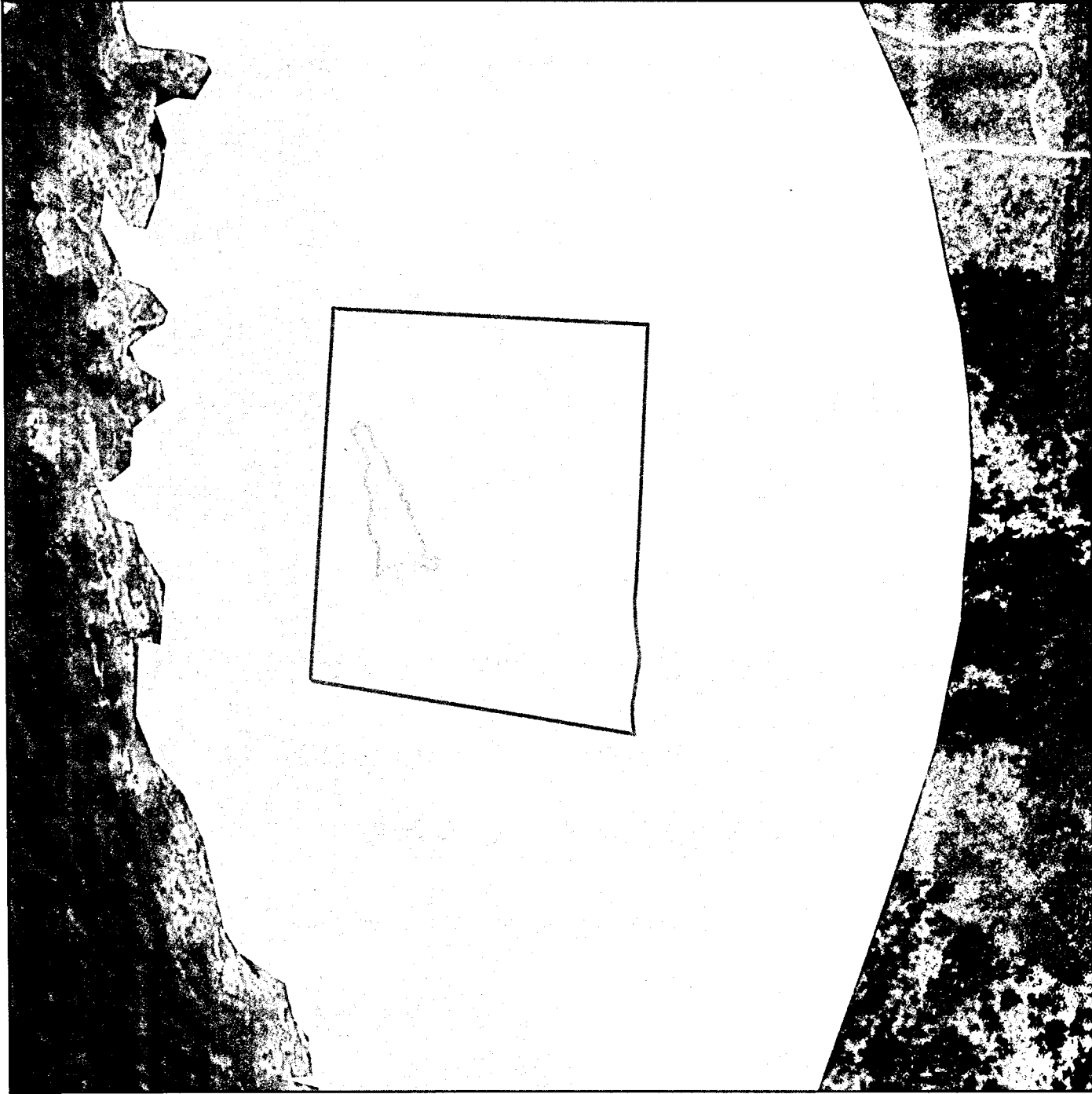
1. CONTOUR MAP, 10-FOOT INTERVAL, GENERATED FROM DOGAMI LIDAR (2009).
2. LANDSLIDE HAZARD OVERLAY GENERATED FROM DOGAMI SLIDO (2016).

0 150 300 600 Feet





FIGURE 7
LANDSLIDE HAZARD MAP
PEPPERMILL, LLC'S PROPERTY
NORTH OF SACCHI BEACH
BANDON, OREGON

DRAWN BY D. SECULEY B/42024	CHECKED BY C. HOWARD B/42024	APPROVED BY L. GREEN B/42024	DRAWINGS NUMBER 593-23013-01
--------------------------------	---------------------------------	---------------------------------	---------------------------------



LEGEND:

-  REFERENCED PROPERTY
-  CLEARED SITE FOR HOME AND SHOP
- COASTAL EROSION OVERLAY (COOS COUNTY)

NOTES:

1. COASTAL EROSION OVERLAY PROVIDED BY COOS COUNTY.
2. AERIAL IMAGERY BY GOOGLE EARTH, 7/2023.

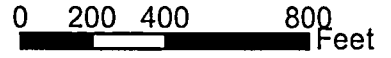


FIGURE 8
COASTAL EROSION OVERLAY MAP
 PEPPERMILL, LLC'S PROPERTY
 NORTH OF SACCHI BEACH
 BANDON, OREGON

APPENDIX A
WATER WELL LOG (Tax Lot 101)

Amended 10/18/2023
STATE OF OREGON
WATER SUPPLY WELL REPORT

COOS 58314

WELL I.D. LABEL# L 152102
START CARD # 1071347
ORIGINAL LOG #

(as required by ORS 537.545 & 537.765 and OAR 690-205-0210)

9/19/2023

(1) LAND OWNER Owner Well I.D.
First Name Last Name
Company IRELAND INVESTMENTS LLC
Address PO BOX 338
City DILLARD State OR Zip 97432

(2) TYPE OF WORK [X] New Well [] Deepening [] Conversion
[] Alteration (complete 2a & 10) [] Abandonment (complete 5a)

(2a) PRE-ALTERATION
Dia + From To Gauge Stl Plstc Wld Thrd
Casing: [] [] [] [] [] [] [] []
Material From To Amt sacks/lbs
Seal: [] [] [] [] [] [] [] []

(3) DRILL METHOD
[X] Rotary Air [] Rotary Mud [] Cable [] Auger [] Cable Mud
[] Reverse Rotary [] Other

(4) PROPOSED USE [X] Domestic [] Irrigation [] Community
[] Industrial/ Commercial [] Livestock [] Dewatering
[] Thermal [] Injection [] Other

(5) BORE HOLE CONSTRUCTION Special Standard [] (Attach copy)
Depth of Completed Well 100.00 ft.
BORE HOLE SEAL sacks/
Dia From To Material From To Amt lbs
10 0 38 Bentonite 0 38 18 S
6 38 100 Calculated 17.48
Calculated

Seal placement method [] A [] B [] C [] D [] E [X] Other:POURED
Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size
Explosives used: Type Amount
Seal Placement Begin Date 9/14/2023 Begin Time 11 30

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount Actual Amount

(6) CASING/LINER
Casing Liner Dia + From To Gauge Stl Plstc Wld Thrd
[] [] [] [] [] [] [] [] [] []
[] [] [] [] [] [] [] [] [] []
Shoe [] Inside [X] Outside [] Other Location of shoe(s) 38
Temp casing [] Yes Dia From + To

(7) PERFORATIONS/SCREENS
Perforations Method Saw Cut
Screens Type Material
Perf/ Casing/ Screen Screen/ slot Slot # of Tel/
Screen Liner Dia From To width length slots pipe size
Perf Liner 4 40 100 .1 5 102

(8) WELL TESTS: Minimum testing time is 1 hour
[] Pump [] Bailer [X] Air [] Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)
45 100 1
Temperature 56 °F Lab analysis [] Yes By
Water quality concerns? [] Yes (describe below) TDS amount 255 ppm
From To Description Amount Units

(9) LOCATION OF WELL (legal description)
County coos Twp 26.00 S N/S Range 14.00 W E/W WM
Sec 32 SE 1/4 of the NE 1/4 Tax Lot 101
Tax Map Number Lot
Lat " or 43.27608000 DMS or DD
Long " or -124.37627000 DMS or DD
[] Street address of well [] Nearest address
0 SACCHI LN BANDON, OR 97411

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(ft)
Existing Well / Pre-Alteration
Completed Well 9/14/2023 45
Flowing Artesian? [] Dry Hole? []
WATER BEARING ZONES Depth water was first found 63.00
SWL Date From To Est Flow SWL(psi) + SWL(ft)
9/14/2023 63 64 45 45

(11) WELL LOG
Ground Elevation
Material From To
sandy brown clay 0 19
sandy grey clay 19 29
sandstone/claystone siltstone 29 100

Construction
Begin Date 9/14/2023 Begin Time 09 30 End Date 9/14/2023

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number Date

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, 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 water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1878 Date 9/19/2023
Signed KERRY SCHATTENKERK (E-filed)
Contact Info (optional) Southern Oregon Water Wells 541-672-7834

**STATE OF OREGON
WELL LOCATION MAP**

This map is supplemental to the WATER SUPPLY WELL REPORT

Oregon Water Resources Department
725 Summer St NE, Salem OR 97301
(503)986-0900



LOCATION OF WELL

Latitude: 43.27608 Datum: WGS84
Longitude: -124.37627
Township/Range/Section/Quarter-Quarter Section:
WM 26S 14W 32 SENE
Address of Well:
0 SACCHI LN BANDON, OR 97411

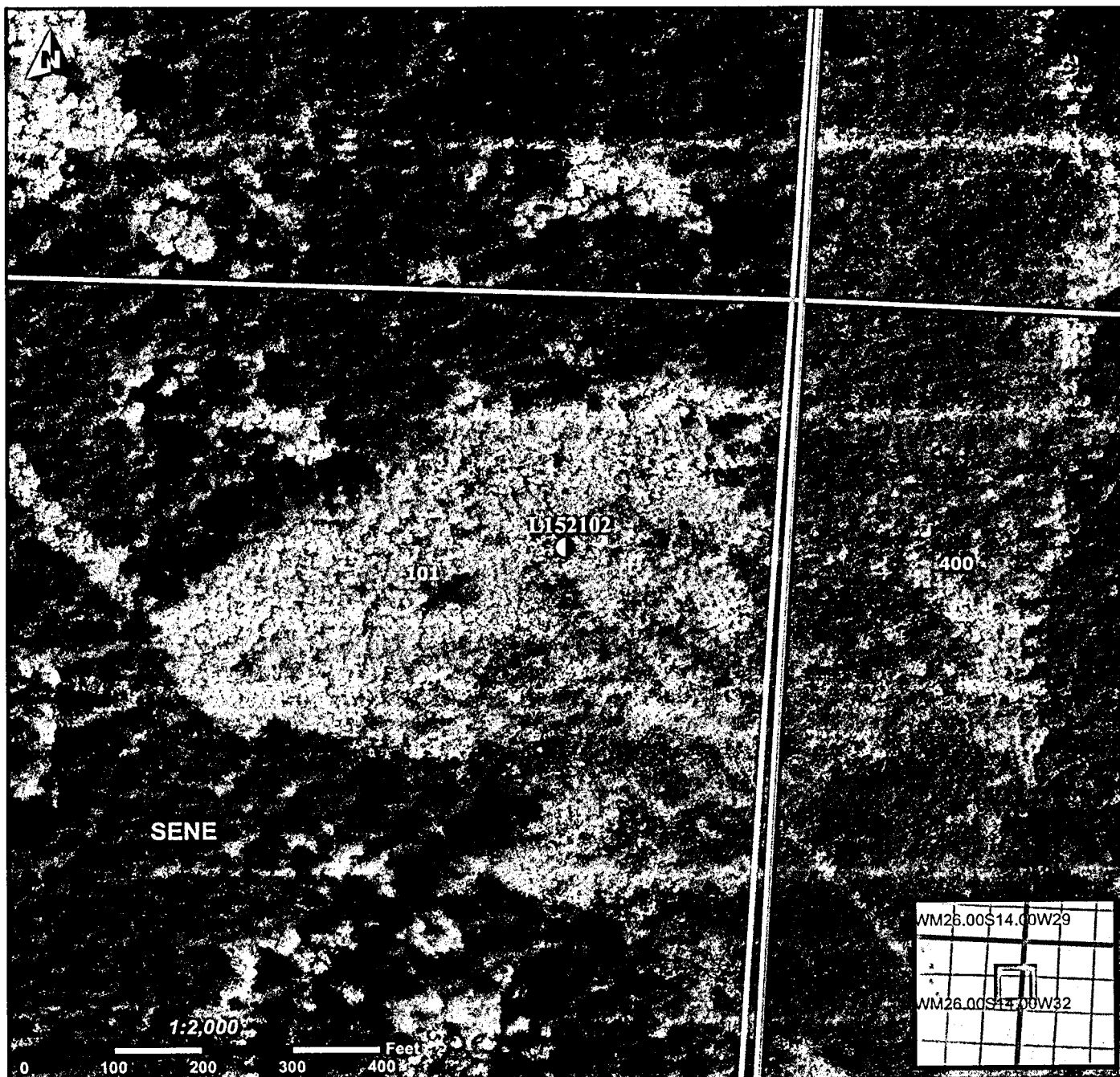
Well Label: L152102

Well Log: COOS 58314

Printed: October 19, 2023

DISCLAIMER: This map is intended to represent the approximate location of the exempt use well provided by the land owner. It is not intended to be construed as survey accurate in any manner.

Generated by OWRD



APPENDIX B
HAND AUGER BORING LOGS

EVREN Northwest, Inc.

Boring Log No. HA-1

Proj Name: Peppermill, LLC TL 300

Location: North of Sacchi Beach, Bandon, Oregon

Proj No. 959-23013-01

Method: Hand Auger

Ground EL:

Hammer:

Hammer weight (lb):

Hole depth (ft): 2

Sampler:

Drop (in):

G.W.T. @ Drilling (ft):

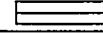
Sampled by: DMS

Driller:

Drill Date: 10-31-2023

Logged by: DMS

Depth	Strata	GWT	No.	Type	Blows Per 6"	USCS	Soil Description	SPT, blow/ft			Notes	
								Moisture %	Moisture %	Moisture %		
0												
1												
2												
3												
4												
5												
6												
7												



Boring completed at depth of 2 feet bgs. Hand auger refusal.

Remarks:

EVREN Northwest, Inc.

Boring Log No. HA-2

Proj Name: Peppermill, LLC TL 300

Location: North of Sacchi Beach, Bandon, Oregon

Proj No. 959-23013-01

Method: Hand Auger

Ground EL:

Hammer:

Hammer weight (lb):

Hole depth (ft): 2.5

Sampler:

Drop (in):

G.W.T. @ Drilling (ft):

Sampled by: DMS

Driller:

Drill Date: 10-31-2023

Logged by: DMS

Depth	Strata	GWT	No.	Type	Blows Per 6"	USCS	Soil Description	SPT, blow/ft				Notes	
								0	20	40	60		
0													
0.5		GWT not encountered											
1.0													
1.5													
2.0						ML	Silty Topsoil						
2.5						CL	Sandy Clay (CL) Moderate brown, moist, soft, medium plasticity, sand is fine-grained, few silt, trace reddish orange inclusions (Terrace Deposits). Boring completed at depth of 2.5 feet bgs. Hand auger refusal.						
3.0													
4.0													
5.0													
6.0													
7.0													

Remarks:

EVREN Northwest, Inc.

Boring Log No. HA-3

Proj Name: Peppermill, LLC TL 300

Location: North of Sacchi Beach, Bandon, Oregon

Proj No. 959-23013-01

Method: Hand Auger

Ground EL:

Hammer:

Hammer weight (lb):

Hole depth (ft): 2

Sampler:

Drop (in):

G.W.T. @ Drilling (ft):

Sampled by: DMS

Driller:

Drill Date: 10-31-2023

Logged by: DMS

File: T:\ENW\Projects\959\Sheri_McGrath_Consulting\2023\23013 (26-14-32 TL 300 Peppermill Property (Formerly Ireland Property) Bandon)\Hand Auger Logs\959-23013-01_IrelandTL300.log Date: 6/17/2024

Depth	Strata	GWT	No.	Type	Blows Per 6"	USCS	Soil Description	SPT. blow/ft				Moisture %	Notes	
								0	20	40	60			
0	GWT not encountered					ML	Silty Topsoil							0
1														1
2						CL	Sandy Clay (CL) Dark brown, moist, soft, medium plasticity, sand is fine-grained, few silt (Terrace Deposits). Boring completed at depth of 2 feet bgs. Hand auger refusal.							2
3														3
4														4
5														5
6														6
7														7

Remarks:

EVREN Northwest, Inc.

Boring Log No. HA-4

Proj Name: Peppermill, LLC TL 300

Location: North of Sacchi Beach, Bandon, Oregon

Proj No. 959-23013-01

Method: Hand Auger

Ground EL:

Hammer:

Hammer weight (lb):

Hole depth (ft): 2

Sampler:

Drop (in):

G.W.T. @ Drilling (ft):

Sampled by: DMS

Driller:

Drill Date: 10-31-2023

Logged by: DMS

File: T:\ENW\Projects\959\Sheri_McGrath_Consulting\2023\23013 (26-14-32 TL 300 Peppermill Property (Formerly Ireland Property) Bandon)\Hand Auger Logs\959-23013-01_IrelandTL300.log Date: 8/17/2024

Depth	Strata	GWT	No.	Type	Blows Per 6"	USCS	Soil Description	SPT. blow/ft				Notes
								0	20	40	60	
0	GWT not encountered					ML	Sandy Silt Topsoil	0	20	40	60	0
1						CL	Sandy Clay (CL) Dark brown, wet, soft, low plasticity, sand is fine-grained, few silt, trace organics (Terrace Deposits). Boring completed at depth of 2 feet bgs. Hand auger refusal.			40	60	1
2												2
3												3
4												4
5												5
6												6
7												7

Remarks:



Looking west along dirt access road from southeast area of property.



Looking west from the top of cleared proposed buildable area.



Looking north from the top of cleared proposed buildable area.



Looking east from bottom of western extent of cleared proposed buildable area.



Peppermill, LLC Property
North of Sacchi Beach
Bandon, Oregon

Site Photographs

Project No.
959-23013-01

Appendix
C



Looking north upslope of cleared proposed buildable area.



Hand Auger Boring HA-1 located at top of cleared proposed buildable area.



Looking south downslope of cleared proposed buildable area.



HA-2 located at southern extent of cleared proposed buildable area.

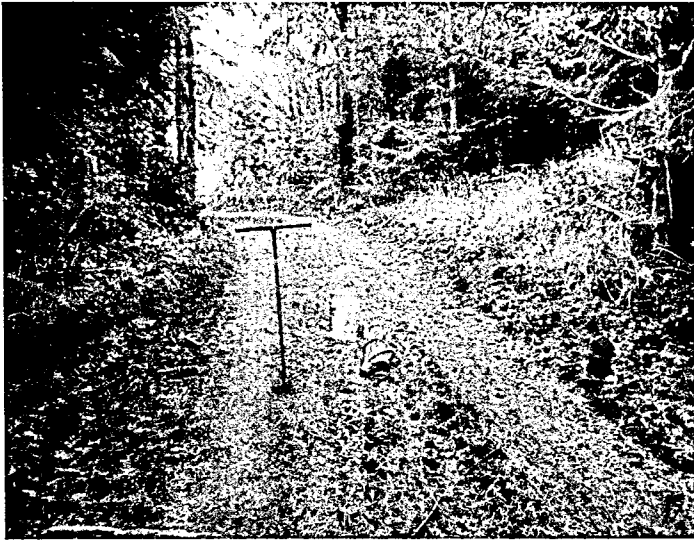


Peppermill, LLC Property
North of Sacchi Beach
Bandon, Oregon

Site Photographs

Project No.
959-23013-01

Appendix
C



HA-3 located at access road 30 feet east of cleared proposed buildable area.



HA-2 looking west approximately 15 feet east from top of slope.



HA-4 located at western extent of cleared proposed buildable area.



Looking northwest at logged hillside from western extent of cleared proposed buildable area.



Peppermill, LLC Property
 North of Sacchi Beach
 Bandon, Oregon

Site Photographs

Project No.
 959-23013-01

Appendix
C