Environmental Site Assessment Work Plan

Former Georgia-Pacific Plywood/Lumber Mill
Coos County Tax Lot 28S13W01DBTL0030900
Coquille, Oregon 97423

Stantec

Prepared for:
City of Coquille

Prepared by:
Stantec Consulting Services Inc.

October 1, 2024

Project/File:
203723756

Stantec Consulting Services Inc.

The conclusions in the document titled Environmental Site Assessment Work Plan Former Georgia-Pacific Plywood/Lumber Mill, Coos County Tax Lot 28S13W01DBTL0030900, Coquille, Oregon 97423 are Stantec's professional opinion, as of the time of the document, and concerning the scope described in the document. The opinions in the document are based on conditions and information existing at the time the scope of work was developed and do not take into account any subsequent changes. The document relates solely to the specific project for which Stantec was retained and the stated purpose for which the document was prepared. The document is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from City of Coquille (the "Client") and third parties in the preparation of the document to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This document is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the document may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by 

Signature

Leonard Farr Jr., RG
Principal

Approved by 

Signature

Cyrus Gorman, LG
Principal

Table of Contents

Acronyms / Abbreviations ..... **iii**
1 INTRODUCTION **1**
1.1 Project Introduction 1
1.2 Purpose and Objectives 1

2 PROPERTY LOCATION AND HISTORY **1**
3 PROPERTY ENVIRONMENTAL SETTING **2**
3.1 Topography 2
3.2 Geology 2
3.3 Hydrogeology 3

4 SOURCES, NATURE, AND EXTENT OF CONTAMINATION **3**
4.1 North Lathe Area 3
4.2 Press Pit Area 3
4.3 South Lathe Area 4
4.4 Area of Two Former Lumber Mills 4
4.5 North Press Pit Resin AST, Hydraulic Oil AST, Drum Storage, and MW-3 Area 4
4.6 South Press Pit Area Resin AST 5
4.7 UST Area 5
4.8 Maintenance Shop 6
4.9 Georgia-Pacific Substation 6
4.10 PPL Substation 6
4.11 Coquille River Ecological Receptors 7

5 DATA GAP SUMMARY **8**
6 SCOPE OF SUPPLEMENTAL SAMPLING ACTIVITIES **8**
6.1 Surface Fill Sampling 8
6.2 Testing for PCP and Dioxins/Furans 9
6.3 Biased Soil Vapor Sampling 10
6.4 Groundwater Sampling Along Southwestern Property Boundary 11
6.5 Quality Control Samples 11

7 DOCUMENTATION AND REPORTING **12**
8 SCHEDULE **12**
9 REFERENCES **13**
10 LIMITATIONS **14**

List of Tables

Table 1: PCP/Dioxin/Furan Composite Samples

List of Figures

Figure 1: Property and Vicinity Map

Figure 2: Property Area Map With Sampling Locations

List of Appendices

Appendix A Previous Boring Logs

Acronyms / Abbreviations

AST	Above Ground Storage Tank
bgs	Below Ground Surface
City	City of Coquille
DEQ	Oregon Department of Environmental Quality
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
LWES	Land and Water Environmental Services, Inc.
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
NFA	No Further Action
ODOT	Oregon Department of Transportation
PCB	Polychlorinated Biphenyl
PCP	Pentachlorophenol
Property	Land and Water Environmental Services, Inc.
RBC	Risk-Based Concentration
SAP	Site-Specific Sampling and Analysis Plan
Stantec	Stantec Consulting Services Inc.
SVOC	Semi-Volatile Organic Compound
ug/L	Micrograms Per Liter
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1 INTRODUCTION

1.1 Project Introduction

On behalf of the City of Coquille (City), Stantec Consulting Services Inc. (Stantec) has prepared this Environmental Site Assessment (ESA) Work Plan for the approximately nine acres of undeveloped land located adjacent and east of the Coquille River and west of State Highway 42 in Coquille, Oregon described as Tax Lot 309 on Coos County Tax Assessor Map 28S13W01DB (Property).

1.2 Purpose and Objectives

The purpose of this ESA Work Plan is to describe a recommended scope of work for prior-to-purchase due diligence. Also, a consideration in the work scope development is the City's desire to obtain a new no further action (NFA) determination from the Oregon Department of Environmental Quality (DEQ) as the current NFA for the Property is 26+ years old. Due to changes on multiple regulatory fronts since issue of the current Property NFA in 1998, there is concern that future private developers that the City may partner with in redeveloping the Property will be reluctant to work with the City without a "refresh" of the current NFA.

2 PROPERTY LOCATION AND HISTORY

The Property consists of approximately nine acres of undeveloped land located adjacent and east of the Coquille River and west of State Highway 42 in Coquille, Oregon. The Property is zoned commercial retail (CR). A Property and Vicinity Map is provided as Figure 1, and a map illustrating the Property, historical circa 1990 Property features, and approximate sampling locations is provided as Figure 2.

The Property was first developed as a portion of the 33-acre Smith Wood Products battery separator plant that opened in mid-1929 and where additional lumber and plywood production facilities were opened in 1936. Mill operations formerly located on the Property are known to have included:

1. Plywood veneer drying in the North Plywood Building, which was built on the Property in 1936. There also were six glue lines in the Press Pit Area of the North Plywood Building. A resin aboveground storage tank (AST) and hydraulic oil AST also were part of glue line operations. An exterior drum storage area was located adjacent to the in the west end of the Press Pit Area.

2. A lumber mill that manufactured both lath and lumber that was built on the Property in 1936. Lumber manufacturing operations associated with this mill were discontinued in the early to middle 1950s coinciding with the construction of a second veneer mill.

3. A second veneer mill was built on the Property in the early to middle 1950s. This mill was constructed in a building originally used for lumber storage. This mill had two veneer lathes.

4. A second lumber mill was built on the Property in the middle to late 1970s. This mill manufactured lumber. It was built in the same general area as the original lumber mill. This mill operated for a period of approximately 15 years.
5. A 10,000-gallon gasoline underground storage tank (UST) and a 10,000-gallon diesel UST decommissioned by removal in 1991.
6. There were two substations on the Property, one referred to as the GP substation located west of the Press Pit Area, and one referred to as the PPL substation.
7. A maintenance shop that housed an electric shop, auto shop, pipe shop, and milling machinery shop.

Wood products manufacturing continued on the Property until 1990. The City acquired the Property in 1993. The City sold the Property to the current owner, Chovatiya, Sanjay et al, in February 2022.

3 PROPERTY ENVIRONMENTAL SETTING

3.1 Topography

The Property is situated approximately 20 feet above mean sea level with flat topography. It is located adjacent to the east side of the Coquille River.

3.2 Geology

Three monitoring wells (MW-2, MW-3, and MW-4) were previously installed on the Property. These wells presumably were decommissioned following issue of the Property NFA in the late 1990s. At the locations of monitoring wells MW-2 and MW-4, surface fill materials were present to a depth of 5.5 feet below ground surface (bgs) and were described as mixed soil and wood waste. Surface fill materials were underlain by interbedded sand and clay. At monitoring well location MW-3, beneath asphalt and rock, silty clay with sand was encountered. This 2.5-foot-thick layer (which is likely fill material), silty sand with clay and wood fragments was encountered to a depth of 25 feet bgs. Copies of boring logs for MW-1 through MW-5 are provided in Appendix A.

Environmental records indicated that during the summer of 1997, 175,000 cubic yards of “fill dirt” provided by the Oregon Department of Transportation (ODOT) was imported to the Property (DEQ, 1997). The fill was reportedly graded and compacted to provide a final cover of the Property. This fill reportedly raised the entire Property elevation above the 100-year floodplain. If this fill dirt was placed evenly across the 33-acre former mill site, the thickness of the cover would be 3.3 feet. However, the consistency and thickness of this fill material are not well documented, presenting a data gap..

3.3 Hydrogeology

In July 1992, depth to groundwater at the Property was measured from approximately 5-10 feet bgs. The measured direction of groundwater flow was to the west toward the Coquille River. Property groundwater depth likely varies based upon both tidal stage and upon the seasonal flow in the Coquille River.

4 SOURCES, NATURE, AND EXTENT OF CONTAMINATION

4.1 North Lathe Area

Releases of hydraulic oil were documented in this area. However, this area is located north of the Property and therefore this potential source area is not described herein.

4.2 Press Pit Area

Releases of hydraulic oil at the Property were first documented by Brown and Caldwell in 1992. Eight soil samples collected by Brown and Caldwell were tested by United States Environmental Protection Agency (EPA) Method 418.1 (note, EPA Method 418.1 measured a wide range of hydrocarbons, but it could not distinguish between different types of oils, greases, and organic materials in the soil. Its use was discontinued in 2007). Petroleum concentrations in these eight soil samples ranged from 14 to 11,000 milligrams per kilogram (mg/kg). Two samples tested for semi-volatile organic compounds (SVOCs) and four soil samples tested for polychlorinated biphenyls (PCBs) were non-detect.

A removal action was undertaken in July 1995 in the Press Pit Area. Approximately 300 cubic yards of impacted soil was excavated and transported to an on-site treatment cell. Treatment cell soils were land farmed, and once approved for final placement by the DEQ were transported to the mill's former boiler ash landfill located north of the Property.

Ten confirmation soil samples were collected from the Press Pit Area following the 1995 removal action. Neither gasoline- nor diesel-range hydrocarbons were detected in the samples. Oil-range hydrocarbons in the 10 soil samples ranged from below the laboratory reporting limit to 4,000 mg/kg. The DEQ approved a site-specific petroleum cleanup level of 9,000 mg/kg for the former mill. Following receipt of DEQ approval, the Press Pit Area removal action excavations were backfilled.

Oil-range hydrocarbons remain in the former Press Pit Area. It is estimated that oil-range hydrocarbon impacted soils are overlain by a minimum of 6 feet of backfill and fill dirt placed on the Property during the summer of 1997 by ODOT. This area of residual oil-range hydrocarbon contamination is considered well characterized, and no further assessment appears warranted in this area.

4.3 South Lathe Area

Releases of hydraulic oil were noted, and petroleum contaminated soils removed from this area prior to Brown and Caldwell's environmental assessment in June 1992. During this initial assessment, six soil samples were collected from the South Lathe Area and tested by EPA Method 418.1. Petroleum concentrations in these six soil samples ranged from 44 to 980 mg/kg. One soil sample tested for SVOCs and four soil samples tested for leachable cadmium, chromium, and lead were non-detect.

Low levels of oil-range hydrocarbons remain in the former South Lathe Area. It is estimated that oil-range hydrocarbon impacted soils are overlain by a minimum of 6 feet of backfill and fill dirt placed on the Property during the summer of 1997 by ODOT. This area of residual oil-range hydrocarbon contamination is considered well characterized, and no further assessment appears warranted in this area.

4.4 Area of Two Former Lumber Mills

Lumber mill operations were shorter in duration compared to plywood mill operations, occurring over approximately 30 years. This period included two separate lumber mills operating for about 15 years each, both generally located in the same area of the Property.

Soil sampling activities in the former Lumber Mill Area included two soil samples collected by Land and Water Environmental Services, Inc. (LWES). Soil samples PB-1 and SM-1 were collected at a depth of 0.5 feet bgs and were tested for petroleum and SVOCs including pentachlorophenol (PCP). Detected analytes are summarized in the table below.

Sample ID	Oil-Range Hydrocarbons	Pentachlorophenol
PB-1	5,500 mg/kg	0.002 mg/kg
SM-1	1,600 mg/kg	0.00015 mg/kg
Most Stringent DEQ Screening Value	None	1 mg/kg

Detected analytes do not exceed even the most conservative current DEQ screening levels. However, they do suggest that PCP may have been utilized at the Property. Further, no testing of soil samples for dioxin/furan, a common impurity in PCP formulations, has been conducted. Assessment activities in the former Lumber Mill Area have not adequately characterized environmental conditions. This is considered a data gap and additional soil testing is recommended in this area.

4.5 North Press Pit Resin AST, Hydraulic Oil AST, Drum Storage, and MW-3 Area

A plywood resin AST, a hydraulic oil AST, and a possible drum storage area were located at the west end of the Press Pit Area. Phenols were not detected in a soil sample collected by Brown and Caldwell at the

former AST location. A petroleum concentration of 1,400 mg/kg by EPA Method 418.1 was detected in a soil sample collected near the hydraulic oil AST. This soil sample also was tested for PCBs, and none were detected in the soil sample. A petroleum concentration of 1,300 mg/kg as analyzed by EPA Method 418.1 was detected near the possible drum storage area. This soil sample also was tested for PCBs and SVOCs, and none were detected in the soil sample. Moderate concentrations of petroleum detected in this area are lower relative to the residual concentrations of oil-range hydrocarbons detected in the nearby Press Pit Area. No further testing of soil is considered warranted in this area.

This area is also the location of former monitoring well MW-3. Low levels of volatile organic compounds (VOCs) were detected in groundwater samples collected from monitoring well MW-3, as summarized in the table below. This is the only monitoring well of the three located on the Property in which VOCs were detected.

	Date	Petroleum (mg/L)	Benzene (ug/L)	Xylenes (ug/L)
MW-3	10/93	NT	6.8	9.5
	4/94	NT	3.1	7.3
	1/95	0.056 (GRO)	1.8	8.0
	4/95	ND (EPA 418.1)	1.8	7.6
	7/95	0.064 (GRO)	2.1	7.8
DEQ Vapor Intrusion Screening Value		0.12	2.8	780

VOC concentrations detected in groundwater are below the most stringent DEQ risk-based concentrations (RBCs) applicable at the Property if the groundwater ingestion pathway is presumed to be incomplete. However, groundwater sample testing did not include a full suite of VOC testing. The absence of halogenated VOC testing of groundwater is considered a data gap.

4.6 South Press Pit Area Resin AST

Phenols were not detected in two soil samples collected by Brown and Caldwell at this former resin AST location. As no release has been documented in this area, no further testing appears warranted in this area.

4.7 UST Area

In the former UST Area, four soil samples were collected from excavation sidewalls following UST removal. No petroleum hydrocarbons were detected in these soil samples. Water apparently entered the excavation, which precluded the collection of soil samples from the base of the excavation. Brown and Caldwell reported that a water sample collected from the excavation “showed only traces of benzene,

toluene, ethylbenzene, and xylenes." Stantec has been unable to identify a decommissioning report associated with these USTs. Based on these soil/water testing results, it appears that a significant release has not occurred in this area, and that no further assessment is warranted.

4.8 Maintenance Shop

Land and Water Environmental Services, Inc. (LWES) collected four soil samples in the Maintenance Shop Area. Soil samples were tested for petroleum hydrocarbons and VOCs. Oil-range hydrocarbons were detected in two of the soil samples at a concentration of 850 mg/kg in sample SB-1 and 17,000 mg/kg in sample SB-4. Toluene was the only VOC detected, at a concentration of 0.020 mg/kg in sample SB-3 (well below the DEQ residential direct contract RBC of 5,800 mg/kg). In July 1995, approximately 10 cubic yards of soil was excavated from the area of SB-4. A confirmation soil sample collected from the base of the excavation yielded an oil-range hydrocarbon concentration of 440 mg/kg. Soil sampling and cleanup in the Maintenance Shop Area appears to have adequately addressed environmental conditions. No further soil assessment in this area appears warranted.

Monitoring well MW-2 was installed immediately downgradient of the Maintenance Shop Area. The well was sampled in January 1995 and April 1995. Groundwater sample testing included petroleum and VOCs (gasoline constituents only). Very low levels of oil-range hydrocarbons (0.94 mg/L) were detected in the groundwater sample collected in January 1995. Groundwater sample testing did not include a full suite of VOC testing. The absence of halogenated VOC testing of groundwater is considered a data gap.

4.9 Georgia-Pacific Substation

Brown and Caldwell collected three soil samples in this area. PCBs were detected in each soil sample at concentrations ranging from 0.12 to 2.1 mg/kg. The current DEQ residential direct contact RBC for PCBs is 0.23 mg/kg.

In July 1995, 222.55 tons of PCB-impacted soil was excavated and transported to the Waste Management Hillsboro Landfill for disposal. Following the removal action, eight confirmation soil samples were collected. PCBs were not detected in seven of the eight soil samples. A PCB concentration of 0.05 mg/kg was detected at a depth of 8.5 feet bgs. Based on confirmation soil sample results, it appears that PCB assessment/cleanup activities in this area have been adequate, and no further assessment in this area appears warranted.

4.10 PPL Substation

All equipment in this substation was reported to be non-PCB-containing and was removed in 1987. This area has never been assessed, but based on knowledge of historical operations, there is no reason to suspect a release in this area.

4.11 Coquille River Ecological Receptors

The Property is located very near the Coquille River. The only potential impact to the river identified during prior assessment activities was a seep located in the former Conveyor Tail Drum on the former mill site south of the Property. Multiple soil removal actions were carried out in this area to remove hydraulic oil contaminated soil. This area is not, however, part of the Property, and therefore the City has no intentions to evaluate this area as part of this project.

The principal risk to ecological receptors is contaminants migrating into the river via the groundwater to surface water migration pathway. This sort of migration is most likely to occur for contaminants with high solubility such as VOCs and light fraction petroleum hydrocarbons (e.g., gasoline, kerosene, and some components of diesel fuel). These contaminants generally have not been detected in Property soil or groundwater at significant concentrations.

Monitoring well MW-4 was located near the downgradient Property boundary, close to the Coquille River. This well was sampled during three separate events for VOCs (gasoline constituents only), and none were detected. A very low concentration of diesel-range hydrocarbons (0.268 mg/L) was detected in a groundwater sample collected from monitoring well MW-4 in January 1995.. This concentration is below the freshwater RBC published by the DEQ of 0.64 mg/L.

Based upon the types of residual contaminants known to be present on the Property (oil-range hydrocarbons), the removal of soils containing the highest contaminant concentrations that might have served as an on-going source of groundwater contamination, and the absence of contaminants at significant concentrations in groundwater samples collected from monitoring well MW-4, it is considered unlikely that contaminants may be migrating to the Coquille River and impacting aquatic receptors. However, groundwater sampling completed to evaluate the groundwater to surface water migration pathway has been limited, and additional groundwater sampling appears warranted to evaluate potential risk to ecological receptors.

5 DATA GAP SUMMARY

The following assessment data gaps have been identified for the Property.

1. The thickness of ODOT fill material across the Property is unknown. In order for this fill material to be considered an engineering control preventing exposure to residual soil contamination, the thickness of the material should be confirmed.

2. The source of ODOT fill materials is unknown. Testing of this material is needed to confirm that it meets the definition of clean fill, and that it is suitable for used as a surface cap.

3. Testing for PCP at the Property has included only two soil samples. Further testing of soil for PCP is warranted.

4. No testing for dioxins/furans at the Property has occurred. Testing of soil for dioxins/furans is warranted.

5. Neither soil nor groundwater samples collected at the Property were tested for halogenated VOCs. The only complete exposure pathway, if groundwater use is prohibited, is vapor intrusion. Therefore, the collection of soil vapor samples in areas of the Property where solvents/degreasers may have formerly been utilized is warranted.

6. Adequate groundwater sampling to evaluate the groundwater to surface water migration pathway has not been completed at the Property. Additional groundwater sampling along the southwest boundary of the Property proximal to the Coquille River is warranted.

6 SCOPE OF SUPPLEMENTAL SAMPLING ACTIVITIES

6.1 Surface Fill Sampling

Incremental Sampling Methodology (ISM) soil sampling will be performed to evaluate fill material imported to the Property by ODOT. The ISM sampling will be conducted in general accordance with Interstate Technology Regulatory Council (ITRC) sampling and testing protocols. A single decision unit consisting of the entire Property will be sampled. As depicted in Figure 2, a total of 50 soil borings (B-1 through B-50) will be located within the decision unit using systemic random protocols.

Borings will be located in the field using a hand-held global positioning system instrument. Each boring will be advanced to a depth of 5 feet bgs utilizing a direct-push drill rig operated by an Oregon-licensed driller. Soils will be logged using the Unified Soil Classification system, and the contact between fill material and underlying soil determined, by a Stantec registered geologist. Soil will also be screened for VOCs using a photoionization detector (PID), and any visual or olfactory evidence of contamination

noted. In the unexpected event that PID readings indicate the potential presence of VOCs (e.g. PID readings in excess of 50 parts per million), discrete soil samples will be collected using EPA Method 5035 field preservation methods and tested by EPA Method 8260D.

A single fill material sample increment will be collected from each boring. The vertical interval sampled will be determined using the following methodology:

1. The thickness of the fill material within the 5-foot core will be measured.
2. In each boring, the soil sample increment will be collected from the center of the fill material. For example, if the fill materials are determined to be 4 feet thick, soil sample increment sample collection will occur at a depth of 2 feet bgs. To ensure an equal sample volume is collected at each boring location, fill material will be packed into a 2-ounce glass jar. Once the jar is filled level with the rim, the jar contents will be placed into the ISM sampling container provide by the contract laboratory.
3. If the contact between fill material and underling soil cannot be determined, the sample increment will be collected at a depth of 18 inches.

The fill material ISM sample will be temporarily stored in a cooler containing ice packs or wet ice. Following the completion of the sampling activities, the ISM soil sample will be shipped to Apex Labs for sample preparation and analysis in accordance with ITRC guidelines. For quality assurance/quality control (QA/QC) purposes, a duplicate sample will be split from the processed fill material and analyzed by Apex Labs. The ISM soil sample and duplicate will be analyzed for the following:

- Organochlorine Pesticides by EPA Method 8081B.
- Polychlorinated biphenyls by EPA Method 8082A.
- Polycyclic aromatic hydrocarbons by EPA Method 8270 selective ion mode.
- Diesel and oil range hydrocarbons by method NWTPH-Dx.
- Eight Resource Conservation and Recovery Act (RCRA) metals by EPA Methods 6020 and 7471.
- Dioxins and Furans by EPA Method 8290A.

6.2 Testing for PCP and Dioxins/Furans

At select soil boring location groups, a soil sample will be collected from native soils for PCP and dioxin/furan analysis. Each discrete soil sample within a location group will be composited with other discrete soil samples from the group as indicated in Table 1 below. Each composite soil sample will be tested for PCP by EPA Method 8270 and dioxins/furans by EPA Method 8290A.

Table 1. PCP/Dioxin/Furan Composite Samples

Composite Sample ID	Borings in Group	Justification
Comp1	B-12, B-13, B-19, B-20	Former Boiler Area
Comp2	B-27, B-28, B-35, B-36	Former Lumber Mill Area
Comp3	B-41, B-42, B-46, B-47	Former Lumber Storage Area
Comp4	B31, B-32, B-33, B-39, B-40	Former Yard Area

In soil borings where the fill material/native soil contact can be determined, soil samples will be collected 6-12 inches below the fill material/native soil contact. Any 5-foot boring planned for native soil testing in which the fill material/native soil contact is not evident will be advance an additional 5 feet, to 10 feet bgs. It the fill material/native soil contact is not evident in the depth interval 5-10 feet bgs, the soil sample from that boring will be collected in the depth interval 6 to 7 feet bgs.

6.3 Biased Soil Vapor Sampling

Soil vapor samples will be collected in the following historical operational areas of the Property:

1. Former Lumber Mill Area (SV-1);
2. Former Maintenance Shop Area (SV-2);
3. Former Lumber Shed Area (SV-3); and
4. Former UST Area (SV-4).

Soil vapor samples will be collected in accordance with DEQ's *Guidance for Assessing and Remediating Vapor Intrusion in Buildings* (DEQ,2010). Each boring used for soil vapor sampling will be extended to approximately 5 feet bgs using direct-push equipment. Each soil vapor probe will consist of a stainless-steel inlet fitting connected to Nylaflow® or Teflon® tubing. The vapor probe will be centered within 1 foot of bedding sand. The overlying annular space will be filled with approximately 6 inches of dry, granular bentonite, and the remaining annular space will be filled with granular bentonite hydrated in 6-inch lifts to the surface. The end of the tubing will be fitted with a Swagelok® or equivalent valve.

Soil vapor samples will be collected into laboratory-supplied Summa canisters with dedicated flow controllers set at approximately 175 milliliters per minute. The sample collection "train" will be tested for tightness by isolating the canister and flow controller fittings and applying a vacuum of 100 inches water using a three-way valve and syringe or personal sampling pump. The shut-in test will be considered complete if the apparatus is able to hold vacuum for a period of at least one minute. If leaks are observed, the fittings will be tightened and re-tested.

Prior to sampling, the soil vapor probe will be purged of three volumes of air, corresponding to the calculated volume of air within the tubing and the pore space of the bedding sand. The initial vacuum on the Summa canisters will be recorded on the chain of custody prior to sampling. During sampling, the

sampling apparatus will be placed beneath a sampling shroud, and helium gas applied as a leak check compound at a concentration of approximately 30% by volume, as determined using a helium detection meter. Sampling will continue until the vacuum gauge on the Summa canister registers approximately -5 inches mercury. Summa canisters will be labeled and shipped to Eurofins for analysis. The soil vapor samples will be analyzed for VOCs by EPA Method TO-15 and for helium using Method ASTM 1946.

6.4 Groundwater Sampling Along Southwestern Property Boundary

Groundwater grab samples will be collected from four direct-push boings. Groundwater grab sampling will be accomplished by advancing the borings approximately 5 feet into the saturated zone. The top of the saturated zone is anticipated to be encountered at a depth of approximately 15 feet bgs. Groundwater grab samples will be collected by installing a 1-inch diameter polyvinyl chloride temporary well with a 1-inch diameter slotted screen positioned to intercept the top of the water table. Prior to sample collection, each temporary well will be purged with a peristaltic pump and dedicated down-hole tubing. Following well development, the well will be purged using low flow sampling techniques to minimize loss of volatile components. Following well purging, groundwater grab samples will be collected with the peristaltic pump and dedicated tubing into laboratory-supplied bottles. Groundwater grab samples will be analyzed for:

- PAHs by EPA Method 8270 selective ion mode.
- Diesel and oil range hydrocarbons by method NWTPH-Dx.
- Eight total and dissolved RCRA metals by EPA Methods 6020 and 7471.
- VOCs using EPA Method 8260D.

6.5 Quality Control Samples

The following quality assurance/quality control (QA/QC) samples will be collected by Stantec and analyzed by Apex Labs.

1. One duplicate ISM soil sample collected by splitting the ISM soil sample post processing.
2. One duplicate sample for each sample media collected and analyzed for the same analytical parameters as the project sample it is a duplicate of.
3. One trip blank that will accompany groundwater samples when they are shipped to Apex Labs tested for VOCs by Method 8260D.
4. One soil and one groundwater matrix spike/matrix spike duplicate sample analyzed for the same analytical parameters as the project sample it is associated with.
5. No rinsate blanks are planned for collection or analysis as disposable soil (acetate liners) and groundwater (tubing) sampling equipment is planned.

7 DOCUMENTATION AND REPORTING

Field activities will be documented in a field notebook with sequentially numbered pages and/or on Stantec field forms. Following receipt of finalized laboratory analytical results, Stantec will prepare a Phase II ESA report, which will include the following:

- Narrative description of the Property, purpose and objectives of the investigation, field sampling activities, quality control sampling results, analytical results, conclusions, and recommendations;
- Tables of analytical results by media type (if appropriate) screened against applicable DEQ RBCs (DEQ, 2023);
- Figures depicting the Property and sampling locations; and
- Appendices, including boring logs (prepared for borings deeper than 5 feet) and laboratory analytical reports.

8 SCHEDULE

Field sampling activities will be scheduled to occur as soon as possible after receipt of DEQ approval of this work plan. Field sampling activities are estimated to take 2 days to complete. The standard laboratory turnaround time for sample analysis is 10 - 15 business days. Stantec will prepare the Phase II ESA report documenting the results of the sampling activities within 2-3 weeks of receipt of the final laboratory data.

9 REFERENCES

DEQ, 2023. Risk-Based Decision Making for the Remediation of Contaminated Sites, Appendix A, Table of Risk-Based Concentrations for Individual Chemicals. Last updated April 2023.

DEQ, 2010. Guidance for Assessing and Remediating Vapor Intrusion in Buildings.

DEQ, 1997. Site Summary Report, Former Georgia Pacific Mill, Coquille, Oregon. October 27, 1997.

10 LIMITATIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

Figures

Subject Property Boundary

0 0.25 Miles N

(At original document size of 8.5x11)
1:10,000

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Stantec

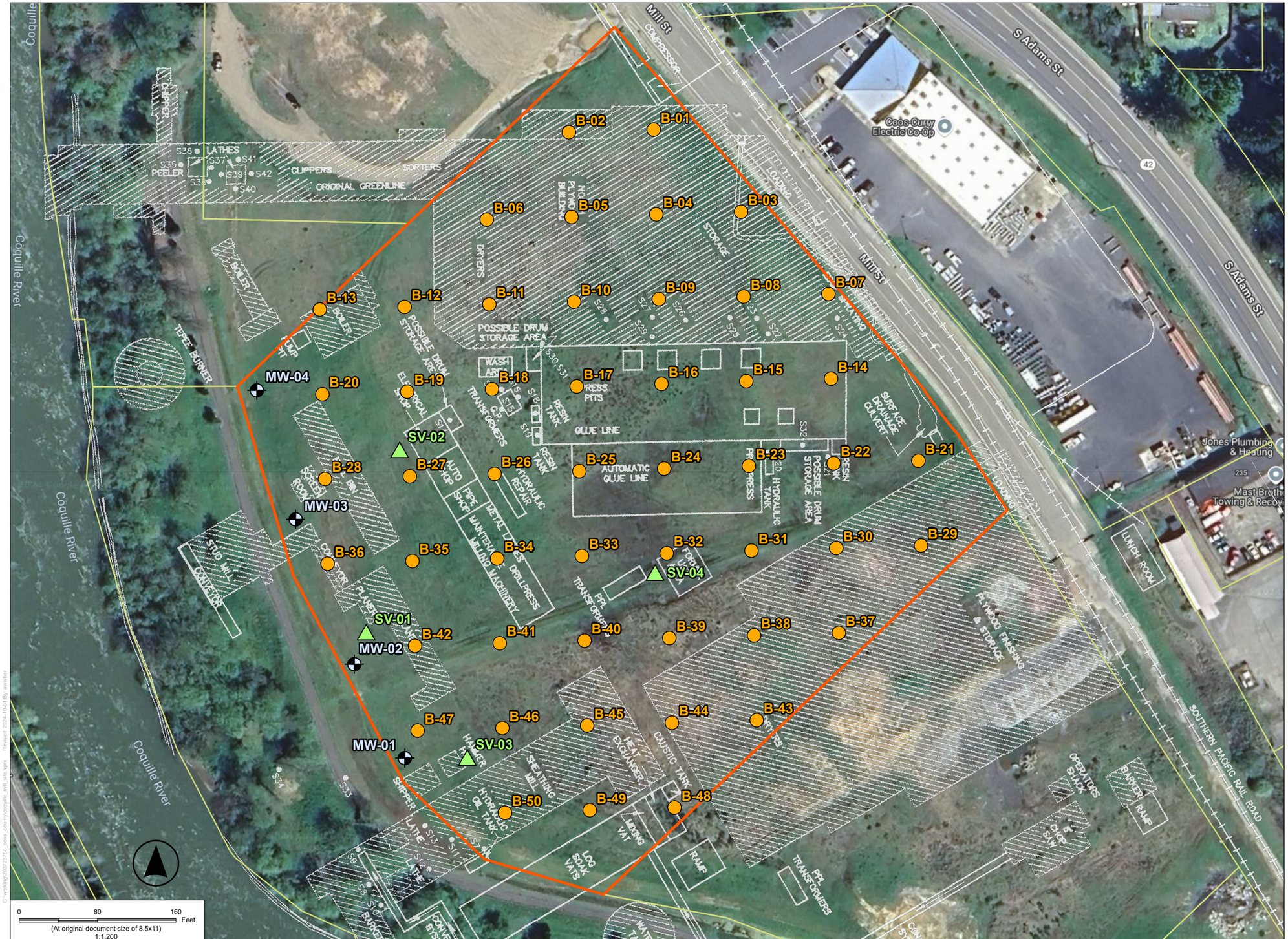
Project Location 203723756
Former Georgia-Pacific Mill Property
Coos County Tax Parcel 28S 13W 01DB 309
Coquille, Coos County, Oregon

Client/Project
City of Coquille
Site Assessment Work Plan

Figure No.
1

Title
Property and Vicinity Map

V:\2037\Active\203723756\mxds\Fig1_Subject-Property-Vicinity-Map.mxd Revised: 2024-02-26 By: dahutchins



Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

C:\working\203723756_coos_county\coquille_mill_site.aprx Revised: 2024-10-01 By: awisher

Stantec

- Proposed Soil Sampling Locations
- Proposed Groundwater Sampling Locations
- Proposed Soil Vapor Sampling Locations
- Other Coos County Parcels
- Approximate Site Boundary

Former mill property features shown in white based on Brown and Caldwell data.

Notes

1. Coordinate System: NAD 1983 UTM Zone 10N

2. Background: © OpenStreetMap (and) contributors, CC-BY-SA, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Project Location

Former Georgia-Pacific Mill Property
Coos County Tax Parcel 28S 13W 01DB 309
Coquille, Coos County, Oregon

Client/Project 203723756

City of Coquille
Site Assessment Work Plan

Title

Property Area Map With Sampling Locations

Figure No.

2

Appendix A - Boring Logs

LAND AND WATER ENVIRONMENTAL SERVICES
555 SE MAIN
ROSEBURG, OREGON 97470
TEL 503-672-0393 / FAX 503-672-7170

BOREHOLE DIAMETER	8"
CASING DIAMETER	2" PVC
SCREEN LENGTH	10
SCREEN SLOT SIZE	0.010"

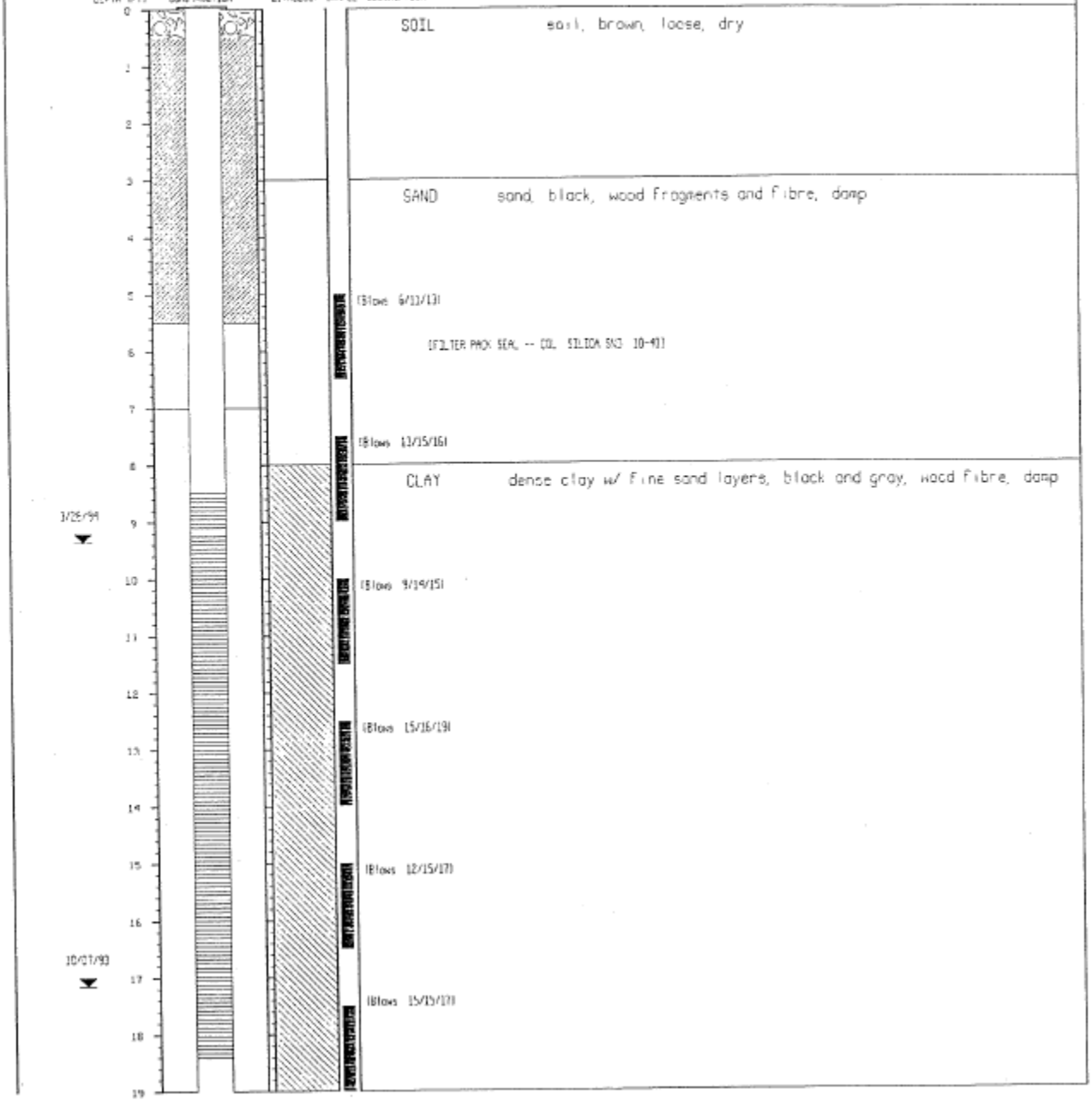
STATE PLANE COORDINATES
NORTH
EAST
T R & SEC N41/4,NE3/4,S 18R,T 28S ,R 13W
FILTER PACK COL SILICA SAND 9-12
ANNULAR SEAL BENTONITE
BACKFILL N/A
SURFACE SEAL BENTONITE

GEOLOGIST	R. MACNIERCZAK T. MARSHALL
DATE DRILLED	04/15/93
DRILLED BY	GEO TECH
DRILLING METHOD	HOLLOW STEM AUGER
GROUND ELEV	17.90
TOP CASING ELEV	20.60
PROTECTIVE COVER ELEV	ABOVE GROUND COMPLETION--RIM @ 20.60

LOG OF BORING NUMBER **MW-1**
START CARD # 58394
PROJECT NAME COO-03-1 2 GROUNDWATER EVALUATION

WELL OR PIEZOMETER CONSTRUCTION

DEPTH (FT) | LITHOLOGY SAMPLE DESCRIPTION



SOIL soil, brown, loose, dry

SAND sand, black, wood fragments and fibre, damp

(Blows 6/11/13)

FILTER PACK SEAL -- COL. SILICA SND 10-40

(Blows 13/15/16)

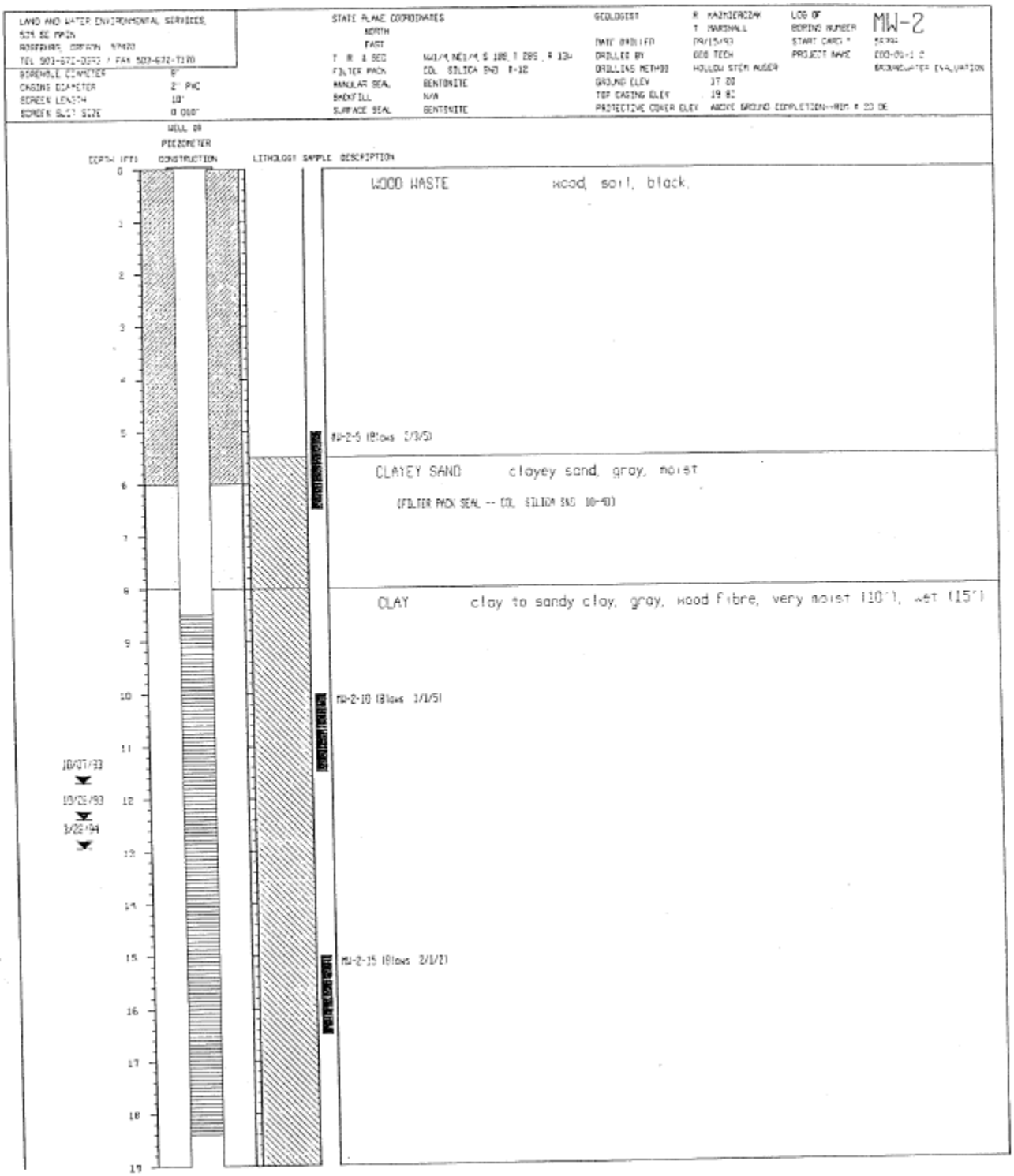
CLAY dense clay w/ fine sand layers, black and gray, wood fibre, damp

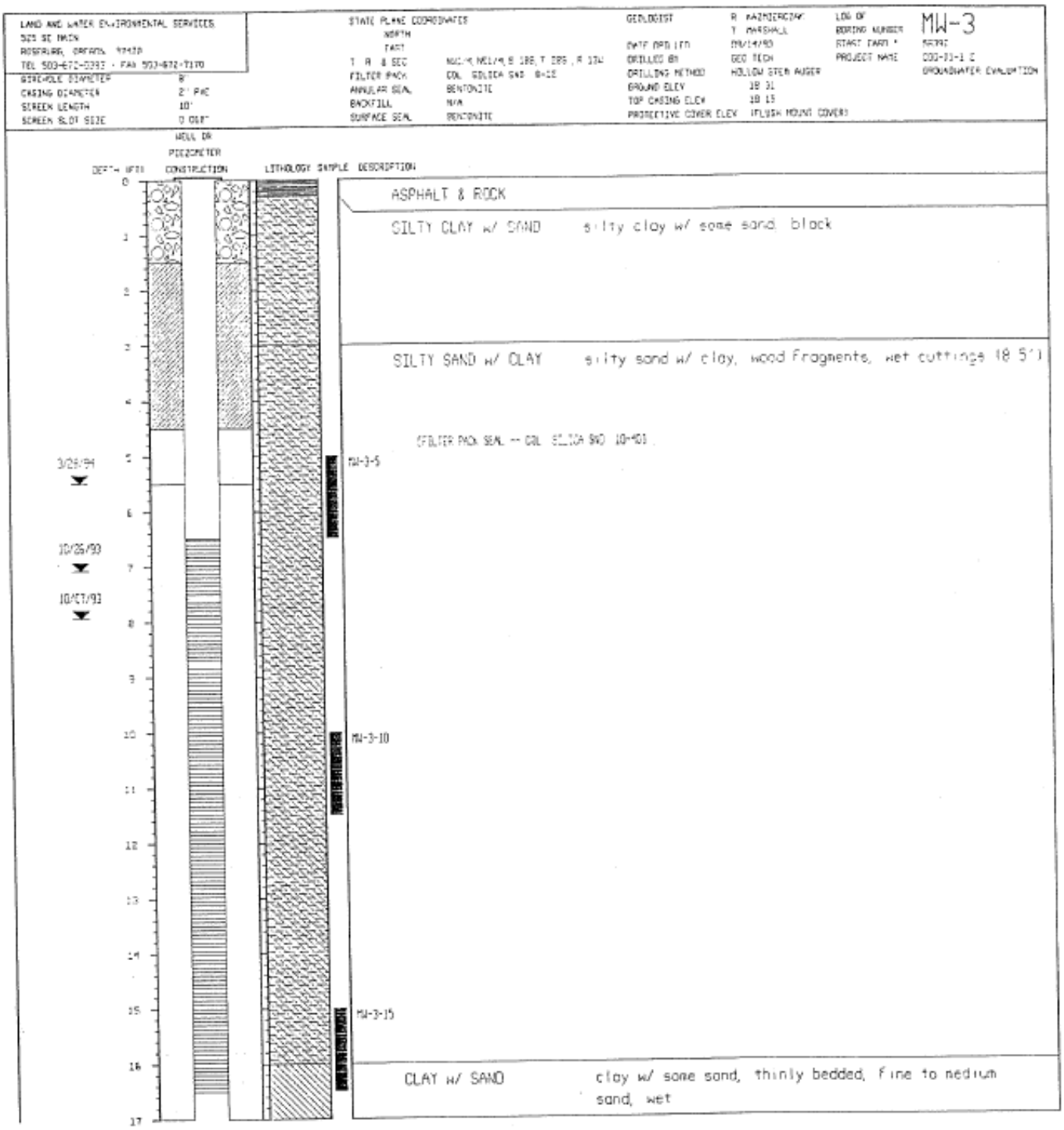
(Blows 9/14/15)

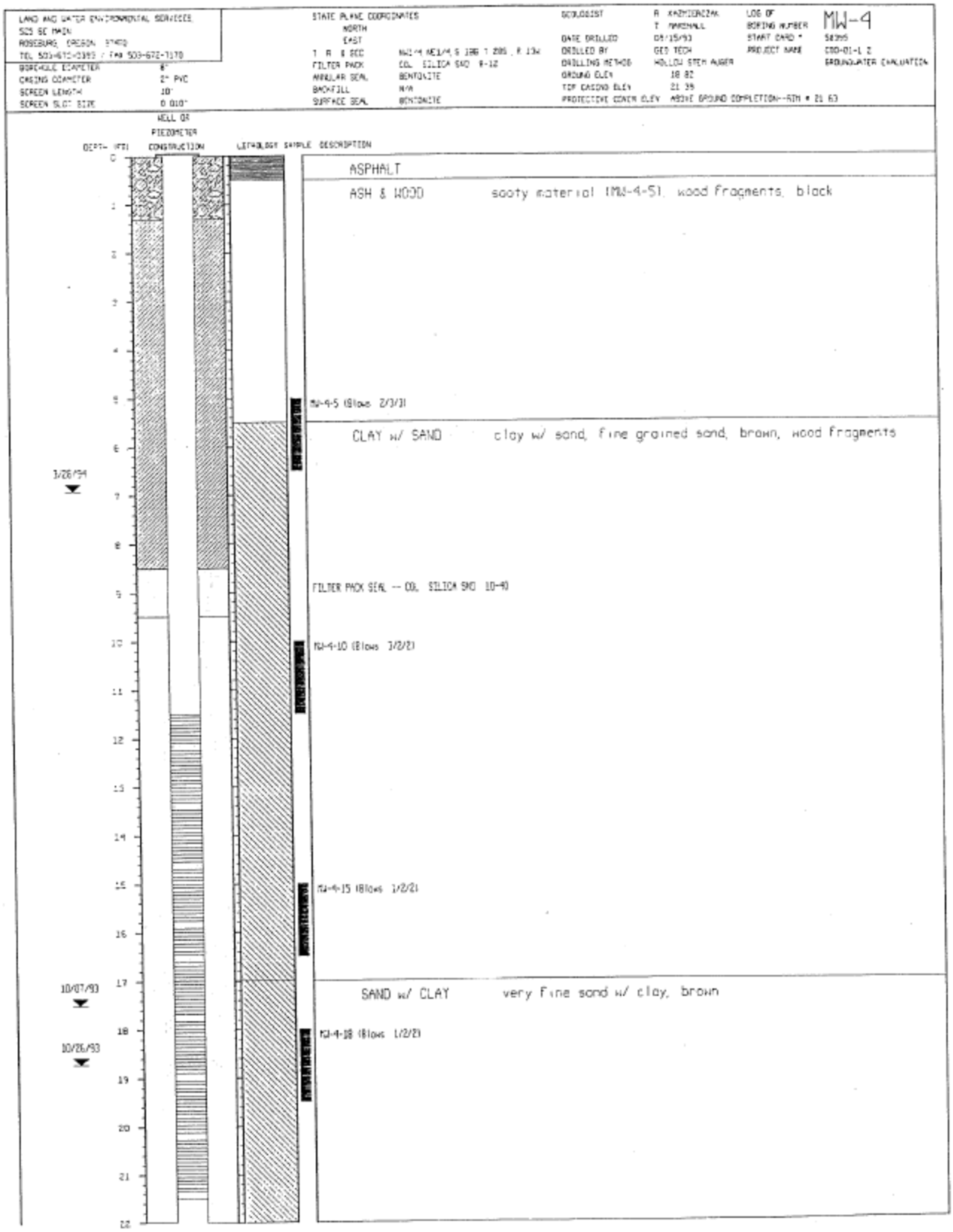
(Blows 15/16/19)

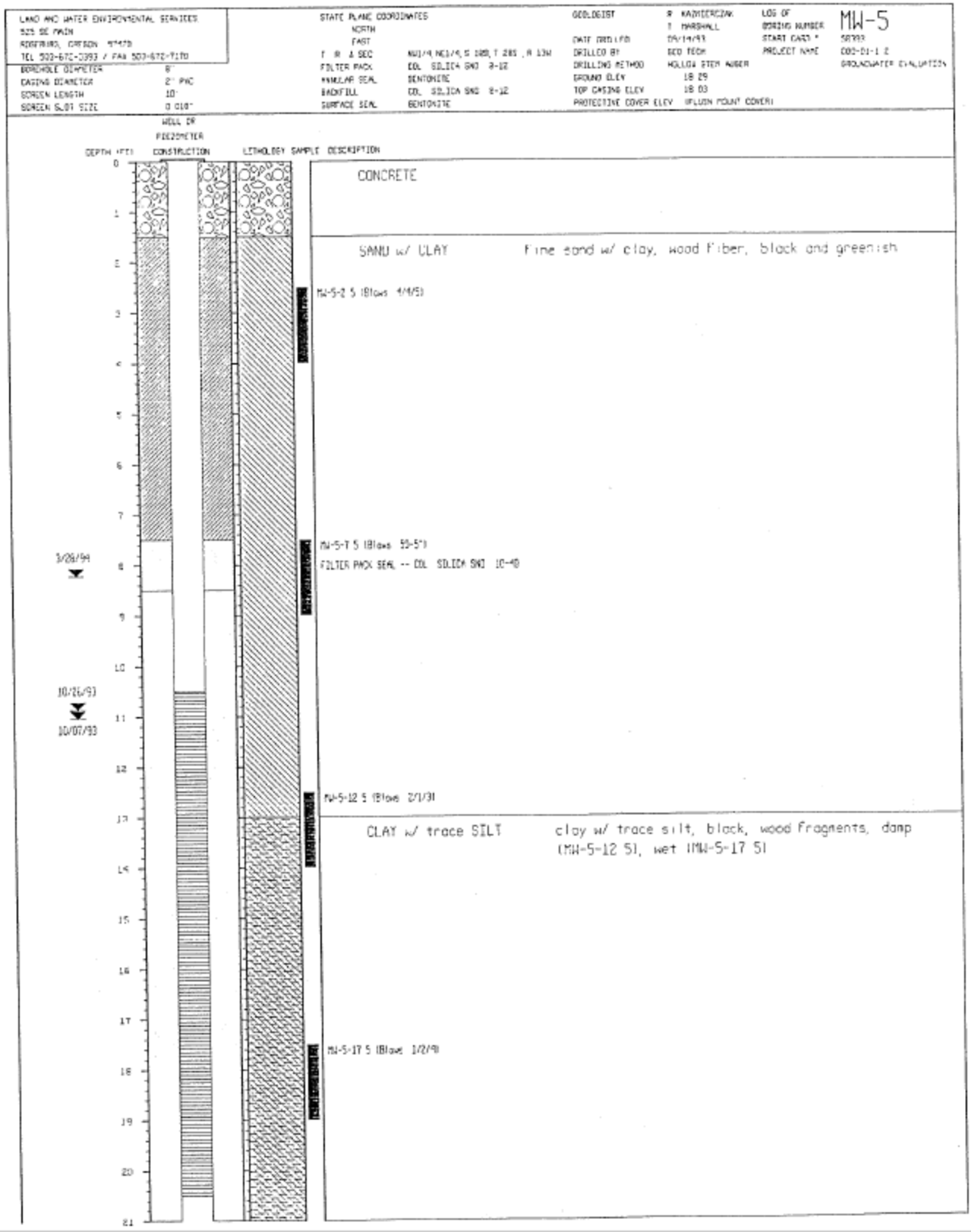
(Blows 12/15/17)

(Blows 15/15/17)


LAND AND WATER ENVIRONMENTAL SERVICES
524 SE MAIN
ROSEBURG, OREGON 97470
TEL 503-672-0372 / FAX 503-672-7170
STATE PLANE COORDINATES
NORTH
EAST
T R & SEC
FILTER PACK
ANNULAR SEAL
BACKFILL
SURFACE SEAL
BENTONITE
N/A
BENTONITE
GEOLOGIST
R KAZMIERCZAK
T MARSHALL
DATE DRILLED
09/15/93
DRILLED BY
GSI TECH
DRILLING METHOD
HOLLOW STEM AUGER
GROUND ELEV
37.00
TOP CASING ELEV
39.82
PROTECTIVE COVER ELEV
ABOVE GROUND COMPLETION--HIGH 4 23 OE
LOG OF
BORING NUMBER
MW-2
START CARD #
PROJECT NAME
GROUNDWATER EVALUATION
BOREHOLE DIAMETER
8"
CASING DIAMETER
2" PVC
SCREEN LENGTH
10'
SCREEN SLOT SIZE
0.010"
WELL OR
PIEZOMETER
CONSTRUCTION
DEPTH (FT)
LITHOLOGY SAMPLE DESCRIPTION
WOOD WASTE
wood, soil, black.
MW-2-5 (Blows 2/3/5)
CLAYEY SAND
clayey sand, gray, moist
(FILTER PACK SEAL -- COL. SILICA SND 10-40)
CLAY
clay to sandy clay, gray, wood fibre, very moist (10'), wet (15')
MW-2-10 (Blows 1/1/5)
MW-2-15 (Blows 2/1/2)
10/07/93
10/28/93
3/02/94


LAND AND WATER ENVIRONMENTAL SERVICES
525 SE MAIN
ROSEBURG, OREGON 97470
TEL 503-672-0392 - FAX 503-672-7170
STATE PLANE COORDINATES
NORTH
EAST
T R & SEC
NW/4 NE1/4 S 18, T 28S , R 13W
FILTER PACK
COL SILICA SAND 8-12
ANNULAR SEAL
BENTONITE
BACKFILL
N/A
SURFACE SEAL
BENTONITE
GEOLOGIST
R KAZMIERCZAK
T MARSHALL
DATE DRILLED
09/14/93
DRILLED BY
GEO TECH
DRILLING METHOD
HOLLOW STEM AUGER
GROUND ELEV
18 31
TOP CASING ELEV
18 15
PROTECTIVE COVER ELEV
(FLUSH MOUNT COVER)
LOG OF
BORING NUMBER
MW-3
START PART #
96292
PROJECT NAME
COO-93-1 C
GROUNDWATER EVALUATION
BOREHOLE DIAMETER
8"
CASING DIAMETER
2" PVC
SCREEN LENGTH
10'
SCREEN SLOT SIZE
0.010"
WELL OR
PIEZOMETER
CONSTRUCTION
DEPTH (FT)
LITHOLOGY SAMPLE DESCRIPTION
ASPHALT & ROCK
SILTY CLAY w/ SAND
silty clay w/ some sand, black
SILTY SAND w/ CLAY
silty sand w/ clay, wood fragments, wet cuttings (8 5')
(FILTER PACK SEAL -- COL SILICA SND 10-40)
3/29/94
10/26/93
10/CT/93
MW-3-5
MW-3-10
MW-3-15
CLAY w/ SAND
clay w/ some sand, thinly bedded, fine to medium sand, wet


LAND AND WATER ENVIRONMENTAL SERVICES
525 SE MAIN
ROSEBURG, OREGON 97470
TEL 503-672-0385 / FAX 503-672-7170
STATE PLANE COORDINATES
NORTH
EAST
T R & SEC NW1/4 NE1/4 S 186 T 28S , R 13W
FILTER PACK COL. SILICA SAD 8-12
ANNULAR SEAL BENTONITE
BACKFILL N/A
SURFACE SEAL BENTONITE
GEOLOGIST R KAZMIERCZAK
T MARSHALL
DATE DRILLED 09/15/93
DRILLED BY GEO TECH
DRILLING METHOD HOLLOW STEM AUGER
GROUND ELEV 18 82
TOP CASING ELEV 21 39
PROTECTIVE COVER ELEV ABOVE GROUND COMPLETION--TOP = 21 63
LOG OF BORING NUMBER MW-4
START CARD # 58395
PROJECT NAME CRD-01-L 2 GROUNDWATER EVALUATION
BOREHOLE DIAMETER 8"
CASING DIAMETER 2" PVC
SCREEN LENGTH 10'
SCREEN SLOT SIZE 0 010"
WELL OR PIEZOMETER CONSTRUCTION
DEPTH (FT)
LITHOLOGY SAMPLE DESCRIPTION
ASPHALT
ASH & WOOD sooty material (MW-4-S1), wood fragments, black
MW-4-5 (Blows 2/3/3)
CLAY w/ SAND clay w/ sand, fine grained sand, brown, wood fragments
FILTER PACK SEAL -- COL. SILICA SND 10-40
MW-4-10 (Blows 1/2/2)
MW-4-15 (Blows 1/2/2)
SAND w/ CLAY very fine sand w/ clay, brown
MW-4-18 (Blows 1/2/2)
3/26/94
10/07/93
10/26/93


LAND AND WATER ENVIRONMENTAL SERVICES
525 SE MAIN
ROSEBURG, OREGON 97470
TEL 503-672-3393 / FAX 503-672-7170
STATE PLANE COORDINATES
NORTH
EAST
T R & SEC NW1/4 NE1/4, S 18B, T 28S , R 13W
FILTER PACK COL SILICA SND 8-12
ANNULAR SEAL BENTONITE
BACKFILL COL SILICA SND 8-12
SURFACE SEAL BENTONITE
GEOLOGIST R KAZMIERCZAK
T MARSHALL
DATE DRILLED 09/14/93
DRILLED BY ECO TECH
DRILLING METHOD HOLLOW STEM AUGER
GROUND ELEV 18 29
TOP CASING ELEV 18 03
PROTECTIVE COVER ELEV (FLUSH MOUNT COVER)
LOG OF BORING NUMBER MW-5
START CASE # 58393
PROJECT NAME CO2-01-1 2
GROUNDWATER EVALUATION
BOREHOLE DIAMETER 8"
CASING DIAMETER 2" PVC
SCREEN LENGTH 10'
SCREEN SLOT SIZE 0 010"
WELL OR PIEZOMETER CONSTRUCTION
DEPTH (FT)
LITHOLOGY SAMPLE DESCRIPTION
CONCRETE
SAND w/ CLAY
Fine sand w/ clay, wood fiber, black and greenish
MW-5-2 S (Blows 4/4/5)
MW-5-7 S (Blows 55-5")
FILTER PACK SEAL -- COL SILICA SND 10-40
3/28/94
10/26/93
10/07/93
MW-5-12 S (Blows 2/1/3)
CLAY w/ trace SILT
clay w/ trace silt, black, wood fragments, damp (MW-5-12 S), wet (MW-5-17 S)
MW-5-17 S (Blows 1/2/9)

Stantec

Stantec is a global leader in sustainable architecture, engineering, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.